

Laboratory Report Number: L17081366

Shane Lowe
CH2MHILL, Inc
CH2MHILL
Richmond Heights, MO 63117

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Michelle Taylor – Client Services Specialist
(740) 373-4071
Michelle.Taylor@microbac.com

I certify that all test results meet all of the requirements of the accrediting authority listed below. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

This report was certified on September 11 2017



Leslie Bucina – Managing Director

State of Origin: NY
Accrediting Authority: Department of Health ID:10861
QAPP: WATERLOO



Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
TW01-082417 : 1 of 2 8270 containers received broken. CLS	Please proceed. MRT

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00115233	H	1.0		1001891773610004575000770011757240	X
00115020	H	2.0		1001891773610004575000770011779554	X
00113214	H	3.0		1001891773610004575000770011639466	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	No
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
MW17-082417	L17081366-01	08/24/2017 10:22	08/25/2017 10:22
MW17-082417	L17081366-02	08/24/2017 10:22	08/25/2017 10:22
DUP-GW-082417	L17081366-03	08/24/2017 09:00	08/25/2017 10:22
DUP-GW-082417	L17081366-04	08/24/2017 09:00	08/25/2017 10:22
MW18-082417	L17081366-05	08/24/2017 11:50	08/25/2017 10:22
MW18-082417	L17081366-06	08/24/2017 11:50	08/25/2017 10:22
TW01-082417	L17081366-07	08/24/2017 14:12	08/25/2017 10:22
TW01-082417	L17081366-08	08/24/2017 14:12	08/25/2017 10:22
TB-082417	L17081366-09	08/24/2017 08:00	08/25/2017 10:22
MW26-082417	L17081366-10	08/24/2017 10:55	08/25/2017 10:22
MW26-082417	L17081366-11	08/24/2017 10:55	08/25/2017 10:22
MW26-082417 MS	L17081366-12	08/24/2017 10:55	08/25/2017 10:22
MW26-082417 MSD	L17081366-13	08/24/2017 10:55	08/25/2017 10:22
MW16I-082417	L17081366-14	08/24/2017 13:30	08/25/2017 10:22
MW16I-082417	L17081366-15	08/24/2017 13:30	08/25/2017 10:22
FB-082417	L17081366-16	08/24/2017 14:00	08/25/2017 10:22
MW05I-082417	L17081366-17	08/24/2017 15:40	08/25/2017 10:22
MW05I-082417	L17081366-18	08/24/2017 15:40	08/25/2017 10:22

Microbac REPORT L17081366
PREPARED FOR CH2MHILL, Inc
WORK ID:

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1.0 Summary Data

1.1 Narratives



Login Number: L17081366
Department: Semivolatiles
Analyst: Sarah Bogolin

METHOD

Preparation 3510C

Analysis SW-846 8270C

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analyte: Benzoic Acid. Please see the applicable QC report for a detailed presentation of the failure.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analyte: Benzoic Acid. Please see the applicable QC report for a detailed presentation of the failure.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: 1,4-Dioxane failed low in the LCS/LCSD, 2,4-Dinitrophenol and Benzoic Acid exceeded % RPD criteria only, Dimethylphthalate and Isophorone failed high in the LCSD but were acceptable in the LCS and non-detect in the associated samples. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type

WG627291-02	1,4-Dioxane	2017-08-29 11:25:00	43.0	50	150	Recovery
WG627291-03	1,4-Dioxane	2017-08-29 11:57:00	47.0	50	150	Recovery
WG627291-03	2,4-Dinitrophenol	2017-08-29 11:57:00	52.3		30	RPD
WG627291-03	Benzoic Acid	2017-08-29 11:57:00	49.8		30	RPD
WG627291-03	Dimethylphthalate	2017-08-29 11:57:00	114	25	112	Recovery
WG627291-03	Isophorone	2017-08-29 11:57:00	116	30	110	Recovery

Matrix Spikes: There were no MS/MSD results associated with this sample delivery group, due to insufficient volume of sample. The laboratory included an LCS and LCS duplicate in the preparation batch in lieu of the NELAC prescribed MS/MSD. Microbac recommends site specific MS/MSD samples to avoid possible data qualification.

SAMPLES

Samples: All acceptance criteria were met. The extracts were library searched using the NIST library and the top twenty TICs found were reported. Requested acid compounds listed as TICs in the Waterloo QAPP may not have been detected due to unknown extraction efficiency and chromatographic performance.

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low areacounts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data

contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 128921

Approved By: Mary Schilling

A handwritten signature in black ink, appearing to read "Mary Schilling", written in a cursive style.



Login Number: L17081366
Department: Semivolatiles
Analyst: Lacey Hendershot

METHOD

Preparation 3510C

Analysis SW-846 8270 SIM

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: Recoveries out of range were observed for the following surrogates: 2-Fluorobiphenyl, Nitrobenzene-d5, p-Terphenyl-d14 all failed low in sample 07. Sample 07 was not re-extracted due to insufficient sample remaining; the second sample bottle was received broken. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type
L17081366-07	2-Fluorobiphenyl	2017-08-30 12:52:00	24.9	43	116	Recovery
L17081366-07	Nitrobenzene-d5	2017-08-30 12:52:00	29.7	35	114	Recovery
L17081366-07	p-Terphenyl-d14	2017-08-30 12:52:00	27.4	33	141	Recovery

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low areacounts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

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Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

Narrative ID: 128924

Approved By: Mary Schilling





Login Number: L17081366
Department: Metals
Analyst: Kerri Buck

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG627813 - All acceptance criteria were met.

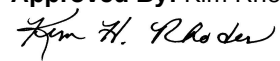
Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 128861

Approved By: Kim Rhodes





Login Number: L17081366
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG627590 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 128798

Approved By: Kerri Buck

K: K Buck

1.2 Certificate of Analysis

Certificate of Analysis

Sample #: L17081366-01	PrePrep Method: N/A	Instrument: HPMS9
Client ID: MW17-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 08/14/2017 14:15
Workgroup #: WG627475	Analyst: JDS	Run Date: 08/28/2017 22:46
Collect Date: 08/24/2017 10:22	Dilution: 1	File ID: 9M982231
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
unknown		8.54		0.000	0.000

Sample #: L17081366-01	PrePrep Method: N/A	Instrument: HPMS9
Client ID: MW17-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260C	Cal Date: 08/14/2017 14:15
Workgroup #: WG627475	Analyst: JDS	Run Date: 08/28/2017 22:46
Collect Date: 08/24/2017 10:22	Dilution: 1	File ID: 9M982231
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3	0.573	J	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	105	80	120		
Dibromofluoromethane	103	86	118		
p-Bromofluorobenzene	109	86	115		
Toluene-d8	103	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L17081366-01	PrePrep Method: N/A	Instrument: HPMS7
Client ID: MW17-082417	Prep Method: 3510C	Prep Date: 08/29/2017 09:30
Matrix: Water	Analytical Method: 8270D_SIM	Cal Date: 08/23/2017 18:40
Workgroup #: WG627710	Analyst: LJH	Run Date: 08/30/2017 11:32
Collect Date: 08/24/2017 10:22	Dilution: 1	File ID: 7M70231
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0575	0.0287
Acenaphthene	83-32-9		U	0.0575	0.0287
Acenaphthylene	208-96-8		U	0.0575	0.0287
Anthracene	120-12-7		U	0.0575	0.0287
Benzo(a)anthracene	56-55-3		U	0.0575	0.0287
Benzo(a)pyrene	50-32-8		U	0.0575	0.0287
Benzo(b)fluoranthene	205-99-2		U	0.0575	0.0287
Benzo(g,h,i)perylene	191-24-2		U	0.0575	0.0287
Benzo(k)fluoranthene	207-08-9		U	0.0575	0.0287
Chrysene	218-01-9		U	0.0575	0.0287
Dibenzo(a,h)anthracene	53-70-3		U	0.0575	0.0287
Fluoranthene	206-44-0		U	0.0575	0.0287
Fluorene	86-73-7		U	0.0575	0.0287
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0575	0.0287
Naphthalene	91-20-3		U	0.0575	0.0287
Phenanthrene	85-01-8		U	0.0575	0.0287
Pyrene	129-00-0		U	0.0575	0.0287
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	72.9	43	116		
Nitrobenzene-d5	80.5	35	114		
p-Terphenyl-d14	99.2	33	141		
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-01	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW17-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 15:44
Collect Date: 08/24/2017 10:22	Dilution: 1	File ID: T4.083017.154414
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100
Calcium, Total	7440-70-2	146		0.500	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Iron, Total	7439-89-6	3.33		0.100	0.0500
Magnesium, Total	7439-95-4	28.3		0.500	0.250
Manganese, Total	7439-96-5	0.624		0.0100	0.00500
Potassium, Total	7440-09-7	7.94		1.00	0.500
Sodium, Total	7440-23-5	91.0		0.500	0.250
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-01	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW17-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:34
Collect Date: 08/24/2017 10:22	Dilution: 1	File ID: NI.082917.113450
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.00950		0.00100	0.000500

Sample #: L17081366-02	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW17-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 15:47
Collect Date: 08/24/2017 10:22	Dilution: 1	File ID: T4.083017.154758
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	3.26		0.100	0.0500
Manganese, Dissolved	7439-96-5	0.620		0.0100	0.00500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-02	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW17-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:37
Collect Date: 08/24/2017 10:22	Dilution: 1	File ID: NI.082917.113756
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.00907		0.00100	0.000500

Certificate of Analysis

Sample #: L17081366-03	PrePrep Method: N/A	Instrument: HPMS9
Client ID: DUP-GW-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 08/14/2017 14:15
Workgroup #: WG627475	Analyst: JDS	Run Date: 08/28/2017 23:16
Collect Date: 08/24/2017 09:00	Dilution: 1	File ID: 9M982232
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
No Searchable Peaks				0.000	0.000

Sample #: L17081366-03	PrePrep Method: N/A	Instrument: HPMS9
Client ID: DUP-GW-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260C	Cal Date: 08/14/2017 14:15
Workgroup #: WG627475	Analyst: JDS	Run Date: 08/28/2017 23:16
Collect Date: 08/24/2017 09:00	Dilution: 1	File ID: 9M982232
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	105	80	120		
Dibromofluoromethane	103	86	118		
p-Bromofluorobenzene	113	86	115		
Toluene-d8	104	88	110		
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L17081366-03	PrePrep Method: N/A	Instrument: HPMS7
Client ID: DUP-GW-082417	Prep Method: 3510C	Prep Date: 08/29/2017 09:30
Matrix: Water	Analytical Method: 8270D_SIM	Cal Date: 08/23/2017 18:40
Workgroup #: WG627710	Analyst: LJH	Run Date: 08/30/2017 11:59
Collect Date: 08/24/2017 09:00	Dilution: 1	File ID: 7M70232
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0538	0.0269
Acenaphthene	83-32-9		U	0.0538	0.0269
Acenaphthylene	208-96-8		U	0.0538	0.0269
Anthracene	120-12-7		U	0.0538	0.0269
Benzo(a)anthracene	56-55-3		U	0.0538	0.0269
Benzo(a)pyrene	50-32-8		U	0.0538	0.0269
Benzo(b)fluoranthene	205-99-2		U	0.0538	0.0269
Benzo(g,h,i)perylene	191-24-2		U	0.0538	0.0269
Benzo(k)fluoranthene	207-08-9		U	0.0538	0.0269
Chrysene	218-01-9		U	0.0538	0.0269
Dibenzo(a,h)anthracene	53-70-3		U	0.0538	0.0269
Fluoranthene	206-44-0		U	0.0538	0.0269
Fluorene	86-73-7		U	0.0538	0.0269
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0538	0.0269
Naphthalene	91-20-3		U	0.0538	0.0269
Phenanthrene	85-01-8		U	0.0538	0.0269
Pyrene	129-00-0		U	0.0538	0.0269
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	74.9	43	116		
Nitrobenzene-d5	83.4	35	114		
p-Terphenyl-d14	96.3	33	141		
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-03	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: DUP-GW-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 15:51
Collect Date: 08/24/2017 09:00	Dilution: 1	File ID: T4.083017.155142
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100
Calcium, Total	7440-70-2	147		0.500	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Iron, Total	7439-89-6	3.30		0.100	0.0500
Magnesium, Total	7439-95-4	28.3		0.500	0.250
Manganese, Total	7439-96-5	0.630		0.0100	0.00500
Potassium, Total	7440-09-7	7.97		1.00	0.500
Sodium, Total	7440-23-5	91.0		0.500	0.250
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-03	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: DUP-GW-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:41
Collect Date: 08/24/2017 09:00	Dilution: 1	File ID: NI.082917.114102
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.00900		0.00100	0.000500

Sample #: L17081366-04	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: DUP-GW-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 15:55
Collect Date: 08/24/2017 09:00	Dilution: 1	File ID: T4.083017.155526
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	3.28		0.100	0.0500
Manganese, Dissolved	7439-96-5	0.629		0.0100	0.00500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: DUP-GW-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:44
Collect Date: 08/24/2017 09:00	Dilution: 1	File ID: NI.082917.114406
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.00867		0.00100	0.000500

Certificate of Analysis

Sample #: L17081366-05	PrePrep Method: N/A	Instrument: HPMS9
Client ID: MW18-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 08/14/2017 14:15
Workgroup #: WG627475	Analyst: JDS	Run Date: 08/28/2017 23:46
Collect Date: 08/24/2017 11:50	Dilution: 1	File ID: 9M982233
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
No Searchable Peaks				0.000	0.000

Sample #: L17081366-05	PrePrep Method: N/A	Instrument: HPMS9
Client ID: MW18-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260C	Cal Date: 08/14/2017 14:15
Workgroup #: WG627475	Analyst: JDS	Run Date: 08/28/2017 23:46
Collect Date: 08/24/2017 11:50	Dilution: 1	File ID: 9M982233
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	3.16	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	106	80	120		
Dibromofluoromethane	103	86	118		
p-Bromofluorobenzene	111	86	115		
Toluene-d8	103	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L17081366-05	PrePrep Method: N/A	Instrument: HPMS7
Client ID: MW18-082417	Prep Method: 3510C	Prep Date: 08/29/2017 09:30
Matrix: Water	Analytical Method: 8270D_SIM	Cal Date: 08/23/2017 18:40
Workgroup #: WG627710	Analyst: LJH	Run Date: 08/30/2017 12:25
Collect Date: 08/24/2017 11:50	Dilution: 1	File ID: 7M70233
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0521	0.0260
Acenaphthene	83-32-9		U	0.0521	0.0260
Acenaphthylene	208-96-8		U	0.0521	0.0260
Anthracene	120-12-7		U	0.0521	0.0260
Benzo(a)anthracene	56-55-3		U	0.0521	0.0260
Benzo(a)pyrene	50-32-8		U	0.0521	0.0260
Benzo(b)fluoranthene	205-99-2		U	0.0521	0.0260
Benzo(g,h,i)perylene	191-24-2		U	0.0521	0.0260
Benzo(k)fluoranthene	207-08-9		U	0.0521	0.0260
Chrysene	218-01-9		U	0.0521	0.0260
Dibenzo(a,h)anthracene	53-70-3		U	0.0521	0.0260
Fluoranthene	206-44-0		U	0.0521	0.0260
Fluorene	86-73-7		U	0.0521	0.0260
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0521	0.0260
Naphthalene	91-20-3	0.0335	J	0.0521	0.0260
Phenanthrene	85-01-8		U	0.0521	0.0260
Pyrene	129-00-0		U	0.0521	0.0260
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	82.8	43	116		
Nitrobenzene-d5	94.2	35	114		
p-Terphenyl-d14	91.7	33	141		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-05	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW18-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:13
Collect Date: 08/24/2017 11:50	Dilution: 1	File ID: T4.083017.161349
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.182	J	0.200	0.100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Total	7440-70-2	141		0.500	0.250
Iron, Total	7439-89-6	22.0		0.100	0.0500
Magnesium, Total	7439-95-4	21.1		0.500	0.250
Manganese, Total	7439-96-5	0.911		0.0100	0.00500
Potassium, Total	7440-09-7	9.02		1.00	0.500
Sodium, Total	7440-23-5	145		0.500	0.250
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L17081366-05	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW18-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:47
Collect Date: 08/24/2017 11:50	Dilution: 1	File ID: NI.082917.114712
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.00396		0.00100	0.000500

Sample #: L17081366-06	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW18-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:17
Collect Date: 08/24/2017 11:50	Dilution: 1	File ID: T4.083017.161732
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	21.5		0.100	0.0500
Manganese, Dissolved	7439-96-5	0.920		0.0100	0.00500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-06	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW18-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:50
Collect Date: 08/24/2017 11:50	Dilution: 1	File ID: NI.082917.115018
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.00403		0.00100	0.000500

Certificate of Analysis

Sample #: L17081366-07	PrePrep Method: N/A	Instrument: HPMS9
Client ID: TW01-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 08/14/2017 14:15
Workgroup #: WG627475	Analyst: JDS	Run Date: 08/29/2017 00:16
Collect Date: 08/24/2017 14:12	Dilution: 1	File ID: 9M982234
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
No Searchable Peaks				0.000	0.000

Sample #: L17081366-07	PrePrep Method: N/A	Instrument: HPMS9
Client ID: TW01-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260C	Cal Date: 08/14/2017 14:15
Workgroup #: WG627475	Analyst: JDS	Run Date: 08/29/2017 00:16
Collect Date: 08/24/2017 14:12	Dilution: 1	File ID: 9M982234
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	3.89	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	107	80	120		
Dibromofluoromethane	103	86	118		
p-Bromofluorobenzene	114	86	115		
Toluene-d8	107	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L17081366-07	PrePrep Method: N/A	Instrument: HPMS7
Client ID: TW01-082417	Prep Method: 3510C	Prep Date: 08/29/2017 09:30
Matrix: Water	Analytical Method: 8270D_SIM	Cal Date: 08/23/2017 18:40
Workgroup #: WG627710	Analyst: LJH	Run Date: 08/30/2017 12:52
Collect Date: 08/24/2017 14:12	Dilution: 1	File ID: 7M70234
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0543	0.0272
Acenaphthene	83-32-9		U	0.0543	0.0272
Acenaphthylene	208-96-8		U	0.0543	0.0272
Anthracene	120-12-7		U	0.0543	0.0272
Benzo(a)anthracene	56-55-3		U	0.0543	0.0272
Benzo(a)pyrene	50-32-8		U	0.0543	0.0272
Benzo(b)fluoranthene	205-99-2		U	0.0543	0.0272
Benzo(g,h,i)perylene	191-24-2		U	0.0543	0.0272
Benzo(k)fluoranthene	207-08-9		U	0.0543	0.0272
Chrysene	218-01-9		U	0.0543	0.0272
Dibenzo(a,h)anthracene	53-70-3		U	0.0543	0.0272
Fluoranthene	206-44-0		U	0.0543	0.0272
Fluorene	86-73-7		U	0.0543	0.0272
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0543	0.0272
Naphthalene	91-20-3		U	0.0543	0.0272
Phenanthrene	85-01-8		U	0.0543	0.0272
Pyrene	129-00-0		U	0.0543	0.0272
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	24.9	43	116	*	
Nitrobenzene-d5	29.7	35	114	*	
p-Terphenyl-d14	27.4	33	141	*	
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-07	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: TW01-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:21
Collect Date: 08/24/2017 14:12	Dilution: 1	File ID: T4.083017.162115
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100
Calcium, Total	7440-70-2	168		0.500	0.250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Iron, Total	7439-89-6	48.9		0.100	0.0500
Magnesium, Total	7439-95-4	38.6		0.500	0.250
Manganese, Total	7439-96-5	0.374		0.0100	0.00500
Potassium, Total	7440-09-7	10.8		1.00	0.500
Sodium, Total	7440-23-5	92.2		0.500	0.250
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-07 **PrePrep Method:** N/A **Instrument:** ICP-MS2
Client ID: TW01-082417 **Prep Method:** 3015A **Prep Date:** 08/29/2017 07:43
Matrix: Water **Analytical Method:** 6020A **Cal Date:** 08/29/2017 10:32
Workgroup #: WG627590 **Analyst:** JYH **Run Date:** 08/29/2017 11:53
Collect Date: 08/24/2017 14:12 **Dilution:** 1 **File ID:** NI.082917.115323
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.00333		0.00100	0.000500

Sample #: L17081366-08 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
Client ID: TW01-082417 **Prep Method:** 3015A **Prep Date:** 08/30/2017 09:19
Matrix: Water **Analytical Method:** 6010C **Cal Date:** 08/30/2017 13:22
Workgroup #: WG627813 **Analyst:** KKB **Run Date:** 08/30/2017 16:24
Collect Date: 08/24/2017 14:12 **Dilution:** 1 **File ID:** T4.083017.162459
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	48.6		0.100	0.0500
Manganese, Dissolved	7439-96-5	0.376		0.0100	0.00500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-08 **PrePrep Method:** N/A **Instrument:** ICP-MS2
Client ID: TW01-082417 **Prep Method:** 3015A **Prep Date:** 08/29/2017 07:43
Matrix: Water **Analytical Method:** 6020A **Cal Date:** 08/29/2017 10:32
Workgroup #: WG627590 **Analyst:** JYH **Run Date:** 08/29/2017 11:56
Collect Date: 08/24/2017 14:12 **Dilution:** 1 **File ID:** NI.082917.115628
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.00307		0.00100	0.000500

Certificate of Analysis

Sample #: L17081366-09	PrePrep Method: N/A	Instrument: HPMS9
Client ID: TB-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260C	Cal Date: 08/14/2017 14:15
Workgroup #: WG627475	Analyst: JDS	Run Date: 08/28/2017 19:45
Collect Date: 08/24/2017 08:00	Dilution: 1	File ID: 9M982225
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	5.69	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	102	80	120		
Dibromofluoromethane	102	86	118		
p-Bromofluorobenzene	109	86	115		
Toluene-d8	102	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-10

PrePrep Method: N/A

Instrument: HPMS9

Client ID: MW26-082417

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 08/14/2017 14:15

Workgroup #: WG628579

Analyst: JDS

Run Date: 09/06/2017 17:45

Collect Date: 08/24/2017 10:55

Dilution: 1

File ID: 9M982376

Sample Tag: 02

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
No Searchable Peaks				0.000	0.000

Certificate of Analysis

Sample #: L17081366-10	PrePrep Method: N/A	Instrument: HPMS9
Client ID: MW26-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 08/14/2017 14:15
Workgroup #: WG627829	Analyst: JDS	Run Date: 08/30/2017 17:22
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: 9M982277
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
No Searchable Peaks				0.000	0.000

Sample #: L17081366-10	PrePrep Method: N/A	Instrument: HPMS9
Client ID: MW26-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260C	Cal Date: 08/14/2017 14:15
Workgroup #: WG628579	Analyst: JDS	Run Date: 09/06/2017 17:45
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: 9M982376
Sample Tag: 02	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	106	80	120		
Dibromofluoromethane	101	86	118		
p-Bromofluorobenzene	107	86	115		
Toluene-d8	102	88	110		
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L17081366-10	PrePrep Method: N/A	Instrument: HPMS7
Client ID: MW26-082417	Prep Method: 3510C	Prep Date: 08/29/2017 09:30
Matrix: Water	Analytical Method: 8270D_SIM	Cal Date: 08/23/2017 18:40
Workgroup #: WG627710	Analyst: LJH	Run Date: 08/30/2017 13:19
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: 7M70235
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0500	0.0250
Acenaphthene	83-32-9		U	0.0500	0.0250
Acenaphthylene	208-96-8		U	0.0500	0.0250
Anthracene	120-12-7		U	0.0500	0.0250
Benzo(a)anthracene	56-55-3		U	0.0500	0.0250
Benzo(a)pyrene	50-32-8		U	0.0500	0.0250
Benzo(b)fluoranthene	205-99-2		U	0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2		U	0.0500	0.0250
Benzo(k)fluoranthene	207-08-9		U	0.0500	0.0250
Chrysene	218-01-9		U	0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3		U	0.0500	0.0250
Fluoranthene	206-44-0		U	0.0500	0.0250
Fluorene	86-73-7		U	0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0500	0.0250
Naphthalene	91-20-3	0.0269	J	0.0500	0.0250
Phenanthrene	85-01-8		U	0.0500	0.0250
Pyrene	129-00-0		U	0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	69.6	43	116		
Nitrobenzene-d5	79.2	35	114		
p-Terphenyl-d14	92.9	33	141		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-10	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW26-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:28
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: T4.083017.162842
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Total	7440-70-2	67.1		0.500	0.250
Iron, Total	7439-89-6	0.509		0.100	0.0500
Magnesium, Total	7439-95-4	13.2		0.500	0.250
Manganese, Total	7439-96-5	0.381		0.0100	0.00500
Potassium, Total	7440-09-7	3.54		1.00	0.500
Sodium, Total	7440-23-5	69.9		0.500	0.250
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-10	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW26-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:59
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: NI.082917.115934
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.000938	J	0.00100	0.000500
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L17081366-11	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW26-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:32
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: T4.083017.163227
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	0.465		0.100	0.0500
Manganese, Dissolved	7439-96-5	0.376		0.0100	0.00500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-11	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW26-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 12:02
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: NI.082917.120240
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.00101		0.00100	0.000500

Sample #: L17081366-12	PrePrep Method: N/A	Instrument: HPMS9
Client ID: MW26-082417 MS	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 08/14/2017 14:15
Workgroup #: WG627829	Analyst: JDS	Run Date: 08/30/2017 15:21
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: 9M982273
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
No Searchable Peaks				0.000	0.000

Sample #: L17081366-12	PrePrep Method: N/A	Instrument: HPMS9
Client ID: MW26-082417 MS	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260C	Cal Date: 08/14/2017 14:15
Workgroup #: WG628579	Analyst: JDS	Run Date: 09/06/2017 15:16
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: 9M982371
Sample Tag: 02	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6	18.6		1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5	20.3		1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	19.1		5.00	2.00
1,1,2-Trichloroethane	79-00-5	20.1		1.00	0.500
1,1-Dichloroethane	75-34-3	19.5		1.00	0.500
1,1-Dichloroethene	75-35-4	17.7		1.00	0.500
1,2,3-Trichlorobenzene	87-61-6	20.3		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	16.7		1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8	17.6		5.00	1.00
1,2-Dibromoethane	106-93-4	19.9		1.00	0.500
1,2-Dichlorobenzene	95-50-1	20.7		1.00	0.500
1,2-Dichloroethane	107-06-2	20.1		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.5		1.00	0.500
trans-1,2-Dichloroethene	156-60-5	18.7		1.00	0.500
1,2-Dichloropropane	78-87-5	19.9		1.00	0.500
1,3-Dichlorobenzene	541-73-1	20.0		1.00	0.500
1,4-Dichlorobenzene	106-46-7	19.9		1.00	0.500
2-Butanone	78-93-3	19.7		10.0	2.50
2-Hexanone	591-78-6	18.8		10.0	2.50
4-Methyl-2-pentanone	108-10-1	16.9		10.0	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Acetone	67-64-1	23.1		10.0	2.50
Benzene	71-43-2	19.1		1.00	0.500
Bromochloromethane	74-97-5	19.3		1.00	0.500
Bromodichloromethane	75-27-4	19.1		1.00	0.500
Bromoform	75-25-2	15.8		1.00	0.500
Bromomethane	74-83-9	16.7		1.00	0.500
Carbon disulfide	75-15-0	16.4		1.00	0.500
Carbon tetrachloride	56-23-5	18.3		1.00	0.500
Chlorobenzene	108-90-7	20.2		1.00	0.500
Chloroethane	75-00-3	19.5		1.00	0.500
Chloroform	67-66-3	20.6		1.00	0.500
Chloromethane	74-87-3	18.0		1.00	0.500
cis-1,3-Dichloropropene	10061-01-5	20.6		1.00	0.500
Cyclohexane	110-82-7	17.5		5.00	1.00
Dibromochloromethane	124-48-1	19.4		1.00	0.500
Dichlorodifluoromethane	75-71-8	16.9		2.00	0.500
Ethyl benzene	100-41-4	19.9		1.00	0.500
Isopropylbenzene	98-82-8	19.4		1.00	0.500
Methyl acetate	79-20-9	19.3		5.00	1.00
Methyl tert-butyl ether	1634-04-4	19.1		1.00	0.500
Methylcyclohexane	108-87-2	17.3		5.00	1.00
Methylene chloride	75-09-2	19.1		5.00	0.500
m,p-Xylene	179601-23-1	41.8		1.00	0.500
o-Xylene	95-47-6	20.3		1.00	0.500
Styrene	100-42-5	17.7		1.00	0.500
Tetrachloroethene	127-18-4	18.4		1.00	0.500
Toluene	108-88-3	19.6		1.00	0.500
trans-1,3-Dichloropropene	10061-02-6	20.4		1.00	0.500
Trichloroethene	79-01-6	19.4		1.00	0.500
Trichlorofluoromethane	75-69-4	17.9		1.00	0.500
Vinyl chloride	75-01-4	19.4		1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	105	80	120		
Dibromofluoromethane	103	86	118		
p-Bromofluorobenzene	105	86	115		
Toluene-d8	105	88	110		

Certificate of Analysis

Sample #: L17081366-12	PrePrep Method: N/A	Instrument: HPMS7
Client ID: MW26-082417 MS	Prep Method: 3510C	Prep Date: 08/29/2017 09:30
Matrix: Water	Analytical Method: 8270D_SIM	Cal Date: 08/23/2017 18:40
Workgroup #: WG627710	Analyst: LJH	Run Date: 08/30/2017 13:46
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: 7M70236
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6	0.841		0.0500	0.0250
Acenaphthene	83-32-9	0.880		0.0500	0.0250
Acenaphthylene	208-96-8	0.830		0.0500	0.0250
Anthracene	120-12-7	1.02		0.0500	0.0250
Benzo(a)anthracene	56-55-3	1.13		0.0500	0.0250
Benzo(a)pyrene	50-32-8	1.04		0.0500	0.0250
Benzo(b)fluoranthene	205-99-2	1.04		0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2	0.651		0.0500	0.0250
Benzo(k)fluoranthene	207-08-9	1.00		0.0500	0.0250
Chrysene	218-01-9	1.04		0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3	0.628		0.0500	0.0250
Fluoranthene	206-44-0	1.14		0.0500	0.0250
Fluorene	86-73-7	0.941		0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5	0.824		0.0500	0.0250
Naphthalene	91-20-3	0.807		0.0500	0.0250
Phenanthrene	85-01-8	1.01		0.0500	0.0250
Pyrene	129-00-0	1.12		0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	75.0	43	116		
Nitrobenzene-d5	83.7	35	114		
p-Terphenyl-d14	92.0	33	141		

Sample #: L17081366-13	PrePrep Method: N/A	Instrument: HPMS9
Client ID: MW26-082417 MSD	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 08/14/2017 14:15
Workgroup #: WG627829	Analyst: JDS	Run Date: 08/30/2017 15:52
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: 9M982274
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
No Searchable Peaks				0.000	0.000

Certificate of Analysis

Sample #: L17081366-13

PrePrep Method: N/A

Instrument: HPMS9

Client ID: MW26-082417 MSD

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260C

Cal Date: 08/14/2017 14:15

Workgroup #: WG628579

Analyst: JDS

Run Date: 09/06/2017 15:46

Collect Date: 08/24/2017 10:55

Dilution: 1

File ID: 9M982372

Sample Tag: 02

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6	18.6		1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5	20.5		1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	18.8		5.00	2.00
1,1,2-Trichloroethane	79-00-5	20.6		1.00	0.500
1,1-Dichloroethane	75-34-3	19.5		1.00	0.500
1,1-Dichloroethene	75-35-4	17.7		1.00	0.500
1,2,3-Trichlorobenzene	87-61-6	20.4		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	17.5		1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8	17.9		5.00	1.00
1,2-Dibromoethane	106-93-4	20.1		1.00	0.500
1,2-Dichlorobenzene	95-50-1	20.8		1.00	0.500
1,2-Dichloroethane	107-06-2	19.8		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.9		1.00	0.500
trans-1,2-Dichloroethene	156-60-5	18.6		1.00	0.500
1,2-Dichloropropane	78-87-5	20.0		1.00	0.500
1,3-Dichlorobenzene	541-73-1	20.4		1.00	0.500
1,4-Dichlorobenzene	106-46-7	20.5		1.00	0.500
2-Butanone	78-93-3	19.6		10.0	2.50
2-Hexanone	591-78-6	18.6		10.0	2.50
4-Methyl-2-pentanone	108-10-1	17.0		10.0	2.50
Acetone	67-64-1	22.7		10.0	2.50
Benzene	71-43-2	18.7		1.00	0.500
Bromochloromethane	74-97-5	19.3		1.00	0.500
Bromodichloromethane	75-27-4	19.0		1.00	0.500
Bromoform	75-25-2	15.6		1.00	0.500
Bromomethane	74-83-9	16.3		1.00	0.500
Carbon disulfide	75-15-0	16.4		1.00	0.500
Carbon tetrachloride	56-23-5	18.7		1.00	0.500
Chlorobenzene	108-90-7	20.1		1.00	0.500
Chloroethane	75-00-3	19.5		1.00	0.500
Chloroform	67-66-3	20.3		1.00	0.500
Chloromethane	74-87-3	17.8		1.00	0.500
cis-1,3-Dichloropropene	10061-01-5	20.5		1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cyclohexane	110-82-7	17.2		5.00	1.00
Dibromochloromethane	124-48-1	19.4		1.00	0.500
Dichlorodifluoromethane	75-71-8	16.8		2.00	0.500
Ethyl benzene	100-41-4	20.3		1.00	0.500
Isopropylbenzene	98-82-8	19.5		1.00	0.500
Methyl acetate	79-20-9	18.9		5.00	1.00
Methyl tert-butyl ether	1634-04-4	19.1		1.00	0.500
Methylcyclohexane	108-87-2	16.9		5.00	1.00
Methylene chloride	75-09-2	19.0		5.00	0.500
m,p-Xylene	179601-23-1	41.7		1.00	0.500
o-Xylene	95-47-6	20.8		1.00	0.500
Styrene	100-42-5	17.9		1.00	0.500
Tetrachloroethene	127-18-4	18.7		1.00	0.500
Toluene	108-88-3	20.0		1.00	0.500
trans-1,3-Dichloropropene	10061-02-6	20.4		1.00	0.500
Trichloroethene	79-01-6	18.9		1.00	0.500
Trichlorofluoromethane	75-69-4	17.7		1.00	0.500
Vinyl chloride	75-01-4	19.2		1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	105	80	120		
Dibromofluoromethane	103	86	118		
p-Bromofluorobenzene	103	86	115		
Toluene-d8	105	88	110		

Sample #: L17081366-13

PrePrep Method: N/A

Instrument: HPMS7

Client ID: MW26-082417 MSD

Prep Method: 3510C

Prep Date: 08/29/2017 09:30

Matrix: Water

Analytical Method: 8270D_SIM

Cal Date: 08/23/2017 18:40

Workgroup #: WG627710

Analyst: LJH

Run Date: 08/30/2017 14:13

Collect Date: 08/24/2017 10:55

Dilution: 1

File ID: 7M70237

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6	0.813		0.0500	0.0250
Acenaphthene	83-32-9	0.833		0.0500	0.0250
Acenaphthylene	208-96-8	0.786		0.0500	0.0250
Anthracene	120-12-7	0.974		0.0500	0.0250
Benzo(a)anthracene	56-55-3	1.13		0.0500	0.0250
Benzo(a)pyrene	50-32-8	1.02		0.0500	0.0250
Benzo(b)fluoranthene	205-99-2	1.08		0.0500	0.0250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Benzo(g,h,i)perylene	191-24-2	0.631		0.0500	0.0250
Benzo(k)fluoranthene	207-08-9	0.918		0.0500	0.0250
Chrysene	218-01-9	1.04		0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3	0.601		0.0500	0.0250
Fluoranthene	206-44-0	1.12		0.0500	0.0250
Fluorene	86-73-7	0.881		0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5	0.807		0.0500	0.0250
Naphthalene	91-20-3	0.788		0.0500	0.0250
Phenanthrene	85-01-8	0.968		0.0500	0.0250
Pyrene	129-00-0	1.13		0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	71.8	43	116		
Nitrobenzene-d5	83.3	35	114		
p-Terphenyl-d14	93.2	33	141		

Sample #: L17081366-14

PrePrep Method: N/A

Instrument: HPMS9

Client ID: MW16I-082417

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 08/14/2017 14:15

Workgroup #: WG627475

Analyst: JDS

Run Date: 08/29/2017 00:47

Collect Date: 08/24/2017 13:30

Dilution: 1

File ID: 9M982235

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
unknown		5.89		0.000	0.000

Sample #: L17081366-14

PrePrep Method: N/A

Instrument: HPMS9

Client ID: MW16I-082417

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260C

Cal Date: 08/14/2017 14:15

Workgroup #: WG627475

Analyst: JDS

Run Date: 08/29/2017 00:47

Collect Date: 08/24/2017 13:30

Dilution: 1

File ID: 9M982235

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	3.23	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	105	80	120		
Dibromofluoromethane	102	86	118		
p-Bromofluorobenzene	111	86	115		
Toluene-d8	105	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-14

PrePrep Method: N/A

Instrument: HPMS7

Client ID: MW16I-082417

Prep Method: 3510C

Prep Date: 08/29/2017 09:30

Matrix: Water

Analytical Method: 8270D_SIM

Cal Date: 08/23/2017 18:40

Workgroup #: WG627710

Analyst: LJH

Run Date: 08/30/2017 14:39

Collect Date: 08/24/2017 13:30

Dilution: 1

File ID: 7M70238

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0500	0.0250
Acenaphthene	83-32-9		U	0.0500	0.0250
Acenaphthylene	208-96-8		U	0.0500	0.0250
Anthracene	120-12-7		U	0.0500	0.0250
Benzo(a)anthracene	56-55-3		U	0.0500	0.0250
Benzo(a)pyrene	50-32-8		U	0.0500	0.0250
Benzo(b)fluoranthene	205-99-2		U	0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2		U	0.0500	0.0250
Benzo(k)fluoranthene	207-08-9		U	0.0500	0.0250
Chrysene	218-01-9		U	0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3		U	0.0500	0.0250
Fluoranthene	206-44-0		U	0.0500	0.0250
Fluorene	86-73-7		U	0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0500	0.0250
Naphthalene	91-20-3		U	0.0500	0.0250
Phenanthrene	85-01-8		U	0.0500	0.0250
Pyrene	129-00-0		U	0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	

Certificate of Analysis

2-Fluorobiphenyl	74.1	43	116	
Nitrobenzene-d5	83.9	35	114	
p-Terphenyl-d14	75.9	33	141	

U	Not detected at or above adjusted sample detection limit.			

Sample #: L17081366-14	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW16I-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:36
Collect Date: 08/24/2017 13:30	Dilution: 1	File ID: T4.083017.163611
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100
Calcium, Total	7440-70-2	106		0.500	0.250
Iron, Total	7439-89-6	8.15		0.100	0.0500
Magnesium, Total	7439-95-4	18.7		0.500	0.250
Manganese, Total	7439-96-5	0.338		0.0100	0.00500
Potassium, Total	7440-09-7	4.82		1.00	0.500
Sodium, Total	7440-23-5	71.3		0.500	0.250
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-14	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW16I-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 12:11
Collect Date: 08/24/2017 13:30	Dilution: 1	File ID: NI.082917.121159
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.00139		0.00100	0.000500

Sample #: L17081366-15	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW16I-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:39
Collect Date: 08/24/2017 13:30	Dilution: 1	File ID: T4.083017.163955
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Iron, Dissolved	7439-89-6	9.11		0.100	0.0500
Manganese, Dissolved	7439-96-5	0.356		0.0100	0.00500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-15 **PrePrep Method:** N/A **Instrument:** ICP-MS2
Client ID: MW161-082417 **Prep Method:** 3015A **Prep Date:** 08/29/2017 07:43
Matrix: Water **Analytical Method:** 6020A **Cal Date:** 08/29/2017 10:32
Workgroup #: WG627590 **Analyst:** JYH **Run Date:** 08/29/2017 12:15
Collect Date: 08/24/2017 13:30 **Dilution:** 1 **File ID:** NI.082917.121504
Sample Tag: 01 **Units:** mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.00154		0.00100	0.000500

Sample #: L17081366-16 **PrePrep Method:** N/A **Instrument:** HPMS9
Client ID: FB-082417 **Prep Method:** 5030B/5030C/5035A **Prep Date:** N/A
Matrix: Water **Analytical Method:** 8260B **Cal Date:** 08/14/2017 14:15
Workgroup #: WG627475 **Analyst:** JDS **Run Date:** 08/28/2017 19:15
Collect Date: 08/24/2017 14:00 **Dilution:** 1 **File ID:** 9M982224
Sample Tag: 01 **Units:** ug/L

Analyte	CAS #	Result	Qual	RL	MDL
No Searchable Peaks				0.000	0.000

Sample #: L17081366-16 **PrePrep Method:** N/A **Instrument:** HPMS9
Client ID: FB-082417 **Prep Method:** 5030B/5030C/5035A **Prep Date:** N/A
Matrix: Water **Analytical Method:** 8260C **Cal Date:** 08/14/2017 14:15
Workgroup #: WG627475 **Analyst:** JDS **Run Date:** 08/28/2017 19:15
Collect Date: 08/24/2017 14:00 **Dilution:** 1 **File ID:** 9M982224
Sample Tag: 01 **Units:** ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	4.40	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	3.60		1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500

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Analyte	CAS #	Result	Qual	RL	MDL
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	107	80	120		
Dibromofluoromethane	102	86	118		
p-Bromofluorobenzene	113	86	115		
Toluene-d8	104	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-17	PrePrep Method: N/A	Instrument: HPMS9
Client ID: MW05I-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 08/14/2017 14:15
Workgroup #: WG627829	Analyst: JDS	Run Date: 08/30/2017 19:53
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: 9M982282
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
No Searchable Peaks				0.000	0.000

Sample #: L17081366-17	PrePrep Method: N/A	Instrument: HPMS9
Client ID: MW05I-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 08/14/2017 14:15
Workgroup #: WG628579	Analyst: JDS	Run Date: 09/06/2017 18:16
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: 9M982377
Sample Tag: 02	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
No Searchable Peaks				0.000	0.000

Sample #: L17081366-17	PrePrep Method: N/A	Instrument: HPMS9
Client ID: MW05I-082417	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260C	Cal Date: 08/14/2017 14:15
Workgroup #: WG628579	Analyst: JDS	Run Date: 09/06/2017 18:16
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: 9M982377
Sample Tag: 02	Units: ug/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	2.85	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	107	80	120		
Dibromofluoromethane	102	86	118		
p-Bromofluorobenzene	111	86	115		
Toluene-d8	106	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-17

PrePrep Method: N/A

Instrument: HPMS12

Client ID: MW05I-082417

Prep Method: 3510C

Prep Date: 08/28/2017 11:00

Matrix: Water

Analytical Method: 8270D

Cal Date: 08/03/2017 13:41

Workgroup #: WG627524

Analyst: SCB

Run Date: 08/29/2017 15:43

Collect Date: 08/24/2017 15:40

Dilution: 1

File ID: 12M64132

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1'-Biphenyl	92-52-4		U	20.0	2.50
1,3,5-Trinitrobenzene	99-35-4		U	5.00	2.50
1,3-Dinitrobenzene	99-65-0		U	5.00	2.50
1,4-Dioxane	123-91-1		U	10.0	5.00
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50

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Analyte	CAS #	Result	Qual	RL	MDL
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5
2-Nitrophenol	88-75-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
3,3'-Dichlorobenzidine	91-94-1		U	5.00	2.50
3-,4-Methylphenol	65794-96-9		U	5.00	2.50
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo(a)anthracene	56-55-3		U	5.00	2.50
Benzo(a)pyrene	50-32-8		U	5.00	2.50
Benzo(b)fluoranthene	205-99-2		U	5.00	2.50
Benzo(g,h,i)Perylene	191-24-2		U	5.00	2.50
Benzo(k)fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	20.0	10.0
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4		U	5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7		U	5.00	2.50
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Carbazole	86-74-8		U	20.0	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
Diphenylamine/n-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
Naphthalene	91-20-3		U	5.00	2.50
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	104	10	123		
2-Fluorobiphenyl	75.4	43	116		
2-Fluorophenol	37.4	21	100		
Nitrobenzene-d5	63.7	35	114		
p-Terphenyl-d14	89.1	33	141		
Phenol-d5	25.9	10	94		
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-17	PrePrep Method: N/A	Instrument: HPMS12
Client ID: MW05I-082417	Prep Method: 3510C	Prep Date: 08/28/2017 11:00
Matrix: Water	Analytical Method: 8270D	Cal Date: 08/03/2017 13:41
Workgroup #: WG627524	Analyst: SCB	Run Date: 08/29/2017 15:43
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: 12M64132
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
n-Hexadecanoic acid		7.84		0.000	0.000
Octadecanoic acid		5.67		0.000	0.000
Triacontane		8.32		0.000	0.000
Tetratriacontane		13.8		0.000	0.000
Eicosane		22.0		0.000	0.000
Eicosane		24.3		0.000	0.000
Eicosane		19.3		0.000	0.000
Eicosane		10.9		0.000	0.000

Certificate of Analysis

Sample #: L17081366-17	PrePrep Method: N/A	Instrument: HPMS7
Client ID: MW05I-082417	Prep Method: 3510C	Prep Date: 08/29/2017 09:30
Matrix: Water	Analytical Method: 8270D_SIM	Cal Date: 08/23/2017 18:40
Workgroup #: WG627710	Analyst: LJH	Run Date: 08/30/2017 15:06
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: 7M70239
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0500	0.0250
Acenaphthene	83-32-9		U	0.0500	0.0250
Acenaphthylene	208-96-8		U	0.0500	0.0250
Anthracene	120-12-7		U	0.0500	0.0250
Benzo(a)anthracene	56-55-3		U	0.0500	0.0250
Benzo(a)pyrene	50-32-8		U	0.0500	0.0250
Benzo(b)fluoranthene	205-99-2		U	0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2		U	0.0500	0.0250
Benzo(k)fluoranthene	207-08-9		U	0.0500	0.0250
Chrysene	218-01-9		U	0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3		U	0.0500	0.0250
Fluoranthene	206-44-0		U	0.0500	0.0250
Fluorene	86-73-7		U	0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0500	0.0250
Naphthalene	91-20-3	0.0256	J	0.0500	0.0250
Phenanthrene	85-01-8		U	0.0500	0.0250
Pyrene	129-00-0		U	0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	63.6	43	116		
Nitrobenzene-d5	70.0	35	114		
p-Terphenyl-d14	70.2	33	141		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-17	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW05I-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:43
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: T4.083017.164339
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Total	7440-70-2	69.1		0.500	0.250
Iron, Total	7439-89-6	0.0635	J	0.100	0.0500
Magnesium, Total	7439-95-4	19.4		0.500	0.250
Manganese, Total	7439-96-5	0.0543		0.0100	0.00500
Potassium, Total	7440-09-7	3.39		1.00	0.500
Sodium, Total	7440-23-5	70.9		0.500	0.250
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-17

PrePrep Method: N/A

Instrument: ICP-MS2

Client ID: MW05I-082417

Prep Method: 3015A

Prep Date: 08/29/2017 07:43

Matrix: Water

Analytical Method: 6020A

Cal Date: 08/29/2017 10:32

Workgroup #: WG627590

Analyst: JYH

Run Date: 08/29/2017 12:18

Collect Date: 08/24/2017 15:40

Dilution: 1

File ID: NI.082917.121854

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.000657	J	0.00100	0.000500
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L17081366-18

PrePrep Method: N/A

Instrument: ICP-THERMO4

Client ID: MW05I-082417

Prep Method: 3015A

Prep Date: 08/30/2017 09:19

Matrix: Water

Analytical Method: 6010C

Cal Date: 08/30/2017 13:22

Workgroup #: WG627813

Analyst: KKB

Run Date: 08/30/2017 16:47

Collect Date: 08/24/2017 15:40

Dilution: 1

File ID: T4.083017.164725

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	0.0567	J	0.100	0.0500
Manganese, Dissolved	7439-96-5	0.0559		0.0100	0.00500
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L17081366-18	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW05I-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:03
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: NI.082917.110352
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.000658	J	0.00100	0.000500
J	The analyte was positively identified, but the quantitation was below the RL.				

Certificate of Analysis

2.0 Full Sample Data Package

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data



Login Number: L17081366
Department: Volatiles
Analyst: Jared Smith

METHOD

Preparation SW-846 5030C/5035A

Analysis SW-846 8260C

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: Recoveries marginally out of range were observed for the following analytes: 1,2-Dibromo-3-Chloropropane, Bromomethane. Please see the applicable QC report for a detailed presentation of the failures.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Other: None.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak. In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak. This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low areacounts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline. There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous. Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 129221

Approved By: Anthony Canter



Certificate of Analysis

Sample #: L17081366-01

PrePrep Method: N/A

Instrument: HPMS9

Client ID: MW17-082417

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260C

Cal Date: 08/14/2017 14:15

Workgroup #: WG627475

Analyst: JDS

Run Date: 08/28/2017 22:46

Collect Date: 08/24/2017 10:22

Dilution: 1

File ID: 9M982231

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3	0.573	J	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	105	80	120		
Dibromofluoromethane	103	86	118		
p-Bromofluorobenzene	109	86	115		
Toluene-d8	103	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-03

PrePrep Method: N/A

Instrument: HPMS9

Client ID: DUP-GW-082417

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260C

Cal Date: 08/14/2017 14:15

Workgroup #: WG627475

Analyst: JDS

Run Date: 08/28/2017 23:16

Collect Date: 08/24/2017 09:00

Dilution: 1

File ID: 9M982232

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	105	80	120		
Dibromofluoromethane	103	86	118		
p-Bromofluorobenzene	113	86	115		
Toluene-d8	104	88	110		
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-05

PrePrep Method: N/A

Instrument: HPMS9

Client ID: MW18-082417

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260C

Cal Date: 08/14/2017 14:15

Workgroup #: WG627475

Analyst: JDS

Run Date: 08/28/2017 23:46

Collect Date: 08/24/2017 11:50

Dilution: 1

File ID: 9M982233

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,1,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	3.16	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	106	80	120		
Dibromofluoromethane	103	86	118		
p-Bromofluorobenzene	111	86	115		

Certificate of Analysis

Toluene-d8	103	88	110	
J	The analyte was positively identified, but the quantitation was below the RL.			
U	Not detected at or above adjusted sample detection limit.			

Sample #: L17081366-07

PrePrep Method: N/A

Instrument: HPMS9

Client ID: TW01-082417

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260C

Cal Date: 08/14/2017 14:15

Workgroup #: WG627475

Analyst: JDS

Run Date: 08/29/2017 00:16

Collect Date: 08/24/2017 14:12

Dilution: 1

File ID: 9M982234

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	3.89	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	107	80	120		
Dibromofluoromethane	103	86	118		
p-Bromofluorobenzene	114	86	115		
Toluene-d8	107	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-09

Client ID: TB-082417

Matrix: Water

Workgroup #: WG627475

Collect Date: 08/24/2017 08:00

Sample Tag: 01

PrePrep Method: N/A

Prep Method: 5030B/5030C/5035A

Analytical Method: 8260C

Analyst: JDS

Dilution: 1

Units: ug/L

Instrument: HPMS9

Prep Date: N/A

Cal Date: 08/14/2017 14:15

Run Date: 08/28/2017 19:45

File ID: 9M982225

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	5.69	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	102	80	120		
Dibromofluoromethane	102	86	118		
p-Bromofluorobenzene	109	86	115		
Toluene-d8	102	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-10

PrePrep Method: N/A

Instrument: HPMS9

Client ID: MW26-082417

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260C

Cal Date: 08/14/2017 14:15

Workgroup #: WG628579

Analyst: JDS

Run Date: 09/06/2017 17:45

Collect Date: 08/24/2017 10:55

Dilution: 1

File ID: 9M982376

Sample Tag: 02

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1		U	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	106	80	120		
Dibromofluoromethane	101	86	118		
p-Bromofluorobenzene	107	86	115		
Toluene-d8	102	88	110		
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-12

PrePrep Method: N/A

Instrument: HPMS9

Client ID: MW26-082417 MS

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260C

Cal Date: 08/14/2017 14:15

Workgroup #: WG628579

Analyst: JDS

Run Date: 09/06/2017 15:16

Collect Date: 08/24/2017 10:55

Dilution: 1

File ID: 9M982371

Sample Tag: 02

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6	18.6		1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5	20.3		1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	19.1		5.00	2.00
1,1,2-Trichloroethane	79-00-5	20.1		1.00	0.500
1,1-Dichloroethane	75-34-3	19.5		1.00	0.500
1,1-Dichloroethene	75-35-4	17.7		1.00	0.500
1,2,3-Trichlorobenzene	87-61-6	20.3		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	16.7		1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8	17.6		5.00	1.00
1,2-Dibromoethane	106-93-4	19.9		1.00	0.500
1,2-Dichlorobenzene	95-50-1	20.7		1.00	0.500
1,2-Dichloroethane	107-06-2	20.1		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.5		1.00	0.500
trans-1,2-Dichloroethene	156-60-5	18.7		1.00	0.500
1,2-Dichloropropane	78-87-5	19.9		1.00	0.500
1,3-Dichlorobenzene	541-73-1	20.0		1.00	0.500
1,4-Dichlorobenzene	106-46-7	19.9		1.00	0.500
2-Butanone	78-93-3	19.7		10.0	2.50
2-Hexanone	591-78-6	18.8		10.0	2.50
4-Methyl-2-pentanone	108-10-1	16.9		10.0	2.50
Acetone	67-64-1	23.1		10.0	2.50
Benzene	71-43-2	19.1		1.00	0.500
Bromochloromethane	74-97-5	19.3		1.00	0.500
Bromodichloromethane	75-27-4	19.1		1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Bromoform	75-25-2	15.8		1.00	0.500
Bromomethane	74-83-9	16.7		1.00	0.500
Carbon disulfide	75-15-0	16.4		1.00	0.500
Carbon tetrachloride	56-23-5	18.3		1.00	0.500
Chlorobenzene	108-90-7	20.2		1.00	0.500
Chloroethane	75-00-3	19.5		1.00	0.500
Chloroform	67-66-3	20.6		1.00	0.500
Chloromethane	74-87-3	18.0		1.00	0.500
cis-1,3-Dichloropropene	10061-01-5	20.6		1.00	0.500
Cyclohexane	110-82-7	17.5		5.00	1.00
Dibromochloromethane	124-48-1	19.4		1.00	0.500
Dichlorodifluoromethane	75-71-8	16.9		2.00	0.500
Ethyl benzene	100-41-4	19.9		1.00	0.500
Isopropylbenzene	98-82-8	19.4		1.00	0.500
Methyl acetate	79-20-9	19.3		5.00	1.00
Methyl tert-butyl ether	1634-04-4	19.1		1.00	0.500
Methylcyclohexane	108-87-2	17.3		5.00	1.00
Methylene chloride	75-09-2	19.1		5.00	0.500
m,p-Xylene	179601-23-1	41.8		1.00	0.500
o-Xylene	95-47-6	20.3		1.00	0.500
Styrene	100-42-5	17.7		1.00	0.500
Tetrachloroethene	127-18-4	18.4		1.00	0.500
Toluene	108-88-3	19.6		1.00	0.500
trans-1,3-Dichloropropene	10061-02-6	20.4		1.00	0.500
Trichloroethene	79-01-6	19.4		1.00	0.500
Trichlorofluoromethane	75-69-4	17.9		1.00	0.500
Vinyl chloride	75-01-4	19.4		1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	105	80	120		
Dibromofluoromethane	103	86	118		
p-Bromofluorobenzene	105	86	115		
Toluene-d8	105	88	110		

Certificate of Analysis

Sample #: L17081366-13

PrePrep Method: N/A

Instrument: HPMS9

Client ID: MW26-082417 MSD

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260C

Cal Date: 08/14/2017 14:15

Workgroup #: WG628579

Analyst: JDS

Run Date: 09/06/2017 15:46

Collect Date: 08/24/2017 10:55

Dilution: 1

File ID: 9M982372

Sample Tag: 02

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6	18.6		1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5	20.5		1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	18.8		5.00	2.00
1,1,2-Trichloroethane	79-00-5	20.6		1.00	0.500
1,1-Dichloroethane	75-34-3	19.5		1.00	0.500
1,1-Dichloroethene	75-35-4	17.7		1.00	0.500
1,2,3-Trichlorobenzene	87-61-6	20.4		1.00	0.500
1,2,4-Trichlorobenzene	120-82-1	17.5		1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8	17.9		5.00	1.00
1,2-Dibromoethane	106-93-4	20.1		1.00	0.500
1,2-Dichlorobenzene	95-50-1	20.8		1.00	0.500
1,2-Dichloroethane	107-06-2	19.8		1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.9		1.00	0.500
trans-1,2-Dichloroethene	156-60-5	18.6		1.00	0.500
1,2-Dichloropropane	78-87-5	20.0		1.00	0.500
1,3-Dichlorobenzene	541-73-1	20.4		1.00	0.500
1,4-Dichlorobenzene	106-46-7	20.5		1.00	0.500
2-Butanone	78-93-3	19.6		10.0	2.50
2-Hexanone	591-78-6	18.6		10.0	2.50
4-Methyl-2-pentanone	108-10-1	17.0		10.0	2.50
Acetone	67-64-1	22.7		10.0	2.50
Benzene	71-43-2	18.7		1.00	0.500
Bromochloromethane	74-97-5	19.3		1.00	0.500
Bromodichloromethane	75-27-4	19.0		1.00	0.500
Bromoform	75-25-2	15.6		1.00	0.500
Bromomethane	74-83-9	16.3		1.00	0.500
Carbon disulfide	75-15-0	16.4		1.00	0.500
Carbon tetrachloride	56-23-5	18.7		1.00	0.500
Chlorobenzene	108-90-7	20.1		1.00	0.500
Chloroethane	75-00-3	19.5		1.00	0.500
Chloroform	67-66-3	20.3		1.00	0.500
Chloromethane	74-87-3	17.8		1.00	0.500
cis-1,3-Dichloropropene	10061-01-5	20.5		1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Cyclohexane	110-82-7	17.2		5.00	1.00
Dibromochloromethane	124-48-1	19.4		1.00	0.500
Dichlorodifluoromethane	75-71-8	16.8		2.00	0.500
Ethyl benzene	100-41-4	20.3		1.00	0.500
Isopropylbenzene	98-82-8	19.5		1.00	0.500
Methyl acetate	79-20-9	18.9		5.00	1.00
Methyl tert-butyl ether	1634-04-4	19.1		1.00	0.500
Methylcyclohexane	108-87-2	16.9		5.00	1.00
Methylene chloride	75-09-2	19.0		5.00	0.500
m,p-Xylene	179601-23-1	41.7		1.00	0.500
o-Xylene	95-47-6	20.8		1.00	0.500
Styrene	100-42-5	17.9		1.00	0.500
Tetrachloroethene	127-18-4	18.7		1.00	0.500
Toluene	108-88-3	20.0		1.00	0.500
trans-1,3-Dichloropropene	10061-02-6	20.4		1.00	0.500
Trichloroethene	79-01-6	18.9		1.00	0.500
Trichlorofluoromethane	75-69-4	17.7		1.00	0.500
Vinyl chloride	75-01-4	19.2		1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	105	80	120		
Dibromofluoromethane	103	86	118		
p-Bromofluorobenzene	103	86	115		
Toluene-d8	105	88	110		

Sample #: L17081366-14

PrePrep Method: N/A

Instrument: HPMS9

Client ID: MW16I-082417

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260C

Cal Date: 08/14/2017 14:15

Workgroup #: WG627475

Analyst: JDS

Run Date: 08/29/2017 00:47

Collect Date: 08/24/2017 13:30

Dilution: 1

File ID: 9M982235

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	3.23	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	105	80	120		
Dibromofluoromethane	102	86	118		
p-Bromofluorobenzene	111	86	115		
Toluene-d8	105	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-16

PrePrep Method: N/A

Instrument: HPMS9

Client ID: FB-082417

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260C

Cal Date: 08/14/2017 14:15

Workgroup #: WG627475

Analyst: JDS

Run Date: 08/28/2017 19:15

Collect Date: 08/24/2017 14:00

Dilution: 1

File ID: 9M982224

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	4.40	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500
Chloroform	67-66-3	3.60		1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	107	80	120		
Dibromofluoromethane	102	86	118		
p-Bromofluorobenzene	113	86	115		
Toluene-d8	104	88	110		

Certificate of Analysis

J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Sample #: L17081366-17

PrePrep Method: N/A

Instrument: HPMS9

Client ID: MW05I-082417

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260C

Cal Date: 08/14/2017 14:15

Workgroup #: WG628579

Analyst: JDS

Run Date: 09/06/2017 18:16

Collect Date: 08/24/2017 15:40

Dilution: 1

File ID: 9M982377

Sample Tag: 02

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
1,1,1-Trichloroethane	71-55-6		U	1.00	0.500
1,1,2,2-Tetrachloroethane	79-34-5		U	1.00	0.500
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1		U	5.00	2.00
1,1,2-Trichloroethane	79-00-5		U	1.00	0.500
1,1-Dichloroethane	75-34-3		U	1.00	0.500
1,1-Dichloroethene	75-35-4		U	1.00	0.500
1,2,3-Trichlorobenzene	87-61-6		U	1.00	0.500
1,2,4-Trichlorobenzene	120-82-1		U	1.00	0.500
1,2-Dibromo-3-chloropropane	96-12-8		U	5.00	1.00
1,2-Dibromoethane	106-93-4		U	1.00	0.500
1,2-Dichlorobenzene	95-50-1		U	1.00	0.500
1,2-Dichloroethane	107-06-2		U	1.00	0.500
cis-1,2-Dichloroethene	156-59-2		U	1.00	0.500
trans-1,2-Dichloroethene	156-60-5		U	1.00	0.500
1,2-Dichloropropane	78-87-5		U	1.00	0.500
1,3-Dichlorobenzene	541-73-1		U	1.00	0.500
1,4-Dichlorobenzene	106-46-7		U	1.00	0.500
2-Butanone	78-93-3		U	10.0	2.50
2-Hexanone	591-78-6		U	10.0	2.50
4-Methyl-2-pentanone	108-10-1		U	10.0	2.50
Acetone	67-64-1	2.85	J	10.0	2.50
Benzene	71-43-2		U	1.00	0.500
Bromochloromethane	74-97-5		U	1.00	0.500
Bromodichloromethane	75-27-4		U	1.00	0.500
Bromoform	75-25-2		U	1.00	0.500
Bromomethane	74-83-9		U	1.00	0.500
Carbon disulfide	75-15-0		U	1.00	0.500
Carbon tetrachloride	56-23-5		U	1.00	0.500
Chlorobenzene	108-90-7		U	1.00	0.500
Chloroethane	75-00-3		U	1.00	0.500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Chloroform	67-66-3		U	1.00	0.500
Chloromethane	74-87-3		U	1.00	0.500
cis-1,3-Dichloropropene	10061-01-5		U	1.00	0.500
Cyclohexane	110-82-7		U	5.00	1.00
Dibromochloromethane	124-48-1		U	1.00	0.500
Dichlorodifluoromethane	75-71-8		U	2.00	0.500
Ethyl benzene	100-41-4		U	1.00	0.500
Isopropylbenzene	98-82-8		U	1.00	0.500
Methyl acetate	79-20-9		U	5.00	1.00
Methyl tert-butyl ether	1634-04-4		U	1.00	0.500
Methylcyclohexane	108-87-2		U	5.00	1.00
Methylene chloride	75-09-2		U	5.00	0.500
m,p-Xylene	179601-23-1		U	1.00	0.500
o-Xylene	95-47-6		U	1.00	0.500
Styrene	100-42-5		U	1.00	0.500
Tetrachloroethene	127-18-4		U	1.00	0.500
Toluene	108-88-3		U	1.00	0.500
trans-1,3-Dichloropropene	10061-02-6		U	1.00	0.500
Trichloroethene	79-01-6		U	1.00	0.500
Trichlorofluoromethane	75-69-4		U	1.00	0.500
Vinyl chloride	75-01-4		U	1.00	0.500
Epichlorohydrin	106-89-8			0.000	0.000
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
1,2-Dichloroethane-d4	107	80	120		
Dibromofluoromethane	102	86	118		
p-Bromofluorobenzene	111	86	115		
Toluene-d8	106	88	110		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

$$RF = [(Ax) (Cis)] / [(Ais) (Cx)]$$

Example

where:

Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100

RF = Calculated Response Factor **1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

$$Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]$$

Example

where:

Ax = Area of the characteristic ion for the compound being measured	3122498
Cis = Concentration of the specific internal standard (ug/L)	25
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	611048
RF = Average RF from the ICAL	1.004
Vs = Purge volume of sample (mL)	10
Vn = Nominal purge volume of sample (mL) (10.0 mL)	10
Cx = Concentration of the compound in the sample being measured (ug/L)	127.2428

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

$$Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]$$

Example

where:

Ax = Area of the characteristic ion for the compound being measured	3122498
Cis = Concentration of the specific internal standard (ug/L)	25
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	611048
RF = Average RF from the ICAL	1.004
Ws = Weight of sample purged (g)	5
Wn = Nominal purge weight (g) (5.0 g)	5
Cx = Concentration of the compound in the sample being measured (ug/L)	127.2428

Dry weight correction:

Percent solids (PCT_S)	50
Cd = (Cx) (100)/PCT_S	254.4856

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, $y = mx + b$

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

$$y = 86550/593147 = 0.1459$$

Step 3: Solve for x

$$x = (y - b)/m = [(0.1459 - (-0.00642))/0.213] = 0.7152$$

Step 4: Solve for analyte concentration Cx

$$Cx = Cis (x) = (25.0)(0.7152) = 17.88$$

Example Spreadsheet Calculation:

Slope from curve, m:	0.213
Intercept from curve, b:	-0.00642
Area of analyte, Ax:	86550
Area of Internal Standard, Ais:	593147
Concentration of IS, Cis	25.00
Response Ratio:	0.145917
Amount Ratio:	0.715195
Concentration:	17.87988
Units of Internal Standard:	ug/L

5.0 Concentration from Quadratic Regression**Step 1 - Retrieve Curve Data from Plot, $y = Ax^2 + Bx + C$**

Where:

$$Ax^2 + Bx + (C - y) = 0$$

A, B, C = constants from the ICAL quadratic regression

y = Response ratio = Area of analyte/Area of internal standard (IS)

x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

$$y = Ax/Ais$$

Step 3: Solve for x using the quadratic formula

$$Ax^2 + Bx + C - y = 0$$

$$x = \frac{b \pm \sqrt{b^2 - 4a(c - y)}}{2a} \quad (\text{Two possible solutions})$$

Step 4: Solve for analyte concentration Cx

$$Cx = (Cis)(\text{Amount ratio})$$

Example Spreadsheet Calculation:

Value of A from plot:	-0.00629
Value of B from plot:	0.511
Value of C from plot:	-0.0276
Area of unknown from quantitation report:	293821
Area of IS from quantitation report:	784848
Response ratio, y:	0.374367
C - y:	-0.40197
Root 1 - Computed amount ratio, X1:	80.44567
Root 2 - Computed amount ratio, X2:	0.794396 use this solution
Concentration of IS, Cis:	25.00
Concentration of analyte, Cx:	19.86 ug/L

Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS9 Dataset: 081417
Analyst1: ADC Analyst2: NA
Method: 8260B/C SOP: MSV01(C), OVAP MSV01 Rev: 25.0
Method: 5035, 5030B/ 5030C SOP: PAT01, OVAP PAT01 Rev: 19.1

Maintenance Log ID: _____

Internal Standard: STD82922 Surrogate Standard: STD82921
CCV: STD83326 LCS: STD83237 MS/MSD: NA
Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG625140 (ICAL), WG625726

Comments: Low first surrogates after L17080372.

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
9M981988	WG625140-01 50ng BFB 8260	NA	1	1	STD83010	08/14/17 08:49
9M981989	RINSE	NA	1	1		08/14/17 09:13
9M981990	WG625140-02 0.5ug/L ICAL 8260C	NA	1	1	STD83326	08/14/17 09:43
9M981991	WG625140-03 1ug/L ICAL 8260C	NA	1	1	STD83326	08/14/17 10:13
9M981992	WG625140-04 2ug/L ICAL 8260C	NA	1	1	STD83326	08/14/17 10:43
9M981993	WG625140-05 5ug/L ICAL 8260C	NA	1	1	STD83326	08/14/17 11:14
9M981994	WG625140-03 1ug/L ICAL 8260C	NA	1	1	STD83326	08/14/17 11:44
9M981995	WG625140-06 20ug/L ICAL 8260C	NA	1	1	STD83326	08/14/17 12:14
9M981996	WG625140-07 50ug/L ICAL 8260C	NA	1	1	STD83326	08/14/17 12:44
9M981997	WG625140-08 100ug/L ICAL 8260C	NA	1	1	STD83326	08/14/17 13:14
9M981998	WG625140-09 200ug/L ICAL 8260C	NA	1	1	STD83326	08/14/17 13:45
9M981999	WG625140-10 300ug/L ICAL 8260C	NA	1	1	STD83326	08/14/17 14:15
9M982000	RINSE	NA	1	1		08/14/17 14:46
9M982001	WG625140-11 50ug/L ICV 8260C	NA	1	1	STD83237	08/14/17 15:16
9M982002	RINSE	NA	1	1		08/14/17 15:46
9M982003	WG625726-01 BLANK 8260C	NA	1	1		08/14/17 16:16
9M982004	L17080372-01 B 10X 8260C	<2	1	10		08/14/17 16:47
9M982005	WG625726-02 20ug/L LCS	NA	1	1	STD83233	08/14/17 17:17
9M982006	WG625726-03 20ug/L LCSDUP	NA	1	1	STD83233	08/14/17 17:47
9M982007	RINSE	NA	1	1		08/14/17 18:18
9M982008	L17080491-01 B 8260C	<2	1	1		08/14/17 18:48
9M982009	L17080541-01 A 8260C	<2	1	1		08/14/17 19:18
9M982010	RINSE	NA	1	1		08/14/17 19:48
9M982011	RINSE	NA	1	1		08/14/17 20:18

Comments

Seq.	Rerun	Dil.	Reason	Analytes
3				
File ID: 9M981991				
WG625140-03 RR. No secondary in DCDF				
6				
File ID: 9M981994				
WG625140-03 No secondary in DCDF. RL changed to 2.				

Approved: August 15, 2017

Page: 1

Tiffany Bailey



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS9 Dataset: 082817
Analyst1: JDS Analyst2: NA
Method: 8260 SOP: MSV01, OVAP MSV01 Rev: 25.0
Method: 5035, 5030B, 5030C SOP: PAT01, OVAP PAT01 Rev: 19.1

Maintenance Log ID: _____

Internal Standard: STD83990 Surrogate Standard: STD83991
CCV: STD83378 LCS: STD83584 MS/MSD: STD83584
Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG627475

Comments: %RPT limit failed in MS/MSD for bromomethane

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
9M982213	WG627474-01 50ng BFB 8260	NA	1	1	STD83478	08/28/17 13:44
9M982214	WG627474-02 50ug/L CCV	NA	1	1	STD83378	08/28/17 14:08
9M982215	WGXXXXXX-01 100ug/L A9FOO	NA	1	1	STDXXXXX	08/28/17 14:38
9M982216	WG627475-01 BLANK	NA	1	1		08/28/17 15:08
9M982217	WG627475-02 20ug/L LCS 8260	NA	1	1	STD83584	08/28/17 15:39
9M982218	L17081212-04 A MS 8260C	<2	1	1	STD83584	08/28/17 16:14
9M982219	L17081212-06 A MSD 8260C	<2	1	1	STD83584	08/28/17 16:44
9M982220	L17081212-10 A FB 8260C	<2	1	1		08/28/17 17:15
9M982221	L17081212-01 A TB 8260C	<2	1	1		08/28/17 17:45
9M982222	L17081305-07 A TB 8260C	<2	1	1		08/28/17 18:15
9M982223	L17081305-18 A FB 8260C	<2	1	1		08/28/17 18:45
9M982224	L17081366-16 A FB 8260C	<2	1	1		08/28/17 19:15
9M982225	L17081366-09 A TB 8260C	<2	1	1		08/28/17 19:45
9M982226	L17081212-02 A REF 8260C	<2	1	1		08/28/17 20:15
9M982227	L17081305-01 A 8260C	<2	1	1		08/28/17 20:45
9M982228	L17081305-03 A 8260C	<2	1	1		08/28/17 21:16
9M982229	L17081305-14 A 8260C	<2	1	1		08/28/17 21:46
9M982230	L17081305-16 A 8260C	<2	1	1		08/28/17 22:16
9M982231	L17081366-01 A 8260C	<2	1	1		08/28/17 22:46
9M982232	L17081366-03 A 8260C	<2	1	1		08/28/17 23:16
9M982233	L17081366-05 A 8260C	<2	1	1		08/28/17 23:46
9M982234	L17081366-07 A 8260C	<2	1	1		08/29/17 00:16
9M982235	L17081366-14 A 8260C	<2	1	1		08/29/17 00:47
9M982236	L17081305-19 A 8260C	<2	1	1		08/29/17 01:16
9M982237	L17081305-05 A 8260C	4	1	1		08/29/17 01:46
9M982238	CCV	NA	1	1		08/29/17 02:16
9M982239	RINSE	NA	1	1		08/29/17 02:46
9M982240	RINSE	NA	1	1		08/29/17 03:16
9M982241	SCREEN 100X 1367-01	NA	1	1		08/29/17 03:46
9M982242	SCREEN 100X 1367-02	NA	1	1		08/29/17 04:16
9M982243	SCREEN 100X 1367-03	NA	1	1		08/29/17 04:46
9M982244	SCREEN 100X 1367-04	NA	1	1		08/29/17 05:16
9M982245	SCREEN 100X 1367-05	NA	1	1		08/29/17 05:46
9M982246	SCREEN 100X 1367-06	NA	1	1		08/29/17 06:17

Approved: September 05, 2017

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Cathy Carter



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS9 Dataset: 082817
 Analyst1: JDS Analyst2: NA
 Method: 8260 SOP: MSV01, OVAP MSV01 Rev: 25.0
 Method: 5035, 5030B, 5030C SOP: PAT01, OVAP PAT01 Rev: 19.1

Maintenance Log ID: _____

Internal Standard: STD83990 Surrogate Standard: STD83991
 CCV: STD83378 LCS: STD83584 MS/MSD: STD83584
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG627475

Comments: %RPT limit failed in MS/MSD for bromomethane

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
9M982247	SCREEN 100X 1367-07	NA	1	1		08/29/17 06:47
9M982248	SCREEN 100X 1428-01	NA	1	1		08/29/17 07:17

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2			Check Standard Failure	
File ID: 9M982214				
WG627474-02 CCv failed low for 12D3CP				
25				
File ID: 9M982237				
L17081305-05 MT DNR.				

Approved: September 05, 2017

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Cathy Carter



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS9 Dataset: 090617
Analyst1: JDS Analyst2: NA
Method: 8260 SOP: MSV01, OVAP MSV01 Rev: 25.0
Method: 5035, 5030B, 5030C SOP: PAT01, OVAP PAT01 Rev: 19.1

Maintenance Log ID: _____

Internal Standard: STD83390 Surrogate Standard: STD83391
CCV: STD83691 LCS: STD83659 MS/MSD: STD83659
Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG628529 WG628579

Comments: _____

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
9M982359	WG628528-01 50ng BFB 8260	NA	7	1	STD83478	09/06/17 09:37
9M982360	WG628528-02 50ug/Kg CCV 8260C	NA	7	1	STD83691	09/06/17 10:03
9M982361	WG628528-02 50ug/Kg CCV 8260C	NA	7	1	STD83691	09/06/17 10:39
9M982362	WG000000-01 100ug/Kg A9FOO	NA	7	1	STD83554	09/06/17 11:09
9M982364	WG628529-01 BLANK 8260	NA	7	1		09/06/17 11:42
9M982365	WG628529-02 20ug/kg LCS 8260	NA	7	1	STD83659	09/06/17 12:13
9M982366	WG628578-02 50ug/L CCV 8260C	NA	1	1	STD83691	09/06/17 12:42
9M982367	WG628578-02 50ug/L CCV 8260C	NA	1	1	STD83691	09/06/17 13:15
9M982368	WG000000-01 100ug/L A9 CCV 8260C	NA	1	1	STD83554	09/06/17 13:47
9M982369	WG628579-01 BLANK 8260C	NA	1	1		09/06/17 14:16
9M982370	WG628579-02 20ug/L LCS 8260C	NA	1	1	STD83659	09/06/17 14:46
9M982371	L17081366-12 B MS 8260C	<2	1	1	STD83659	09/06/17 15:16
9M982372	L17081366-13 B MSD 8260C	<2	1	1	STD83659	09/06/17 15:46
9M982373	WG628527-01 L17090122-01 4.99g 826-SP	NA	7	1		09/06/17 16:15
9M982374	L17081498-11 B TB 826-SPE	<2	1	1		09/06/17 16:45
9M982375	L17081498-12 B FB 826-SPE	<2	1	1		09/06/17 17:15
9M982376	L17081366-10 B REF 826-SPE	<2	1	1		09/06/17 17:45
9M982377	L17081366-17 B 826-SPE	<2	1	1		09/06/17 18:16
9M982378	L17081498-01 B 826-SPE	<2	1	1		09/06/17 18:46
9M982379	L17081498-03 B 826-SPE	<2	1	1		09/06/17 19:15
9M982380	L17081498-07 B 826-SPE	<2	1	1		09/06/17 19:45
9M982381	L17081498-09 B 826-SPE	<2	1	1		09/06/17 20:14
9M982382	WG628527-02 MS 4.92g 8260	NA	7	1		09/06/17 20:44
9M982383	WG628527-03 MSD 4.96g 8260	NA	7	1		09/06/17 21:13
9M982384	RINSE	NA	7	1		09/06/17 21:43
9M982385	RINSE	NA	7	1		09/06/17 22:12
9M982386	RINSE	NA	7	1		09/06/17 22:42

Comments

Seq.	Rerun	Dil.	Reason	Analytes
8			Check Standard Failure	
File ID: 9M982367				
WG628578-02 CCV failed low for BM				

Approved: September 07, 2017

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Cathy Carter



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS9 Dataset: 090617
 Analyst1: JDS Analyst2: NA
 Method: 8260 SOP: MSV01, OVAP MSV01 Rev: 25.0
 Method: 5035, 5030B, 5030C SOP: PAT01, OVAP PAT01 Rev: 19.1

Maintenance Log ID: _____

Internal Standard: STD83390 Surrogate Standard: STD83391
 CCV: STD83691 LCS: STD83659 MS/MSD: STD83659
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG628529 WG628579

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
14				
File ID: 9M982373				
L17090122-01 sample received OOH				
15			Surrogate standard failure	
File ID: 9M982374				
L17081498-11 Sample took ace. hit with high failing surrogate				

Approved: September 07, 2017

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Cathy Carter



Microbac Laboratories Inc.

Data Checklist

Date: 14-AUG-2017

Analyst: ADC

Analyst: NA

Method: 8260C

Instrument: HPMS9

Curve Workgroup: WG625140

Runlog ID: 83962

Analytical Workgroups: WG625726

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	ADC
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	ADC
Secondary Reviewer	TMB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
15-AUG-2017



Secondary Reviewer:
15-AUG-2017



CHECKLIST1 - Modified 03/05/2008

Generated: AUG-15-2017 11:54:53



Microbac Laboratories Inc.

Data Checklist

Date: 28-AUG-2017

Analyst: JDS

Analyst: NA

Method: 8260

Instrument: HPMS9

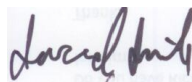
Curve Workgroup: NA

Runlog ID: 84298

Analytical Workgroups: WG627475

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	JDS
Surrogates	X
Internal Standards Criteria	X
Library Searches	X
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	ADC
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
30-AUG-2017



Secondary Reviewer:
05-SEP-2017




Microbac Laboratories Inc.

Data Checklist

Date: 06-SEP-2017

Analyst: JDS

Analyst: NA

Method: 8260

Instrument: HPMS9

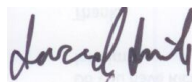
Curve Workgroup: NA

Runlog ID: 84438

Analytical Workgroups: WG628529 WG628579

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	JDS
Surrogates	X
Internal Standards Criteria	X
Library Searches	X
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	ADC
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
07-SEP-2017



Secondary Reviewer:
07-SEP-2017



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260C

AAB#: WG627475

Login Number: L17081366

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW17-082417	01	08/24/17					08/28/2017	4.5	14		08/28/17	4.5	14	
DUP-GW-082417	03	08/24/17					08/28/2017	4.6	14		08/28/17	4.6	14	
MW18-082417	05	08/24/17					08/28/2017	4.5	14		08/28/17	4.5	14	
TW01-082417	07	08/24/17					08/29/2017	4.4	14		08/29/17	4.4	14	
TB-082417	09	08/24/17					08/28/2017	4.5	14		08/28/17	4.5	14	
MW16I-082417	14	08/24/17					08/29/2017	4.5	14		08/29/17	4.5	14	
FB-082417	16	08/24/17					08/28/2017	4.2	14		08/28/17	4.2	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
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Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260C
Login Number: L17081366

AAB#: WG628579

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW26-082417	10	08/24/17					09/06/2017	13.3	14		09/06/17	13.3	14	
MW26-082417 MS	12	08/24/17					09/06/2017	13.2	14		09/06/17	13.2	14	
MW26-082417 MSD	13	08/24/17					09/06/2017	13.2	14		09/06/17	13.2	14	
MW05I-082417	17	08/24/17					09/06/2017	13.1	14		09/06/17	13.1	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5455978
Report generated 09/07/2017 16:57



**Microbac Laboratories Inc.
SURROGATE STANDARDS**

Login Number: L17081366
Instrument Id: HPMS9
Workgroup (AAB#): WG628579

Method: 8260C
CAL ID: HPMS9 - 14-AUG-17
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L17081366-10	1.00	02	106	101	107	102
L17081366-12	1.00	02	105	103	105	105
L17081366-13	1.00	02	105	103	103	105
L17081366-17	1.00	02	107	102	111	106
WG628579-01	1.00	01	105	100	111	103
WG628579-02	1.00	01	106	102	102	105

Surrogates	Surrogate Limits
1 - 1,2-Dichloroethane-d4	80 - 120
2 - Dibromofluoromethane	86 - 118
3 - p-Bromofluorobenzene	86 - 115
4 - Toluene-d8	88 - 110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected



Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L17081366
Instrument Id: HPMS9
Workgroup (AAB#): WG627475

Method: 8260C
CAL ID: HPMS9 - 14-AUG-17
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L17081366-01	1.00	01	105	103	109	103
L17081366-03	1.00	01	105	103	113	104
L17081366-05	1.00	01	106	103	111	103
L17081366-07	1.00	01	107	103	114	107
L17081366-09	1.00	01	102	102	109	102
L17081366-14	1.00	01	105	102	111	105
L17081366-16	1.00	01	107	102	113	104
WG627475-01	1.00	01	104	101	113	106
WG627475-02	1.00	01	103	103	107	105

Surrogates	Surrogate Limits
1 - 1,2-Dichloroethane-d4	80 - 120
2 - Dibromofluoromethane	86 - 118
3 - p-Bromofluorobenzene	86 - 115
4 - Toluene-d8	88 - 110

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected



METHOD BLANK SUMMARY

Login Number: L17081366
 Blank File ID: 9M982216
 Prep Date: 08/28/17 15:08
 Analyzed Date: 08/28/17 15:08
 Analyst: JDS

Work Group: WG627475
 Blank Sample ID: WG627475-01
 Instrument ID: HPMS9
 Method: 8260C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG627475-02	9M982217	08/28/17 15:39	01
FB-082417	L17081366-16	9M982224	08/28/17 19:15	01
TB-082417	L17081366-09	9M982225	08/28/17 19:45	01
MW17-082417	L17081366-01	9M982231	08/28/17 22:46	01
DUP-GW-082417	L17081366-03	9M982232	08/28/17 23:16	01
MW18-082417	L17081366-05	9M982233	08/28/17 23:46	01
TW01-082417	L17081366-07	9M982234	08/29/17 00:16	01
MW16I-082417	L17081366-14	9M982235	08/29/17 00:47	01

Report Name: BLANK_SUMMARY
 PDF File ID: 5455979
 Report generated 09/07/2017 16:57



METHOD BLANK SUMMARY

Login Number: L17081366
 Blank File ID: 9M982369
 Prep Date: 09/06/17 14:16
 Analyzed Date: 09/06/17 14:16
 Analyst: JDS

Work Group: WG628579
 Blank Sample ID: WG628579-01
 Instrument ID: HPMS9
 Method: 8260C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG628579-02	9M982370	09/06/17 14:46	01
MW26-082417 MS	L17081366-12	9M982371	09/06/17 15:16	02
MW26-082417 MSD	L17081366-13	9M982372	09/06/17 15:46	02
MW26-082417	L17081366-10	9M982376	09/06/17 17:45	02
MW05I-082417	L17081366-17	9M982377	09/06/17 18:16	02

Report Name: BLANK_SUMMARY
 PDF File ID: 5455979
 Report generated 09/07/2017 16:57



METHOD BLANK REPORT

Login Number: L17081366 Prep Date: 08/28/17 15:08 Sample ID: WG627475-01
 Instrument ID: HPMS9 Run Date: 08/28/17 15:08 Prep Method: 5030B/5030C/503
 File ID: 9M982216 Analyst: JDS Method: 8260C
 Workgroup (AAB#): WG627475 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS9 - 14-AUG-17

Analytes	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.500	1.00	0.500	1	U
1,1,2,2-Tetrachloroethane	0.500	1.00	0.500	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.00	5.00	2.00	1	U
1,1,2-Trichloroethane	0.500	1.00	0.500	1	U
1,1-Dichloroethane	0.500	1.00	0.500	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,3-Trichlorobenzene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.500	1.00	0.500	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.500	1.00	0.500	1	U
1,2-Dichlorobenzene	0.500	1.00	0.500	1	U
1,2-Dichloroethane	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.500	1.00	0.500	1	U
trans-1,2-Dichloroethene	0.500	1.00	0.500	1	U
1,2-Dichloropropane	0.500	1.00	0.500	1	U
1,3-Dichlorobenzene	0.500	1.00	0.500	1	U
1,4-Dichlorobenzene	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.500	1.00	0.500	1	U
Bromochloromethane	0.500	1.00	0.500	1	U
Bromodichloromethane	0.500	1.00	0.500	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.500	1.00	0.500	1	U
Chlorobenzene	0.500	1.00	0.500	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.500	1.00	0.500	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Cyclohexane	1.00	5.00	1.00	1	U
Dibromochloromethane	0.500	1.00	0.500	1	U
Dichlorodifluoromethane	0.500	2.00	0.500	1	U
Ethyl benzene	0.500	1.00	0.500	1	U
Isopropylbenzene	0.500	1.00	0.500	1	U
Methyl acetate	1.00	5.00	1.00	1	U
Methyl tert-butyl ether	0.500	1.00	0.500	1	U
Methylcyclohexane	1.00	5.00	1.00	1	U
Methylene chloride	0.500	5.00	0.500	1	U

Report Name: BLANK

PDF ID: 5455980

07-SEP-2017 16:57



METHOD BLANK REPORT

Login Number: L17081366 Prep Date: 08/28/17 15:08 Sample ID: WG627475-01
 Instrument ID: HPMS9 Run Date: 08/28/17 15:08 Prep Method: 5030B/5030C/503
 File ID: 9M982216 Analyst: JDS Method: 8260C
 Workgroup (AAB#): WG627475 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS9 - 14-AUG-17

Analytes	MDL	RL	Concentration	Dilution	Qualifier
m,p-Xylene	0.500	1.00	0.500	1	U
o-Xylene	0.500	1.00	0.500	1	U
Styrene	0.500	1.00	0.500	1	U
Tetrachloroethene	0.500	1.00	0.500	1	U
Toluene	0.500	1.00	0.500	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.500	1.00	0.500	1	U
Trichlorofluoromethane	0.500	1.00	0.500	1	U
Vinyl chloride	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits		Qualifier
1,2-Dichloroethane-d4	104	80	- 120	PASS
Dibromofluoromethane	101	86	- 118	PASS
p-Bromofluorobenzene	113	86	- 115	PASS
Toluene-d8	106	88	- 110	PASS

MDL Method Detection Limit

RL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 5455980

07-SEP-2017 16:57



METHOD BLANK REPORT

Login Number: L17081366 Prep Date: 09/06/17 14:16 Sample ID: WG628579-01
 Instrument ID: HPMS9 Run Date: 09/06/17 14:16 Prep Method: 5030B/5030C/503
 File ID: 9M982369 Analyst: JDS Method: 8260C
 Workgroup (AAB#): WG628579 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS9 - 14-AUG-17

Analytes	MDL	RL	Concentration	Dilution	Qualifier
1,1,1-Trichloroethane	0.500	1.00	0.500	1	U
1,1,2,2-Tetrachloroethane	0.500	1.00	0.500	1	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.00	5.00	2.00	1	U
1,1,2-Trichloroethane	0.500	1.00	0.500	1	U
1,1-Dichloroethane	0.500	1.00	0.500	1	U
1,1-Dichloroethene	0.500	1.00	0.500	1	U
1,2,3-Trichlorobenzene	0.500	1.00	0.500	1	U
1,2,4-Trichlorobenzene	0.500	1.00	0.500	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.500	1.00	0.500	1	U
1,2-Dichlorobenzene	0.500	1.00	0.500	1	U
1,2-Dichloroethane	0.500	1.00	0.500	1	U
cis-1,2-Dichloroethene	0.500	1.00	0.500	1	U
trans-1,2-Dichloroethene	0.500	1.00	0.500	1	U
1,2-Dichloropropane	0.500	1.00	0.500	1	U
1,3-Dichlorobenzene	0.500	1.00	0.500	1	U
1,4-Dichlorobenzene	0.500	1.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
2-Hexanone	2.50	10.0	2.50	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Acetone	2.50	10.0	2.50	1	U
Benzene	0.500	1.00	0.500	1	U
Bromochloromethane	0.500	1.00	0.500	1	U
Bromodichloromethane	0.500	1.00	0.500	1	U
Bromoform	0.500	1.00	0.500	1	U
Bromomethane	0.500	1.00	0.500	1	U
Carbon disulfide	0.500	1.00	0.500	1	U
Carbon tetrachloride	0.500	1.00	0.500	1	U
Chlorobenzene	0.500	1.00	0.500	1	U
Chloroethane	0.500	1.00	0.500	1	U
Chloroform	0.500	1.00	0.500	1	U
Chloromethane	0.500	1.00	0.500	1	U
cis-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Cyclohexane	1.00	5.00	1.00	1	U
Dibromochloromethane	0.500	1.00	0.500	1	U
Dichlorodifluoromethane	0.500	2.00	0.500	1	U
Ethyl benzene	0.500	1.00	0.500	1	U
Isopropylbenzene	0.500	1.00	0.500	1	U
Methyl acetate	1.00	5.00	1.00	1	U
Methyl tert-butyl ether	0.500	1.00	0.500	1	U
Methylcyclohexane	1.00	5.00	1.00	1	U
Methylene chloride	0.500	5.00	0.500	1	U

Report Name: BLANK

PDF ID: 5455980

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METHOD BLANK REPORT

Login Number: L17081366 Prep Date: 09/06/17 14:16 Sample ID: WG628579-01
 Instrument ID: HPMS9 Run Date: 09/06/17 14:16 Prep Method: 5030B/5030C/503
 File ID: 9M982369 Analyst: JDS Method: 8260C
 Workgroup (AAB#): WG628579 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS9 - 14-AUG-17

Analytes	MDL	RL	Concentration	Dilution	Qualifier
m,p-Xylene	0.500	1.00	0.500	1	U
o-Xylene	0.500	1.00	0.500	1	U
Styrene	0.500	1.00	0.500	1	U
Tetrachloroethene	0.500	1.00	0.500	1	U
Toluene	0.500	1.00	0.500	1	U
trans-1,3-Dichloropropene	0.500	1.00	0.500	1	U
Trichloroethene	0.500	1.00	0.500	1	U
Trichlorofluoromethane	0.500	1.00	0.500	1	U
Vinyl chloride	0.500	1.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	105	80 - 120	PASS
Dibromofluoromethane	100	86 - 118	PASS
p-Bromofluorobenzene	111	86 - 115	PASS
Toluene-d8	103	88 - 110	PASS

MDL Method Detection Limit

RL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 5455980

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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L17081366</u>	Run Date: <u>08/28/2017</u>	Sample ID: <u>WG627475-02</u>
Instrument ID: <u>HPMS9</u>	Run Time: <u>15:39</u>	Prep Method: <u>5030B/5030C/503</u>
File ID: <u>9M982217</u>	Analyst: <u>JDS</u>	Method: <u>8260C</u>
Workgroup (AAB#): <u>WG627475</u>	Matrix: <u>Water</u>	Units: <u>ug/L</u>
QC Key: <u>WATERLOO</u>	Lot#: <u>STD83541</u>	Cal ID: <u>HPMS9 - 14-AUG-17</u>

Analytes	Expected	Found	% Rec	LCS Limits			Q
1,1,1-Trichloroethane	20.0	19.4	97.0	80	-	134	
1,1,2,2-Tetrachloroethane	20.0	19.7	98.6	79	-	125	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	21.2	106	80	-	130	
1,1,2-Trichloroethane	20.0	21.1	105	80	-	125	
1,1-Dichloroethane	20.0	18.8	93.8	80	-	125	
1,1-Dichloroethene	20.0	17.4	87.1	80	-	132	
1,2,3-Trichlorobenzene	20.0	22.9	114	55	-	140	
1,2,4-Trichlorobenzene	20.0	19.5	97.4	65	-	135	
1,2-Dibromo-3-chloropropane	20.0	19.0	95.1	50	-	130	
1,2-Dibromoethane	20.0	20.4	102	80	-	125	
1,2-Dichlorobenzene	20.0	22.3	112	80	-	125	
1,2-Dichloroethane	20.0	19.4	97.1	80	-	129	
cis-1,2-Dichloroethene	20.0	19.6	97.9	70	-	125	
trans-1,2-Dichloroethene	20.0	18.0	90.2	80	-	127	
1,2-Dichloropropane	20.0	19.9	99.5	80	-	120	
1,3-Dichlorobenzene	20.0	21.6	108	80	-	120	
1,4-Dichlorobenzene	20.0	21.8	109	80	-	120	
2-Butanone	20.0	18.7	93.3	30	-	150	
2-Hexanone	20.0	17.4	87.0	55	-	130	
4-Methyl-2-pentanone	20.0	18.0	90.1	64	-	140	
Acetone	20.0	19.9	99.4	40	-	142	
Benzene	20.0	18.8	94.2	80	-	121	
Bromochloromethane	20.0	19.2	96.0	65	-	130	
Bromodichloromethane	20.0	19.5	97.7	80	-	131	
Bromoform	20.0	16.5	82.7	70	-	130	
Bromomethane	20.0	17.7	88.5	30	-	145	
Carbon disulfide	20.0	17.2	85.9	58	-	138	
Carbon tetrachloride	20.0	19.5	97.4	65	-	140	
Chlorobenzene	20.0	21.2	106	80	-	120	
Chloroethane	20.0	21.2	106	60	-	135	
Chloroform	20.0	20.2	101	80	-	125	
Chloromethane	20.0	20.1	101	40	-	125	
cis-1,3-Dichloropropene	20.0	21.6	108	70	-	130	
Cyclohexane	20.0	18.5	92.4	80	-	130	
Dibromochloromethane	20.0	20.6	103	60	-	135	
Dichlorodifluoromethane	20.0	21.0	105	50	-	133	
Ethyl benzene	20.0	21.2	106	80	-	122	
Isopropylbenzene	20.0	21.0	105	80	-	122	
Methyl acetate	20.0	18.9	94.4	80	-	130	
Methyl tert-butyl ether	20.0	19.5	97.4	65	-	125	
Methylcyclohexane	20.0	18.8	94.2	80	-	130	

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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L17081366</u>	Run Date: <u>08/28/2017</u>	Sample ID: <u>WG627475-02</u>
Instrument ID: <u>HPMS9</u>	Run Time: <u>15:39</u>	Prep Method: <u>5030B/5030C/503</u>
File ID: <u>9M982217</u>	Analyst: <u>JDS</u>	Method: <u>8260C</u>
Workgroup (AAB#): <u>WG627475</u>	Matrix: <u>Water</u>	Units: <u>ug/L</u>
QC Key: <u>WATERLOO</u>	Lot#: <u>STD83541</u>	Cal ID: <u>HPMS9 - 14-AUG-17</u>

Analytes	Expected	Found	% Rec	LCS Limits	Q
Methylene chloride	20.0	18.9	94.4	80 - 123	
m,p-Xylene	40.0	44.2	110	80 - 122	
o-Xylene	20.0	21.8	109	80 - 122	
Styrene	20.0	19.1	95.3	80 - 123	
Tetrachloroethene	20.0	20.4	102	80 - 124	
Toluene	20.0	20.7	103	80 - 124	
trans-1,3-Dichloropropene	20.0	21.3	107	80 - 130	
Trichloroethene	20.0	21.2	106	80 - 122	
Trichlorofluoromethane	20.0	19.4	97.2	62 - 151	
Vinyl chloride	20.0	17.3	86.5	65 - 140	

Surrogates	% Recovery	Surrogate Limits	Qualifier
1,2-Dichloroethane-d4	103	80 - 120	PASS
Dibromofluoromethane	103	86 - 118	PASS
p-Bromofluorobenzene	107	86 - 115	PASS
Toluene-d8	105	88 - 110	PASS

* EXCEEDS %REC LIMIT

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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L17081366</u>	Run Date: <u>09/06/2017</u>	Sample ID: <u>WG628579-02</u>
Instrument ID: <u>HPMS9</u>	Run Time: <u>14:46</u>	Prep Method: <u>5030B/5030C/503</u>
File ID: <u>9M982370</u>	Analyst: <u>JDS</u>	Method: <u>8260C</u>
Workgroup (AAB#): <u>WG628579</u>	Matrix: <u>Water</u>	Units: <u>ug/L</u>
QC Key: <u>WATERLOO</u>	Lot#: <u>STD83659</u>	Cal ID: <u>HPMS9 - 14-AUG-17</u>

Analytes	Expected	Found	% Rec	LCS Limits			Q
1,1,1-Trichloroethane	20.0	19.8	98.9	80	-	134	
1,1,2,2-Tetrachloroethane	20.0	18.0	90.1	79	-	125	
1,1,2-Trichloro-1,2,2-Trifluoroethane	20.0	21.0	105	80	-	130	
1,1,2-Trichloroethane	20.0	20.5	102	80	-	125	
1,1-Dichloroethane	20.0	19.9	99.7	80	-	125	
1,1-Dichloroethene	20.0	18.9	94.6	80	-	132	
1,2,3-Trichlorobenzene	20.0	21.1	105	55	-	140	
1,2,4-Trichlorobenzene	20.0	17.5	87.6	65	-	135	
1,2-Dibromo-3-chloropropane	20.0	17.2	86.1	50	-	130	
1,2-Dibromoethane	20.0	19.8	98.9	80	-	125	
1,2-Dichlorobenzene	20.0	21.3	106	80	-	125	
1,2-Dichloroethane	20.0	20.2	101	80	-	129	
cis-1,2-Dichloroethene	20.0	19.9	99.3	70	-	125	
trans-1,2-Dichloroethene	20.0	19.2	96.1	80	-	127	
1,2-Dichloropropane	20.0	20.5	102	80	-	120	
1,3-Dichlorobenzene	20.0	20.3	102	80	-	120	
1,4-Dichlorobenzene	20.0	20.4	102	80	-	120	
2-Butanone	20.0	19.6	98.0	30	-	150	
2-Hexanone	20.0	18.2	91.1	55	-	130	
4-Methyl-2-pentanone	20.0	17.5	87.6	64	-	140	
Acetone	20.0	19.8	98.8	40	-	142	
Benzene	20.0	19.5	97.7	80	-	121	
Bromochloromethane	20.0	19.4	97.0	65	-	130	
Bromodichloromethane	20.0	19.2	95.9	80	-	131	
Bromoform	20.0	16.0	79.9	70	-	130	
Bromomethane	20.0	17.3	86.7	30	-	145	
Carbon disulfide	20.0	17.1	85.7	58	-	138	
Carbon tetrachloride	20.0	19.8	98.9	65	-	140	
Chlorobenzene	20.0	20.8	104	80	-	120	
Chloroethane	20.0	19.9	99.7	60	-	135	
Chloroform	20.0	20.7	103	80	-	125	
Chloromethane	20.0	19.2	95.9	40	-	125	
cis-1,3-Dichloropropene	20.0	21.2	106	70	-	130	
Cyclohexane	20.0	18.7	93.3	80	-	130	
Dibromochloromethane	20.0	20.0	100	60	-	135	
Dichlorodifluoromethane	20.0	18.6	93.0	50	-	133	
Ethyl benzene	20.0	20.7	103	80	-	122	
Isopropylbenzene	20.0	20.0	99.8	80	-	122	
Methyl acetate	20.0	19.3	96.5	80	-	130	
Methyl tert-butyl ether	20.0	19.3	96.5	65	-	125	
Methylcyclohexane	20.0	18.4	91.9	80	-	130	

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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17081366	Run Date: 09/06/2017	Sample ID: WG628579-02
Instrument ID: HPMS9	Run Time: 14:46	Prep Method: 5030B/5030C/503
File ID: 9M982370	Analyst: JDS	Method: 8260C
Workgroup (AAB#): WG628579	Matrix: Water	Units: ug/L
QC Key: WATERLOO	Lot#: STD83659	Cal ID: HPMS9 - 14-AUG-17

Analytes	Expected	Found	% Rec	LCS Limits			Q
Methylene chloride	20.0	19.5	97.4	80	-	123	
m,p-Xylene	40.0	43.2	108	80	-	122	
o-Xylene	20.0	20.9	104	80	-	122	
Styrene	20.0	18.1	90.3	80	-	123	
Tetrachloroethene	20.0	19.9	99.5	80	-	124	
Toluene	20.0	20.7	103	80	-	124	
trans-1,3-Dichloropropene	20.0	20.7	104	80	-	130	
Trichloroethene	20.0	21.6	108	80	-	122	
Trichlorofluoromethane	20.0	19.2	96.0	62	-	151	
Vinyl chloride	20.0	20.5	103	65	-	140	

Surrogates	% Recovery	Surrogate Limits			Qualifier
1,2-Dichloroethane-d4	106	80	-	120	PASS
Dibromofluoromethane	102	86	-	118	PASS
p-Bromofluorobenzene	102	86	-	115	PASS
Toluene-d8	105	88	-	110	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
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Report generated: 09/07/2017 16:57



MS/MSD REPORT

Loginnum: L17081366Cal ID: HPMS9- 14-AUG-17Worknum: WG628579Instrument ID: HPMS9

Contract #:

Prep Method: 5030B/5030C/Parent ID: L17081366-10File ID: 9M982376Dil: 1Method: 5035ASample ID: L17081366-12 MSFile ID: 9M982371Dil: 1Matrix: 8260CSample ID: L17081366-13 MSDFile ID: 9M982372Dil: 1Units: Waterug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,1,1-Trichloroethane	U	20.0	18.6	93.2	20.0	18.6	93.1	0.163	80 - 134	30	
1,1,2,2-Tetrachloroethane	U	20.0	20.3	102	20.0	20.5	102	0.787	79 - 125	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	U	20.0	19.1	95.5	20.0	18.8	93.9	1.65	80 - 130	30	
1,1,2-Trichloroethane	U	20.0	20.1	101	20.0	20.6	103	2.01	80 - 125	30	
1,1-Dichloroethane	U	20.0	19.5	97.6	20.0	19.5	97.5	0.120	80 - 125	30	
1,1-Dichloroethene	U	20.0	17.7	88.4	20.0	17.7	88.4	0.102	80 - 132	30	
1,2,3-Trichlorobenzene	U	20.0	20.3	102	20.0	20.4	102	0.306	55 - 140	30	
1,2,4-Trichlorobenzene	U	20.0	16.7	83.5	20.0	17.5	87.3	4.39	65 - 135	30	
1,2-Dibromo-3-chloropropane	U	20.0	17.6	87.8	20.0	17.9	89.4	1.78	50 - 130	30	
1,2-Dibromoethane	U	20.0	19.9	99.5	20.0	20.1	101	1.05	80 - 125	30	
1,2-Dichlorobenzene	U	20.0	20.7	104	20.0	20.8	104	0.589	80 - 125	30	
1,2-Dichloroethane	U	20.0	20.1	100	20.0	19.8	98.9	1.49	80 - 129	30	
cis-1,2-Dichloroethene	U	20.0	19.5	97.4	20.0	19.9	99.6	2.28	70 - 125	30	
trans-1,2-Dichloroethene	U	20.0	18.7	93.5	20.0	18.6	93.1	0.362	80 - 127	30	
1,2-Dichloropropane	U	20.0	19.9	99.6	20.0	20.0	100	0.357	80 - 120	30	
1,3-Dichlorobenzene	U	20.0	20.0	100	20.0	20.4	102	1.89	80 - 120	30	
1,4-Dichlorobenzene	U	20.0	19.9	99.5	20.0	20.5	103	3.10	80 - 120	30	
2-Butanone	U	20.0	19.7	98.6	20.0	19.6	98.2	0.472	30 - 150	30	
2-Hexanone	U	20.0	18.8	94.1	20.0	18.6	92.8	1.43	55 - 130	30	
4-Methyl-2-pentanone	U	20.0	16.9	84.4	20.0	17.0	85.2	0.975	64 - 140	30	
Acetone	U	20.0	23.1	115	20.0	22.7	114	1.65	40 - 142	30	
Benzene	U	20.0	19.1	95.4	20.0	18.7	93.7	1.78	80 - 121	30	
Bromochloromethane	U	20.0	19.3	96.6	20.0	19.3	96.7	0.147	65 - 130	30	
Bromodichloromethane	U	20.0	19.1	95.7	20.0	19.0	95.1	0.616	80 - 131	30	
Bromoform	U	20.0	15.8	78.8	20.0	15.6	78.1	0.813	70 - 130	30	
Bromomethane	U	20.0	16.7	83.5	20.0	16.3	81.6	2.26	30 - 145	30	
Carbon disulfide	U	20.0	16.4	82.2	20.0	16.4	81.8	0.560	58 - 138	30	
Carbon tetrachloride	U	20.0	18.3	91.6	20.0	18.7	93.3	1.86	65 - 140	30	
Chlorobenzene	U	20.0	20.2	101	20.0	20.1	101	0.270	80 - 120	30	
Chloroethane	U	20.0	19.5	97.7	20.0	19.5	97.3	0.432	60 - 135	30	
Chloroform	U	20.0	20.6	103	20.0	20.3	101	1.65	80 - 125	30	
Chloromethane	U	20.0	18.0	89.8	20.0	17.8	89.1	0.818	40 - 125	30	
cis-1,3-Dichloropropene	U	20.0	20.6	103	20.0	20.5	102	0.721	70 - 130	30	
Cyclohexane	U	20.0	17.5	87.3	20.0	17.2	85.9	1.65	80 - 130	30	
Dibromochloromethane	U	20.0	19.4	97	20.0	19.4	97.2	0.144	60 - 135	30	
Dichlorodifluoromethane	U	20.0	16.9	84.7	20.0	16.8	83.8	1.07	50 - 133	30	
Ethyl benzene	U	20.0	19.9	99.3	20.0	20.3	102	2.21	80 - 122	30	
Isopropylbenzene	U	20.0	19.4	96.8	20.0	19.5	97.5	0.767	80 - 122	30	
Methyl acetate	U	20.0	19.3	96.6	20.0	18.9	94.4	2.32	80 - 130	30	
Methyl tert-butyl ether	U	20.0	19.1	95.5	20.0	19.1	95.5	0.0479	65 - 125	30	
Methylcyclohexane	U	20.0	17.3	86.7	20.0	16.9	84.6	2.45	80 - 130	30	

MS_MSD - Modified 03/06/2008

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MS/MSD REPORT

Loginnum: L17081366 Cal ID: HPMS9 14-AUG-17
 Instrument ID: HPMS9 Contract #: _____
 Parent ID: L17081366-10 File ID: 9M982376 Dil: 1
 Sample ID: L17081366-12 MS File ID: 9M982371 Dil: 1
 Sample ID: L17081366-13 MSD File ID: 9M982372 Dil: 1

Worknum: WG628579
 Prep Method: 5030B/5030C/
 Method: 5035A
 Matrix: 8260C
 Units: Water
ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Methylene chloride	U	20.0	19.1	95.6	20.0	19.0	95.1	0.537	80 - 123	30	
m,p-Xylene	U	40.0	41.8	104	40.0	41.7	104	0.209	80 - 122	30	
o-Xylene	U	20.0	20.3	102	20.0	20.8	104	2.58	80 - 122	30	
Styrene	U	20.0	17.7	88.7	20.0	17.9	89.4	0.861	80 - 123	30	
Tetrachloroethene	U	20.0	18.4	92	20.0	18.7	93.4	1.47	80 - 124	30	
Toluene	U	20.0	19.6	98	20.0	20.0	99.9	1.91	80 - 124	30	
trans-1,3-Dichloropropene	U	20.0	20.4	102	20.0	20.4	102	0.0663	80 - 130	30	
Trichloroethene	U	20.0	19.4	96.8	20.0	18.9	94.3	2.58	80 - 122	30	
Trichlorofluoromethane	U	20.0	17.9	89.5	20.0	17.7	88.3	1.42	62 - 151	30	
Vinyl chloride	U	20.0	19.4	96.8	20.0	19.2	95.8	1.07	65 - 140	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L17081366

Instrument: HPMS9

Analyst: ADC

Workgroup: WG625140

Tune ID: WG625140-01

Run Date: 08/14/2017

Run Time: 08:49

File ID: 9M981988

Cal ID: HPMS9-14-AUG-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	22.1	5904	PASS
75.0	95.0	30.0	60.0	49.1	13134	PASS
95.0	95.0	100	100	100	26746	PASS
96.0	95.0	5.00	9.00	7.11	1901	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	83.3	22290	PASS
175	174	5.00	9.00	7.18	1601	PASS
176	174	95.0	101	96.5	21505	PASS
177	176	5.00	9.00	7.01	1507	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG625140-02	STD	01	08/14/2017 09:43	
WG625140-04	STD	01	08/14/2017 10:43	
WG625140-05	STD	01	08/14/2017 11:14	
WG625140-03	STD	01	08/14/2017 11:44	
WG625140-06	STD	01	08/14/2017 12:14	
WG625140-07	STD-CCV	01	08/14/2017 12:44	
WG625140-08	STD	01	08/14/2017 13:14	
WG625140-09	STD	01	08/14/2017 13:45	
WG625140-10	STD	01	08/14/2017 14:15	
WG625140-11	SSCV	01	08/14/2017 15:16	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5455983
Report generated 09/07/2017 16:57



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L17081366

Instrument: HPMS9

Analyst: JDS

Workgroup: WG627474

Tune ID: WG627474-01

Run Date: 08/28/2017

Run Time: 13:44

File ID: 9M982213

Cal ID: HPMS9 - 14-AUG-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	21.5	7933	PASS
75.0	95.0	30.0	60.0	47.6	17593	PASS
95.0	95.0	100	100	100	36952	PASS
96.0	95.0	5.00	9.00	6.67	2465	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	82.6	30517	PASS
175	174	5.00	9.00	7.08	2160	PASS
176	174	95.0	101	97.5	29765	PASS
177	176	5.00	9.00	6.81	2028	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG627474-02	CCV	01	08/28/2017 14:08	
WG627475-01	BLANK	01	08/28/2017 15:08	
WG627475-01	BLANK	01	08/28/2017 15:08	
WG627475-02	LCS	01	08/28/2017 15:39	
L17081366-16	FB-082417	01	08/28/2017 19:15	
L17081366-09	TB-082417	01	08/28/2017 19:45	
L17081366-01	MW17-082417	01	08/28/2017 22:46	
L17081366-03	DUP-GW-082417	01	08/28/2017 23:16	
L17081366-05	MW18-082417	01	08/28/2017 23:46	
L17081366-07	TW01-082417	01	08/29/2017 00:16	
L17081366-14	MW16I-082417	01	08/29/2017 00:47	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5455983
Report generated 09/07/2017 16:57



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L17081366
Instrument: HPMS9
Analyst: JDS
Workgroup: WG628528

Tune ID: WG628528-01
Run Date: 09/06/2017
Run Time: 09:37
File ID: 9M982359

Cal ID: HPMS9-11-JUL-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	22.9	6413	PASS
75.0	95.0	30.0	60.0	49.0	13703	PASS
95.0	95.0	100	100	100	27950	PASS
96.0	95.0	5.00	9.00	6.89	1925	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	86.3	24117	PASS
175	174	5.00	9.00	8.06	1945	PASS
176	174	95.0	101	99.9	24082	PASS
177	176	5.00	9.00	6.98	1681	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG628578-02	CCV	01	09/06/2017 13:15	
WG628579-01	BLANK	01	09/06/2017 14:16	
WG628579-01	BLANK	01	09/06/2017 14:16	
WG628579-02	LCS	01	09/06/2017 14:46	
L17081366-12	MW26-082417 MS	02	09/06/2017 15:16	
L17081366-13	MW26-082417 MSD	02	09/06/2017 15:46	
L17081366-10	MW26-082417	02	09/06/2017 17:45	
L17081366-17	MW05I-082417	02	09/06/2017 18:16	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5455983
Report generated 09/07/2017 16:57



Calibration Table Report
Method: 8260C.M
Title: 8260C SOP: OVL MSV01-C WATER 081017 HPMS9
Last Calibration: Mon Aug 14 14:47:27 2017
Curve: WG625140
Calibration Files

Calibration Files											R^2				
Compound	0.5	1	2	5	20	50	100	200	300		Avg	%RSD	Linear	Quadratic	
	9M081990.D	9M081994.D	9M081992.D	9M081993.D	9M081995.D	9M081996.D	9M081997.D	9M081998.D	9M081999.D						
Fluorobenzene	ISTD														
Dichlorodifluoromethane			0.308	0.320	0.393	0.402	0.375	0.397			0.366	11.242			
Chloromethane		0.611	0.533	0.492	0.488	0.515	0.444	0.430			0.502	12.003			
Vinyl Chloride		0.322	0.379	0.335	0.383	0.393	0.341	0.344			0.357	7.794			
1,3-Butadiene		0.110	0.140	0.134	0.143	0.146	0.131	0.137	0.111		0.131	10.402			
Bromomethane		0.241	0.240	0.224	0.207	0.211	0.204	0.209			0.219	7.177			
Chloroethane		0.172	0.184	0.207	0.217	0.231	0.223	0.218			0.207	10.509			
Trichlorofluoromethane		0.392	0.449	0.452	0.469	0.490	0.472	0.493			0.460	7.411			
Diethyl ether		0.280	0.278	0.294	0.271	0.288	0.281		0.301		0.285	3.594			
Isoprene		0.306	0.307	0.357	0.381	0.411	0.399	0.421		0.414	0.374	12.473			
Acrolein			0.041	0.048	0.046	0.050	0.050			0.053	0.048	8.902			
1,1,2-Trichloro-1,2,2-Trifluoroel			0.209	0.229	0.247	0.256	0.247	0.259			0.241	7.956			
Acetone			0.155	0.148	0.156	0.152	0.145	0.160	0.148		0.152	3.567			
1,1-Dichloroethene		0.420	0.405	0.411	0.429	0.456	0.442	0.462			0.432	5.077			
Tert-Butyl Alcohol		0.043	0.049	0.052	0.047	0.052	0.054		0.070		0.052	16.455			
Dimethyl Sulfide		0.264	0.305	0.329	0.350	0.365	0.353	0.374	0.366		0.338	11.045			
Iodomethane				0.257	0.321	0.356	0.348	0.372			0.331	13.668			
Methyl acetate		0.375	0.370	0.383	0.392	0.402	0.391	0.408	0.402		0.390	3.492			
Methylene Chloride		0.258	0.263	0.286	0.288	0.295	0.290	0.300			0.283	5.644			
Carbon Disulfide		0.652	0.659	0.673	0.704	0.756	0.721	0.772			0.705	6.659			
Acrylonitrile		0.165	0.174	0.185	0.176	0.197	0.193		0.195		0.184	6.581			
Methyl Tert Butyl Ether		0.848	0.834	0.875	0.879	0.920	0.906	0.940			0.886	4.306			
trans-1,2-Dichloroethene		0.387	0.376	0.385	0.398	0.421	0.413	0.432			0.402	5.122			
n-Hexane				0.329	0.359	0.397	0.386	0.419	0.383		0.379	8.263			
Diisopropyl ether		1.024	1.068	1.141	1.062	1.118	1.080		1.116		1.087	3.700			
Vinyl Acetate				0.619	0.660	0.694	0.681	0.765	0.659		0.680	7.201			
1,1-Dichloroethane		0.468	0.494	0.527	0.545	0.573	0.552	0.575			0.533	7.506			
Ethyl-Tert-Butyl ether		0.915	0.979	1.039	0.960	1.021	0.995		1.044		0.993	4.645			
2-Butanone				0.190	0.229	0.229	0.225	0.242	0.243		0.226	8.429			
Propionitrile		0.039	0.066	0.069	0.068	0.074	0.075		0.085		0.068	20.740	0.994		
2,2-Dichloropropane		0.393	0.352	0.387	0.386	0.401	0.393	0.408			0.388	4.599			
cis-1,2-Dichloroethene		0.238	0.252	0.276	0.298	0.311	0.308	0.321			0.286	11.165			
Chloroform	0.400	0.441	0.441	0.489	0.499	0.516	0.502	0.522			0.476	9.160			
1-Bromopropane				0.037	0.054	0.058	0.056	0.060	0.059		0.054	15.789			
Bromochloromethane		0.165	0.190	0.207	0.208	0.220	0.218	0.228			0.205	10.522			
Tetrahydrofuran		0.126	0.137	0.144	0.136	0.146	0.146		0.152		0.141	6.199			
Dibromofluoromethane	0.271	0.272	0.275	0.277	0.284	0.285	0.281	0.291	0.286		0.280	2.430			
1,1,1-Trichloroethane		0.400	0.396	0.419	0.442	0.469	0.455	0.478			0.437	7.506			
Cyclohexane				0.507	0.541	0.569	0.544	0.579	0.551		0.549	4.568			
1,1-Dichloropropene		0.302	0.270	0.312	0.331	0.361	0.360	0.375			0.330	11.440			
Tert-Amyl-Methyl ether		0.736	0.801	0.864	0.801	0.849	0.836		0.882		0.824	5.986			
Carbon Tetrachloride		0.33761	0.34851	0.38431	0.4003	0.42763	0.42516	0.44222			0.39511	10.2295			
1,2-Dichloroethane-d4	0.32291	0.32907	0.32444	0.33099	0.32894	0.32662	0.3213	0.3307	0.32813	0.32701	1.05287				
Heptane											0	0			
1,2-Dichloroethane		0.42705	0.41484	0.47359	0.46673	0.47856	0.46972	0.48886			0.45991	6.03806			
Benzene		1.06454	1.06415	1.09109	1.10495	1.13533	1.10146	1.12952			1.09872	2.5627			
Trichloroethene		0.25766	0.26059	0.28251	0.29694	0.31524	0.30913	0.32107			0.29188	8.006			
Methylcyclohexane				0.39421	0.42656	0.45093	0.433	0.46255	0.44097		0.4347	5.43098			
1,2-Dichloropropane		0.27173	0.265	0.29468	0.30947	0.32893	0.3213	0.33922			0.30433	9.3317			
1,4-Dioxane			0.00296	0.00478	0.00483	0.00527	0.00577		0.00668	0.00505	24.6457	0.993			
Bromodichloromethane		0.29497	0.32406	0.35527	0.36607	0.39761	0.39886	0.42325			0.36573	12.3674			
Dibromomethane		0.15809	0.16593	0.19368	0.20641	0.22027	0.22082	0.23591			0.20016	14.6101			
2-Chloroethyl Vinyl Ether				0.17562	0.23178	0.24578	0.24923	0.27256	0.2697	0.24078	14.7059				
4-Methyl-2-Pentanone				0.11975	0.17176	0.18485	0.18632	0.21227	0.21588	0.18181	19.1652				
cis-1,3-Dichloropropene		0.29924	0.32568	0.37734	0.42344	0.46312	0.4686	0.49803			0.40792	18.6161			
Dimethyl Disulfide				0.15901	0.20597	0.25525	0.26667	0.3041	0.29671	0.24795	22.5327	0.997			
Chlorobenzene-d5	ISTD														
Toluene-d8	1.22603	1.23433	1.22294	1.26156	1.25706	1.23697	1.19606	1.20531	1.23814	1.23093	1.74278				
Toluene		1.36674	1.32922	1.47151	1.48931	1.54244	1.47848	1.46224			1.44856	5.12122			
Ethyl Methacrylate			0.28255	0.40775	0.50145	0.5686	0.57308	0.6161	0.60964	0.50845	24.2	0.999			
trans-1,3-Dichloropropene		0.34549	0.38916	0.43933	0.50246	0.57695	0.56288	0.58497			0.48589	19.8027			
1,1,2-Trichloroethane		0.32099	0.30224	0.35984	0.36784	0.38116	0.37378	0.38428			0.35573	8.90357			
2-Hexanone				0.24677	0.37888	0.43358	0.44958	0.49314	0.51577		0.41962	23.1734	0.997		
1,3-Dichloropropane		0.52259	0.53311	0.57806	0.59603	0.6221	0.61135	0.6196			0.58327	7.00083			
Tetrachloroethene		0.28903	0.24472	0.30345	0.28798	0.31319	0.30429	0.31151			0.29345	8.06098			
Dibromochloromethane		0.32493	0.34704	0.38294	0.42283	0.46217	0.47266	0.49412			0.41524	15.7398			
1,2-Dibromoethane		0.28481	0.31736	0.36914	0.3893	0.42156	0.41938	0.43794			0.37707	15.2209			
1-Chlorohexane		0.30452	0.29036	0.3508	0.4031	0.45518	0.4429	0.47739	0.44863	0.39661	18.2606				
Chlorobenzene		0.96494	0.85828	0.97451	1.01905	1.07761	1.05436	1.08507			1.00483	7.95934			
1,1,1,2-Tetrachloroethane		0.34549	0.31891	0.38356	0.40035	0.42702	0.42148	0.44719			0.392	11.7772			
Ethylbenzene		0.44643	0.4355	0.5161	0.54304	0.57848	0.57532	0.61222			0.52959	12.7699			
m-,p-Xylene	0.4666	0.54702	0.54837	0.65143	0.67167	0.71082	0.70003	0.71558			0.62644	14.9145			
o-Xylene		0.53836	0.53691	0.63994	0.67301	0.70733	0.70446	0.73943			0.64849	12.6093			
Styrene		0.62931	0.71566	0.89457	1.06136	1.18019	1.18818	1.2598			0.98987	25.0122	0.998		
Bromoform			0.20696	0.2706	0.31545	0.35843	0.37704	0.42106			0.32492	23.8541	0.995		
Isopropylbenzene		1.3873	1.37184	1.60388	1.68831	1.79542	1.75966	1.78985			1.62804	11.1958			
1,4-Dichlorobenzene-d4	ISTD														
1,1,2,2-Tetrachloroethane		0.87465	0.87272	1.03791	1.07035	1.13204	1.0509	1.09467			1.01903	10.1943			
p-Bromofluorobenzene	0.90463	0.91396	0.89058	0.95089	0.9348	0.87976	0.81712	0.83822	0.84915		0.88657	5.06991			
1,2,3-Trichloropropane		0.23991	0.34832	0.35374	0.36184	0.38226	0.34984	0.35941			0.34219	13.5916			

trans-1,4-Dichloro-2-Butene	0.3209	0.37667	0.3952	0.37599	0.40844	0.38907	0.37771	8.03946
n-Propylbenzene	3.03535	2.99421	3.52689	3.73324	3.89173	3.45372	3.32297	3.42259
Bromobenzene	0.79142	0.77525	0.9108	0.92161	0.93029	0.85346	0.87142	0.86489
1,3,5-Trimethylbenzene	2.43793	2.26808	2.68607	2.91025	2.95587	2.66641	2.63276	2.65105
2-Chlorotoluene	2.28954	2.27869	2.18882	2.34678	2.44985	2.12323	2.16323	2.26288
4-Chlorotoluene	1.58639	1.67466	1.8971	2.29573	2.33151	2.16186	2.1338	2.01158
a-Methylstyrene	0.91962	1.20508	1.44797	1.61913	1.51006	1.60159	1.53571	1.40559
tert-Butylbenzene	0.45998	0.52263	0.60263	0.6194	0.62492	0.57226	0.59203	0.57055
1,2,4-Trimethylbenzene	2.42342	2.37071	2.79005	3.02279	3.08775	2.78128	2.76524	2.74875
sec-Butylbenzene	2.76019	2.77242	3.22203	3.54512	3.70135	3.3203	3.26719	3.22694
p-Isopropyltoluene	2.06118	2.13167	2.70949	3.01673	3.14876	2.8766	2.88407	2.68979
1,3-Dichlorobenzene	1.28191	1.29743	1.495	1.61386	1.70928	1.62336	1.68262	1.52907
1,4-Dichlorobenzene	1.41193	1.42204	1.54522	1.63198	1.69729	1.65868	1.71778	1.58356
n-Butylbenzene	1.43148	1.61523	1.99998	2.34876	2.64134	2.50828	2.57445	2.15993
1,2-Dichlorobenzene	1.45044	1.41924	1.6392	1.74601	1.82688	1.74475	1.75565	1.6546
1,2-Dibromo-3-Chloropropane	0.14363	0.21413	0.27859	0.32946	0.3086	0.31936	0.26563	0.26563
1,2,4-Trichlorobenzene	0.74729	0.72717	0.92655	1.11571	1.28664	1.21227	1.25193	1.03822
Hexachlorobutadiene	0.27338	0.36381	0.44889	0.47704	0.56012	0.54453	0.55867	0.46092
Naphthalene	2.60143	2.67067	3.48684	4.14419	4.57953	4.00693	3.65977	3.59277
1,2,3-Trichlorobenzene	0.82933	0.86284	1.04721	1.2484	1.39547	1.27179	1.28414	1.13417

Mon Aug 14 15:51:36 2017

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L17081366</u>	Run Date: <u>08/14/2017</u>	Sample ID: <u>WG625140-11</u>
Instrument ID: <u>HPMS9</u>	Run Time: <u>15:16</u>	Method: <u>8260C</u>
File ID: <u>9M982001</u>	Analyst: <u>ADC</u>	QC Key: <u>WATERLOO</u>
Ical Workgroup: <u>WG625140</u>	Cal ID: <u>HPMS9 - 14-AUG-17</u>	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	47.3	ug/L	0.409	5.40	25	
1,2-Dichloropropane	CCC	50.0	51.6	ug/L	0.314	3.30	25	
Chloroform	CCC	50.0	51.9	ug/L	0.495	3.80	25	
Ethylbenzene	CCC	50.0	53.8	ug/L	0.570	7.60	25	
Toluene	CCC	50.0	50.1	ug/L	1.45	0.300	25	
Vinyl Chloride	CCC	50.0	45.2	ug/L	0.323	9.50	25	
1,1,2,2-Tetrachloroethane	SPCC	50.0	54.5	ug/L	1.11	9.00	25	
1,1-Dichloroethane	SPCC	50.0	49.5	ug/L	0.528	1.00	25	
Bromoform	SPCC	50.0	47.3	ug/L	0.368	5.40	25	
Chlorobenzene	SPCC	50.0	53.2	ug/L	1.07	6.40	25	
Chloromethane	SPCC	50.0	48.7	ug/L	0.489	2.60	25	
1,1,1-Trichloroethane		50.0	49.9	ug/L	0.436	0.200	25	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	55.3	ug/L	0.267	10.7	25	
1,1,2-Trichloroethane		50.0	52.3	ug/L	0.372	4.70	25	
1,2,3-Trichlorobenzene		50.0	56.9	ug/L	1.29	13.8	25	
1,2,4-Trichlorobenzene		50.0	49.8	ug/L	1.22	0.300	25	
1,2-Dibromo-3-Chloropropane		50.0	49.3	ug/L	0.307	1.30	25	
1,2-Dibromoethane		50.0	54.2	ug/L	0.409	8.30	25	
1,2-Dichlorobenzene		50.0	56.6	ug/L	1.87	13.1	25	
1,2-Dichloroethane		50.0	49.5	ug/L	0.456	0.900	25	
cis-1,2-Dichloroethene		50.0	51.2	ug/L	0.293	2.40	25	
trans-1,2-Dichloroethene		50.0	48.7	ug/L	0.392	2.50	25	
1,3-Dichlorobenzene		50.0	53.9	ug/L	1.65	7.80	25	
1,4-Dichlorobenzene		50.0	55.2	ug/L	1.75	10.4	25	
2-Butanone		50.0	52.0	ug/L	0.236	4.10	25	
2-Hexanone		50.0	54.3	ug/L	0.512	8.70	25	
4-Methyl-2-Pentanone		50.0	56.7	ug/L	0.206	13.5	25	
Acetone		50.0	51.0	ug/L	0.155	2.10	25	
Benzene		50.0	48.9	ug/L	1.08	2.10	25	
Bromochloromethane		50.0	50.0	ug/L	0.205	0.100	25	
Bromodichloromethane		50.0	50.9	ug/L	0.373	1.90	25	
Bromomethane		50.0	42.1	ug/L	0.185	15.7	25	
Carbon Disulfide		50.0	47.3	ug/L	0.667	5.40	25	
Carbon Tetrachloride		50.0	50.5	ug/L	0.399	1.00	25	
Chloroethane		50.0	55.0	ug/L	0.228	10.0	25	
cis-1,3-Dichloropropene		50.0	58.4	ug/L	0.477	16.8	25	
Cyclohexane		50.0	49.0	ug/L	0.538	2.00	25	
Dibromochloromethane		50.0	53.5	ug/L	0.445	7.10	25	
Dichlorodifluoromethane		50.0	54.7	ug/L	0.400	9.40	25	
Isopropylbenzene		50.0	53.0	ug/L	1.73	6.10	25	
Methyl acetate		50.0	48.6	ug/L	0.379	2.80	25	
Methyl Tert Butyl Ether		50.0	51.2	ug/L	0.907	2.30	25	

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Version 1.5 PDF File ID: 5455982
Report generated 09/07/2017 16:57



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081366 Run Date: 08/14/2017 Sample ID: WG625140-11
Instrument ID: HPMS9 Run Time: 15:16 Method: 8260C
File ID: 9M982001 Analyst: ADC QC Key: WATERL00
ICal Workgroup: WG625140 Cal ID: HPMS9 - 14-AUG-17

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Methylcyclohexane		50.0	50.0	ug/L	0.435	0	25	
Methylene Chloride		50.0	49.3	ug/L	0.279	1.40	25	
m-,p-Xylene		100	111	ug/L	0.695	10.9	25	
o-Xylene		50.0	54.5	ug/L	0.707	9.00	25	
Styrene		50.0	49.8	ug/L	1.20	0.400	25	
Tetrachloroethene		50.0	50.1	ug/L	0.294	0.200	25	
trans-1,3-Dichloropropene		50.0	56.7	ug/L	0.551	13.4	25	
Trichloroethene		50.0	50.1	ug/L	0.293	0.200	25	
Trichlorofluoromethane		50.0	50.2	ug/L	0.462	0.500	25	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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Report generated 09/07/2017 16:57



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081366	Run Date: 08/28/2017	Sample ID: WG627474-02
Instrument ID: HPMS9	Run Time: 14:08	Method: 8260C
File ID: 9M982214	Analyst: JDS	QC Key: WATERL00
Workgroup (AAB#): WG627475	Cal ID: HPMS9 - 14-AUG-17	
Matrix: WATER		

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	51.3	ug/L	0.443	2.51	20	
1,2-Dichloropropane	CCC	50.0	50.2	ug/L	0.306	0.432	20	
Chloroform	CCC	50.0	50.3	ug/L	0.479	0.533	20	
Ethylbenzene	CCC	50.0	53.2	ug/L	0.564	6.43	20	
Toluene	CCC	50.0	50.8	ug/L	1.47	1.53	20	
Vinyl Chloride	CCC	50.0	46.5	ug/L	0.332	7.09	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	42.9	ug/L	0.874	14.2	20	
1,1-Dichloroethane	SPCC	50.0	50.5	ug/L	0.539	1.01	20	
Bromoform	SPCC	50.0	41.7	ug/L	0.324	16.5	20	
Chlorobenzene	SPCC	50.0	51.3	ug/L	1.03	2.59	20	
Chloromethane	SPCC	50.0	47.1	ug/L	0.473	5.88	20	
Xylenes		150	161	ug/L	0.679	7.51	20	
1,1,1-Trichloroethane		50.0	50.0	ug/L	0.437	0.00380	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	54.6	ug/L	0.264	9.20	20	
1,1,2-Trichloroethane		50.0	49.3	ug/L	0.351	1.46	20	
1,2,3-Trichlorobenzene		50.0	55.0	ug/L	1.25	9.90	20	
1,2,4-Trichlorobenzene		50.0	49.9	ug/L	1.23	0.226	20	
1,2-Dibromo-3-Chloropropane		50.0	39.2	ug/L	0.243	21.5	20	*
1,2-Dibromoethane		50.0	50.4	ug/L	0.380	0.854	20	
1,2-Dichlorobenzene		50.0	50.2	ug/L	1.66	0.411	20	
1,2-Dichloroethane		50.0	48.5	ug/L	0.446	3.05	20	
cis-1,2-Dichloroethene		50.0	51.1	ug/L	0.292	2.13	20	
trans-1,2-Dichloroethene		50.0	49.9	ug/L	0.401	0.132	20	
1,3-Dichlorobenzene		50.0	53.0	ug/L	1.62	6.06	20	
1,4-Dichlorobenzene		50.0	51.8	ug/L	1.64	3.55	20	
2-Butanone		50.0	42.9	ug/L	0.194	14.1	20	
2-Hexanone		50.0	40.0	ug/L	0.368	20.0	20	
4-Methyl-2-Pentanone		50.0	43.4	ug/L	0.158	13.1	20	
Acetone		50.0	43.1	ug/L	0.131	13.7	20	
Benzene		50.0	48.1	ug/L	1.06	3.72	20	
Bromochloromethane		50.0	49.0	ug/L	0.201	2.01	20	
Bromodichloromethane		50.0	50.2	ug/L	0.368	0.472	20	
Bromomethane		50.0	42.2	ug/L	0.185	15.6	20	
Carbon Disulfide		50.0	50.2	ug/L	0.709	0.493	20	
Carbon Tetrachloride		50.0	51.8	ug/L	0.410	3.63	20	
Chloroethane		50.0	52.2	ug/L	0.216	4.33	20	
cis-1,3-Dichloropropene		50.0	53.9	ug/L	0.440	7.80	20	
Cyclohexane		50.0	49.8	ug/L	0.546	0.468	20	
Dibromochloromethane		50.0	52.5	ug/L	0.436	4.97	20	
Dichlorodifluoromethane		50.0	48.8	ug/L	0.357	2.44	20	
Isopropylbenzene		50.0	52.9	ug/L	1.72	5.81	20	
Methyl acetate		50.0	49.3	ug/L	0.385	1.32	20	

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L17081366</u>	Run Date: <u>08/28/2017</u>	Sample ID: <u>WG627474-02</u>
Instrument ID: <u>HPMS9</u>	Run Time: <u>14:08</u>	Method: <u>8260C</u>
File ID: <u>9M982214</u>	Analyst: <u>JDS</u>	QC Key: <u>WATERL00</u>
Workgroup (AAB#): <u>WG627475</u>	Cal ID: <u>HPMS9 - 14-AUG-17</u>	
Matrix: <u>WATER</u>		

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Methyl Tert Butyl Ether	50.0	48.1	ug/L	0.853	3.76	20	
Methylcyclohexane	50.0	53.0	ug/L	0.461	6.10	20	
Methylene Chloride	50.0	48.6	ug/L	0.275	2.72	20	
m-,p-Xylene	100	109	ug/L	0.685	9.35	20	
o-Xylene	50.0	51.9	ug/L	0.673	3.85	20	
Styrene	50.0	46.8	ug/L	1.13	6.43	20	
Tetrachloroethene	50.0	53.2	ug/L	0.312	6.43	20	
trans-1,3-Dichloropropene	50.0	55.5	ug/L	0.539	11.0	20	
Trichloroethene	50.0	54.8	ug/L	0.320	9.65	20	
Trichlorofluoromethane	50.0	51.5	ug/L	0.474	3.09	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5455984
Report generated 09/07/2017 16:58



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081366	Run Date: 09/06/2017	Sample ID: WG628578-02
Instrument ID: HPMS9	Run Time: 13:15	Method: 8260C
File ID: 9M982367	Analyst: JDS	QC Key: WATERL00
Workgroup (AAB#): WG628579	Cal ID: HPMS9 - 14-AUG-17	
Matrix: WATER		

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloroethene	CCC	50.0	48.7	ug/L	0.421	2.58	20	
1,2-Dichloropropane	CCC	50.0	50.1	ug/L	0.305	0.170	20	
Chloroform	CCC	50.0	49.5	ug/L	0.472	0.921	20	
Ethylbenzene	CCC	50.0	51.5	ug/L	0.545	2.94	20	
Toluene	CCC	50.0	49.5	ug/L	1.43	0.962	20	
Vinyl Chloride	CCC	50.0	46.1	ug/L	0.329	7.81	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	45.6	ug/L	0.930	8.75	20	
1,1-Dichloroethane	SPCC	50.0	49.5	ug/L	0.528	1.08	20	
Bromoform	SPCC	50.0	41.7	ug/L	0.323	16.7	20	
Chlorobenzene	SPCC	50.0	50.2	ug/L	1.01	0.334	20	
Chloromethane	SPCC	50.0	43.7	ug/L	0.439	12.6	20	
Xylenes		150	156	ug/L	0.657	3.94	20	
1,1,1-Trichloroethane		50.0	47.5	ug/L	0.415	4.98	20	
1,1,2-Trichloro-1,2,2-Trifluoroethane		50.0	49.8	ug/L	0.241	0.311	20	
1,1,2-Trichloroethane		50.0	50.1	ug/L	0.357	0.231	20	
1,2,3-Trichlorobenzene		50.0	55.7	ug/L	1.26	11.4	20	
1,2,4-Trichlorobenzene		50.0	48.4	ug/L	1.19	3.23	20	
1,2-Dibromo-3-Chloropropane		50.0	41.3	ug/L	0.256	17.4	20	
1,2-Dibromoethane		50.0	51.0	ug/L	0.385	2.01	20	
1,2-Dichlorobenzene		50.0	50.8	ug/L	1.68	1.62	20	
1,2-Dichloroethane		50.0	49.2	ug/L	0.452	1.66	20	
cis-1,2-Dichloroethene		50.0	49.0	ug/L	0.281	1.99	20	
trans-1,2-Dichloroethene		50.0	47.6	ug/L	0.383	4.75	20	
1,3-Dichlorobenzene		50.0	51.8	ug/L	1.59	3.69	20	
1,4-Dichlorobenzene		50.0	50.8	ug/L	1.61	1.68	20	
2-Butanone		50.0	44.0	ug/L	0.199	12.0	20	
2-Hexanone		50.0	42.5	ug/L	0.392	15.0	20	
4-Methyl-2-Pentanone		50.0	44.9	ug/L	0.163	10.3	20	
Acetone		50.0	43.9	ug/L	0.134	12.1	20	
Benzene		50.0	46.3	ug/L	1.02	7.39	20	
Bromochloromethane		50.0	48.9	ug/L	0.201	2.15	20	
Bromodichloromethane		50.0	50.9	ug/L	0.372	1.76	20	
Bromomethane		50.0	37.9	ug/L	0.166	24.1	20	*
Carbon Disulfide		50.0	48.3	ug/L	0.682	3.35	20	
Carbon Tetrachloride		50.0	49.9	ug/L	0.394	0.216	20	
Chloroethane		50.0	48.1	ug/L	0.199	3.88	20	
cis-1,3-Dichloropropene		50.0	52.1	ug/L	0.425	4.17	20	
Cyclohexane		50.0	47.5	ug/L	0.521	5.04	20	
Dibromochloromethane		50.0	52.7	ug/L	0.437	5.33	20	
Dichlorodifluoromethane		50.0	49.5	ug/L	0.362	0.957	20	
Isopropylbenzene		50.0	51.7	ug/L	1.68	3.46	20	
Methyl acetate		50.0	46.2	ug/L	0.361	7.64	20	

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L17081366</u>	Run Date: <u>09/06/2017</u>	Sample ID: <u>WG628578-02</u>
Instrument ID: <u>HPMS9</u>	Run Time: <u>13:15</u>	Method: <u>8260C</u>
File ID: <u>9M982367</u>	Analyst: <u>JDS</u>	QC Key: <u>WATERL00</u>
Workgroup (AAB#): <u>WG628579</u>	Cal ID: <u>HPMS9 - 14-AUG-17</u>	
Matrix: <u>WATER</u>		

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Methyl Tert Butyl Ether	50.0	47.7	ug/L	0.845	4.67	20	
Methylcyclohexane	50.0	48.9	ug/L	0.425	2.28	20	
Methylene Chloride	50.0	47.8	ug/L	0.270	4.44	20	
m-,p-Xylene	100	106	ug/L	0.662	5.63	20	
o-Xylene	50.0	50.3	ug/L	0.652	0.545	20	
Styrene	50.0	45.1	ug/L	1.09	9.89	20	
Tetrachloroethene	50.0	50.1	ug/L	0.294	0.125	20	
trans-1,3-Dichloropropene	50.0	54.7	ug/L	0.532	9.41	20	
Trichloroethene	50.0	52.3	ug/L	0.305	4.57	20	
Trichlorofluoromethane	50.0	49.5	ug/L	0.455	1.02	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L17081366
Instrument ID: HPMS9
Workgroup (AAB#): WG627475

CCV Number: WG627474-02
CAL ID: HPMS9 - 14-AUG-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG627474-02	NA	NA	260486	487062	635075
Upper Limit	NA	NA	520972	974124	1270150
Lower Limit	NA	NA	130243	243531	317538
<u>L17081366-01</u>	<u>1.00</u>	<u>01</u>	<u>181301</u>	<u>398804</u>	<u>523335</u>
L17081366-03	1.00	01	174165	381071	507725
L17081366-05	1.00	01	180067	386527	511986
L17081366-07	1.00	01	173399	371939	497882
L17081366-09	1.00	01	185138	398037	528196
L17081366-14	1.00	01	170478	363778	489550
L17081366-16	1.00	01	185384	398284	526528
WG627475-01	1.00	01	193852	415459	555386
WG627475-02	1.00	01	215958	416822	550237

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L17081366
Instrument ID: HPMS9
Workgroup (AAB#): WG628579

CCV Number: WG628578-02
CAL ID: HPMS9 - 14-AUG-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG628578-02	NA	NA	204442	387698	506086
Upper Limit	NA	NA	408884	775396	1012172
Lower Limit	NA	NA	102221	193849	253043
<u>L17081366-10</u>	<u>1.00</u>	<u>02</u>	<u>159473</u>	<u>349326</u>	<u>462113</u>
L17081366-12	1.00	02	202393	388613	507271
L17081366-13	1.00	02	200483	385761	512178
L17081366-17	1.00	02	158533	343723	461057
WG628579-01	1.00	01	169772	371235	493444
WG628579-02	1.00	01	195286	372839	491864

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number: L17081366
Instrument ID: HPMS9
Workgroup (AAB#): WG627475

CCV Number: WG627474-02
CAL ID: HPMS9 - 14-AUG-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG627474-02	NA	NA	17.58	14.56	10.7
Upper Limit	NA	NA	18.08	15.06	11.2
Lower Limit	NA	NA	17.08	14.06	10.2
L17081366-01	1.00	01	17.58	14.56	10.7
L17081366-03	1.00	01	17.58	14.56	10.7
L17081366-05	1.00	01	17.58	14.56	10.7
L17081366-07	1.00	01	17.58	14.56	10.7
L17081366-09	1.00	01	17.58	14.56	10.7
L17081366-14	1.00	01	17.58	14.56	10.7
L17081366-16	1.00	01	17.58	14.56	10.7
WG627475-01	1.00	01	17.58	14.56	10.7
WG627475-02	1.00	01	17.58	14.56	10.7

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

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Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number: L17081366
Instrument ID: HPMS9
Workgroup (AAB#): WG628579

CCV Number: WG628578-02
CAL ID: HPMS9 - 14-AUG-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG628578-02	NA	NA	17.58	14.56	10.7
Upper Limit	NA	NA	18.08	15.06	11.2
Lower Limit	NA	NA	17.08	14.06	10.2
<u>L17081366-10</u>	<u>1.00</u>	<u>02</u>	<u>17.58</u>	<u>14.56</u>	<u>10.7</u>
L17081366-12	1.00	02	17.58	14.56	10.7
L17081366-13	1.00	02	17.58	14.56	10.7
L17081366-17	1.00	02	17.58	14.56	10.7
WG628579-01	1.00	01	17.58	14.56	10.7
WG628579-02	1.00	01	17.58	14.56	10.7

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Chlorobenzene-d5
IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT - Modified 03/06/2008
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2.1.1.3 Sample Data

Data File : C:\MSDCHEM\1\DATA\082817\9M982231.D Vial: 18
 Acq On : 28 Aug 2017 22:46 Operator: JDS
 Sample : L17081366-01 A 8260C Inst : hpms9
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 29 09:33:49 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	523335	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	398804	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	181301	50.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	150373	51.3176	ug/L	0.00
Spiked Amount 50.000	Range 86 - 118		Recovery = 102.64%			
43) 1,2-Dichloroethane-d4	10.30	65	179059	52.3150	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 104.62%			
58) Toluene-d8	12.67	98	506167	51.5549	ug/L	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 103.10%			
79) p-Bromofluorobenzene	16.06	95	175639	54.6359	ug/L	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 109.28%			
Target Compounds						Qvalue
3) Chloromethane	3.68	50	3010	0.5729	ug/L	79
9) Diethyl ether	5.97	59	2455	0.8239	ug/L #	1
13) Acetone	6.29	43	3652	2.2964	ug/L #	76

 (#) = qualifier out of range (m) = manual integration
 9M982231.D 8260C.M Tue Aug 29 09:33:49 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\082817\9M982231.D

Vial: 18

Acq On : 28 Aug 2017 22:46

Operator: JDS

Sample : L17081366-01 A 8260C

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 9:33 2017

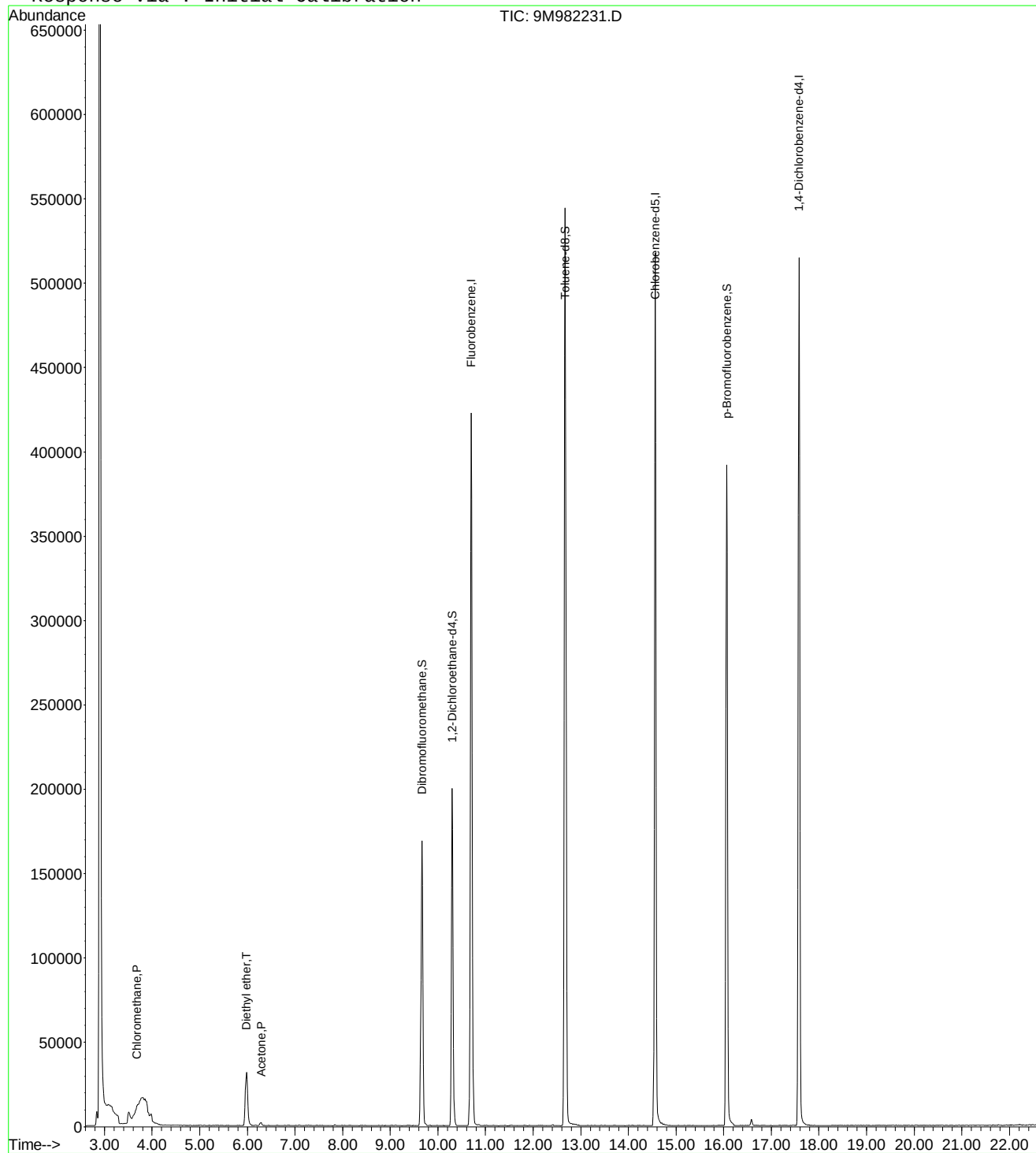
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

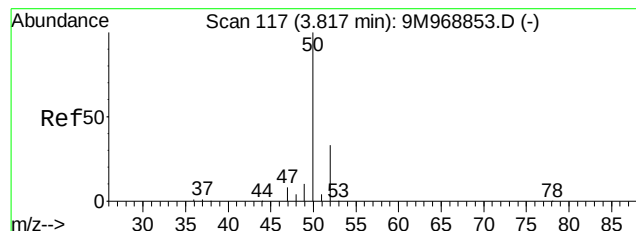
Response via : Initial Calibration



9M982231.D 8260C.M

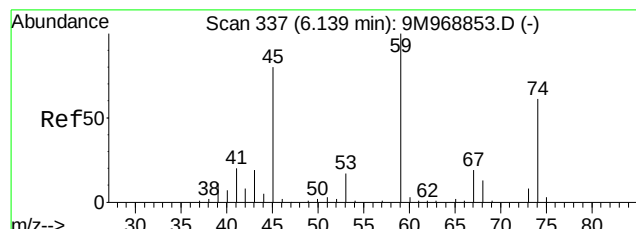
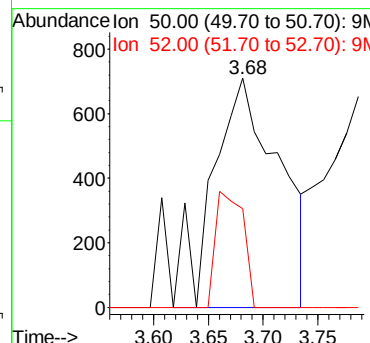
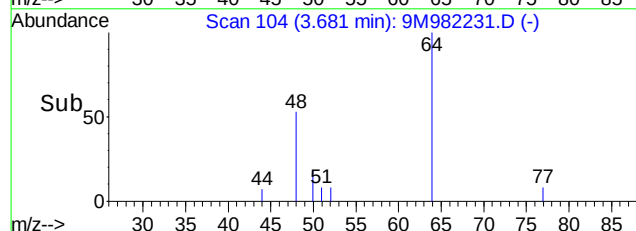
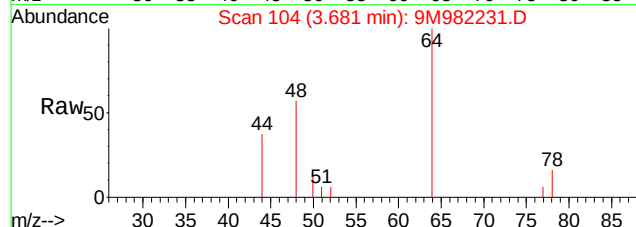
Tue Aug 29 09:33:49 2017

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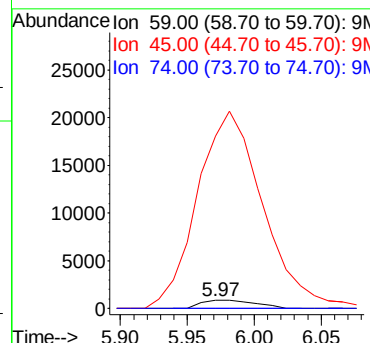
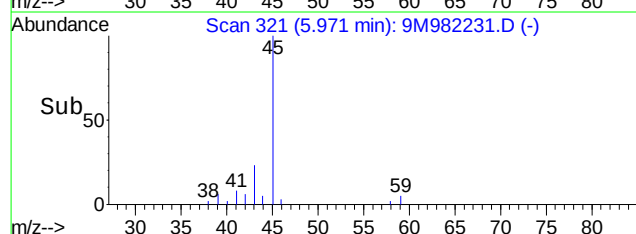
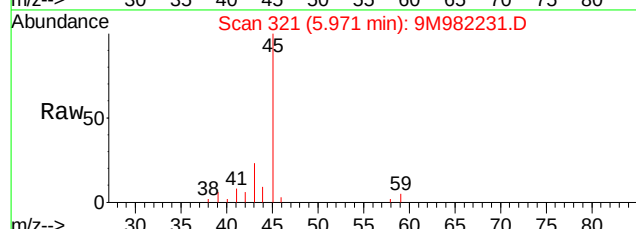
#3
Chloromethane
Concen: 0.57 ug/L
RT: 3.68 min Scan# 104
Delta R.T. 0.00 min
Lab File: 9M982231.D
Acq: 28 Aug 2017 22:46

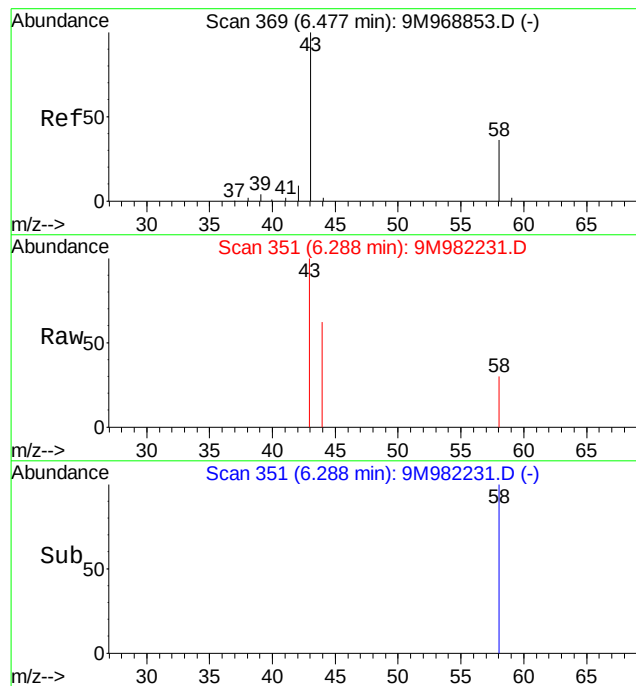
Tgt Ion: 50 Resp: 3010
Ion Ratio Lower Upper
50 100
52 20.9 19.6 45.8



#9
Diethyl ether
Concen: 0.82 ug/L
RT: 5.97 min Scan# 321
Delta R.T. 0.03 min
Lab File: 9M982231.D
Acq: 28 Aug 2017 22:46

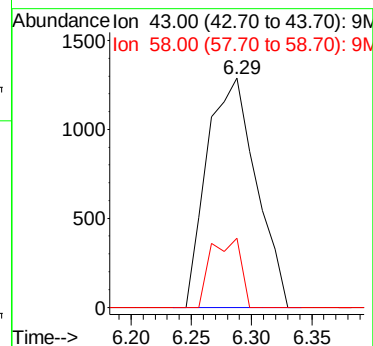
Tgt Ion: 59 Resp: 2455
Ion Ratio Lower Upper
59 100
45 2877.7 48.1 112.3#
74 0.0 37.1 86.5#





#13
 Acetone
 Concen: 2.30 ug/L
 RT: 6.29 min Scan# 351
 Delta R.T. 0.01 min
 Lab File: 9M982231.D
 Acq: 28 Aug 2017 22:46

Tgt Ion	Ratio	Lower	Upper
43	100		
58	18.4	18.9	44.1#



Data File : C:\MSDCHEM\1\DATA\082817\9M982231.D
 Acq On : 28 Aug 2017 22:46
 Sample : L17081366-01 A 8260C
 Misc : 1,1
 MS Integration Params: RTEINT.P

Vial: 18
 Operator: JDS
 Inst : hpms9
 Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Smoothing : ON Filtering: 5
 Sampling : 1 Min Area: 100 Area counts
 Start Thrs: 0.2 Max Peaks: 100
 Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
 Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.512	82	88	94	rBV3	6909	27265	2.03%	0.393%
2	3.808	94	116	130	rVV3	13200	192507	14.32%	2.775%
3	4.272	159	160	162	rVB	489	467	0.03%	0.007%
4	4.546	184	186	189	rVB	237	501	0.04%	0.007%
5	5.032	228	232	235	rBV	194	498	0.04%	0.007%
6	5.095	235	238	241	rVB	326	627	0.05%	0.009%
7	5.359	258	263	265	rBV	326	942	0.07%	0.014%
8	5.559	277	282	284	rVB	218	573	0.04%	0.008%
9	5.982	313	322	333	rBV	31547	107037	7.96%	1.543%
10	6.182	337	341	344	rBV	307	649	0.05%	0.009%
11	6.288	344	351	356	rBV2	1815	5270	0.39%	0.076%
12	6.615	380	382	386	rBV	247	589	0.04%	0.008%
13	7.100	423	428	432	rVB	324	907	0.07%	0.013%
14	7.237	439	441	444	rBV	303	583	0.04%	0.008%
15	7.332	449	450	454	rVB	264	441	0.03%	0.006%
16	7.448	459	461	466	rBV	301	696	0.05%	0.010%
17	7.744	488	489	493	rVB	205	441	0.03%	0.006%
18	7.828	493	497	500	rBV	631	1262	0.09%	0.018%
19	8.039	514	517	522	rVB	249	645	0.05%	0.009%
20	8.166	522	529	532	rBV	219	921	0.07%	0.013%
21	8.377	546	549	551	rBV	352	631	0.05%	0.009%
22	8.831	590	592	595	rVB	347	539	0.04%	0.008%
23	8.894	595	598	602	rBV	304	672	0.05%	0.010%
24	9.021	606	610	611	rBV	281	500	0.04%	0.007%
25	9.116	615	619	623	rVB	292	781	0.06%	0.011%
26	9.264	631	633	637	rBV	239	629	0.05%	0.009%
27	9.475	652	653	657	rBV	289	517	0.04%	0.007%
28	9.665	662	671	683	rBV	168963	461581	34.35%	6.654%
29	9.833	683	687	690	rVB	260	469	0.03%	0.007%
30	9.981	699	701	705	rVB	239	527	0.04%	0.008%
31	10.066	705	709	713	rVB	225	600	0.04%	0.009%
32	10.150	715	717	719	rBV	239	438	0.03%	0.006%
33	10.298	725	731	742	rBV	200040	494597	36.80%	7.130%
34	10.699	762	769	781	rBV	422445	1126553	83.83%	16.241%
35	11.026	798	800	803	rVV	332	572	0.04%	0.008%
36	11.353	827	831	833	rVV	244	649	0.05%	0.009%
37	11.406	833	836	841	rVB	352	829	0.06%	0.012%
38	11.511	844	846	847	rBV	382	570	0.04%	0.008%
39	11.543	847	849	853	rVB	324	752	0.06%	0.011%
40	11.828	873	876	881	rVB	364	1226	0.09%	0.018%
41	11.923	881	885	887	rBV	328	782	0.06%	0.011%
42	12.419	924	932	936	rVB2	601	1867	0.14%	0.027%

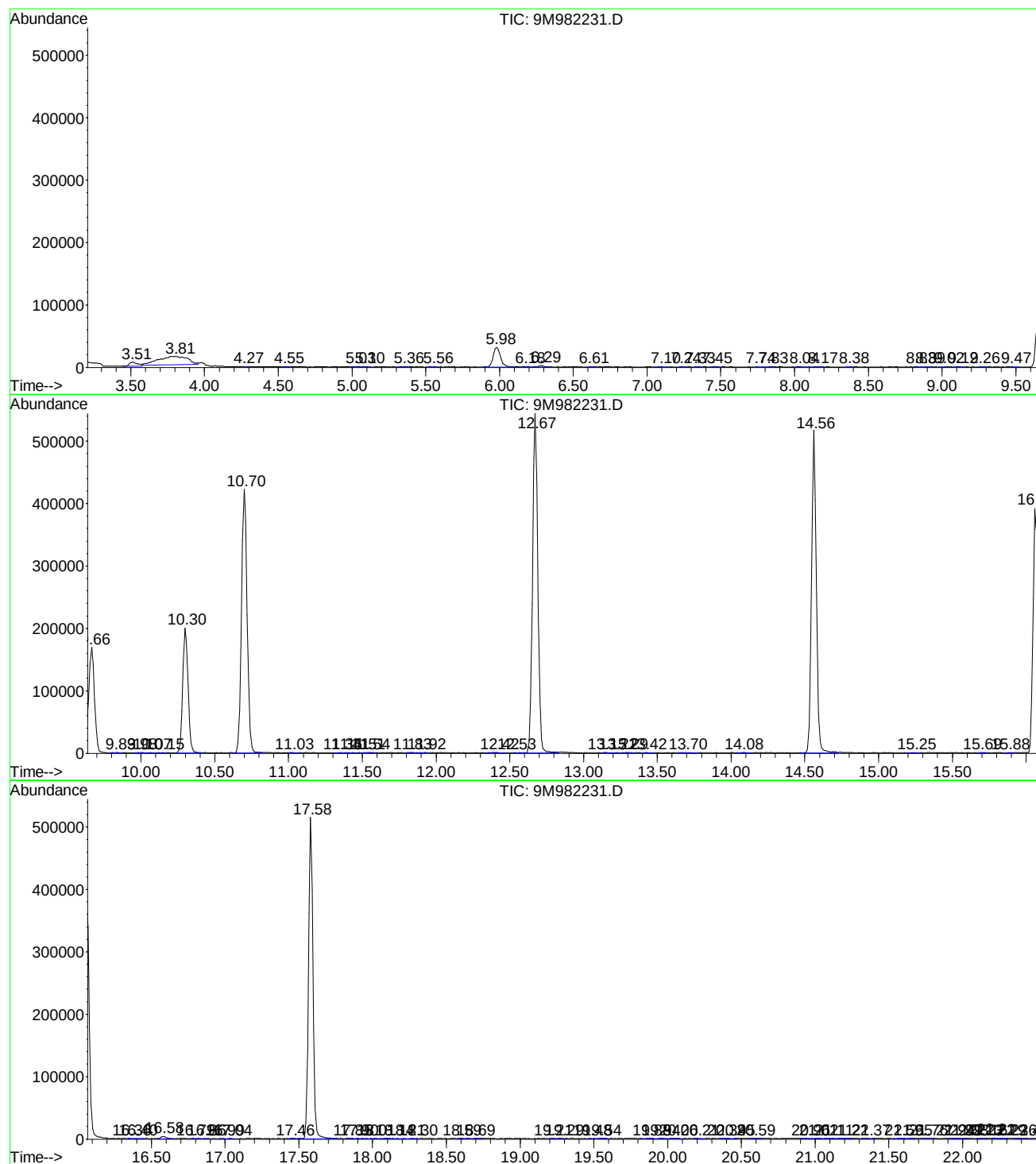
43	12.535	942	943	947	rVB	256	477	0.04%	0.007%
44	12.672	947	956	971	rBV	544126	1343932	100.00%	19.375%
45	13.147	999	1001	1004	rVB	259	456	0.03%	0.007%
46	13.221	1004	1008	1011	rBV	231	571	0.04%	0.008%
47	13.295	1013	1015	1020	rBV	245	473	0.04%	0.007%
48	13.421	1025	1027	1032	rBV	258	528	0.04%	0.008%
49	13.696	1048	1053	1060	rVB	214	808	0.06%	0.012%
50	14.076	1085	1089	1095	rVB	211	698	0.05%	0.010%
51	14.561	1127	1135	1151	rBV	517196	1173722	87.33%	16.921%
52	15.247	1195	1200	1202	rVB	341	688	0.05%	0.010%
53	15.690	1240	1242	1246	rVV	159	420	0.03%	0.006%
54	15.880	1258	1260	1263	rBV	329	633	0.05%	0.009%
55	16.060	1271	1277	1296	rVB	391596	855937	63.69%	12.339%
56	16.355	1303	1305	1308	rVB	256	461	0.03%	0.007%
57	16.397	1308	1309	1314	rBV	207	496	0.04%	0.007%
58	16.577	1322	1326	1332	rVV2	3708	8522	0.63%	0.123%
59	16.788	1344	1346	1348	rBV	362	455	0.03%	0.007%
60	16.862	1351	1353	1356	rBV	271	454	0.03%	0.007%
61	16.988	1362	1365	1368	rVB	289	595	0.04%	0.009%
62	17.041	1368	1370	1372	rBV	224	430	0.03%	0.006%
63	17.463	1407	1410	1412	rBV	184	491	0.04%	0.007%
64	17.579	1414	1421	1439	rVV	514602	1078190	80.23%	15.543%
65	17.854	1443	1447	1449	rVB	337	639	0.05%	0.009%
66	17.896	1449	1451	1459	rVB	265	806	0.06%	0.012%
67	18.012	1459	1462	1465	rBV	155	436	0.03%	0.006%
68	18.138	1467	1474	1479	rVB	173	866	0.06%	0.012%
69	18.212	1479	1481	1485	rVB	214	469	0.03%	0.007%
70	18.297	1485	1489	1491	rBV	300	712	0.05%	0.010%
71	18.592	1515	1517	1522	rBV	235	646	0.05%	0.009%
72	18.687	1525	1526	1531	rBV	320	783	0.06%	0.011%
73	19.215	1574	1576	1579	rVV	242	519	0.04%	0.007%
74	19.289	1580	1583	1585	rVV	380	577	0.04%	0.008%
75	19.479	1598	1601	1602	rVB	359	470	0.03%	0.007%
76	19.542	1605	1607	1613	rVB	338	932	0.07%	0.013%
77	19.880	1635	1639	1644	rBV	315	1009	0.08%	0.015%
78	19.943	1644	1645	1649	rBV	362	584	0.04%	0.008%
79	20.059	1651	1656	1660	rBV	304	1112	0.08%	0.016%
80	20.207	1666	1670	1674	rVB	273	746	0.06%	0.011%
81	20.386	1685	1687	1691	rVB	220	549	0.04%	0.008%
82	20.449	1691	1693	1695	rBV	283	437	0.03%	0.006%
83	20.587	1703	1706	1711	rVV	235	591	0.04%	0.009%
84	20.956	1737	1741	1744	rVB	281	561	0.04%	0.008%
85	21.009	1744	1746	1751	rBV	355	760	0.06%	0.011%
86	21.114	1751	1756	1759	rVB	253	599	0.04%	0.009%
87	21.220	1759	1766	1770	rBV	331	1001	0.07%	0.014%
88	21.368	1774	1780	1783	rBV	392	1321	0.10%	0.019%
89	21.589	1795	1801	1804	rBV	270	1132	0.08%	0.016%
90	21.653	1804	1807	1809	rVB	503	565	0.04%	0.008%
91	21.758	1814	1817	1821	rVB	467	818	0.06%	0.012%
92	21.937	1831	1834	1837	rVV	505	857	0.06%	0.012%
93	21.990	1837	1839	1841	rVV	665	764	0.06%	0.011%
94	22.032	1841	1843	1844	rVV	478	658	0.05%	0.009%
95	22.127	1848	1852	1853	rBV	535	830	0.06%	0.012%
96	22.159	1854	1855	1856	rVV	502	485	0.04%	0.007%
97	22.212	1859	1860	1865	rVV	846	1818	0.14%	0.026%
98	22.286	1865	1867	1869	rVV	539	889	0.07%	0.013%
99	22.360	1873	1874	1877	rVV	449	572	0.04%	0.008%
100	22.444	1877	1882	1883	rVB2	548	1546	0.12%	0.022%

Sum of corrected areas: 6936598

9M982231.D 8260C.M Tue Aug 29 10:03:01 2017

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File : C:\MSDCHEM\1\DATA\082817\9M982231.D
Operator : JDS
Acquired : 28 Aug 2017 22:46 using AcqMethod 8260C
Instrument : hpms9
Sample Name: L17081366-01 A 8260C
Misc Info : 1,1
Vial Number: 18
Quant File :8260C.RES (RTE Integrator)



Data File : C:\MSDCHEM\1\DATA\082817\9M982231.D
Acq On : 28 Aug 2017 22:46
Sample : L17081366-01 A 8260C
Misc : 1,1
MS Integration Params: RTEINT.P

Vial: 18
Operator: JDS
Inst : hpms9
Multiplr: 1.00

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

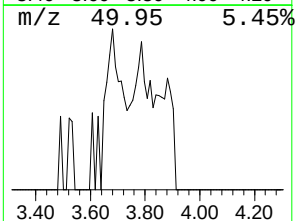
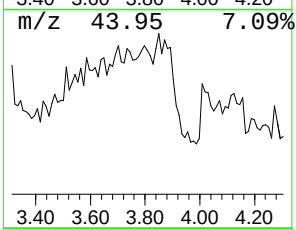
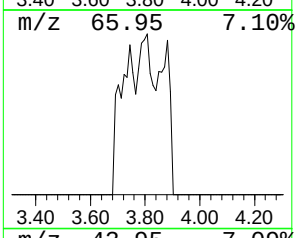
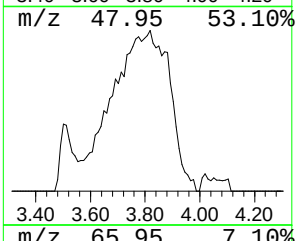
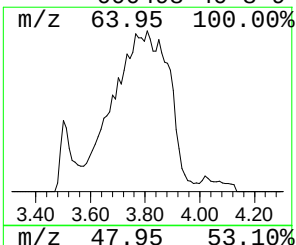
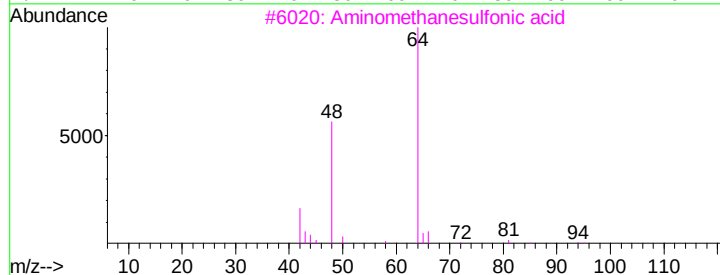
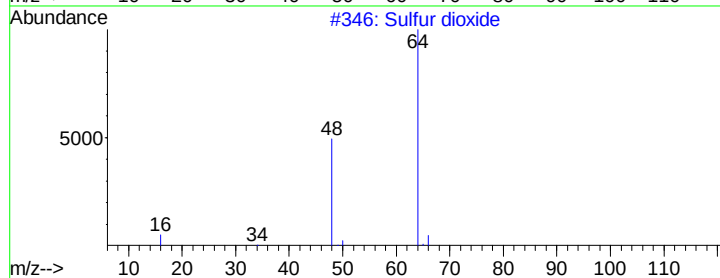
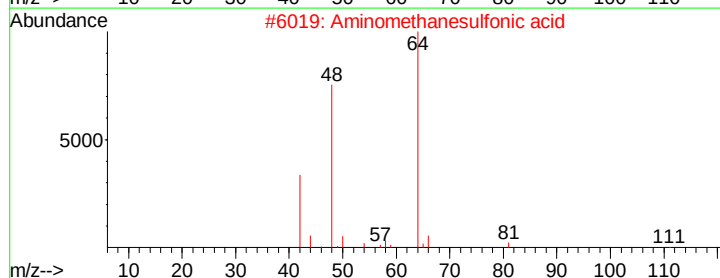
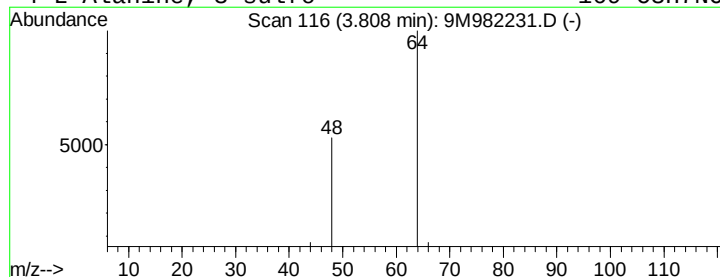
Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Library : C:\DATABASE\NIST02.L

Peak Number 1 Aminomethanesulfonic acid Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.81	8.54 ug/L	192507	Fluorobenzene	10.70

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1			Aminomethanesulfonic acid	111	CH5NO3S	013881-91-9	74
2			Sulfur dioxide	64	O2S	007446-09-5	74
3			Aminomethanesulfonic acid	111	CH5NO3S	013881-91-9	64
4			L-Alanine, 3-sulfo-	169	C3H7NO5S	000498-40-8	9



Tentatively Identified Compound (LSC) summary

Operator ID: JDS Date Acquired: 28 Aug 2017 22:46
 Data File: C:\MSDCHEM\1\DATA\082817\9M982231.D
 Name: L17081366-01 A 8260C
 Misc: 1,1
 Method: C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title: 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Library Searched: C:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--			
					#	RT	Resp	Conc
Aminomethanesulfo...	3.81	8.5	ug/L	192507	1	10.70	1126550	50.0

Data File : C:\MSDCHEM\1\DATA\082817\9M982232.D Vial: 19
 Acq On : 28 Aug 2017 23:16 Operator: JDS
 Sample : L17081366-03 A 8260C Inst : hpms9
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 29 09:33:50 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	507725	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	381071	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	174165	50.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	145917	51.3280	ug/L	0.00
Spiked Amount 50.000	Range 86 - 118		Recovery = 102.66%			
43) 1,2-Dichloroethane-d4	10.30	65	174720	52.6167	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 105.24%			
58) Toluene-d8	12.67	98	489403	52.1670	ug/L	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 104.34%			
79) p-Bromofluorobenzene	16.06	95	173974	56.3354	ug/L	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 112.68%			
Target Compounds						
					Qvalue	
3) Chloromethane	3.67	50	2487	0.4879	ug/L #	77
9) Diethyl ether	5.98	59	1280	0.4428	ug/L #	1
13) Acetone	6.28	43	3069	1.9892	ug/L	82

 (#) = qualifier out of range (m) = manual integration
 9M982232.D 8260C.M Tue Aug 29 09:33:50 2017

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Data File : C:\MSDCHEM\1\DATA\082817\9M982232.D

Vial: 19

Acq On : 28 Aug 2017 23:16

Operator: JDS

Sample : L17081366-03 A 8260C

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 9:33 2017

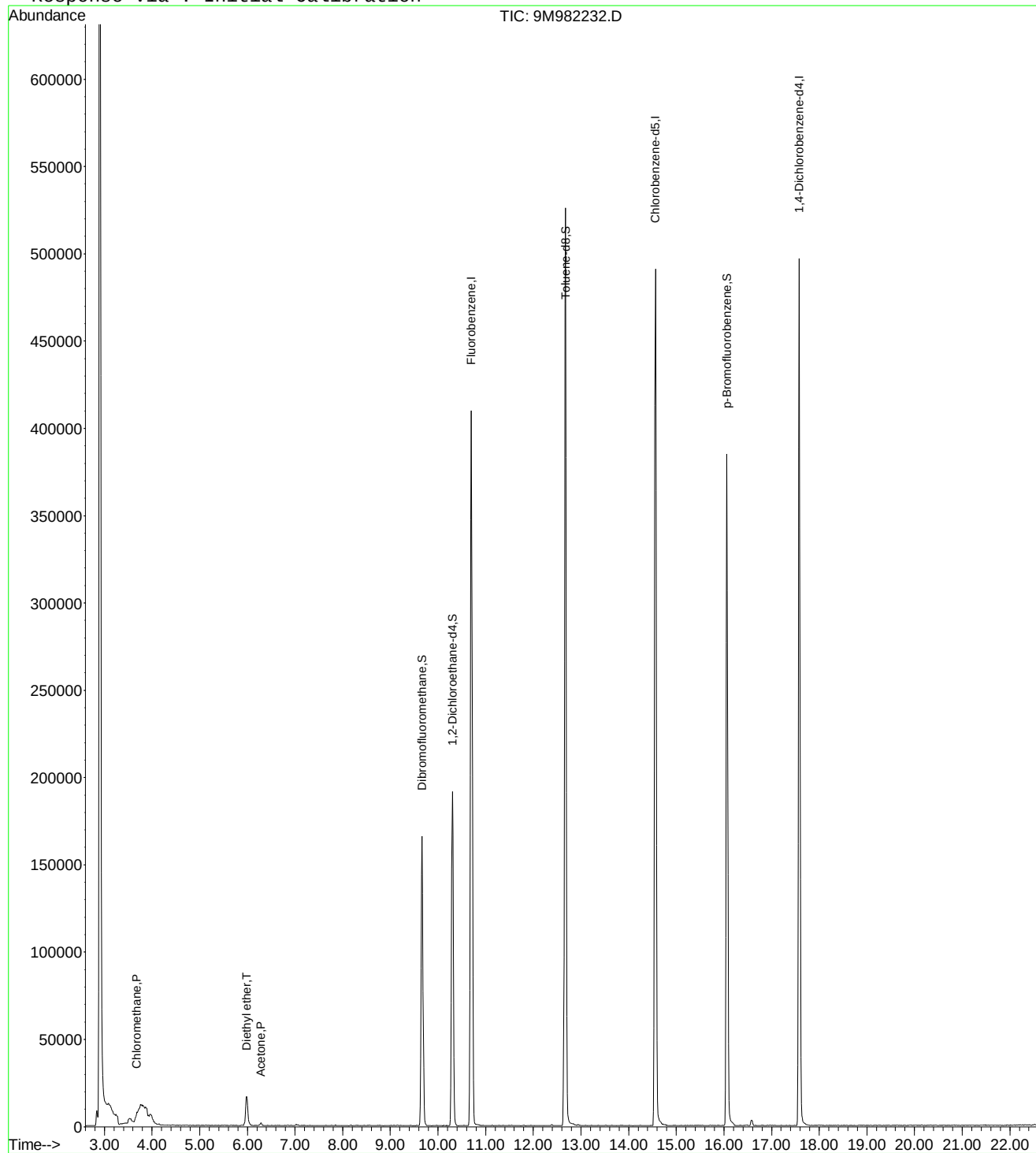
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

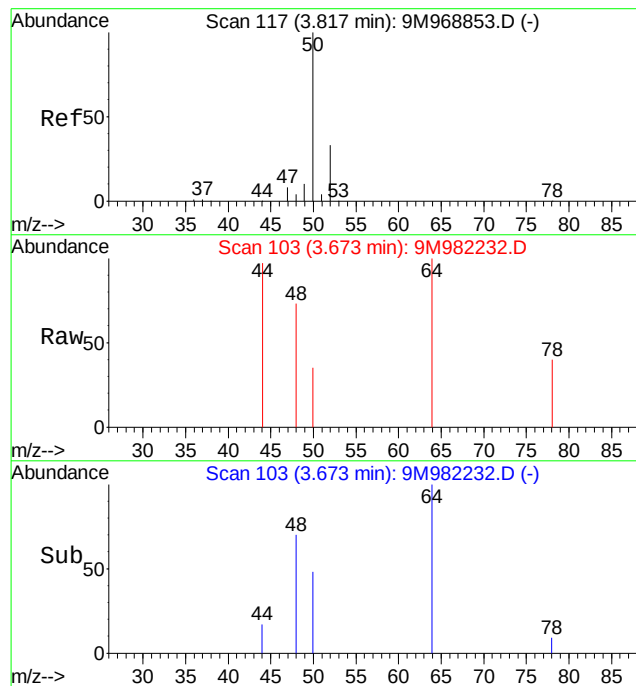
Response via : Initial Calibration



9M982232.D 8260C.M

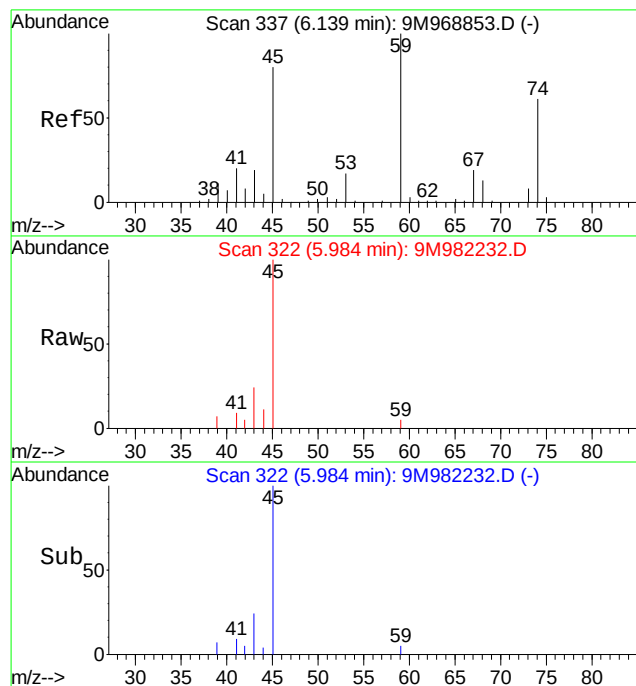
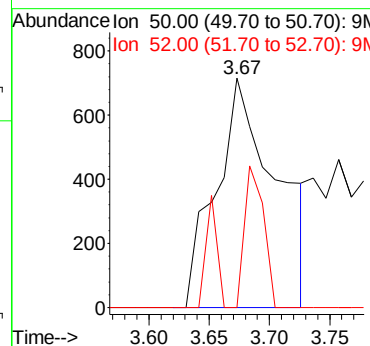
Tue Aug 29 09:33:50 2017

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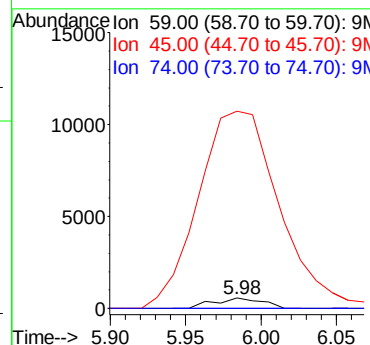
#3
Chloromethane
Concen: 0.49 ug/L
RT: 3.67 min Scan# 103
Delta R.T. -0.01 min
Lab File: 9M982232.D
Acq: 28 Aug 2017 23:16

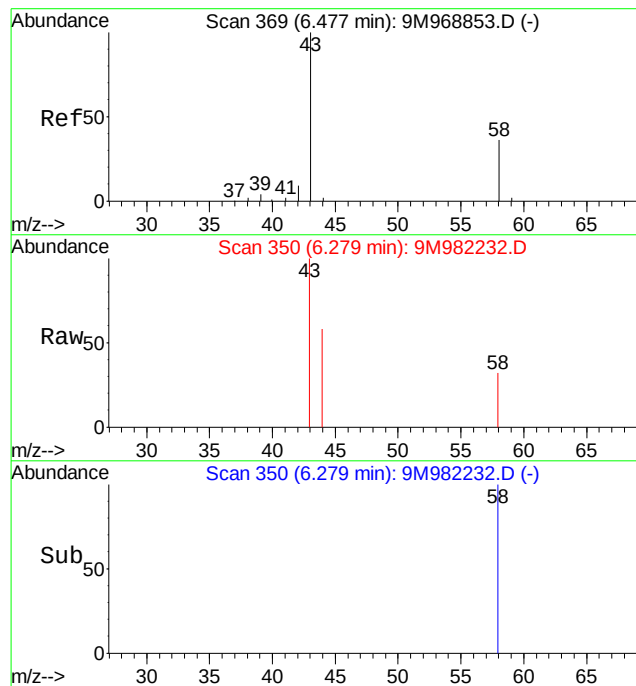
Tgt Ion: 50 Resp: 2487
Ion Ratio Lower Upper
50 100
52 19.5 19.6 45.8#



#9
Diethyl ether
Concen: 0.44 ug/L
RT: 5.98 min Scan# 322
Delta R.T. 0.05 min
Lab File: 9M982232.D
Acq: 28 Aug 2017 23:16

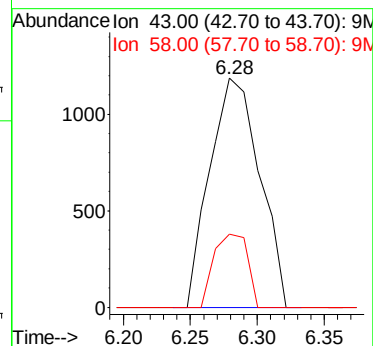
Tgt Ion: 59 Resp: 1280
Ion Ratio Lower Upper
59 100
45 3144.0 48.1 112.3#
74 0.0 37.1 86.5#





#13
 Acetone
 Concen: 1.99 ug/L
 RT: 6.28 min Scan# 350
 Delta R.T. 0.00 min
 Lab File: 9M982232.D
 Acq: 28 Aug 2017 23:16

Tgt Ion	Ratio	Lower	Upper
43	100		
58	21.5	18.9	44.1



Data File : C:\MSDCHEM\1\DATA\082817\9M982232.D
 Acq On : 28 Aug 2017 23:16
 Sample : L17081366-03 A 8260C
 Misc : 1,1
 MS Integration Params: RTEINT.P

Vial: 19
 Operator: JDS
 Inst : hpms9
 Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Smoothing : ON Filtering: 5
 Sampling : 1 Min Area: 100 Area counts
 Start Thrs: 0.2 Max Peaks: 100
 Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
 Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.346	69	72	74	rBV	658	1466	0.11%	0.022%
2	3.525	85	89	98	rBV3	2782	13463	1.03%	0.204%
3	3.757	98	111	120	rBV3	10102	95016	7.26%	1.442%
4	4.338	162	166	171	rVB	246	988	0.08%	0.015%
5	4.433	174	175	182	rVV	313	659	0.05%	0.010%
6	4.633	193	194	198	rVV	285	623	0.05%	0.009%
7	4.707	198	201	207	rVV	316	1025	0.08%	0.016%
8	4.812	207	211	213	rVV	216	579	0.04%	0.009%
9	4.960	223	225	230	rBV	303	564	0.04%	0.009%
10	5.340	256	261	264	rVB	215	505	0.04%	0.008%
11	5.509	276	277	283	rVB	211	655	0.05%	0.010%
12	5.984	316	322	332	rBV	16777	60174	4.60%	0.913%
13	6.279	345	350	356	rVB2	1621	4327	0.33%	0.066%
14	6.839	400	403	409	rVB	463	1357	0.10%	0.021%
15	7.029	413	421	423	rBV2	962	2030	0.16%	0.031%
16	7.145	428	432	434	rBV	267	474	0.04%	0.007%
17	7.313	444	448	453	rVB	196	675	0.05%	0.010%
18	7.430	457	459	463	rVB	214	565	0.04%	0.009%
19	7.852	496	499	505	rVB	659	1114	0.09%	0.017%
20	7.999	505	513	514	rBV	226	843	0.06%	0.013%
21	8.179	525	530	532	rVB	356	883	0.07%	0.013%
22	8.232	532	535	536	rBV	245	497	0.04%	0.008%
23	8.643	571	574	579	rVB	134	459	0.04%	0.007%
24	8.738	579	583	586	rVB	245	535	0.04%	0.008%
25	8.896	594	598	601	rBV	203	652	0.05%	0.010%
26	9.012	605	609	613	rVB	213	515	0.04%	0.008%
27	9.139	618	621	625	rBV	217	486	0.04%	0.007%
28	9.350	637	641	646	rBV	199	779	0.06%	0.012%
29	9.424	646	648	653	rVB	409	1050	0.08%	0.016%
30	9.551	657	660	664	rBV	346	998	0.08%	0.015%
31	9.667	664	671	682	rVB	165890	450506	34.44%	6.835%
32	9.973	693	700	704	rVB	292	1140	0.09%	0.017%
33	10.110	708	713	715	rBV	293	537	0.04%	0.008%
34	10.300	722	731	743	rBV	191451	480174	36.71%	7.286%
35	10.543	747	754	756	rBV	323	721	0.06%	0.011%
36	10.701	761	769	787	rBV	409555	1091533	83.45%	16.562%
37	10.944	791	792	796	rVB	319	486	0.04%	0.007%
38	11.039	796	801	803	rBV	210	487	0.04%	0.007%
39	11.197	813	816	818	rBV	266	564	0.04%	0.009%
40	11.682	861	862	867	rVB	294	634	0.05%	0.010%
41	11.798	867	873	877	rBV	340	1269	0.10%	0.019%
42	11.946	882	887	890	rVB	268	677	0.05%	0.010%

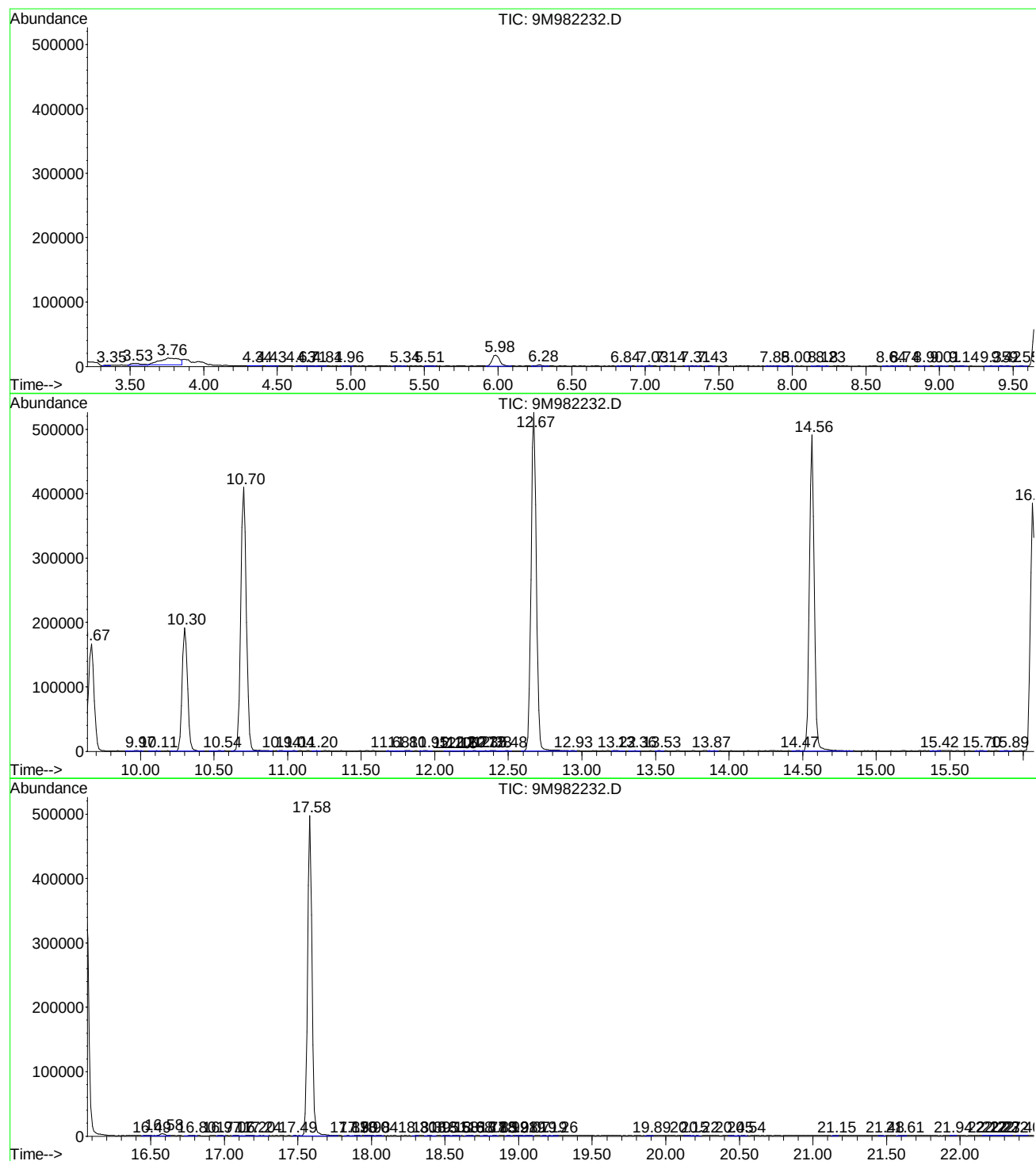
43	12.104	898	902	904	rVV	225	630	0.05%	0.010%
44	12.147	904	906	910	rVV	223	498	0.04%	0.008%
45	12.199	910	911	914	rVV	230	451	0.03%	0.007%
46	12.273	914	918	921	rVV	251	726	0.06%	0.011%
47	12.347	921	925	926	rVV	267	587	0.04%	0.009%
48	12.379	926	928	934	rVV	606	1567	0.12%	0.024%
49	12.484	934	938	941	rVV	273	735	0.06%	0.011%
50	12.674	948	956	979	rVV	525800	1308041	100.00%	19.847%
51	12.928	979	980	983	rVB	674	1155	0.09%	0.018%
52	13.223	1006	1008	1014	rVB	198	604	0.05%	0.009%
53	13.360	1017	1021	1024	rBV	249	614	0.05%	0.009%
54	13.529	1034	1037	1039	rBV	262	488	0.04%	0.007%
55	13.867	1068	1069	1074	rBV	265	493	0.04%	0.007%
56	14.468	1122	1126	1128	rVV	201	507	0.04%	0.008%
57	14.563	1128	1135	1161	rVB	490822	1134400	86.73%	17.212%
58	15.418	1211	1216	1218	rBV	272	522	0.04%	0.008%
59	15.703	1240	1243	1247	rBV	313	815	0.06%	0.012%
60	15.893	1256	1261	1263	rBV	231	576	0.04%	0.009%
61	16.062	1271	1277	1296	rVB	384598	842212	64.39%	12.779%
62	16.494	1313	1318	1322	rBV	231	944	0.07%	0.014%
63	16.579	1322	1326	1331	rVV2	3094	7352	0.56%	0.112%
64	16.800	1340	1347	1348	rVB	206	462	0.04%	0.007%
65	16.969	1361	1363	1366	rVV	269	487	0.04%	0.007%
66	17.064	1371	1372	1377	rVB	225	482	0.04%	0.007%
67	17.201	1377	1385	1388	rVB	252	1126	0.09%	0.017%
68	17.244	1388	1389	1394	rBV	229	555	0.04%	0.008%
69	17.486	1410	1412	1415	rVB	325	525	0.04%	0.008%
70	17.581	1415	1421	1439	rBV	496775	1041537	79.63%	15.803%
71	17.835	1443	1445	1448	rVB	341	497	0.04%	0.008%
72	17.898	1448	1451	1454	rBV	295	724	0.06%	0.011%
73	17.982	1456	1459	1463	rVV	234	758	0.06%	0.012%
74	18.035	1463	1464	1468	rVB	302	509	0.04%	0.008%
75	18.299	1487	1489	1491	rBV	361	544	0.04%	0.008%
76	18.394	1495	1498	1502	rVV	305	748	0.06%	0.011%
77	18.510	1506	1509	1512	rBV	312	831	0.06%	0.013%
78	18.584	1513	1516	1518	rVV	331	594	0.05%	0.009%
79	18.679	1521	1525	1527	rVV	276	603	0.05%	0.009%
80	18.774	1531	1534	1537	rBV	229	592	0.05%	0.009%
81	18.848	1537	1541	1542	rVB	246	474	0.04%	0.007%
82	18.922	1547	1548	1551	rBV	258	485	0.04%	0.007%
83	18.985	1553	1554	1559	rVB	247	505	0.04%	0.008%
84	19.069	1559	1562	1565	rVB	240	495	0.04%	0.008%
85	19.185	1570	1573	1577	rVB	265	591	0.05%	0.009%
86	19.259	1577	1580	1581	rBV	250	451	0.03%	0.007%
87	19.892	1637	1640	1642	rBV	339	584	0.04%	0.009%
88	20.146	1662	1664	1667	rVB	437	691	0.05%	0.010%
89	20.220	1667	1671	1672	rBV	294	500	0.04%	0.008%
90	20.452	1691	1693	1696	rVB	335	601	0.05%	0.009%
91	20.536	1696	1701	1702	rBV	289	615	0.05%	0.009%
92	21.148	1757	1759	1761	rBV	272	480	0.04%	0.007%
93	21.475	1787	1790	1791	rVB	537	596	0.05%	0.009%
94	21.613	1799	1803	1805	rBV	318	661	0.05%	0.010%
95	21.940	1833	1834	1837	rVV	527	524	0.04%	0.008%
96	22.172	1854	1856	1859	rVV	510	781	0.06%	0.012%
97	22.225	1859	1861	1864	rVV	471	846	0.06%	0.013%
98	22.267	1864	1865	1867	rVB	449	566	0.04%	0.009%
99	22.320	1867	1870	1873	rBV	488	1242	0.09%	0.019%
100	22.404	1876	1878	1883	rVB2	434	876	0.07%	0.013%

Sum of corrected areas: 6590739

9M982232.D 8260C.M Tue Aug 29 10:04:15 2017

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File : C:\MSDCHEM\1\DATA\082817\9M982232.D
Operator : JDS
Acquired : 28 Aug 2017 23:16 using AcqMethod 8260C
Instrument : hpms9
Sample Name: L17081366-03 A 8260C
Misc Info : 1,1
Vial Number: 19
Quant File :8260C.RES (RTE Integrator)



Tentatively Identified Compound (LSC) summary

Operator ID: JDS Date Acquired: 28 Aug 2017 23:16
 Data File: C:\MSDCHEM\1\DATA\082817\9M982232.D
 Name: L17081366-03 A 8260C
 Misc: 1,1
 Method: C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title: 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Library Searched: C:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	---Internal Standard---
				#	RT Resp Conc

Data File : C:\MSDCHEM\1\DATA\082817\9M982233.D Vial: 20
 Acq On : 28 Aug 2017 23:46 Operator: JDS
 Sample : L17081366-05 A 8260C Inst : hpms9
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 29 09:33:51 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	511986	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	386527	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	180067	50.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	147253	51.3668	ug/L	0.00
Spiked Amount 50.000	Range 86 - 118		Recovery = 102.74%			
43) 1,2-Dichloroethane-d4	10.30	65	177660	53.0568	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 106.12%			
58) Toluene-d8	12.67	98	491992	51.7027	ug/L	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 103.40%			
79) p-Bromofluorobenzene	16.06	95	176583	55.3060	ug/L	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 110.62%			
Target Compounds						
					Qvalue	
3) Chloromethane	3.68	50	2111	0.4107	ug/L #	59
9) Diethyl ether	5.99	59	1287	0.4415	ug/L #	1
13) Acetone	6.29	43	4910	3.1559	ug/L	94

 (#) = qualifier out of range (m) = manual integration
 9M982233.D 8260C.M Tue Aug 29 09:33:51 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\082817\9M982233.D

Vial: 20

Acq On : 28 Aug 2017 23:46

Operator: JDS

Sample : L17081366-05 A 8260C

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 9:33 2017

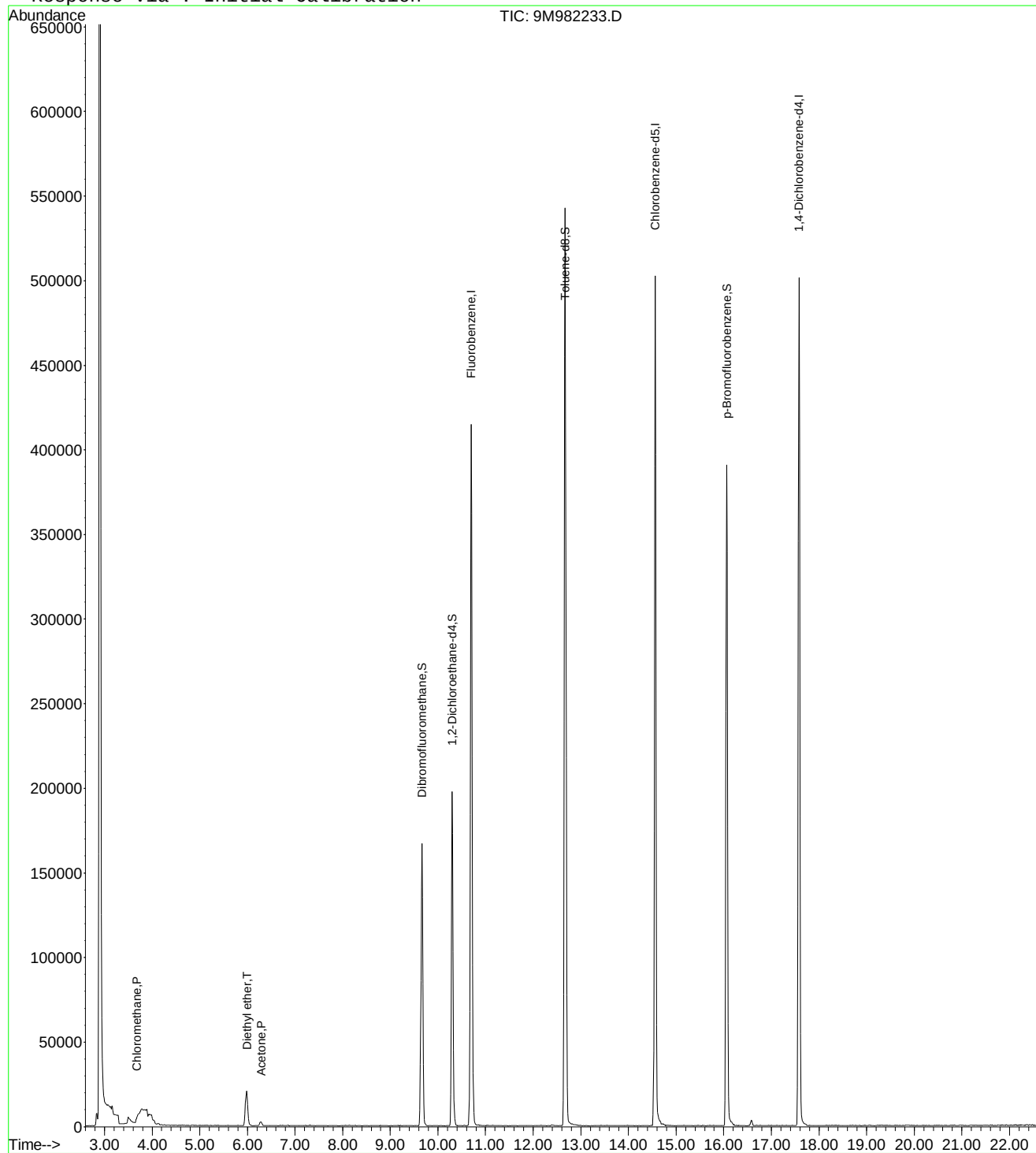
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

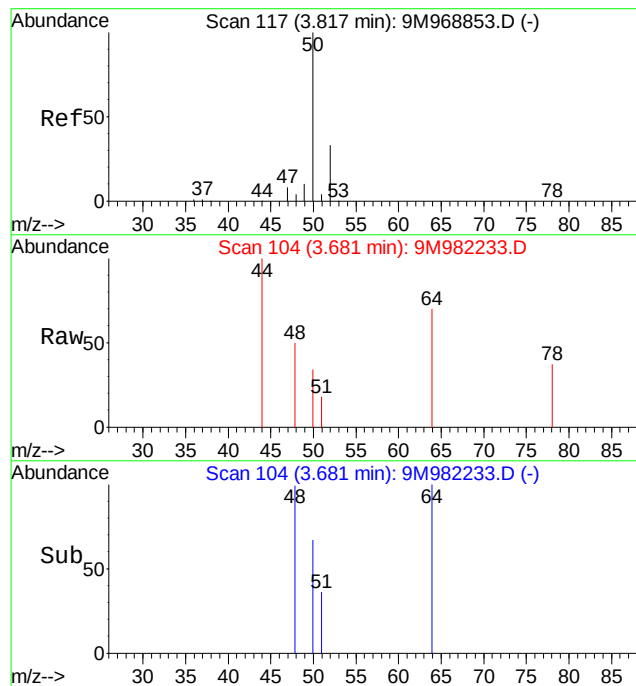
Response via : Initial Calibration



9M982233.D 8260C.M

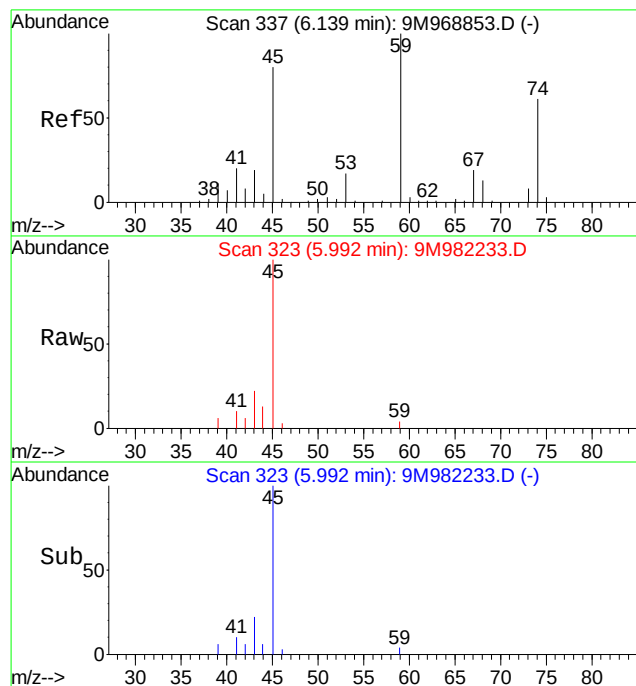
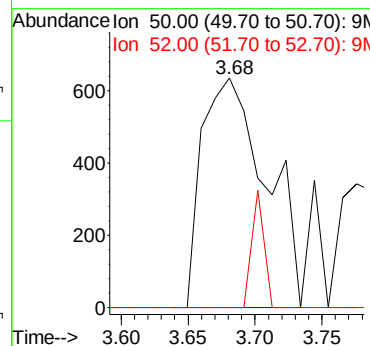
Tue Aug 29 09:33:51 2017

Page 2



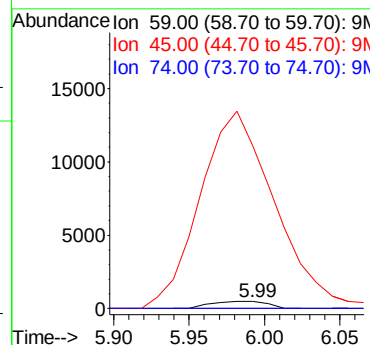
#3
Chloromethane
Concen: 0.41 ug/L
RT: 3.68 min Scan# 104
Delta R.T. 0.00 min
Lab File: 9M982233.D
Acq: 28 Aug 2017 23:46

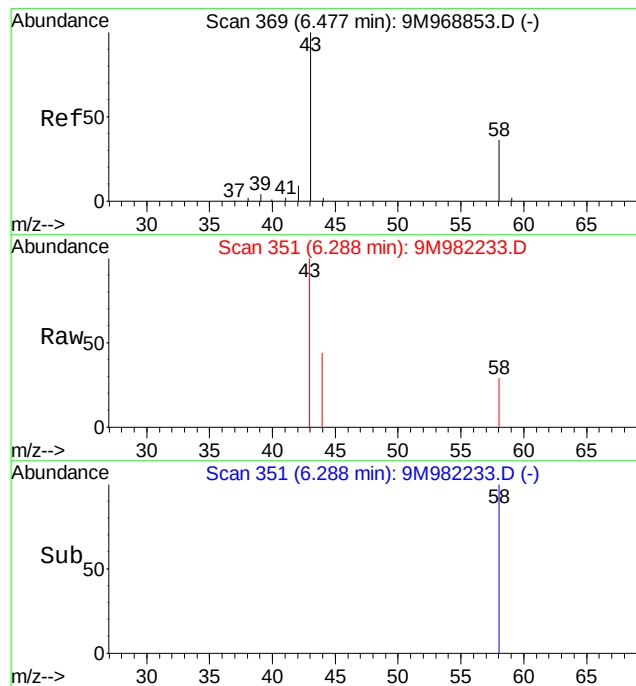
Tgt Ion	Ratio	Lower	Upper
50	100		
52	9.7	19.6	45.8#



#9
Diethyl ether
Concen: 0.44 ug/L
RT: 5.99 min Scan# 323
Delta R.T. 0.05 min
Lab File: 9M982233.D
Acq: 28 Aug 2017 23:46

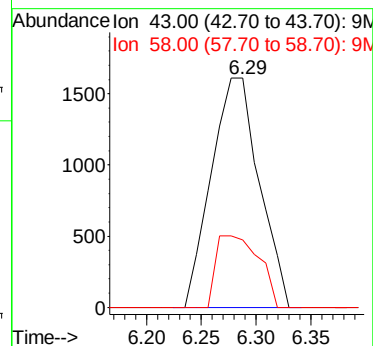
Tgt Ion	Ratio	Lower	Upper
59	100		
45	3621.0	48.1	112.3#
74	0.0	37.1	86.5#





#13
 Acetone
 Concen: 3.16 ug/L
 RT: 6.29 min Scan# 351
 Delta R.T. 0.01 min
 Lab File: 9M982233.D
 Acq: 28 Aug 2017 23:46

Tgt Ion	Ratio	Lower	Upper
43	100		
58	27.9	18.9	44.1



Data File : C:\MSDCHEM\1\DATA\082817\9M982233.D
 Acq On : 28 Aug 2017 23:46
 Sample : L17081366-05 A 8260C
 Misc : 1,1
 MS Integration Params: RTEINT.P

Vial: 20
 Operator: JDS
 Inst : hpms9
 Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Smoothing : ON Filtering: 5
 Sampling : 1 Min Area: 100 Area counts
 Start Thrs: 0.2 Max Peaks: 100
 Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
 Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.502	82	87	100	rBV2	3932	17035	1.29%	0.255%
2	3.787	100	114	117	rBV4	8313	58996	4.46%	0.885%
3	4.124	144	146	150	rVB	868	1943	0.15%	0.029%
4	4.261	156	159	162	rVB	401	717	0.05%	0.011%
5	4.356	165	168	171	rVB	216	448	0.03%	0.007%
6	4.462	176	178	180	rBV	229	430	0.03%	0.006%
7	4.662	196	197	200	rBV	301	485	0.04%	0.007%
8	4.863	212	216	217	rVB	266	574	0.04%	0.009%
9	5.021	227	231	233	rVB	280	555	0.04%	0.008%
10	5.063	233	235	238	rBV	284	550	0.04%	0.008%
11	5.137	241	242	246	rVV	254	518	0.04%	0.008%
12	5.232	249	251	255	rBV	273	433	0.03%	0.006%
13	5.327	257	260	261	rVB	316	468	0.04%	0.007%
14	5.686	292	294	298	rVB	211	543	0.04%	0.008%
15	5.802	298	305	308	rVB	276	899	0.07%	0.013%
16	5.982	314	322	334	rVB	20572	70898	5.35%	1.063%
17	6.277	344	350	357	rVV2	2262	7127	0.54%	0.107%
18	6.383	357	360	364	rVV	197	553	0.04%	0.008%
19	6.509	370	372	376	rBV	246	427	0.03%	0.006%
20	6.689	385	389	390	rBV	383	871	0.07%	0.013%
21	6.857	400	405	407	rVB	564	1342	0.10%	0.020%
22	6.910	407	410	413	rBV	254	722	0.05%	0.011%
23	7.258	442	443	445	rBV	287	441	0.03%	0.007%
24	7.311	445	448	454	rVB	490	817	0.06%	0.012%
25	7.754	484	490	491	rBV	199	703	0.05%	0.011%
26	8.145	524	527	529	rBV	292	545	0.04%	0.008%
27	8.483	554	559	560	rBV	213	424	0.03%	0.006%
28	8.567	566	567	572	rBV	286	809	0.06%	0.012%
29	8.672	572	577	584	rVV	296	1238	0.09%	0.019%
30	8.905	596	599	605	rVB	251	755	0.06%	0.011%
31	9.211	627	628	631	rBV	339	504	0.04%	0.008%
32	9.295	631	636	638	rVV	282	754	0.06%	0.011%
33	9.337	638	640	644	rVV	216	578	0.04%	0.009%
34	9.432	644	649	654	rVV	229	950	0.07%	0.014%
35	9.548	655	660	664	rVV	221	661	0.05%	0.010%
36	9.664	664	671	683	rVV	166794	453703	34.27%	6.803%
37	9.897	691	693	697	rVV	193	558	0.04%	0.008%
38	10.182	718	720	723	rBV	191	438	0.03%	0.007%
39	10.298	723	731	743	rVV	197617	489443	36.97%	7.339%
40	10.435	743	744	749	rVV	203	428	0.03%	0.006%
41	10.551	752	755	759	rBV	348	868	0.07%	0.013%
42	10.699	759	769	785	rBV	414619	1104579	83.43%	16.563%

43	10.889	786	787	790	rVV	425	580	0.04%	0.009%
44	11.047	798	802	807	rBV	375	1280	0.10%	0.019%
45	11.353	827	831	832	rVB	320	589	0.04%	0.009%
46	11.385	832	834	836	rBV	211	434	0.03%	0.007%
47	12.039	892	896	900	rBV	259	590	0.04%	0.009%
48	12.271	911	918	919	rVB	295	988	0.07%	0.015%
49	12.387	926	929	937	rBV2	593	2091	0.16%	0.031%
50	12.672	947	956	975	rBV	542482	1324005	100.00%	19.853%
51	12.989	985	986	990	rVB	365	586	0.04%	0.009%
52	13.136	998	1000	1005	rVB	300	529	0.04%	0.008%
53	13.221	1005	1008	1011	rBV	250	548	0.04%	0.008%
54	13.421	1024	1027	1032	rVB	254	575	0.04%	0.009%
55	13.928	1072	1075	1078	rBV	216	478	0.04%	0.007%
56	14.181	1094	1099	1100	rBV	273	584	0.04%	0.009%
57	14.561	1127	1135	1156	rVB	502282	1150177	86.87%	17.246%
58	14.793	1156	1157	1160	rBV	475	843	0.06%	0.013%
59	15.162	1189	1192	1198	rBV	273	846	0.06%	0.013%
60	15.374	1211	1212	1217	rBV	195	485	0.04%	0.007%
61	15.458	1217	1220	1222	rBV	256	487	0.04%	0.007%
62	15.553	1227	1229	1237	rVB	314	769	0.06%	0.012%
63	15.711	1241	1244	1247	rBV	333	458	0.03%	0.007%
64	15.785	1247	1251	1257	rVB	219	700	0.05%	0.010%
65	16.059	1272	1277	1295	rBV	390587	859339	64.90%	12.885%
66	16.313	1300	1301	1304	rBV	292	527	0.04%	0.008%
67	16.577	1319	1326	1334	rBV3	3263	8907	0.67%	0.134%
68	16.693	1334	1337	1340	rBV	287	692	0.05%	0.010%
69	16.766	1342	1344	1349	rVB	233	584	0.04%	0.009%
70	16.893	1349	1356	1358	rBV	191	569	0.04%	0.009%
71	16.946	1358	1361	1364	rBV	235	486	0.04%	0.007%
72	17.115	1372	1377	1379	rBV	206	513	0.04%	0.008%
73	17.231	1386	1388	1394	rVB	237	589	0.04%	0.009%
74	17.410	1401	1405	1406	rBV	228	517	0.04%	0.008%
75	17.579	1412	1421	1438	rBV	501234	1063249	80.31%	15.943%
76	17.801	1438	1442	1444	rVB	323	499	0.04%	0.007%
77	18.149	1471	1475	1476	rBV	269	565	0.04%	0.008%
78	18.413	1498	1500	1505	rVB	263	681	0.05%	0.010%
79	18.508	1506	1509	1514	rVB	187	640	0.05%	0.010%
80	18.708	1525	1528	1531	rVB	228	487	0.04%	0.007%
81	18.856	1539	1542	1545	rVB	347	665	0.05%	0.010%
82	18.972	1545	1553	1556	rBV	291	1367	0.10%	0.020%
83	19.046	1556	1560	1563	rBV	310	738	0.06%	0.011%
84	19.225	1574	1577	1580	rVV	262	572	0.04%	0.009%
85	19.289	1580	1583	1587	rVV	251	890	0.07%	0.013%
86	19.827	1630	1634	1635	rBV	227	532	0.04%	0.008%
87	21.072	1750	1752	1756	rVB	322	532	0.04%	0.008%
88	21.199	1759	1764	1767	rVV	315	967	0.07%	0.014%
89	21.283	1771	1772	1775	rVV	261	453	0.03%	0.007%
90	21.600	1799	1802	1804	rBV	396	535	0.04%	0.008%
91	21.642	1804	1806	1809	rVV	496	519	0.04%	0.008%
92	21.758	1814	1817	1821	rBV	254	761	0.06%	0.011%
93	21.853	1824	1826	1831	rVB	443	984	0.07%	0.015%
94	21.937	1831	1834	1838	rBV	463	969	0.07%	0.015%
95	22.032	1842	1843	1847	rVB	448	616	0.05%	0.009%
96	22.117	1847	1851	1857	rBV	508	1596	0.12%	0.024%
97	22.191	1857	1858	1860	rVB	570	485	0.04%	0.007%
98	22.233	1860	1862	1863	rBV	353	485	0.04%	0.007%
99	22.381	1872	1876	1878	rBV2	591	1259	0.10%	0.019%
100	22.433	1878	1881	1882	rBV	551	948	0.07%	0.014%

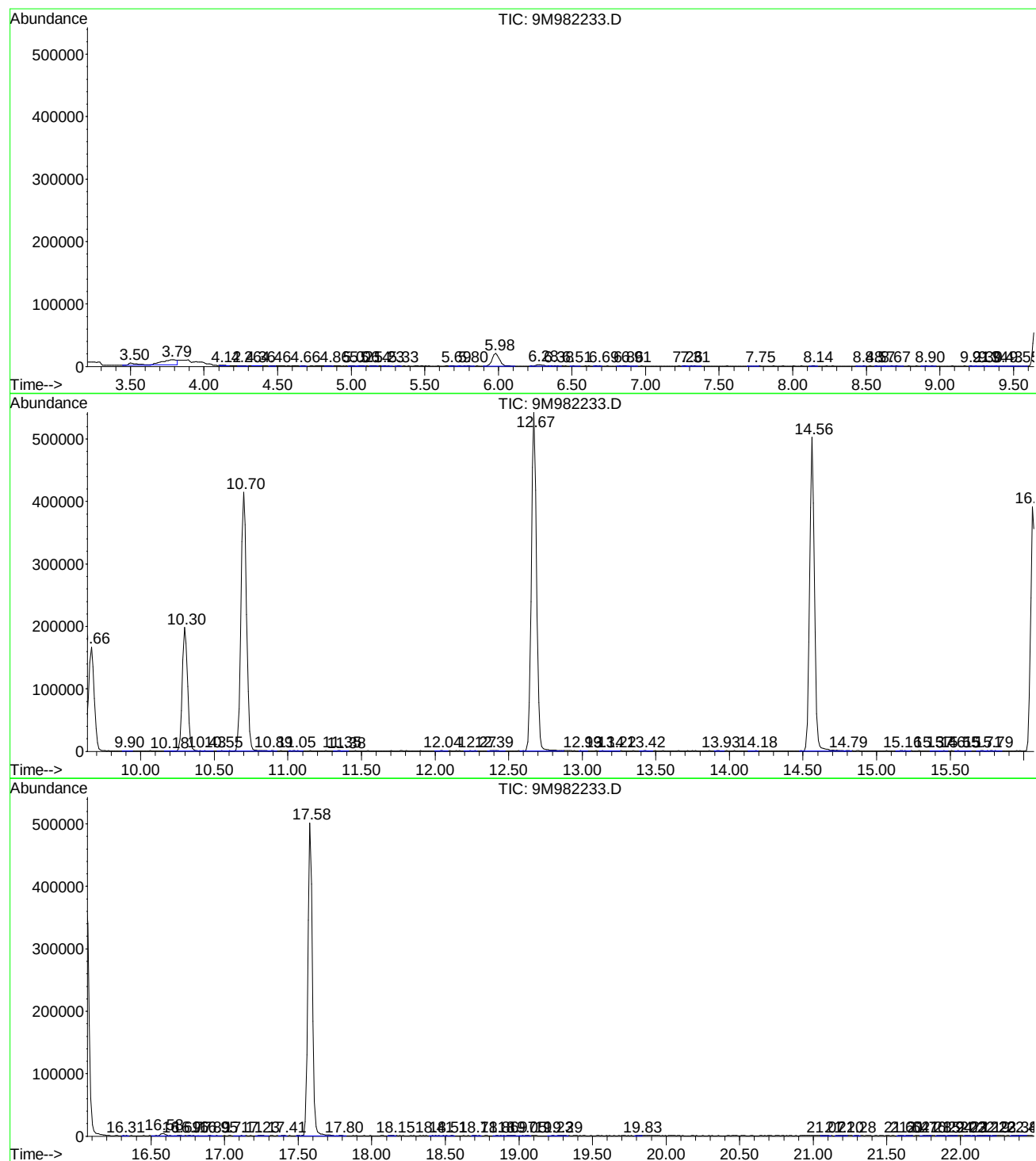
Sum of corrected areas: 6669069

9M982233.D 8260C.M

Tue Aug 29 10:04:48 2017

Page 2

File : C:\MSDCHEM\1\DATA\082817\9M982233.D
Operator : JDS
Acquired : 28 Aug 2017 23:46 using AcqMethod 8260C
Instrument : hpms9
Sample Name: L17081366-05 A 8260C
Misc Info : 1,1
Vial Number: 20
Quant File :8260C.RES (RTE Integrator)



Tentatively Identified Compound (LSC) summary

Operator ID: JDS Date Acquired: 28 Aug 2017 23:46
 Data File: C:\MSDCHEM\1\DATA\082817\9M982233.D
 Name: L17081366-05 A 8260C
 Misc: 1,1
 Method: C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title: 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Library Searched: C:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	---Internal Standard---
				#	RT Resp Conc

Data File : C:\MSDCHEM\1\DATA\082817\9M982234.D Vial: 21
 Acq On : 29 Aug 2017 00:16 Operator: JDS
 Sample : L17081366-07 A 8260C Inst : hpms9
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 29 09:33:52 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	497882	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	371939	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	173399	50.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	143979	51.6475	ug/L	0.00
Spiked Amount 50.000	Range 86 - 118		Recovery = 103.30%			
43) 1,2-Dichloroethane-d4	10.30	65	174763	53.6701	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 107.34%			
58) Toluene-d8	12.67	98	489084	53.4130	ug/L	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 106.82%			
79) p-Bromofluorobenzene	16.06	95	174769	56.8428	ug/L	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 113.68%			
Target Compounds						
9) Diethyl ether	5.98	59	1871	0.6600	ug/L	Qvalue # 1
13) Acetone	6.28	43	5889	3.8924	ug/L	82

 (#) = qualifier out of range (m) = manual integration
 9M982234.D 8260C.M Tue Aug 29 09:33:52 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\082817\9M982234.D

Vial: 21

Acq On : 29 Aug 2017 00:16

Operator: JDS

Sample : L17081366-07 A 8260C

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 9:33 2017

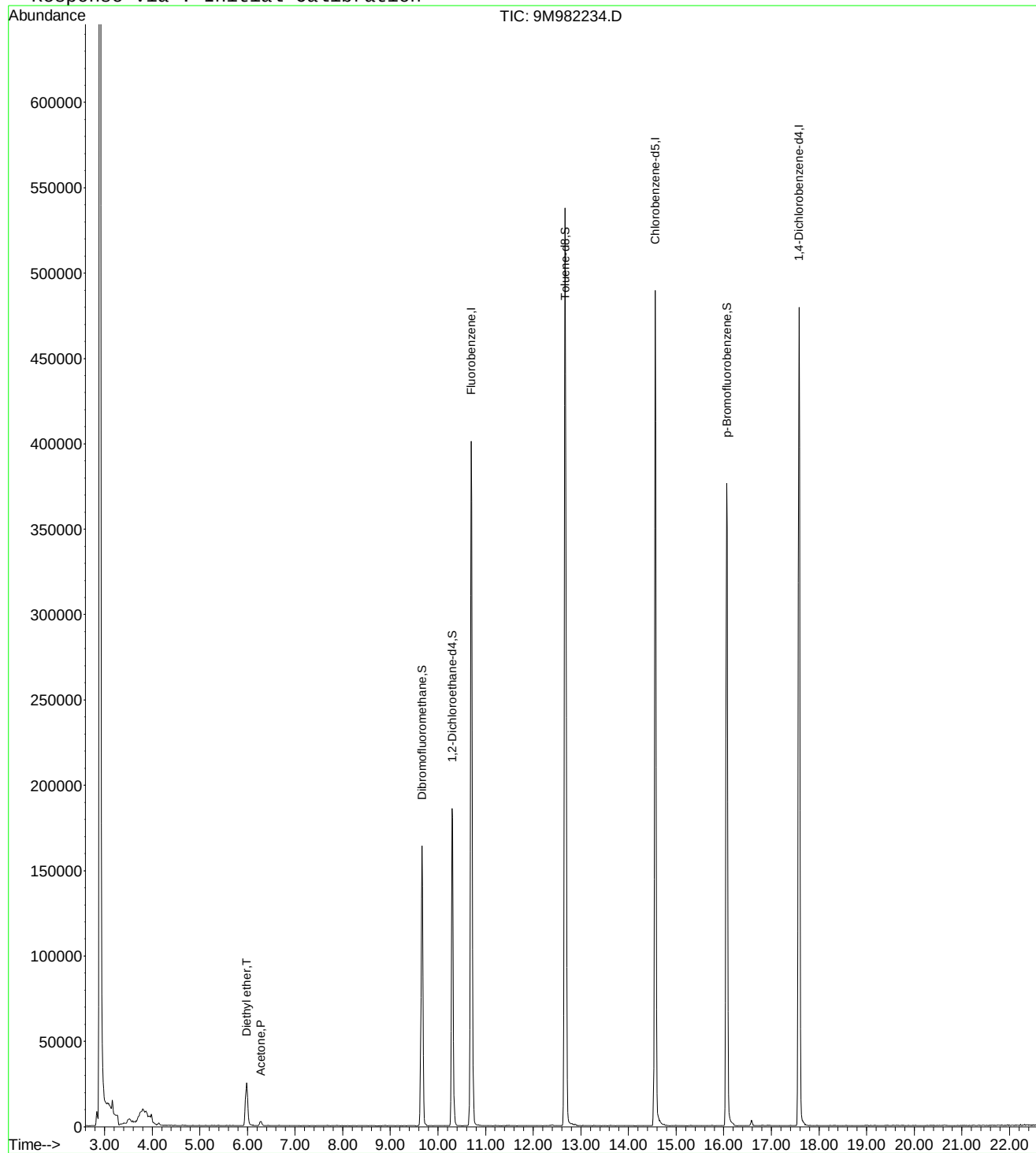
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

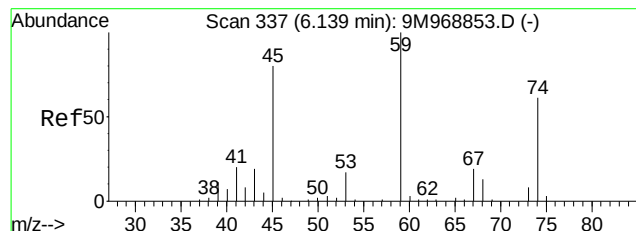
Response via : Initial Calibration



9M982234.D 8260C.M

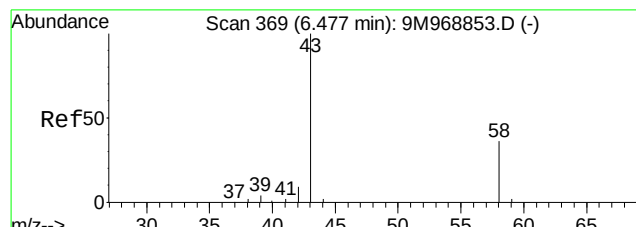
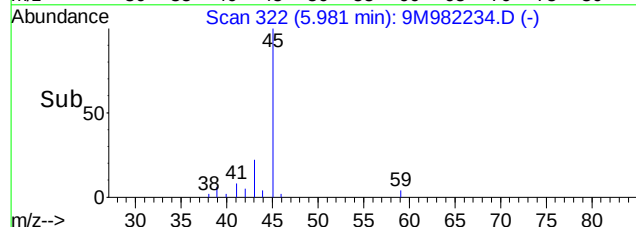
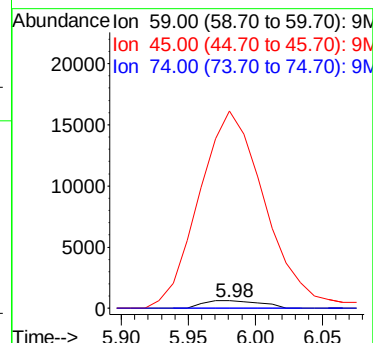
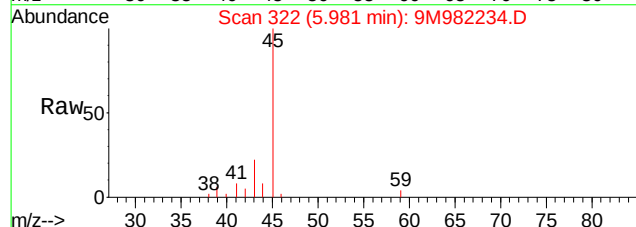
Tue Aug 29 09:33:52 2017

Page 2



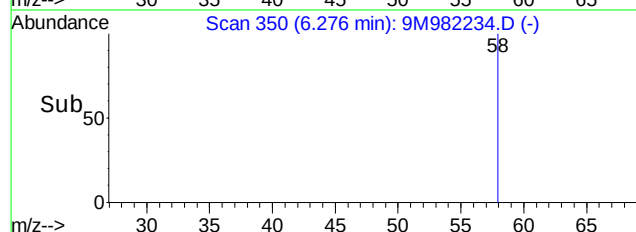
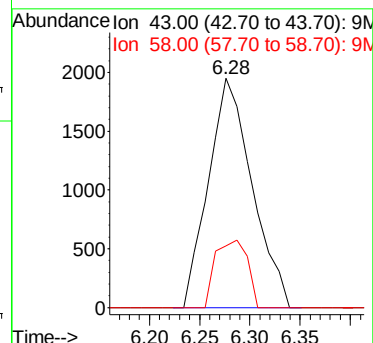
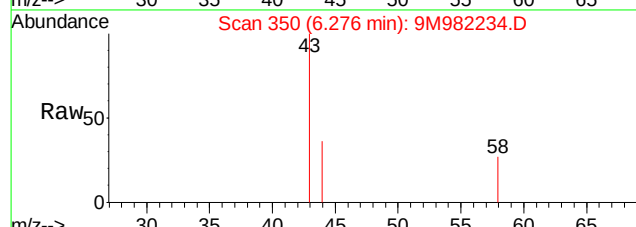
#9
Diethyl ether
Concen: 0.66 ug/L
RT: 5.98 min Scan# 322
Delta R.T. 0.04 min
Lab File: 9M982234.D
Acq: 29 Aug 2017 00:16

Tgt Ion: 59 Resp: 1871
Ion Ratio Lower Upper
59 100
45 2991.8 48.1 112.3#
74 0.0 37.1 86.5#



#13
Acetone
Concen: 3.89 ug/L
RT: 6.28 min Scan# 350
Delta R.T. -0.00 min
Lab File: 9M982234.D
Acq: 29 Aug 2017 00:16

Tgt Ion: 43 Resp: 5889
Ion Ratio Lower Upper
43 100
58 21.6 18.9 44.1



Data File : C:\MSDCHEM\1\DATA\082817\9M982234.D
 Acq On : 29 Aug 2017 00:16
 Sample : L17081366-07 A 8260C
 Misc : 1,1
 MS Integration Params: RTEINT.P

Vial: 21
 Operator: JDS
 Inst : hpms9
 Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Smoothing : ON Filtering: 5
 Sampling : 1 Min Area: 100 Area counts
 Start Thrs: 0.2 Max Peaks: 100
 Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
 Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.332	69	71	72	rBV	575	1041	0.08%	0.016%
2	3.522	83	89	94	rBV5	2707	12431	0.95%	0.190%
3	3.807	101	116	119	rBV5	8023	54624	4.16%	0.836%
4	4.134	143	147	156	rVB	1404	4139	0.32%	0.063%
5	4.345	165	167	169	rVB	253	455	0.03%	0.007%
6	4.398	169	172	177	rVB	331	1054	0.08%	0.016%
7	4.493	177	181	185	rBV	307	1038	0.08%	0.016%
8	4.641	189	195	198	rBV	185	803	0.06%	0.012%
9	4.778	204	208	213	rVB	140	529	0.04%	0.008%
10	5.126	239	241	244	rVB	276	464	0.04%	0.007%
11	5.633	286	289	292	rVB	251	484	0.04%	0.007%
12	5.696	292	295	299	rBV	238	514	0.04%	0.008%
13	5.981	314	322	334	rBV	25175	85472	6.51%	1.309%
14	6.276	340	350	362	rVB2	2639	9284	0.71%	0.142%
15	6.435	362	365	368	rBV	291	446	0.03%	0.007%
16	6.540	368	375	379	rBV	175	651	0.05%	0.010%
17	6.667	384	387	390	rVB	422	439	0.03%	0.007%
18	7.131	430	431	435	rBV	222	499	0.04%	0.008%
19	7.237	439	441	443	rVV	307	493	0.04%	0.008%
20	7.363	447	453	457	rVV	298	1059	0.08%	0.016%
21	7.437	459	460	464	rBV	221	526	0.04%	0.008%
22	7.711	485	486	489	rVB	292	464	0.04%	0.007%
23	7.775	489	492	494	rBV	238	517	0.04%	0.008%
24	7.880	498	502	504	rVB	304	453	0.03%	0.007%
25	7.965	509	510	515	rVB	239	631	0.05%	0.010%
26	8.060	515	519	520	rBV	237	444	0.03%	0.007%
27	8.102	520	523	526	rVB	316	759	0.06%	0.012%
28	8.313	541	543	546	rBV	281	702	0.05%	0.011%
29	8.556	564	566	569	rBV	300	670	0.05%	0.010%
30	8.630	571	573	579	rVV	240	813	0.06%	0.012%
31	8.777	584	587	590	rVV	240	531	0.04%	0.008%
32	8.957	602	604	608	rVV	214	489	0.04%	0.007%
33	9.052	608	613	615	rVV	187	472	0.04%	0.007%
34	9.157	618	623	626	rBV	279	690	0.05%	0.011%
35	9.432	645	649	654	rVV	250	569	0.04%	0.009%
36	9.664	663	671	684	rVB	163945	444453	33.87%	6.804%
37	9.833	684	687	690	rBV	222	460	0.04%	0.007%
38	10.297	722	731	742	rBV	185816	481555	36.70%	7.372%
39	10.603	757	760	762	rVV	258	502	0.04%	0.008%
40	10.698	762	769	785	rVV	400961	1074751	81.90%	16.454%
41	10.888	785	787	790	rVB	382	620	0.05%	0.009%
42	11.014	795	799	804	rVV	191	553	0.04%	0.008%

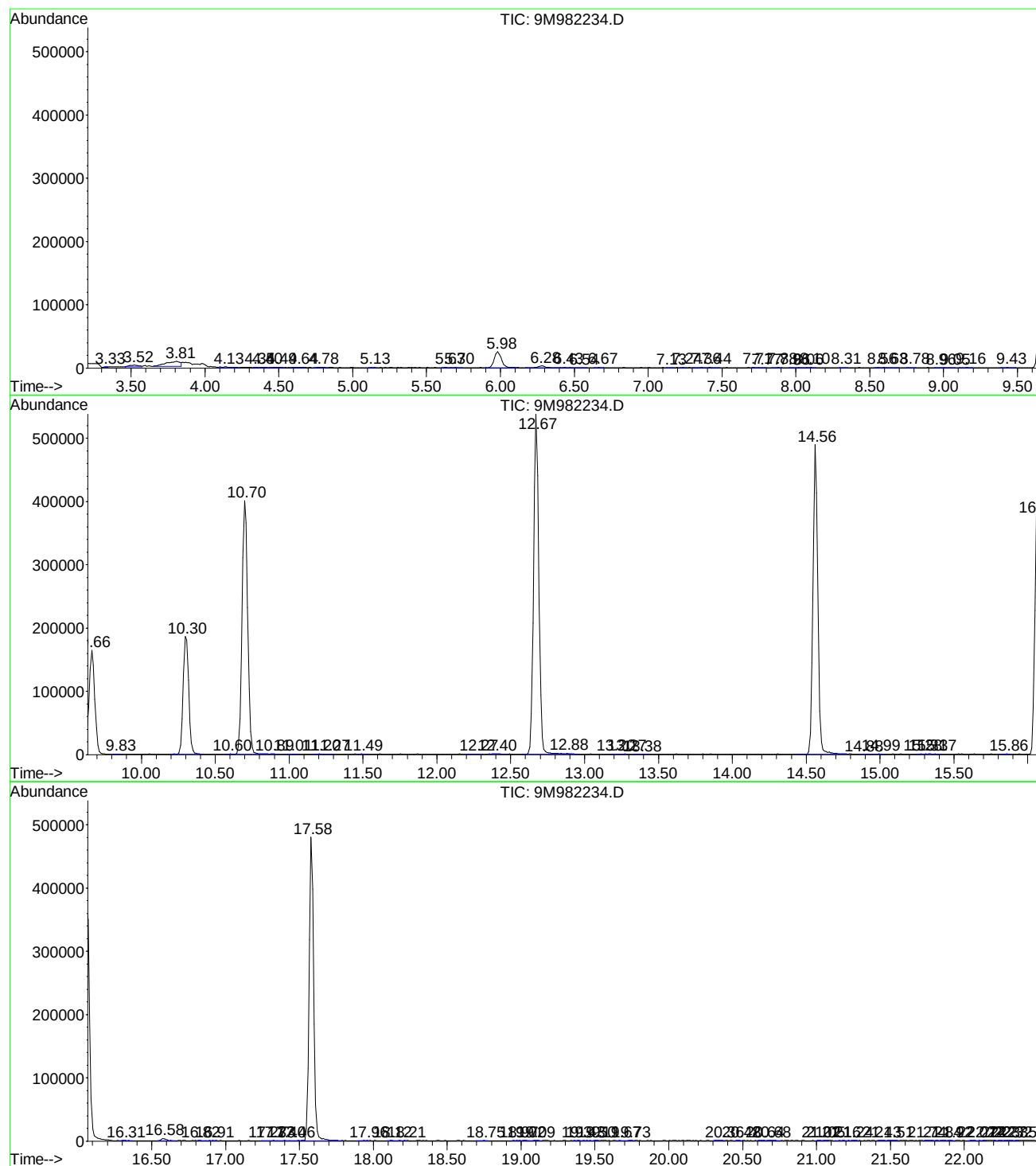
43	11.204	812	817	820	rBV	373	902	0.07%	0.014%
44	11.268	820	823	826	rVB	215	466	0.04%	0.007%
45	11.489	842	844	848	rVB	283	464	0.04%	0.007%
46	12.270	911	918	921	rBV	203	812	0.06%	0.012%
47	12.397	925	930	937	rVB2	470	1496	0.11%	0.023%
48	12.671	947	956	974	rBV	537705	1312290	100.00%	20.090%
49	12.882	974	976	983	rVV2	965	2437	0.19%	0.037%
50	13.199	1003	1006	1010	rVB	227	455	0.03%	0.007%
51	13.273	1010	1013	1015	rBV	313	512	0.04%	0.008%
52	13.378	1019	1023	1028	rVB	230	846	0.06%	0.013%
53	14.560	1124	1135	1156	rVV	489300	1118928	85.27%	17.130%
54	14.877	1164	1165	1170	rBV	183	557	0.04%	0.009%
55	14.993	1170	1176	1179	rBV	261	656	0.05%	0.010%
56	15.278	1199	1203	1204	rBV	305	624	0.05%	0.010%
57	15.309	1204	1206	1210	rVV	394	677	0.05%	0.010%
58	15.373	1210	1212	1216	rVB	267	524	0.04%	0.008%
59	15.858	1254	1258	1260	rBV	291	733	0.06%	0.011%
60	16.059	1268	1277	1295	rVV	376323	849595	64.74%	13.007%
61	16.312	1298	1301	1306	rBV	297	1079	0.08%	0.017%
62	16.576	1323	1326	1334	rVB2	3335	8075	0.62%	0.124%
63	16.819	1348	1349	1353	rBV	279	470	0.04%	0.007%
64	16.913	1353	1358	1361	rVB	265	526	0.04%	0.008%
65	17.272	1389	1392	1393	rBV	213	487	0.04%	0.007%
66	17.325	1394	1397	1399	rVV	272	504	0.04%	0.008%
67	17.399	1399	1404	1407	rVV	263	707	0.05%	0.011%
68	17.462	1407	1410	1412	rVV	168	435	0.03%	0.007%
69	17.578	1412	1421	1440	rVB	479521	1019947	77.72%	15.615%
70	17.958	1451	1457	1458	rBV	260	726	0.06%	0.011%
71	18.117	1470	1472	1477	rVB	196	558	0.04%	0.009%
72	18.212	1477	1481	1482	rBV	243	539	0.04%	0.008%
73	18.750	1527	1532	1534	rVB	191	565	0.04%	0.009%
74	18.971	1550	1553	1554	rVB	346	447	0.03%	0.007%
75	19.024	1554	1558	1560	rVB	360	939	0.07%	0.014%
76	19.087	1560	1564	1569	rBV	339	1357	0.10%	0.021%
77	19.393	1589	1593	1595	rBV	211	500	0.04%	0.008%
78	19.425	1595	1596	1602	rVB	302	731	0.06%	0.011%
79	19.499	1602	1603	1606	rBV	251	557	0.04%	0.009%
80	19.668	1617	1619	1624	rBV	303	485	0.04%	0.007%
81	19.731	1624	1625	1628	rBV	230	436	0.03%	0.007%
82	20.364	1679	1685	1686	rVB	169	569	0.04%	0.009%
83	20.480	1693	1696	1698	rBV	278	612	0.05%	0.009%
84	20.639	1707	1711	1713	rBV	383	854	0.07%	0.013%
85	20.681	1713	1715	1722	rBV	145	542	0.04%	0.008%
86	21.019	1745	1747	1749	rBV	277	436	0.03%	0.007%
87	21.050	1749	1750	1753	rVV	233	449	0.03%	0.007%
88	21.156	1757	1760	1764	rBV	310	581	0.04%	0.009%
89	21.240	1765	1768	1772	rVB	168	529	0.04%	0.008%
90	21.430	1784	1786	1790	rVB	204	490	0.04%	0.008%
91	21.515	1791	1794	1798	rVB	190	436	0.03%	0.007%
92	21.736	1814	1815	1821	rBV	218	765	0.06%	0.012%
93	21.842	1821	1825	1829	rVB	547	1135	0.09%	0.017%
94	21.916	1829	1832	1834	rBV	389	615	0.05%	0.009%
95	22.074	1842	1847	1849	rBV	347	509	0.04%	0.008%
96	22.137	1849	1853	1854	rBV	421	464	0.04%	0.007%
97	22.232	1859	1862	1865	rVB	665	661	0.05%	0.010%
98	22.274	1865	1866	1868	rBV	438	554	0.04%	0.008%
99	22.317	1869	1870	1872	rVB	669	490	0.04%	0.008%
100	22.348	1872	1873	1875	rBV	538	678	0.05%	0.010%

Sum of corrected areas: 6531956

9M982234.D 8260C.M Tue Aug 29 10:06:13 2017

Page 2

File : C:\MSDCHEM\1\DATA\082817\9M982234.D
Operator : JDS
Acquired : 29 Aug 2017 00:16 using AcqMethod 8260C
Instrument : hpms9
Sample Name: L17081366-07 A 8260C
Misc Info : 1,1
Vial Number: 21
Quant File :8260C.RES (RTE Integrator)



Tentatively Identified Compound (LSC) summary

Operator ID: JDS Date Acquired: 29 Aug 2017 00:16
 Data File: C:\MSDCHEM\1\DATA\082817\9M982234.D
 Name: L17081366-07 A 8260C
 Misc: 1,1
 Method: C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title: 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Library Searched: C:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	---Internal Standard---
				#	RT Resp Conc

Data File : C:\MSDCHEM\1\DATA\082817\9M982225.D Vial: 12
 Acq On : 28 Aug 2017 19:45 Operator: JDS
 Sample : L17081366-09 A TB 8260C Inst : hpms9
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 29 09:33:43 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	528196	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	398037	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	185138	50.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	151232	51.1358	ug/L	0.00
Spiked Amount 50.000	Range 86 - 118		Recovery = 102.28%			
43) 1,2-Dichloroethane-d4	10.30	65	176822	51.1859	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.38%			
58) Toluene-d8	12.68	98	502168	51.2461	ug/L	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 102.50%			
79) p-Bromofluorobenzene	16.06	95	178898	54.4964	ug/L	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 109.00%			
Target Compounds						
					Qvalue	
9) Diethyl ether	5.97	59	3964	1.3181	ug/L #	1
13) Acetone	6.29	43	9125	5.6851	ug/L	94
18) Methyl acetate	7.05	43	2540	0.6161	ug/L #	1

 (#) = qualifier out of range (m) = manual integration
 9M982225.D 8260C.M Tue Aug 29 09:33:43 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\082817\9M982225.D

Vial: 12

Acq On : 28 Aug 2017 19:45

Operator: JDS

Sample : L17081366-09 A TB 8260C

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 9:33 2017

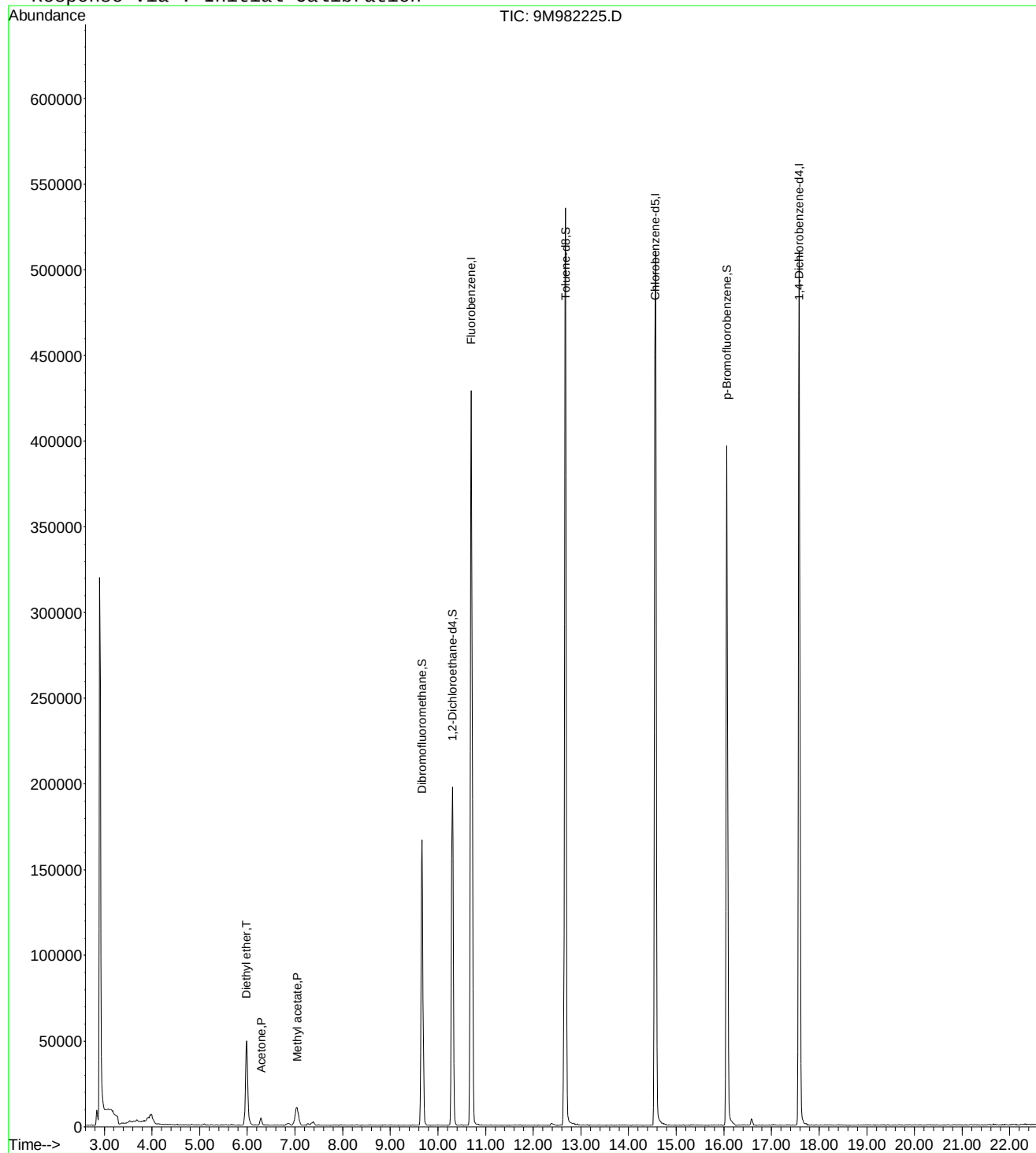
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

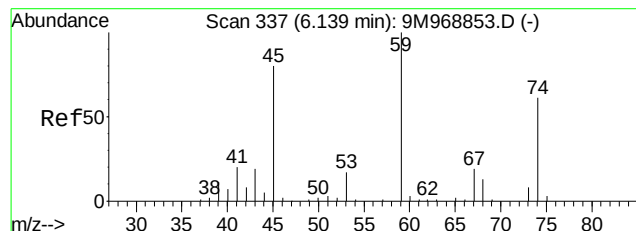
Response via : Initial Calibration



9M982225.D 8260C.M

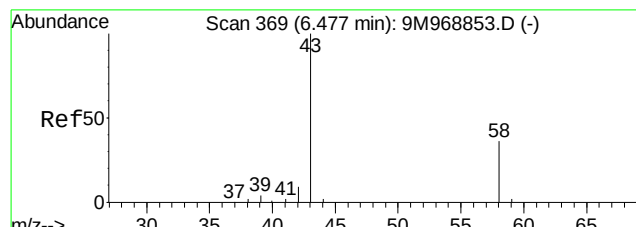
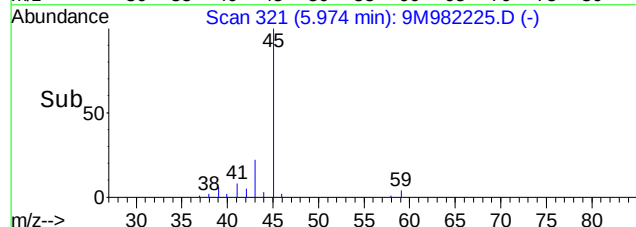
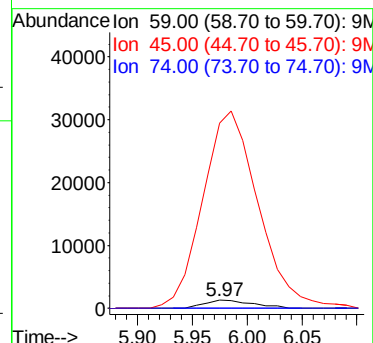
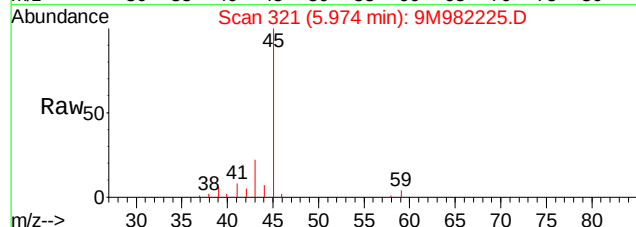
Tue Aug 29 09:33:43 2017

Page 2



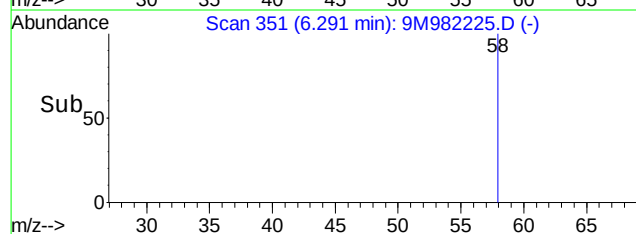
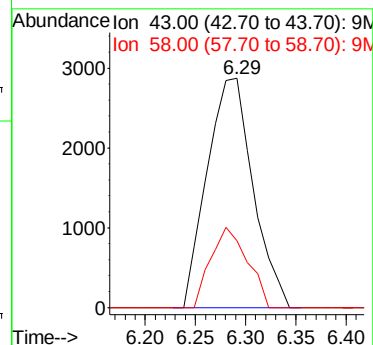
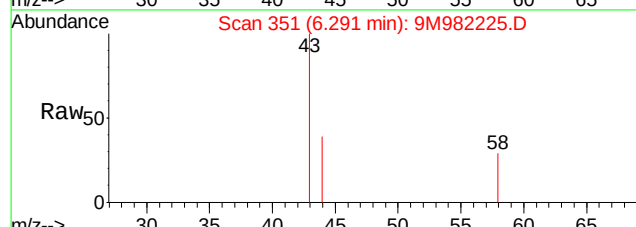
#9
Diethyl ether
Concen: 1.32 ug/L
RT: 5.97 min Scan# 321
Delta R.T. 0.04 min
Lab File: 9M982225.D
Acq: 28 Aug 2017 19:45

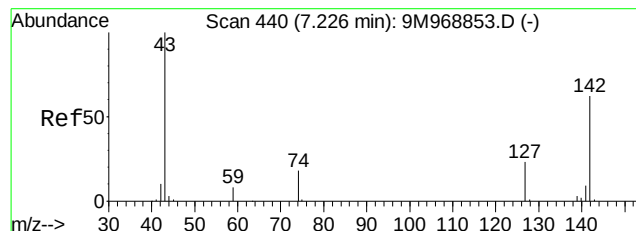
Tgt Ion: 59 Resp: 3964
Ion Ratio Lower Upper
59 100
45 2797.3 48.1 112.3#
74 0.0 37.1 86.5#



#13
Acetone
Concen: 5.69 ug/L
RT: 6.29 min Scan# 351
Delta R.T. 0.01 min
Lab File: 9M982225.D
Acq: 28 Aug 2017 19:45

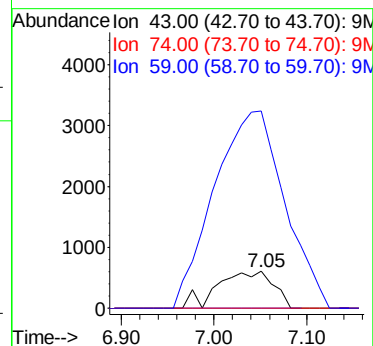
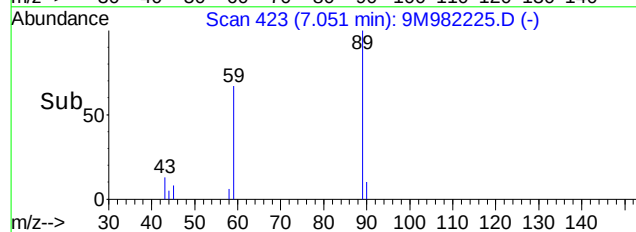
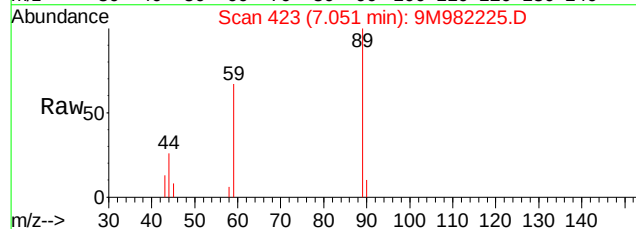
Tgt Ion: 43 Resp: 9125
Ion Ratio Lower Upper
43 100
58 28.0 18.9 44.1





#18
Methyl acetate
Concen: 0.62 ug/L
RT: 7.05 min Scan# 423
Delta R.T. 0.04 min
Lab File: 9M982225.D
Acq: 28 Aug 2017 19:45

Tgt Ion: 43 Resp: 2540
Ion Ratio Lower Upper
43 100
74 0.0 10.8 25.2#
59 672.4 4.9 11.5#



Data File : C:\MSDCHEM\1\DATA\090617\9M982376.D Vial: 14
 Acq On : 6 Sep 2017 17:45 Operator: JDS
 Sample : L17081366-10 B REF 826-SPE Inst : hpms9
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 07 09:46:19 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	462113	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	349326	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	159473	50.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	130180	50.3121	ug/L	0.00
Spiked Amount 50.000	Range 86 - 118		Recovery = 100.62%			
43) 1,2-Dichloroethane-d4	10.30	65	159910	52.9099	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 105.82%			
58) Toluene-d8	12.67	98	440192	51.1855	ug/L	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 102.38%			
79) p-Bromofluorobenzene	16.06	95	151931	53.7300	ug/L	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 107.46%			
Target Compounds						
13) Acetone	6.29	43	2566	1.8273	ug/L	Qvalue # 72

 (#) = qualifier out of range (m) = manual integration
 9M982376.D 8260C.M Thu Sep 07 09:46:20 2017

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Data File : C:\MSDCHEM\1\DATA\090617\9M982376.D

Vial: 14

Acq On : 6 Sep 2017 17:45

Operator: JDS

Sample : L17081366-10 B REF 826-SPE

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 7 9:46 2017

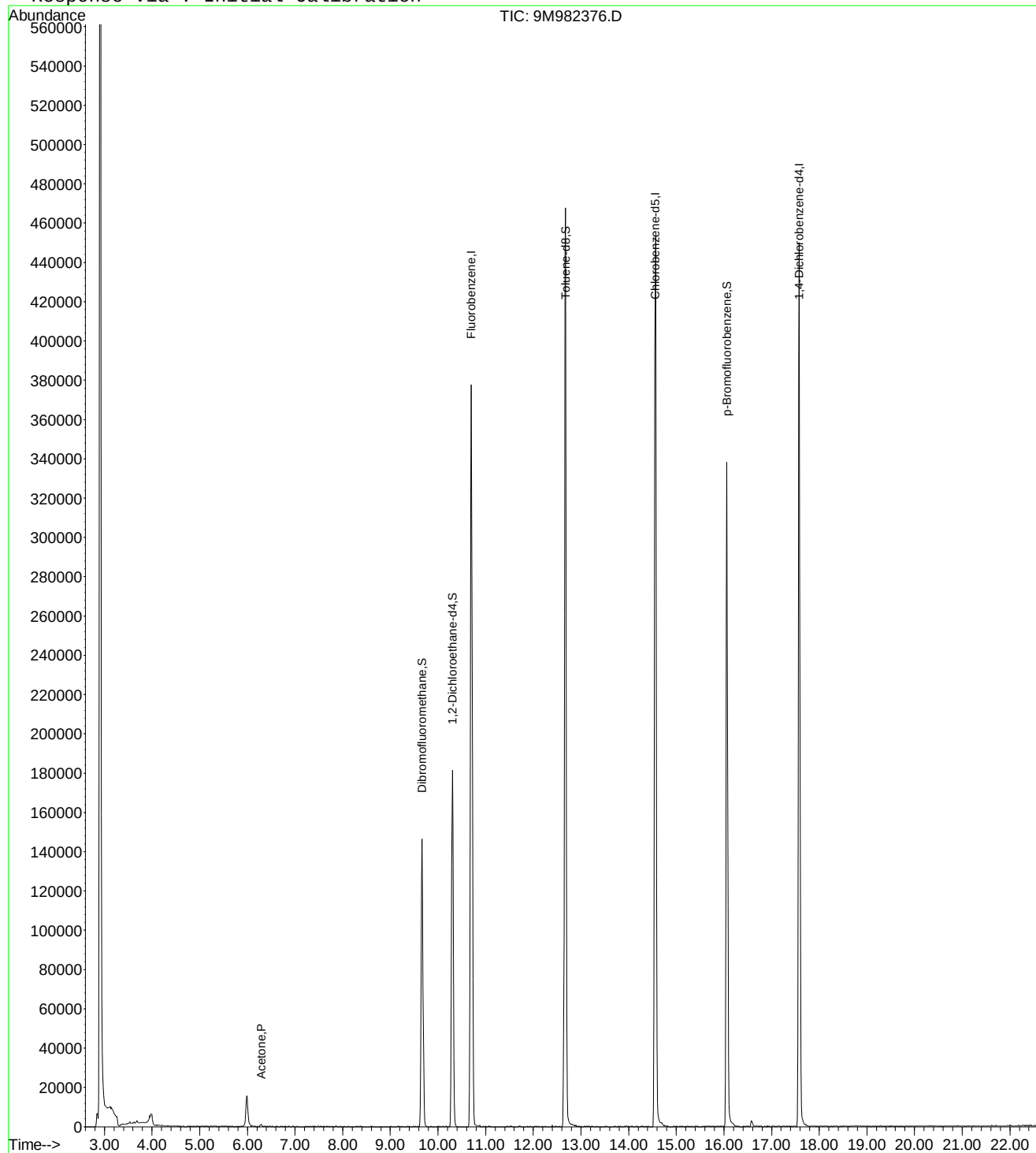
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

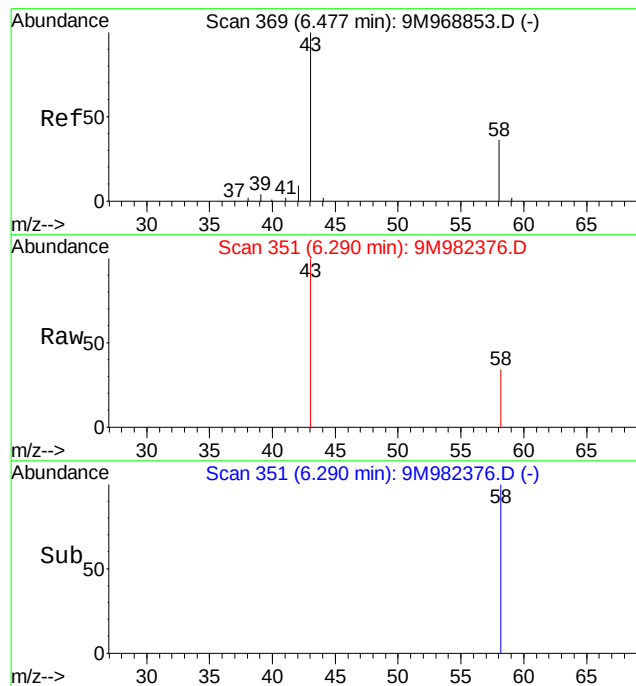
Response via : Initial Calibration



9M982376.D 8260C.M

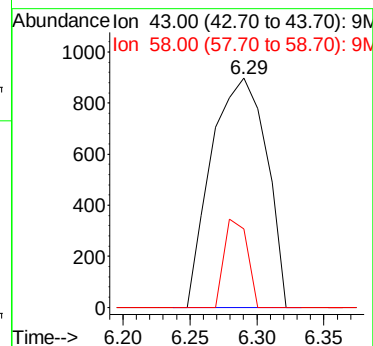
Thu Sep 07 09:46:20 2017

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#13
 Acetone
 Concen: 1.83 ug/L
 RT: 6.29 min Scan# 351
 Delta R.T. 0.01 min
 Lab File: 9M982376.D
 Acq: 6 Sep 2017 17:45

Tgt Ion	Ratio	Lower	Upper
43	100		
58	16.1	18.9	44.1#



Data File : C:\MSDCHEM\1\DATA\090617\9M982376.D

Vial: 14

Acq On : 6 Sep 2017 17:45

Operator: JDS

Sample : L17081366-10 B REF 826-SPE

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Smoothing : ON

Filtering: 5

Sampling : 1

Min Area: 100 Area counts

Start Thrs: 0.2

Max Peaks: 100

Stop Thrs : 0

Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >

Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.388	69	76	79	rBV2	1115	4839	0.41%	0.081%
2	3.525	87	89	93	rBV2	1048	2207	0.19%	0.037%
3	3.684	100	104	108	rBV	1372	3334	0.28%	0.056%
4	3.969	124	131	142	rVB2	5874	29801	2.54%	0.502%
5	4.211	152	154	160	rVB	491	869	0.07%	0.015%
6	4.570	187	188	190	rBB	416	504	0.04%	0.008%
7	4.602	190	191	193	rBB	383	453	0.04%	0.008%
8	4.665	194	197	199	rBB	345	637	0.05%	0.011%
9	4.749	202	205	207	rBB	425	778	0.07%	0.013%
10	4.802	209	210	214	rBB	368	645	0.05%	0.011%
11	4.866	215	216	220	rBB	361	646	0.05%	0.011%
12	4.939	221	223	225	rBB	334	614	0.05%	0.010%
13	5.055	231	234	237	rBB	399	1127	0.10%	0.019%
14	5.150	240	243	244	rBB	314	584	0.05%	0.010%
15	5.224	249	250	254	rBB	446	946	0.08%	0.016%
16	5.298	255	257	262	rBB	396	1264	0.11%	0.021%
17	5.435	269	270	274	rBB	346	867	0.07%	0.015%
18	5.509	274	277	278	rBB	345	613	0.05%	0.010%
19	5.541	278	280	282	rBB	321	603	0.05%	0.010%
20	5.615	286	287	291	rBB	444	686	0.06%	0.012%
21	5.678	292	293	297	rBB	386	451	0.04%	0.008%
22	5.995	314	323	331	rBB	15757	54669	4.65%	0.921%
23	6.090	331	332	337	rBB	654	1307	0.11%	0.022%
24	6.290	346	351	354	rBB	1203	3227	0.27%	0.054%
25	6.353	356	357	361	rBB	345	622	0.05%	0.010%
26	6.470	366	368	371	rBB	347	617	0.05%	0.010%
27	6.533	372	374	376	rBB	364	460	0.04%	0.008%
28	6.860	403	405	409	rBB	387	460	0.04%	0.008%
29	7.493	461	465	467	rBB	378	653	0.06%	0.011%
30	7.873	496	501	503	rBB	346	632	0.05%	0.011%
31	9.667	661	671	682	rBB	146495	397868	33.86%	6.700%
32	10.300	723	731	741	rBB	181451	439780	37.42%	7.405%
33	10.701	762	769	783	rBV	377727	1001604	85.23%	16.866%
34	11.524	844	847	851	rBB	312	580	0.05%	0.010%
35	11.725	861	866	868	rBB	320	595	0.05%	0.010%
36	12.400	928	930	932	rBB	731	463	0.04%	0.008%
37	12.675	949	956	968	rBV	467805	1175168	100.00%	19.788%
38	13.065	991	993	997	rBB	419	457	0.04%	0.008%
39	13.160	999	1002	1005	rBB	333	602	0.05%	0.010%
40	13.951	1075	1077	1080	rBB	348	634	0.05%	0.011%
41	14.279	1104	1108	1111	rBB	358	649	0.06%	0.011%
42	14.564	1129	1135	1152	rBV	453231	1039311	88.44%	17.501%

9M982376.D 8260C.M Thu Sep 07 13:44:20 2017

Page 1

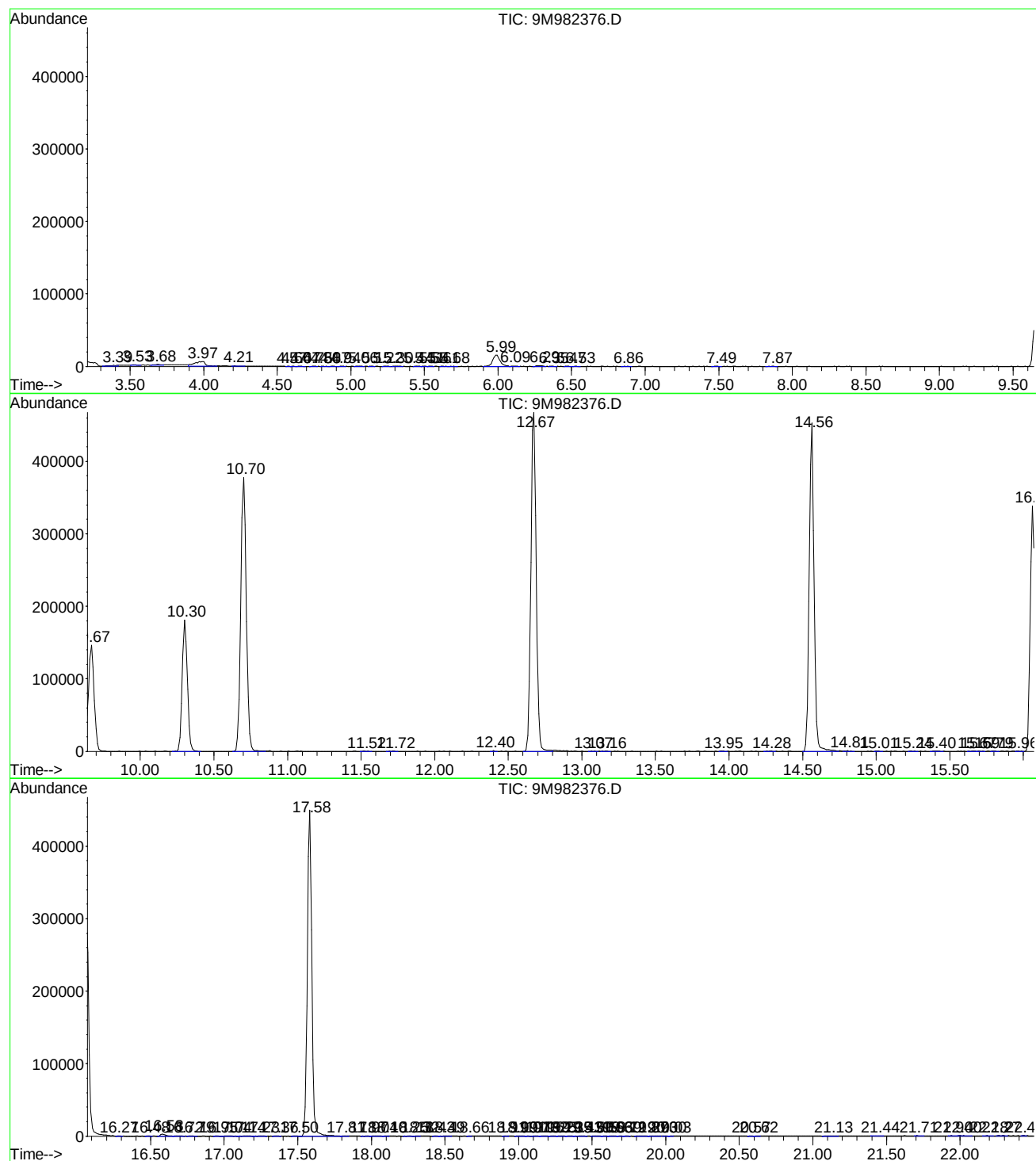
43	14.806	1155	1158	1162	rVB	693	1138	0.10%	0.019%
44	15.007	1175	1177	1180	rBB	350	611	0.05%	0.010%
45	15.239	1197	1199	1203	rBB	369	643	0.05%	0.011%
46	15.397	1211	1214	1219	rBB	318	988	0.08%	0.017%
47	15.672	1235	1240	1241	rBB	377	879	0.07%	0.015%
48	15.693	1241	1242	1246	rBB	400	656	0.06%	0.011%
49	15.788	1250	1251	1255	rBB	314	583	0.05%	0.010%
50	15.957	1266	1267	1271	rBB	366	622	0.05%	0.010%
51	16.062	1271	1277	1296	rBB	338333	743596	63.28%	12.521%
52	16.273	1296	1297	1300	rBB	343	641	0.05%	0.011%
53	16.484	1315	1317	1319	rBB	344	609	0.05%	0.010%
54	16.579	1323	1326	1333	rBB	3085	7408	0.63%	0.125%
55	16.716	1333	1339	1340	rBB	378	1280	0.11%	0.022%
56	16.790	1342	1346	1348	rBB	379	928	0.08%	0.016%
57	16.948	1359	1361	1364	rBB	394	678	0.06%	0.011%
58	17.043	1365	1370	1375	rBB	379	1504	0.13%	0.025%
59	17.138	1375	1379	1385	rBB	375	1508	0.13%	0.025%
60	17.233	1385	1388	1393	rBB	374	1339	0.11%	0.023%
61	17.360	1397	1400	1402	rBB	368	854	0.07%	0.014%
62	17.497	1409	1413	1414	rBB	401	937	0.08%	0.016%
63	17.582	1415	1421	1441	rBB	450032	960076	81.70%	16.167%
64	17.814	1441	1443	1446	rBV	433	1133	0.10%	0.019%
65	17.972	1454	1458	1460	rBB	402	929	0.08%	0.016%
66	18.035	1460	1464	1468	rBB	403	1516	0.13%	0.026%
67	18.099	1468	1470	1472	rBV	336	803	0.07%	0.014%
68	18.246	1481	1484	1487	rBB	370	874	0.07%	0.015%
69	18.320	1488	1491	1492	rBV	391	884	0.08%	0.015%
70	18.426	1500	1501	1504	rBB	414	739	0.06%	0.012%
71	18.489	1504	1507	1512	rBV	417	1601	0.14%	0.027%
72	18.658	1522	1523	1525	rBV	434	674	0.06%	0.011%
73	18.911	1545	1547	1549	rBV	451	919	0.08%	0.015%
74	18.985	1553	1554	1560	rBB	452	1417	0.12%	0.024%
75	19.070	1560	1562	1563	rBB	420	508	0.04%	0.009%
76	19.133	1564	1568	1569	rBB	401	919	0.08%	0.015%
77	19.165	1569	1571	1575	rBB	479	1186	0.10%	0.020%
78	19.249	1575	1579	1580	rBB	458	907	0.08%	0.015%
79	19.291	1580	1583	1586	rBB	527	1452	0.12%	0.024%
80	19.355	1586	1589	1591	rBB	396	948	0.08%	0.016%
81	19.428	1591	1596	1599	rBB	452	1541	0.13%	0.026%
82	19.502	1602	1603	1609	rBB	508	1408	0.12%	0.024%
83	19.587	1609	1611	1613	rBB	411	660	0.06%	0.011%
84	19.629	1613	1615	1619	rBB	387	1108	0.09%	0.019%
85	19.692	1619	1621	1623	rBB	401	697	0.06%	0.012%
86	19.724	1623	1624	1627	rBB	371	679	0.06%	0.011%
87	19.872	1630	1638	1639	rBB	454	2080	0.18%	0.035%
88	19.935	1639	1644	1647	rBV	452	1839	0.16%	0.031%
89	19.998	1648	1650	1652	rVB	439	775	0.07%	0.013%
90	20.030	1652	1653	1655	rBV	392	674	0.06%	0.011%
91	20.568	1703	1704	1707	rBB	424	766	0.07%	0.013%
92	20.621	1707	1709	1711	rBV	442	992	0.08%	0.017%
93	21.127	1751	1757	1761	rBV	545	2497	0.21%	0.042%
94	21.444	1782	1787	1790	rBV	172	534	0.05%	0.009%
95	21.708	1810	1812	1816	rVB	440	564	0.05%	0.009%
96	21.940	1832	1834	1838	rVV	321	545	0.05%	0.009%
97	22.003	1838	1840	1847	rVB	545	1140	0.10%	0.019%
98	22.183	1854	1857	1861	rBV	368	567	0.05%	0.010%
99	22.267	1863	1865	1870	rVB	505	1202	0.10%	0.020%
100	22.425	1879	1880	1882	rBV	634	682	0.06%	0.011%

Sum of corrected areas: 5938663

9M982376.D 8260C.M Thu Sep 07 13:44:20 2017

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File : C:\MSDCHEM\1\DATA\090617\9M982376.D
Operator : JDS
Acquired : 6 Sep 2017 17:45 using AcqMethod 8260C
Instrument : hpms9
Sample Name: L17081366-10 B REF 826-SPE
Misc Info : 1,1
Vial Number: 14
Quant File :8260C.RES (RTE Integrator)



Tentatively Identified Compound (LSC) summary

Operator ID: JDS Date Acquired: 6 Sep 2017 17:45
 Data File: C:\MSDCHEM\1\DATA\090617\9M982376.D
 Name: L17081366-10 B REF 826-SPE
 Misc: 1,1
 Method: C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title: 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Library Searched: C:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--
				#	RT Resp Conc

Data File : C:\MSDchem\1\data\090617\9M982371.D

Vial: 9

Acq On : 6 Sep 2017 15:16

Operator: JDS

Sample : L17081366-12 B MS 8260C

Inst : hpms9

Misc : 1,1 STD83659

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 06 15:38:43 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	507271	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	388613	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	202393	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.66	111	146552	51.5975	ug/L	0.00
Spiked Amount	50.000	Range 86 - 118	Recovery	=	103.20%	
43) 1,2-Dichloroethane-d4	10.30	65	174826	52.6957	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	105.40%	
58) Toluene-d8	12.67	98	501036	52.3705	ug/L	0.00
Spiked Amount	50.000	Range 88 - 110	Recovery	=	104.74%	
79) p-Bromofluorobenzene	16.06	95	187968	52.3777	ug/L	0.00
Spiked Amount	50.000	Range 86 - 115	Recovery	=	104.76%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.22	85	62857	16.9311	ug/L	98
3) Chloromethane	3.67	50	91456	17.9584	ug/L	100
4) Vinyl Chloride	3.89	62	70119	19.3687	ug/L	99
5) 1,3-Butadiene	3.93	54	27385	20.5468	ug/L	97
6) Bromomethane	4.77	94	37159	16.6935	ug/L	96
7) Chloroethane	4.93	64	41128	19.5439	ug/L	98
8) Trichlorofluoromethane	5.40	101	83508	17.9058	ug/L	98
9) Diethyl ether	5.94	59	288974	100.0499	ug/L	82
10) Isoprene	5.97	67	71575	18.8384	ug/L	97
11) Acrolein	6.17	56	92127	189.3984	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	46759	19.0941	ug/L	98
13) Acetone	6.28	43	35582	23.0829	ug/L	98
14) 1,1-Dichloroethene	6.49	61	77592	17.6893	ug/L	98
15) Tert-Butyl Alcohol	6.61	59	112435	211.3885	ug/L	99
16) Dimethyl Sulfide	6.75	62	53850	15.6923	ug/L	98
17) Iodomethane	7.01	142	56971	16.9728	ug/L	98
18) Methyl acetate	7.02	43	76513	19.3235	ug/L	97
19) Methylene Chloride	7.27	84	54857	19.1199	ug/L	98
20) Carbon Disulfide	7.31	76	117687	16.4467	ug/L	99
21) Acrylonitrile	7.45	53	39166	21.0352	ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	171717	19.1014	ug/L	99
23) trans-1,2-Dichloroethene	7.71	61	76202	18.6968	ug/L	98
24) n-Hexane	7.79	57	62664	16.3146	ug/L	94
25) Diisopropyl ether	8.12	45	1148392	104.1450	ug/L	99
26) Vinyl Acetate	8.30	43	155729	22.5849	ug/L	98
27) 1,1-Dichloroethane	8.32	63	105656	19.5219	ug/L	98
28) Ethyl-Tert-Butyl ether	8.69	59	1032397	102.4458	ug/L	100
29) 2-Butanone	8.88	43	45290	19.7281	ug/L	98
30) Propionitrile	9.00	54	75017	96.6317	ug/L	99
31) 2,2-Dichloropropane	9.09	77	75753	19.2195	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	56573	19.4735	ug/L	97
33) Chloroform	9.37	83	99654	20.6254	ug/L	98
34) 1-Bromopropane	9.51	122	13651	25.0057	ug/L	97
35) Bromochloromethane	9.60	130	40225	19.3212	ug/L	96
36) Tetrahydrofuran	9.63	42	142678	99.7817	ug/L	98
38) 1,1,1-Trichloroethane	9.90	97	82656	18.6458	ug/L	99
39) Cyclohexane	9.93	56	97209	17.4645	ug/L	99
40) 1,1-Dichloropropene	10.10	75	64375	19.2119	ug/L	96
41) Tert-Amyl-Methyl ether	10.20	73	849616	101.6120	ug/L	99
42) Carbon Tetrachloride	10.24	117	73426	18.3175	ug/L	98

(#) = qualifier out of range (m) = manual integration
 9M982371.D 8260C.M Wed Sep 06 15:38:44 2017

Page 1

Data File : C:\MSDchem\1\data\090617\9M982371.D

Vial: 9

Acq On : 6 Sep 2017 15:16

Operator: JDS

Sample : L17081366-12 B MS 8260C

Inst : hpms9

Misc : 1,1 STD83659

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 06 15:38:43 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.41	62	93629	20.0665	ug/L	99
46) Benzene	10.46	78	212597	19.0722	ug/L	100
47) Trichloroethene	11.21	130	57308	19.3529	ug/L	98
48) Methylcyclohexane	11.28	83	76504	17.3469	ug/L	99
49) 1,2-Dichloropropane	11.42	63	61505	19.9202	ug/L	97
50) 1,4-Dioxane	11.71	88	10124	181.9097	ug/L	95
51) Bromodichloromethane	11.72	83	71042	19.1464	ug/L	99
52) Dibromomethane	11.81	174	40923	20.1522	ug/L	99
54) 4-Methyl-2-Pentanone	12.05	58	31120	16.8719	ug/L	96
55) cis-1,3-Dichloropropene	12.36	75	85439	20.6449	ug/L	99
56) Dimethyl Disulfide	12.61	79	40873	16.9972	ug/L	86
59) Toluene	12.77	91	220758	19.6079	ug/L	100
60) Ethyl Methacrylate	12.86	69	79621	18.3268	ug/L	99
61) trans-1,3-Dichloropropene	12.95	75	77034	20.3984	ug/L	99
62) 1,1,2-Trichloroethane	13.17	97	55704	20.1471	ug/L	99
63) 2-Hexanone	13.10	43	60120	18.8254	ug/L #	81
64) 1,3-Dichloropropane	13.46	76	95335	21.0300	ug/L	96
65) Tetrachloroethene	13.59	164	41971	18.4019	ug/L	97
66) Dibromochloromethane	13.85	129	62631	19.4063	ug/L	100
67) 1,2-Dibromoethane	14.11	107	58348	19.9094	ug/L	99
68) 1-Chlorohexane	14.19	91	57235	18.5674	ug/L	99
69) Chlorobenzene	14.61	112	157793	20.2045	ug/L	99
70) 1,1,1,2-Tetrachloroethane	14.63	131	59551	19.5460	ug/L	98
71) Ethylbenzene	14.63	106	81758	19.8631	ug/L	99
72) m-, p-Xylene	14.72	106	203319	41.7590	ug/L	97
73) o-Xylene	15.29	106	102373	20.3111	ug/L	99
74) Styrene	15.32	104	161950	17.7318	ug/L	99
75) Bromoform	15.83	173	44628	15.7555	ug/L	99
76) Isopropylbenzene	15.71	105	244946	19.3579	ug/L	100
78) 1,1,2,2-Tetrachloroethane	15.93	83	83821	20.3207	ug/L	98
80) 1,2,3-Trichloropropane	16.12	110	29361	21.1972	ug/L #	31
81) trans-1,4-Dichloro-2-Buten	16.18	53	22599	14.7810	ug/L #	1
82) n-Propylbenzene	16.22	91	282435	20.3863	ug/L	99
83) Bromobenzene	16.35	156	68927	19.6880	ug/L	95
84) 1,3,5-Trimethylbenzene	16.41	105	214681	20.0055	ug/L	99
85) 2-Chlorotoluene	16.49	91	185903	20.2955	ug/L	91
86) 4-Chlorotoluene	16.53	91	169916	20.8676	ug/L	92
87) a-Methylstyrene	16.81	118	108587	19.0850	ug/L	98
88) tert-Butylbenzene	16.87	134	47352	20.5031	ug/L	98
89) 1,2,4-Trimethylbenzene	16.92	105	231362	20.7937	ug/L	98
90) sec-Butylbenzene	17.14	105	263011	20.1353	ug/L	100
91) p-Isopropyltoluene	17.29	119	219605	20.1697	ug/L	99
92) 1,3-Dichlorobenzene	17.49	146	123749	19.9936	ug/L	99
93) 1,4-Dichlorobenzene	17.62	146	127621	19.9096	ug/L	96
94) n-Butylbenzene	17.82	91	170750	17.0506	ug/L	99
95) 1,2-Dichlorobenzene	18.12	146	138778	20.7207	ug/L	99
96) 1,2-Dibromo-3-Chloropropan	19.12	157	21062	17.5600	ug/L	95
97) 1,2,4-Trichlorobenzene	20.25	180	80931	16.7057	ug/L	98
98) Hexachlorobutadiene	20.40	225	36229	16.8062	ug/L	95
99) Naphthalene	20.63	128	302087	19.3979	ug/L	100
100) 1,2,3-Trichlorobenzene	20.93	180	93276	20.3173	ug/L	99

(#) = qualifier out of range (m) = manual integration
 9M982371.D 8260C.M Wed Sep 06 15:38:44 2017

Page 2

Data File : C:\MSDCHEM\1\data\090617\9M982371.D

Vial: 9

Acq On : 6 Sep 2017 15:16

Operator: JDS

Sample : L17081366-12 B MS 8260C

Inst : hpms9

Misc : 1,1 STD83659

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 6 15:38 2017

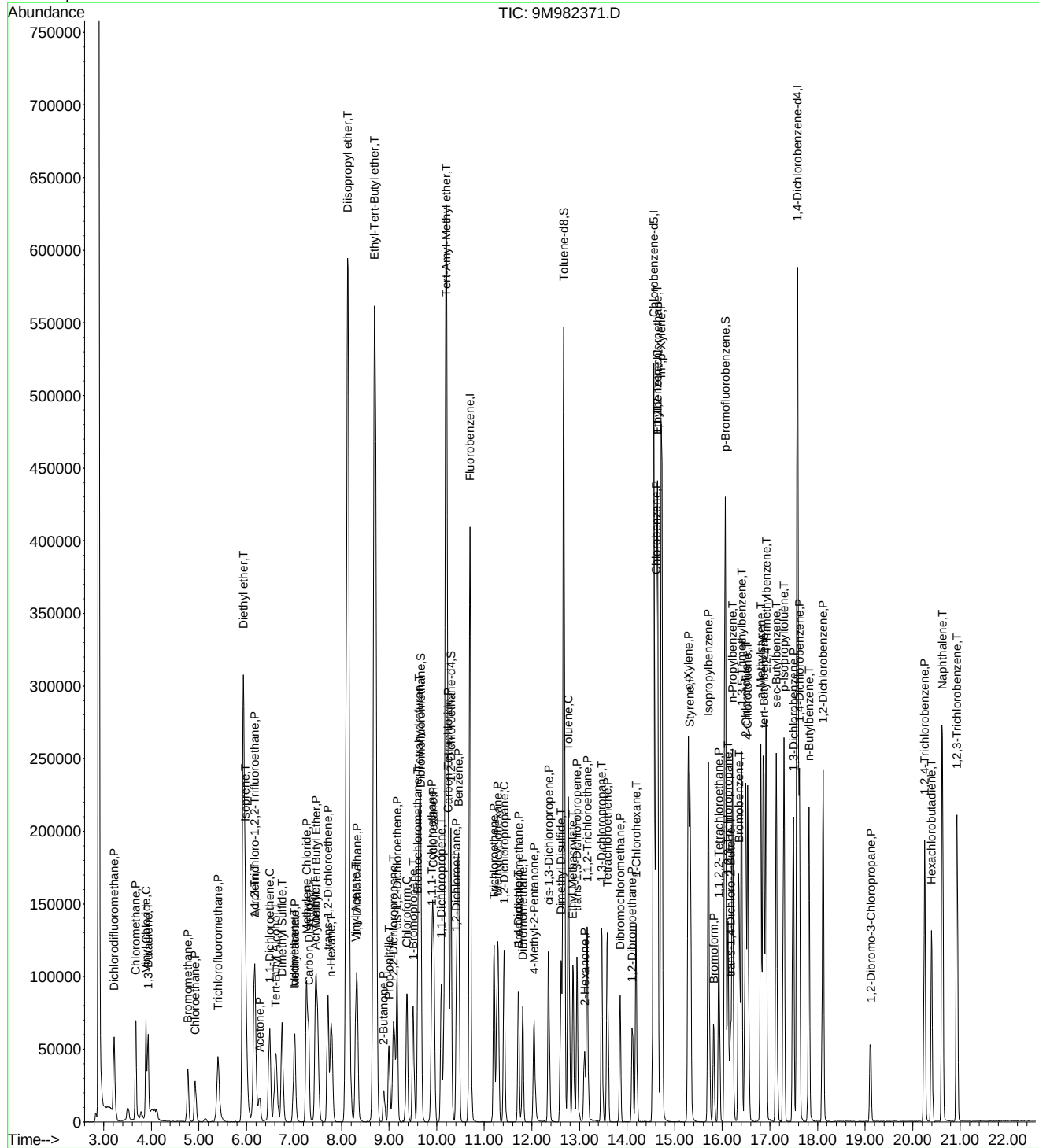
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration



9M982371.D 8260C.M Wed Sep 06 15:38:44 2017

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Data File : C:\MSDchem\1\data\090617\9M982372.D

Vial: 10

Acq On : 6 Sep 2017 15:46

Operator: JDS

Sample : L17081366-13 B MSD 8260C

Inst : hpms9

Misc : 1,1 STD83659

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 06 16:08:43 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	512178	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	385761	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	200483	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.67	111	148216	51.6834	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	103.36%
43) 1,2-Dichloroethane-d4	10.30	65	175953	52.5273	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	105.06%
58) Toluene-d8	12.67	98	499179	52.5622	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	105.12%
79) p-Bromofluorobenzene	16.06	95	182656	51.3824	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	102.76%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.22	85	62790	16.7510	ug/L	98
3) Chloromethane	3.67	50	91588	17.8121	ug/L	100
4) Vinyl Chloride	3.88	62	70042	19.1621	ug/L	99
5) 1,3-Butadiene	3.92	54	26696	19.8379	ug/L	94
6) Bromomethane	4.77	94	36679	16.3200	ug/L	99
7) Chloroethane	4.92	64	41347	19.4597	ug/L	100
8) Trichlorofluoromethane	5.40	101	83126	17.6531	ug/L	100
9) Diethyl ether	5.93	59	291440	99.9369	ug/L	85
10) Isoprene	5.96	67	71066	18.5252	ug/L	98
11) Acrolein	6.17	56	93630	190.6442	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	46437	18.7809	ug/L	100
13) Acetone	6.28	43	35339	22.7056	ug/L	98
14) 1,1-Dichloroethene	6.48	61	78263	17.6713	ug/L	98
15) Tert-Butyl Alcohol	6.62	59	118379	220.4315	ug/L	97
16) Dimethyl Sulfide	6.75	62	54125	15.6214	ug/L	97
17) Iodomethane	7.00	142	59494	17.5546	ug/L	99
18) Methyl acetate	7.02	43	75480	18.8800	ug/L	98
19) Methylene Chloride	7.26	84	55091	19.0175	ug/L	98
20) Carbon Disulfide	7.30	76	118162	16.3549	ug/L	98
21) Acrylonitrile	7.45	53	39783	21.1619	ug/L	97
22) Methyl Tert Butyl Ether	7.48	73	173295	19.0922	ug/L	100
23) trans-1,2-Dichloroethene	7.71	61	76661	18.6292	ug/L	98
24) n-Hexane	7.79	57	61658	15.8989	ug/L	95
25) Diisopropyl ether	8.12	45	1147732	103.0880	ug/L	100
26) Vinyl Acetate	8.30	43	154027	22.1241	ug/L	98
27) 1,1-Dichloroethane	8.33	63	106550	19.4985	ug/L	99
28) Ethyl-Tert-Butyl ether	8.69	59	1035967	101.8152	ug/L	100
29) 2-Butanone	8.88	43	45513	19.6353	ug/L	97
30) Propionitrile	8.99	54	74981	95.6951	ug/L	99
31) 2,2-Dichloropropane	9.10	77	73329	18.4263	ug/L	98
32) cis-1,2-Dichloroethene	9.17	96	58436	19.9221	ug/L	100
33) Chloroform	9.37	83	98969	20.2873	ug/L	99
34) 1-Bromopropane	9.51	122	13504	24.4994	ug/L	97
35) Bromochloromethane	9.60	130	40674	19.3497	ug/L	98
36) Tetrahydrofuran	9.63	42	143436	99.3508	ug/L	97
38) 1,1,1-Trichloroethane	9.90	97	83320	18.6155	ug/L	99
39) Cyclohexane	9.93	56	96545	17.1790	ug/L	98
40) 1,1-Dichloropropene	10.10	75	64458	19.0524	ug/L	98
41) Tert-Amyl-Methyl ether	10.19	73	855934	101.3868	ug/L	99
42) Carbon Tetrachloride	10.24	117	75531	18.6621	ug/L	99

(#) = qualifier out of range (m) = manual integration
 9M982372.D 8260C.M Wed Sep 06 16:08:43 2017

Page 1

Data File : C:\MSDchem\1\data\090617\9M982372.D

Vial: 10

Acq On : 6 Sep 2017 15:46

Operator: JDS

Sample : L17081366-13 B MSD 8260C

Inst : hpms9

Misc : 1,1 STD83659

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 06 16:08:43 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.41	62	93140	19.7704	ug/L	100
46) Benzene	10.46	78	210876	18.7366	ug/L	100
47) Trichloroethene	11.21	130	56387	18.8594	ug/L	99
48) Methylcyclohexane	11.28	83	75376	16.9274	ug/L	97
49) 1,2-Dichloropropane	11.42	63	62322	19.9914	ug/L	98
50) 1,4-Dioxane	11.71	88	10133	180.6038	ug/L	100
51) Bromodichloromethane	11.71	83	71289	19.0289	ug/L	99
52) Dibromomethane	11.81	174	40641	19.8216	ug/L	98
54) 4-Methyl-2-Pentanone	12.05	58	31729	17.0372	ug/L	97
55) cis-1,3-Dichloropropene	12.35	75	85646	20.4966	ug/L	99
56) Dimethyl Disulfide	12.61	79	42018	17.2439	ug/L	88
59) Toluene	12.77	91	223355	19.9853	ug/L	99
60) Ethyl Methacrylate	12.86	69	78466	18.2049	ug/L	99
61) trans-1,3-Dichloropropene	12.95	75	76418	20.3849	ug/L	98
62) 1,1,2-Trichloroethane	13.16	97	56418	20.5562	ug/L	99
63) 2-Hexanone	13.11	43	58643	18.5582	ug/L #	81
64) 1,3-Dichloropropane	13.46	76	95379	21.1952	ug/L	96
65) Tetrachloroethene	13.59	164	42278	18.6735	ug/L	99
66) Dibromochloromethane	13.86	129	62261	19.4343	ug/L	97
67) 1,2-Dibromoethane	14.11	107	58530	20.1191	ug/L	98
68) 1-Chlorohexane	14.19	91	57082	18.6547	ug/L	99
69) Chlorobenzene	14.60	112	156212	20.1499	ug/L	97
70) 1,1,1,2-Tetrachloroethane	14.64	131	59068	19.5308	ug/L	98
71) Ethylbenzene	14.64	106	82969	20.3063	ug/L	97
72) m-, p-Xylene	14.72	106	201405	41.6717	ug/L	96
73) o-Xylene	15.29	106	104276	20.8416	ug/L	98
74) Styrene	15.32	104	162213	17.8851	ug/L	98
75) Bromoform	15.82	173	43905	15.6279	ug/L	99
76) Isopropylbenzene	15.71	105	245020	19.5069	ug/L	99
78) 1,1,2,2-Tetrachloroethane	15.93	83	83686	20.4813	ug/L	99
80) 1,2,3-Trichloropropane	16.12	110	29813	21.7285	ug/L	89
81) trans-1,4-Dichloro-2-Buten	16.17	53	22774	15.0374	ug/L	74
82) n-Propylbenzene	16.22	91	283718	20.6740	ug/L	99
83) Bromobenzene	16.35	156	68401	19.7239	ug/L	93
84) 1,3,5-Trimethylbenzene	16.40	105	214945	20.2209	ug/L	99
85) 2-Chlorotoluene	16.49	91	191167	21.0690	ug/L	90
86) 4-Chlorotoluene	16.54	91	168036	20.8333	ug/L	91
87) a-Methylstyrene	16.81	118	110365	19.5823	ug/L	98
88) tert-Butylbenzene	16.86	134	46841	20.4751	ug/L	100
89) 1,2,4-Trimethylbenzene	16.92	105	232061	21.0552	ug/L	98
90) sec-Butylbenzene	17.14	105	265541	20.5226	ug/L	99
91) p-Isopropyltoluene	17.30	119	219973	20.3960	ug/L	99
92) 1,3-Dichlorobenzene	17.50	146	124923	20.3755	ug/L	99
93) 1,4-Dichlorobenzene	17.62	146	130399	20.5367	ug/L	97
94) n-Butylbenzene	17.82	91	172855	17.4116	ug/L	98
95) 1,2-Dichlorobenzene	18.12	146	138280	20.8430	ug/L	100
96) 1,2-Dibromo-3-Chloropropan	19.12	157	21267	17.8748	ug/L	95
97) 1,2,4-Trichlorobenzene	20.25	180	83912	17.4555	ug/L	98
98) Hexachlorobutadiene	20.40	225	37722	17.6317	ug/L	99
99) Naphthalene	20.62	128	304771	19.7508	ug/L	99
100) 1,2,3-Trichlorobenzene	20.93	180	92679	20.3796	ug/L	100

 (#) = qualifier out of range (m) = manual integration
 9M982372.D 8260C.M Wed Sep 06 16:08:43 2017

Page 2

Data File : C:\MSDCHEM\1\DATA\082817\9M982235.D Vial: 22
 Acq On : 29 Aug 2017 00:47 Operator: JDS
 Sample : L17081366-14 A 8260C Inst : hpms9
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 29 09:33:53 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	489550	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	363778	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	170478	50.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	139419	50.8629	ug/L	0.00
Spiked Amount 50.000	Range 86 - 118		Recovery = 101.72%			
43) 1,2-Dichloroethane-d4	10.31	65	168779	52.7146	ug/L	0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 105.42%			
58) Toluene-d8	12.67	98	471571	52.6558	ug/L	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 105.32%			
79) p-Bromofluorobenzene	16.06	95	167895	55.5427	ug/L	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 111.08%			
Target Compounds						
9) Diethyl ether	6.00	59	2835	1.0171	ug/L	Qvalue # 1
13) Acetone	6.29	43	4802	3.2279	ug/L	93

 (#) = qualifier out of range (m) = manual integration
 9M982235.D 8260C.M Tue Aug 29 09:33:53 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\082817\9M982235.D

Vial: 22

Acq On : 29 Aug 2017 00:47

Operator: JDS

Sample : L17081366-14 A 8260C

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 9:33 2017

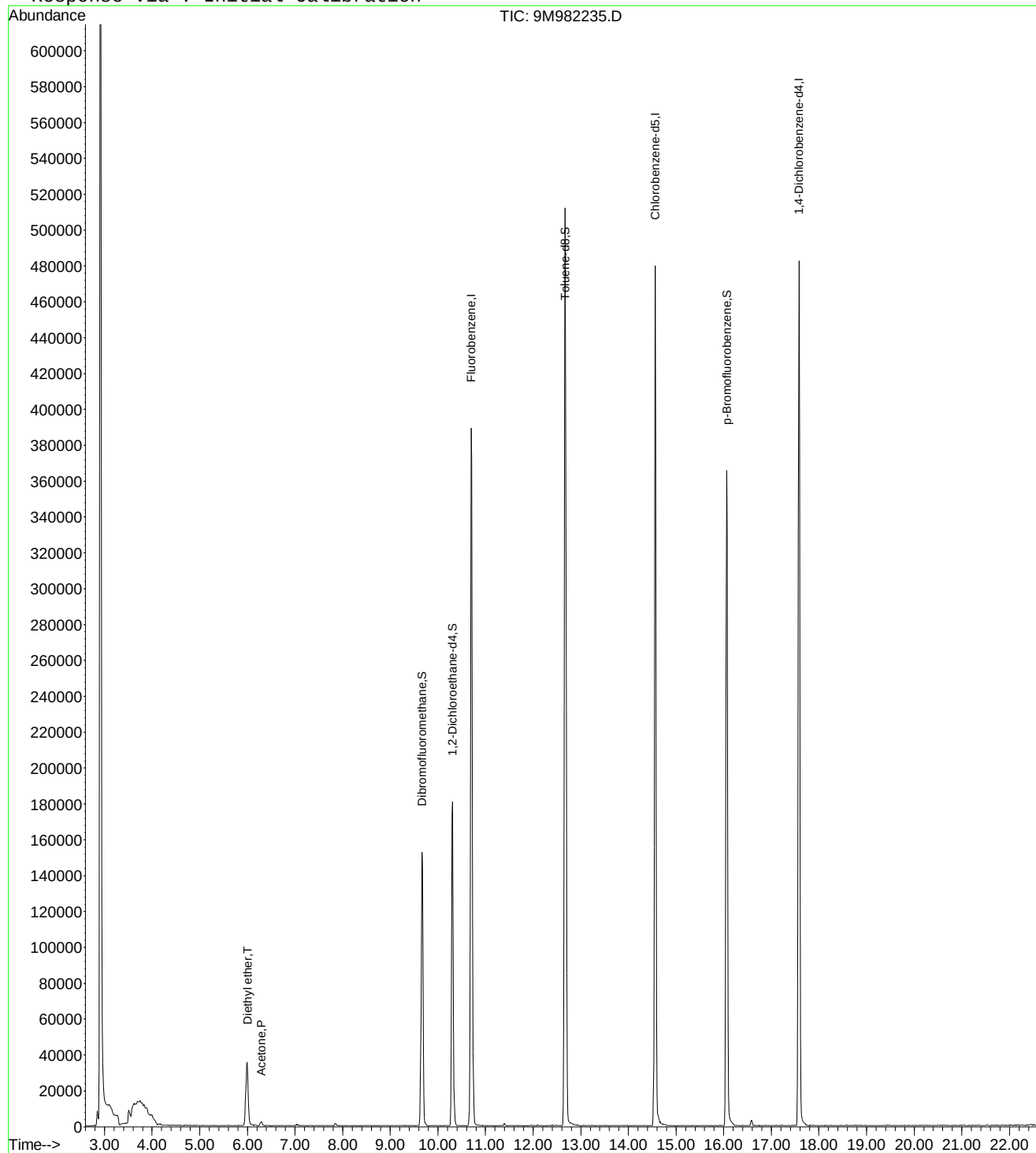
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

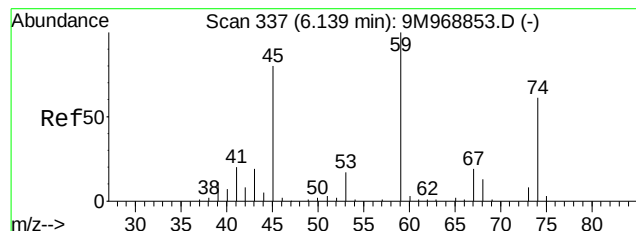
Response via : Initial Calibration



9M982235.D 8260C.M

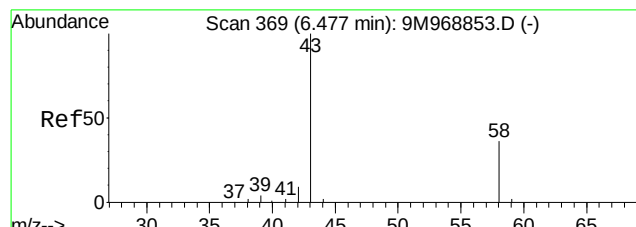
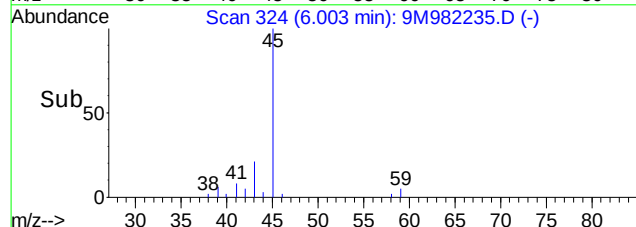
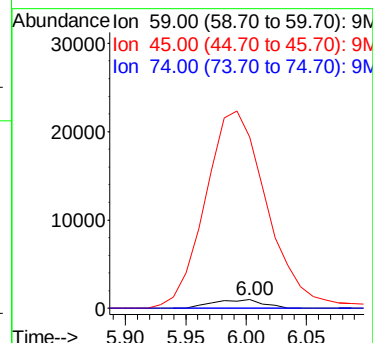
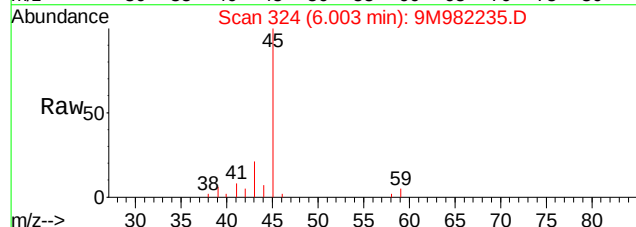
Tue Aug 29 09:33:53 2017

Page 2



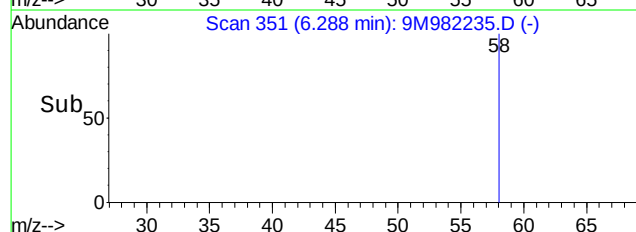
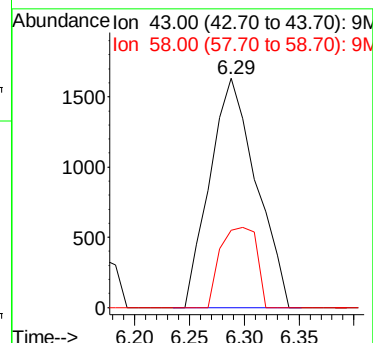
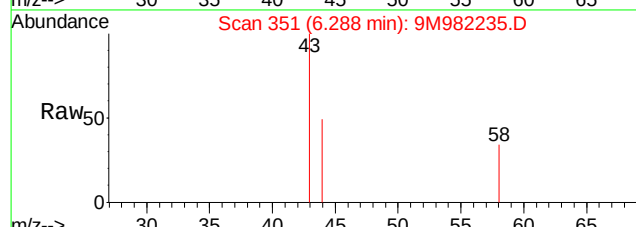
#9
Diethyl ether
Concen: 1.02 ug/L
RT: 6.00 min Scan# 324
Delta R.T. 0.06 min
Lab File: 9M982235.D
Acq: 29 Aug 2017 00:47

Tgt Ion: 59 Resp: 2835
Ion Ratio Lower Upper
59 100
45 2828.5 48.1 112.3#
74 0.0 37.1 86.5#



#13
Acetone
Concen: 3.23 ug/L
RT: 6.29 min Scan# 351
Delta R.T. 0.01 min
Lab File: 9M982235.D
Acq: 29 Aug 2017 00:47

Tgt Ion: 43 Resp: 4802
Ion Ratio Lower Upper
43 100
58 27.4 18.9 44.1



Data File : C:\MSDCHEM\1\DATA\082817\9M982235.D
 Acq On : 29 Aug 2017 00:47
 Sample : L17081366-14 A 8260C
 Misc : 1,1
 MS Integration Params: RTEINT.P

Vial: 22
 Operator: JDS
 Inst : hpms9
 Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Smoothing : ON Filtering: 5
 Sampling : 1 Min Area: 100 Area counts
 Start Thrs: 0.2 Max Peaks: 100
 Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
 Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.407	70	78	79	rBV	979	4094	0.32%	0.064%
2	3.512	84	88	92	rBV2	7334	20470	1.62%	0.320%
3	3.618	92	98	102	rBV3	7235	36864	2.92%	0.577%
4	4.156	147	149	156	rVB	855	2345	0.19%	0.037%
5	4.251	156	158	163	rVB	235	536	0.04%	0.008%
6	4.462	174	178	179	rVB	263	529	0.04%	0.008%
7	4.663	195	197	200	rVB	238	479	0.04%	0.007%
8	4.736	200	204	205	rBV	221	505	0.04%	0.008%
9	4.779	207	208	212	rVV	299	522	0.04%	0.008%
10	4.937	221	223	225	rBV	279	439	0.03%	0.007%
11	5.000	228	229	233	rVB	224	443	0.04%	0.007%
12	5.064	233	235	238	rBV	250	526	0.04%	0.008%
13	5.116	238	240	244	rVB	210	445	0.04%	0.007%
14	5.992	313	323	336	rVV	35409	123650	9.79%	1.935%
15	6.151	336	338	346	rVB	547	1590	0.13%	0.025%
16	6.288	346	351	358	rBV2	2460	7247	0.57%	0.113%
17	6.435	362	365	369	rVB	298	692	0.05%	0.011%
18	6.678	386	388	390	rBV	230	415	0.03%	0.006%
19	7.048	417	423	427	rBV	841	2145	0.17%	0.034%
20	7.164	430	434	437	rBV	184	540	0.04%	0.008%
21	7.311	447	448	454	rVV	295	896	0.07%	0.014%
22	7.385	454	455	458	rVV	216	418	0.03%	0.007%
23	7.470	460	463	467	rVV	244	655	0.05%	0.010%
24	7.543	467	470	474	rVV	256	679	0.05%	0.011%
25	7.638	474	479	485	rVV	261	1151	0.09%	0.018%
26	7.776	489	492	495	rVB	237	544	0.04%	0.009%
27	7.839	495	498	506	rBV2	1444	3770	0.30%	0.059%
28	8.293	540	541	547	rBV	281	734	0.06%	0.011%
29	8.789	583	588	591	rBV	196	596	0.05%	0.009%
30	9.031	607	611	613	rBV	183	450	0.04%	0.007%
31	9.116	618	619	625	rVB	183	415	0.03%	0.006%
32	9.221	625	629	632	rBV	195	463	0.04%	0.007%
33	9.369	639	643	644	rVB	225	435	0.03%	0.007%
34	9.401	644	646	649	rBV	236	500	0.04%	0.008%
35	9.665	658	671	682	rBV	152644	427707	33.87%	6.693%
36	9.907	686	694	696	rVV	232	807	0.06%	0.013%
37	9.981	696	701	703	rVV	263	657	0.05%	0.010%
38	10.129	713	715	721	rVV	207	605	0.05%	0.009%
39	10.308	721	732	745	rBV	180789	464711	36.80%	7.272%
40	10.467	745	747	751	rVB	231	529	0.04%	0.008%
41	10.699	760	769	782	rBV	389189	1050151	83.16%	16.432%
42	10.931	787	791	793	rVV	297	703	0.06%	0.011%

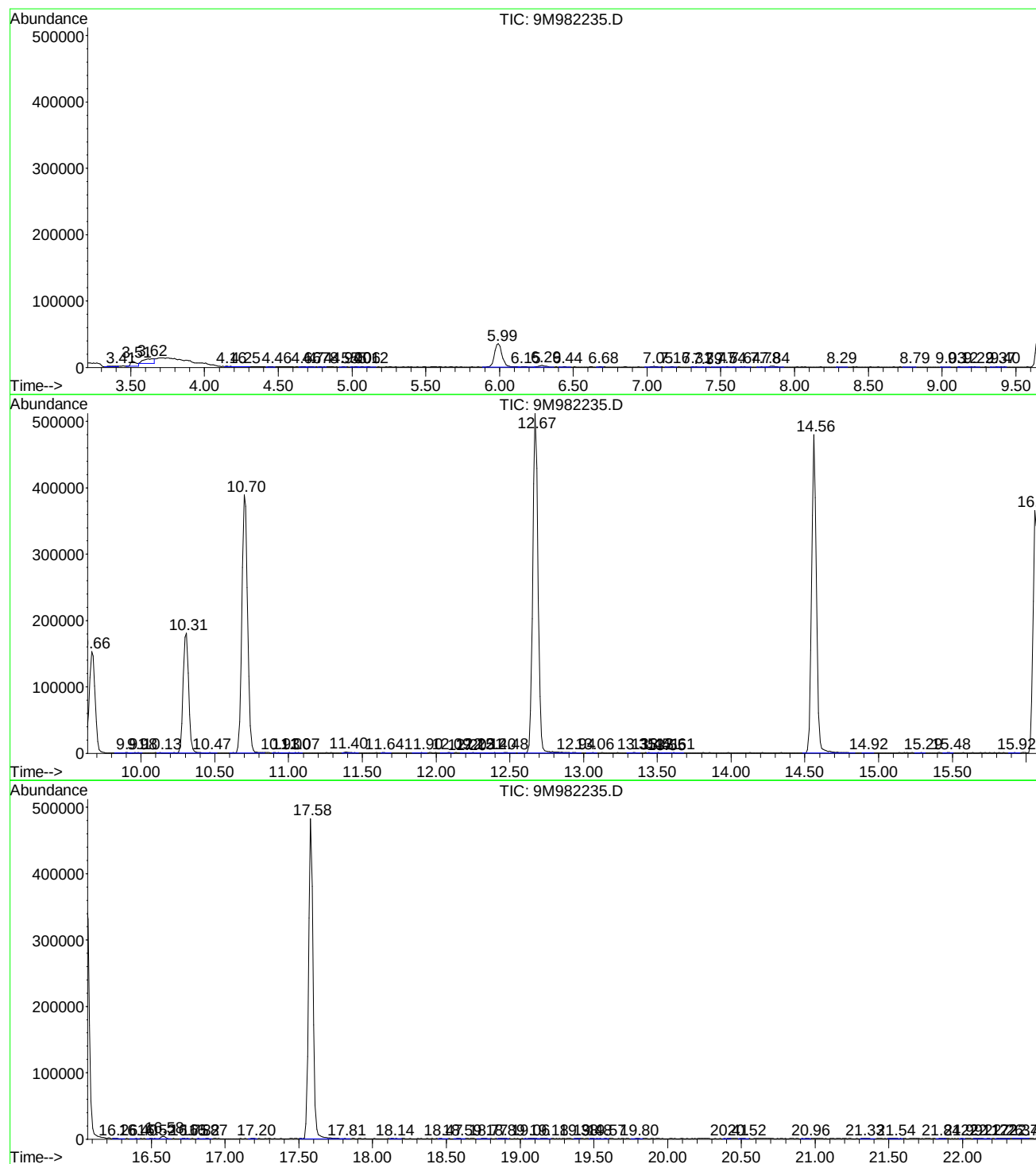
43	11.005	793	798	801 rVB	262	801	0.06%	0.013%
44	11.068	801	804	806 rBV	266	555	0.04%	0.009%
45	11.395	832	835	842 rVV2	1322	2737	0.22%	0.043%
46	11.638	857	858	863 rVB	270	479	0.04%	0.007%
47	11.902	877	883	886 rBV	231	739	0.06%	0.012%
48	12.092	895	901	903 rBV	546	817	0.06%	0.013%
49	12.197	908	911	913 rVB	231	460	0.04%	0.007%
50	12.250	913	916	919 rBV	277	521	0.04%	0.008%
51	12.313	919	922	925 rBV	168	434	0.03%	0.007%
52	12.398	925	930	935 rVB	504	836	0.07%	0.013%
53	12.482	935	938	943 rVB	287	699	0.06%	0.011%
54	12.672	945	956	979 rBV	511865	1262742	100.00%	19.759%
55	12.936	979	981	985 rVB	558	1052	0.08%	0.016%
56	13.063	989	993	995 rBV	366	433	0.03%	0.007%
57	13.348	1015	1020	1023 rBV	223	468	0.04%	0.007%
58	13.443	1028	1029	1032 rBV	281	456	0.04%	0.007%
59	13.506	1032	1035	1038 rVB	390	587	0.05%	0.009%
60	13.548	1038	1039	1043 rBV	210	415	0.03%	0.006%
61	13.611	1044	1045	1051 rBV	247	496	0.04%	0.008%
62	14.561	1128	1135	1161 rVB	479637	1087396	86.11%	17.015%
63	14.920	1166	1169	1173 rVB	205	582	0.05%	0.009%
64	15.289	1200	1204	1206 rVB	265	453	0.04%	0.007%
65	15.479	1218	1222	1224 rBV	251	562	0.04%	0.009%
66	15.922	1260	1264	1267 rBV	293	530	0.04%	0.008%
67	16.060	1267	1277	1294 rVV	365393	817802	64.76%	12.797%
68	16.260	1294	1296	1301 rVB	396	594	0.05%	0.009%
69	16.397	1305	1309	1311 rBV	289	488	0.04%	0.008%
70	16.524	1316	1321	1322 rVB	206	450	0.04%	0.007%
71	16.577	1322	1326	1331 rBV3	3126	7265	0.58%	0.114%
72	16.746	1337	1342	1343 rVB	296	675	0.05%	0.011%
73	16.819	1348	1349	1352 rBV	219	473	0.04%	0.007%
74	16.872	1352	1354	1357 rVB	272	418	0.03%	0.007%
75	17.199	1381	1385	1386 rBV	280	497	0.04%	0.008%
76	17.579	1414	1421	1441 rVB	482559	1018124	80.63%	15.931%
77	17.811	1441	1443	1446 rBV	588	856	0.07%	0.013%
78	18.139	1472	1474	1479 rBV	371	981	0.08%	0.015%
79	18.466	1503	1505	1509 rBV	252	500	0.04%	0.008%
80	18.592	1513	1517	1520 rBV	232	554	0.04%	0.009%
81	18.772	1528	1534	1536 rBV	203	590	0.05%	0.009%
82	18.888	1541	1545	1548 rVB	271	829	0.07%	0.013%
83	19.057	1558	1561	1567 rBV	219	828	0.07%	0.013%
84	19.183	1567	1573	1575 rBV	186	600	0.05%	0.009%
85	19.384	1590	1592	1594 rBV	325	568	0.04%	0.009%
86	19.479	1600	1601	1606 rVB	256	509	0.04%	0.008%
87	19.574	1606	1610	1612 rBV	183	453	0.04%	0.007%
88	19.795	1627	1631	1634 rBV	240	614	0.05%	0.010%
89	20.407	1686	1689	1691 rBV	251	429	0.03%	0.007%
90	20.523	1696	1700	1702 rBV	323	794	0.06%	0.012%
91	20.956	1736	1741	1742 rVB	249	432	0.03%	0.007%
92	21.325	1774	1776	1783 rVB	196	564	0.04%	0.009%
93	21.537	1792	1796	1801 rVB	409	731	0.06%	0.011%
94	21.843	1823	1825	1829 rBV	631	1028	0.08%	0.016%
95	21.990	1838	1839	1841 rBV	575	627	0.05%	0.010%
96	22.106	1847	1850	1854 rVB	570	1108	0.09%	0.017%
97	22.170	1854	1856	1858 rBV	568	565	0.04%	0.009%
98	22.265	1861	1865	1870 rBV	481	926	0.07%	0.014%
99	22.370	1872	1875	1877 rBV	335	527	0.04%	0.008%
100	22.433	1877	1881	1882 rBV	474	1007	0.08%	0.016%

Sum of corrected areas: 6390708

9M982235.D 8260C.M Tue Aug 29 10:07:04 2017

Page 2

File : C:\MSDCHEM\1\DATA\082817\9M982235.D
Operator : JDS
Acquired : 29 Aug 2017 00:47 using AcqMethod 8260C
Instrument : hpms9
Sample Name: L17081366-14 A 8260C
Misc Info : 1,1
Vial Number: 22
Quant File :8260C.RES (RTE Integrator)



Data File : C:\MSDCHEM\1\DATA\082817\9M982235.D

Vial: 22

Acq On : 29 Aug 2017 00:47

Operator: JDS

Sample : L17081366-14 A 8260C

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

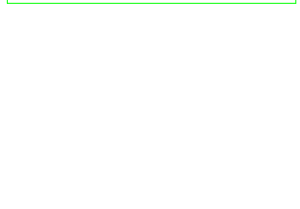
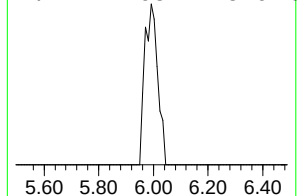
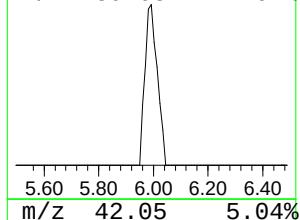
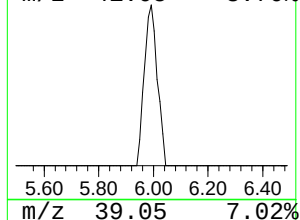
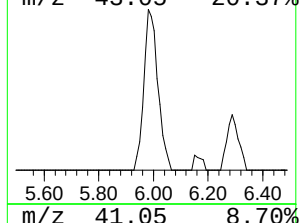
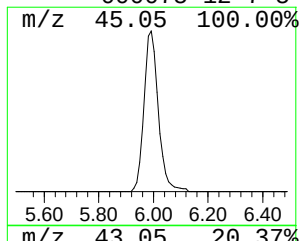
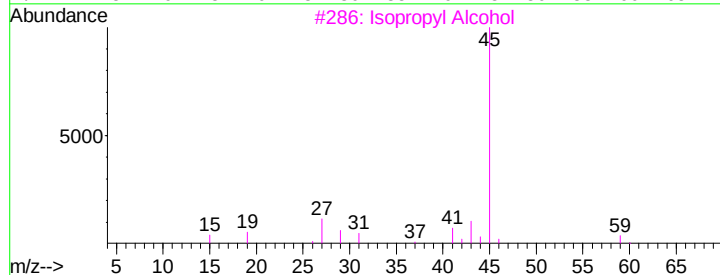
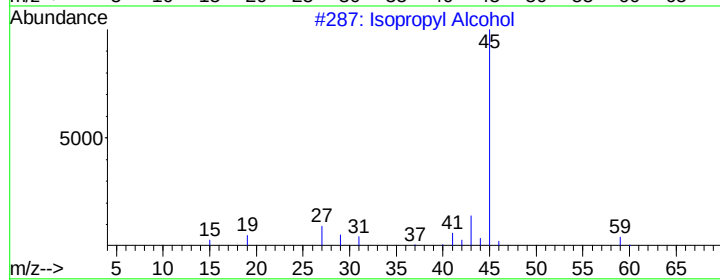
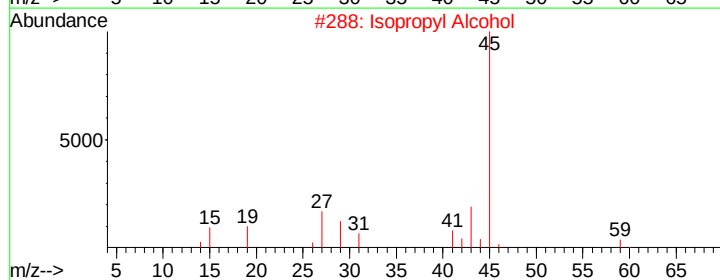
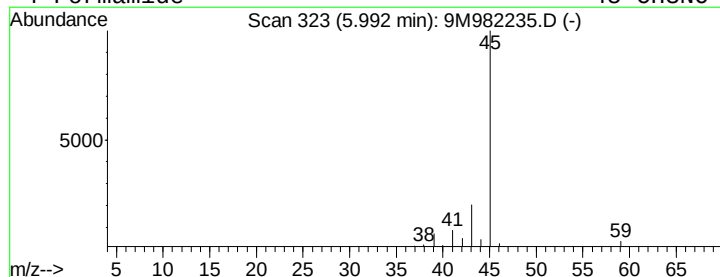
Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Library : C:\DATABASE\NIST02.L

Peak Number 1 Isopropyl Alcohol Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.99	5.89 ug/L	123650	Fluorobenzene	10.70

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1			Isopropyl Alcohol	60	C3H8O	000067-63-0	74
2			Isopropyl Alcohol	60	C3H8O	000067-63-0	43
3			Isopropyl Alcohol	60	C3H8O	000067-63-0	9
4			Formamide	45	CH3NO	000075-12-7	5



Tentatively Identified Compound (LSC) summary

Operator ID: JDS Date Acquired: 29 Aug 2017 00:47
 Data File: C:\MSDCHEM\1\DATA\082817\9M982235.D
 Name: L17081366-14 A 8260C
 Misc: 1,1
 Method: C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title: 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Library Searched: C:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--			
					#	RT	Resp	Conc
Isopropyl Alcohol	5.99	5.9	ug/L	123650	1	10.70	1050150	50.0

Data File : C:\MSDCHEM\1\DATA\082817\9M982224.D Vial: 11
 Acq On : 28 Aug 2017 19:15 Operator: JDS
 Sample : L17081366-16 A FB 8260C Inst : hpms9
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 29 09:33:42 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	526528	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	398284	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	185384	50.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	150961	51.2059	ug/L	0.00
Spiked Amount 50.000	Range 86 - 118		Recovery = 102.42%			
43) 1,2-Dichloroethane-d4	10.30	65	184330	53.5284	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 107.06%			
58) Toluene-d8	12.68	98	511434	52.1593	ug/L	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 104.32%			
79) p-Bromofluorobenzene	16.06	95	185620	56.4690	ug/L	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 112.94%			
Target Compounds						
					Qvalue	
9) Diethyl ether	5.98	59	3101	1.0344	ug/L #	1
13) Acetone	6.28	43	7033	4.3956	ug/L	94
33) Chloroform	9.37	83	18062	3.6016	ug/L	100

 (#) = qualifier out of range (m) = manual integration
 9M982224.D 8260C.M Tue Aug 29 09:33:42 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\082817\9M982224.D

Vial: 11

Acq On : 28 Aug 2017 19:15

Operator: JDS

Sample : L17081366-16 A FB 8260C

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 9:33 2017

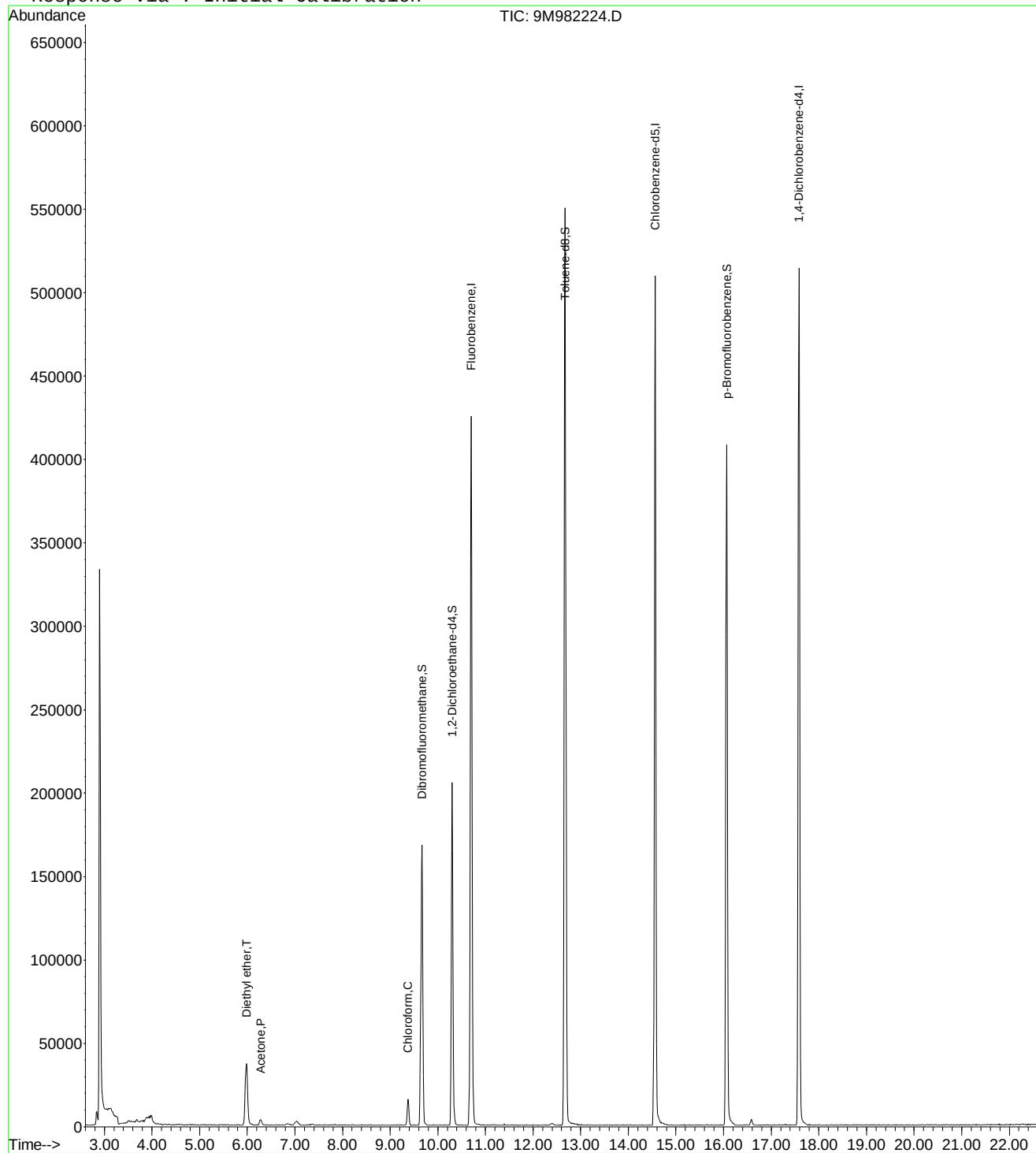
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

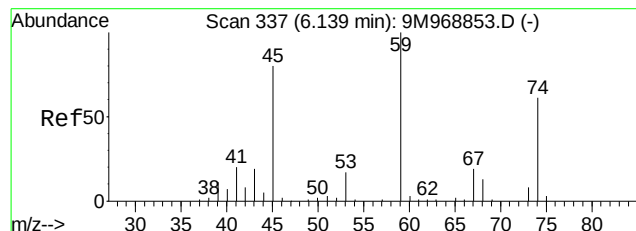
Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration



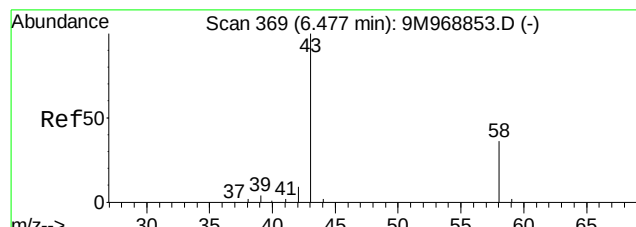
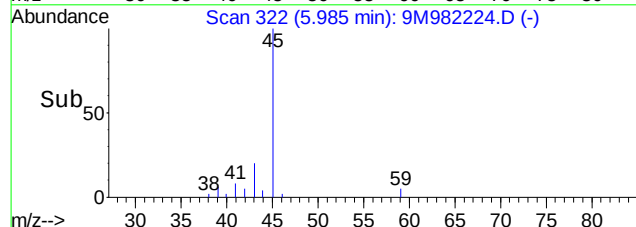
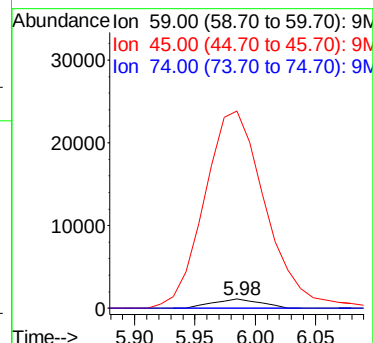
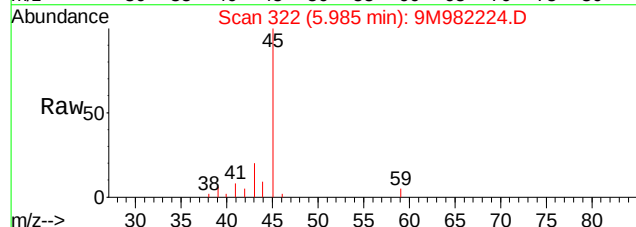
9M982224.D 8260C.M Tue Aug 29 09:33:42 2017

Page 2



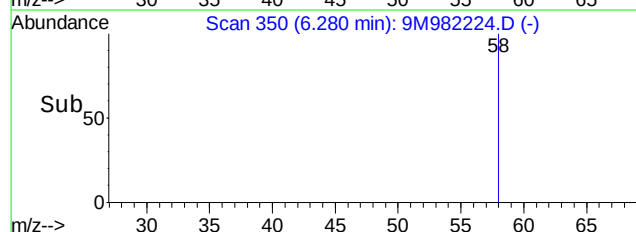
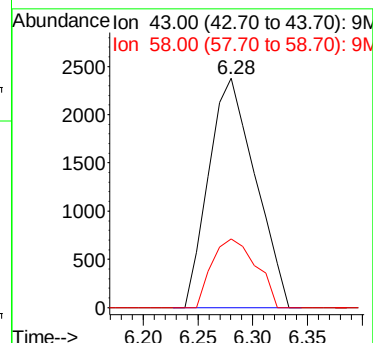
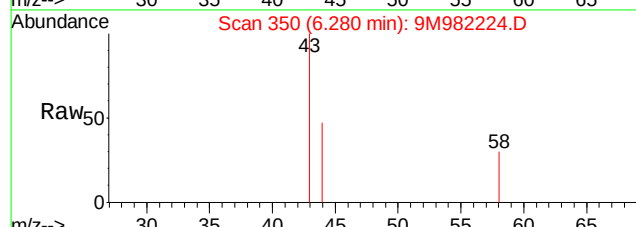
#9
Diethyl ether
Concen: 1.03 ug/L
RT: 5.98 min Scan# 322
Delta R.T. 0.05 min
Lab File: 9M982224.D
Acq: 28 Aug 2017 19:15

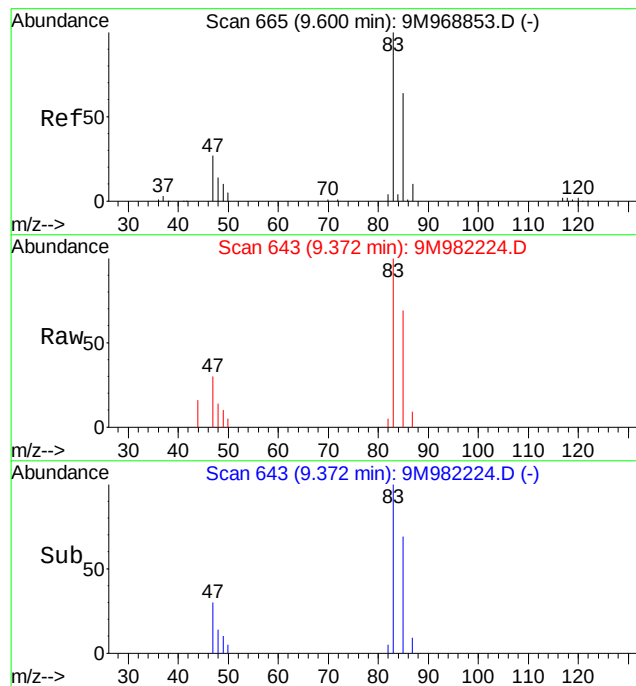
Tgt Ion: 59 Resp: 3101
Ion Ratio Lower Upper
59 100
45 2730.4 48.1 112.3#
74 0.0 37.1 86.5#



#13
Acetone
Concen: 4.40 ug/L
RT: 6.28 min Scan# 350
Delta R.T. 0.00 min
Lab File: 9M982224.D
Acq: 28 Aug 2017 19:15

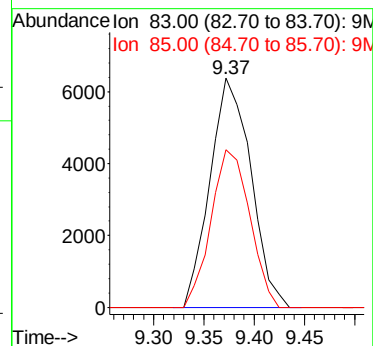
Tgt Ion: 43 Resp: 7033
Ion Ratio Lower Upper
43 100
58 28.3 18.9 44.1





#33
 Chloroform
 Concen: 3.60 ug/L
 RT: 9.37 min Scan# 643
 Delta R.T. -0.01 min
 Lab File: 9M982224.D
 Acq: 28 Aug 2017 19:15

Tgt Ion	Ratio	Lower	Upper
83	100		
85	65.0	39.1	91.1



Data File : C:\MSDCHEM\1\DATA\082817\9M982224.D
 Acq On : 28 Aug 2017 19:15
 Sample : L17081366-16 A FB 8260C
 Misc : 1,1
 MS Integration Params: RTEINT.P

Vial: 11
 Operator: JDS
 Inst : hpms9
 Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Smoothing : ON Filtering: 5
 Sampling : 1 Min Area: 100 Area counts
 Start Thrs: 0.2 Max Peaks: 100
 Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
 Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.367	69	74	76	rBV	498	1725	0.13%	0.025%
2	3.515	81	88	90	rBV2	1459	4767	0.35%	0.069%
3	3.684	101	104	108	rVB	1500	2781	0.20%	0.040%
4	3.885	118	123	126	rBV2	2610	9592	0.70%	0.139%
5	4.117	143	145	149	rBV	575	1220	0.09%	0.018%
6	4.254	155	158	164	rBV	471	1412	0.10%	0.020%
7	4.718	199	202	204	rBV	419	981	0.07%	0.014%
8	4.813	204	211	213	rVV	611	2087	0.15%	0.030%
9	4.845	213	214	217	rVV	514	792	0.06%	0.011%
10	4.961	224	225	228	rVV	370	568	0.04%	0.008%
11	5.035	228	232	235	rVV	317	921	0.07%	0.013%
12	5.109	235	239	242	rVV	580	967	0.07%	0.014%
13	5.204	245	248	251	rVB	291	788	0.06%	0.011%
14	5.299	253	257	259	rVV	280	699	0.05%	0.010%
15	5.394	263	266	269	rBV	319	589	0.04%	0.009%
16	5.457	269	272	275	rVV	332	633	0.05%	0.009%
17	5.985	313	322	337	rVB	36920	131938	9.58%	1.905%
18	6.217	337	344	345	rBV	414	1293	0.09%	0.019%
19	6.280	345	350	357	rVV2	3310	10448	0.76%	0.151%
20	6.407	360	362	366	rVV	279	567	0.04%	0.008%
21	6.597	374	380	382	rBV	210	767	0.06%	0.011%
22	6.670	382	387	391	rVB	406	1067	0.08%	0.015%
23	6.734	391	393	398	rBV	407	990	0.07%	0.014%
24	6.850	398	404	413	rBV2	949	4955	0.36%	0.072%
25	7.040	413	422	431	rVB3	2485	12027	0.87%	0.174%
26	7.240	436	441	442	rVB	226	565	0.04%	0.008%
27	7.272	442	444	447	rBV	434	708	0.05%	0.010%
28	7.388	449	455	458	rVV2	553	1727	0.13%	0.025%
29	7.842	495	498	501	rBV	431	709	0.05%	0.010%
30	8.042	512	517	520	rBV	335	1073	0.08%	0.015%
31	8.222	531	534	537	rVB	378	896	0.07%	0.013%
32	8.296	537	541	544	rBV	251	714	0.05%	0.010%
33	8.591	567	569	573	rVB	286	652	0.05%	0.009%
34	8.739	576	583	585	rVB	265	972	0.07%	0.014%
35	8.834	588	592	595	rBV	416	589	0.04%	0.009%
36	9.150	619	622	624	rBV	364	592	0.04%	0.009%
37	9.214	624	628	629	rBV	223	600	0.04%	0.009%
38	9.372	634	643	649	rVB	15685	43232	3.14%	0.624%
39	9.668	663	671	682	rVB	168047	463167	33.64%	6.689%
40	10.301	720	731	742	rBV	205441	500481	36.35%	7.228%
41	10.702	762	769	788	rBV	425161	1134080	82.36%	16.378%
42	11.039	799	801	805	rBV	332	894	0.06%	0.013%

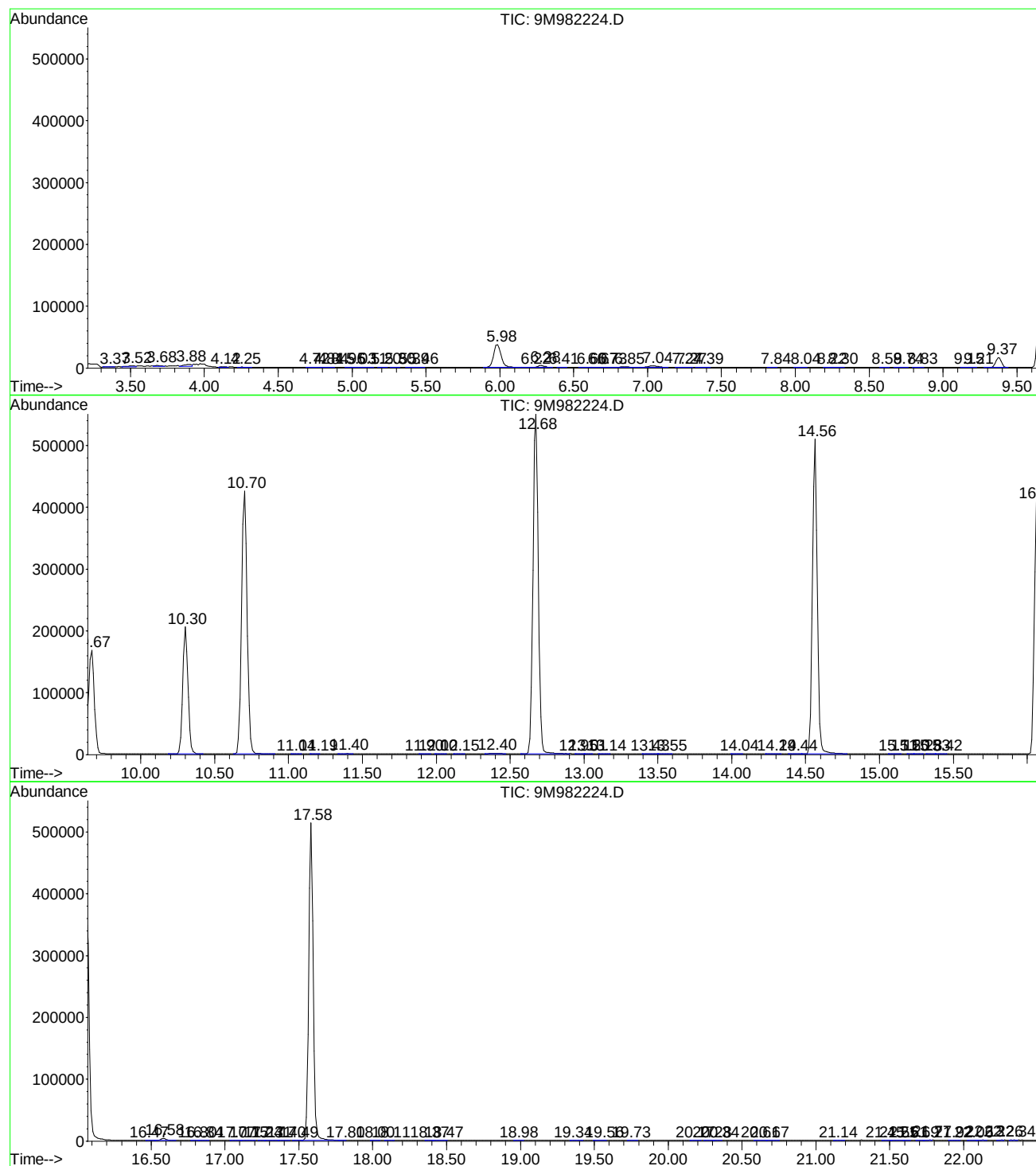
43	11.187	811	815	817 rBV	318	633	0.05%	0.009%
44	11.398	829	835	838 rBV	790	1162	0.08%	0.017%
45	11.905	881	883	888 rBV	222	615	0.04%	0.009%
46	12.000	891	892	898 rBV	383	1056	0.08%	0.015%
47	12.147	903	906	910 rBV	292	890	0.06%	0.013%
48	12.401	923	930	936 rVB2	1198	5108	0.37%	0.074%
49	12.675	946	956	977 rBV	550192	1377018	100.00%	19.886%
50	12.949	981	982	987 rVB	518	1001	0.07%	0.014%
51	13.013	987	988	992 rBV	537	752	0.05%	0.011%
52	13.139	996	1000	1003 rBV	293	859	0.06%	0.012%
53	13.435	1024	1028	1034 rVB	209	615	0.04%	0.009%
54	13.551	1034	1039	1043 rBV	362	929	0.07%	0.013%
55	14.036	1081	1085	1088 rBV	287	830	0.06%	0.012%
56	14.290	1103	1109	1113 rVB	319	1072	0.08%	0.015%
57	14.437	1118	1123	1126 rBV	330	721	0.05%	0.010%
58	14.564	1126	1135	1155 rBV	509337	1173110	85.19%	16.942%
59	15.113	1182	1187	1190 rBV	469	1134	0.08%	0.016%
60	15.197	1194	1195	1198 rBV	412	643	0.05%	0.009%
61	15.282	1198	1203	1204 rVB	318	664	0.05%	0.010%
62	15.334	1206	1208	1212 rVB	265	669	0.05%	0.010%
63	15.419	1212	1216	1219 rBV	351	722	0.05%	0.010%
64	16.063	1271	1277	1298 rVB	407889	887672	64.46%	12.819%
65	16.474	1315	1316	1321 rVV	198	577	0.04%	0.008%
66	16.580	1321	1326	1334 rVV2	3520	8826	0.64%	0.127%
67	16.801	1344	1347	1349 rBV	430	764	0.06%	0.011%
68	16.843	1349	1351	1355 rVB	244	609	0.04%	0.009%
69	17.065	1369	1372	1376 rBV	396	1146	0.08%	0.017%
70	17.149	1376	1380	1385 rVV	344	1528	0.11%	0.022%
71	17.244	1387	1389	1391 rVV	506	658	0.05%	0.010%
72	17.308	1391	1395	1400 rVV	631	1336	0.10%	0.019%
73	17.403	1400	1404	1407 rVV	266	684	0.05%	0.010%
74	17.487	1409	1412	1415 rBV	386	675	0.05%	0.010%
75	17.582	1415	1421	1439 rVV	513996	1083948	78.72%	15.654%
76	17.804	1439	1442	1443 rVB	444	567	0.04%	0.008%
77	18.004	1459	1461	1465 rVV	346	761	0.06%	0.011%
78	18.110	1468	1471	1474 rBV	209	660	0.05%	0.010%
79	18.374	1494	1496	1499 rVB	284	624	0.05%	0.009%
80	18.469	1499	1505	1508 rBV	367	1304	0.09%	0.019%
81	18.975	1551	1553	1557 rBV	246	623	0.05%	0.009%
82	19.344	1587	1588	1595 rVB	295	791	0.06%	0.011%
83	19.555	1602	1608	1610 rVB	269	643	0.05%	0.009%
84	19.735	1624	1625	1630 rBV	291	773	0.06%	0.011%
85	20.168	1664	1666	1671 rVV	359	738	0.05%	0.011%
86	20.284	1673	1677	1679 rVB	312	730	0.05%	0.011%
87	20.336	1679	1682	1684 rBV	328	703	0.05%	0.010%
88	20.611	1705	1708	1713 rVB	216	760	0.06%	0.011%
89	20.674	1713	1714	1721 rBV	249	936	0.07%	0.014%
90	21.138	1756	1758	1763 rVB	305	714	0.05%	0.010%
91	21.455	1787	1788	1793 rVB	348	767	0.06%	0.011%
92	21.550	1793	1797	1801 rBV	499	1025	0.07%	0.015%
93	21.613	1801	1803	1805 rBV	413	599	0.04%	0.009%
94	21.687	1809	1810	1814 rVV	264	646	0.05%	0.009%
95	21.772	1814	1818	1819 rVB	619	997	0.07%	0.014%
96	21.919	1830	1832	1837 rBV	402	741	0.05%	0.011%
97	22.056	1842	1845	1848 rBV	395	691	0.05%	0.010%
98	22.130	1848	1852	1854 rBV	527	995	0.07%	0.014%
99	22.257	1861	1864	1865 rBV	508	880	0.06%	0.013%
100	22.341	1869	1872	1874 rVV	520	930	0.07%	0.013%

Sum of corrected areas: 6924449

9M982224.D 8260C.M Tue Aug 29 09:52:41 2017

Page 2

File : C:\MSDCHEM\1\DATA\082817\9M982224.D
Operator : JDS
Acquired : 28 Aug 2017 19:15 using AcqMethod 8260C
Instrument : hpms9
Sample Name: L17081366-16 A FB 8260C
Misc Info : 1,1
Vial Number: 11
Quant File :8260C.RES (RTE Integrator)



Tentatively Identified Compound (LSC) summary

Operator ID: JDS Date Acquired: 28 Aug 2017 19:15
 Data File: C:\MSDCHEM\1\DATA\082817\9M982224.D
 Name: L17081366-16 A FB 8260C
 Misc: 1,1
 Method: C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title: 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Library Searched: C:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--
				#	RT Resp Conc

Data File : C:\MSDCHEM\1\DATA\090617\9M982377.D Vial: 15
 Acq On : 6 Sep 2017 18:16 Operator: JDS
 Sample : L17081366-17 B 826-SPE Inst : hpms9
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 07 09:46:20 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	461057	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	343723	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	158533	50.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	131129	50.7950	ug/L	0.00
Spiked Amount 50.000	Range 86 - 118		Recovery = 101.58%			
43) 1,2-Dichloroethane-d4	10.30	65	161128	53.4350	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 106.88%			
58) Toluene-d8	12.68	98	446384	52.7516	ug/L	0.00
Spiked Amount 50.000	Range 88 - 110		Recovery = 105.50%			
79) p-Bromofluorobenzene	16.06	95	155311	55.2510	ug/L	0.00
Spiked Amount 50.000	Range 86 - 115		Recovery = 110.50%			
Target Compounds						
9) Diethyl ether	6.00	59	1875	0.7142	ug/L	Qvalue # 1
13) Acetone	6.28	43	3989	2.8471	ug/L	85

 (#) = qualifier out of range (m) = manual integration
 9M982377.D 8260C.M Thu Sep 07 09:46:21 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\090617\9M982377.D

Vial: 15

Acq On : 6 Sep 2017 18:16

Operator: JDS

Sample : L17081366-17 B 826-SPE

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 7 9:46 2017

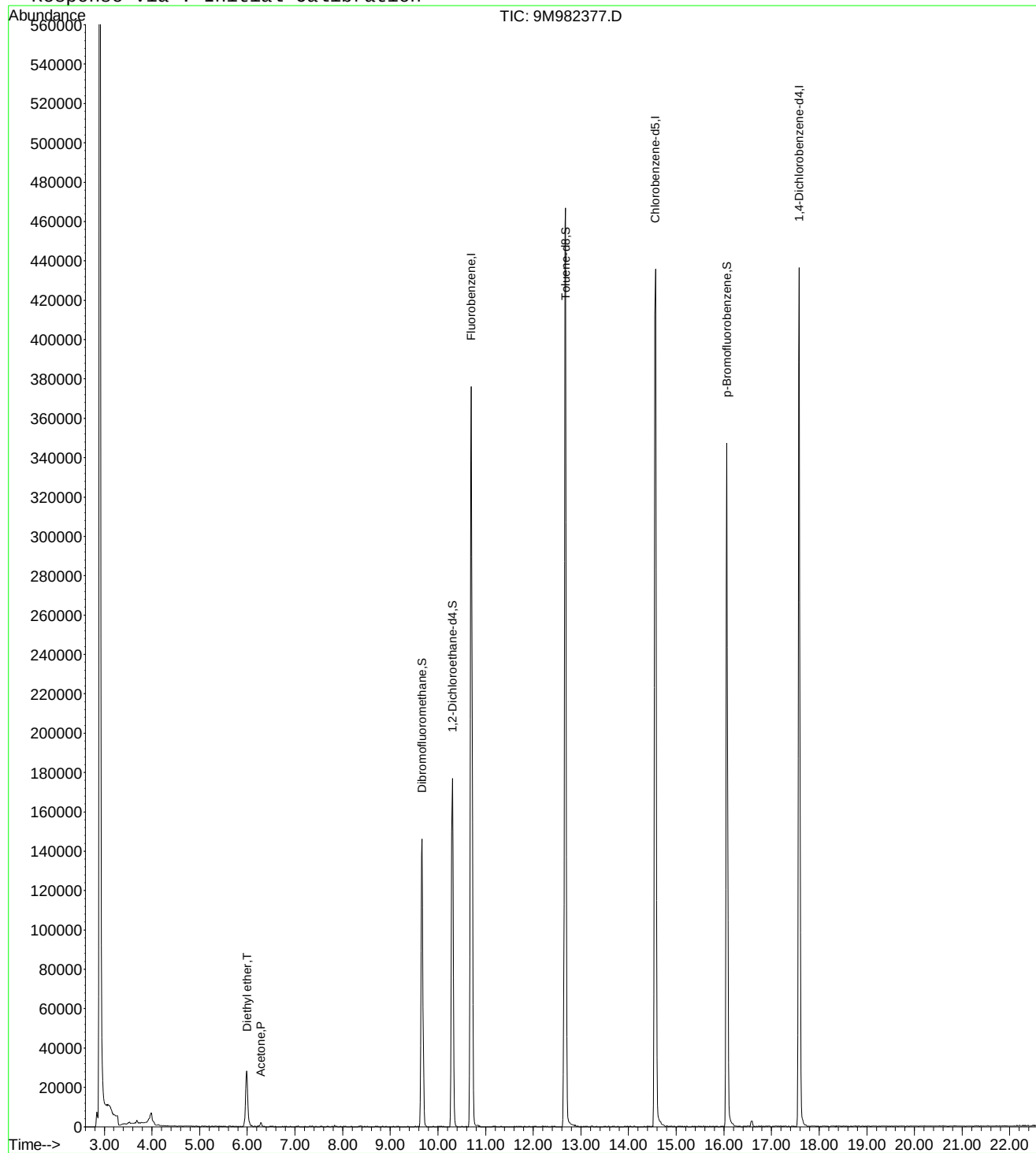
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

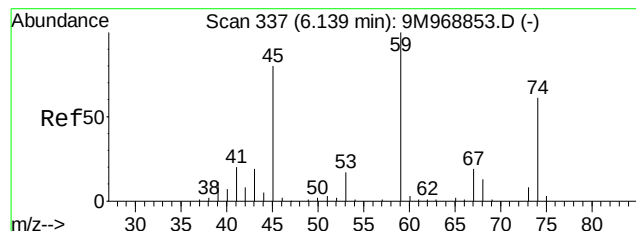
Response via : Initial Calibration



9M982377.D 8260C.M

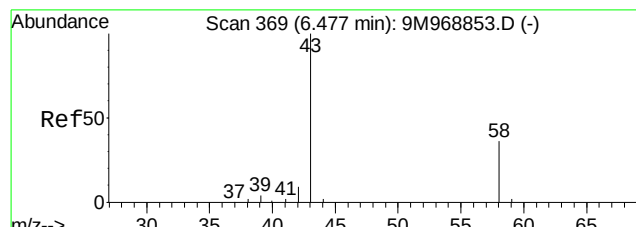
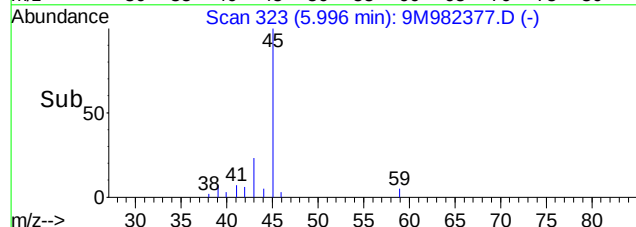
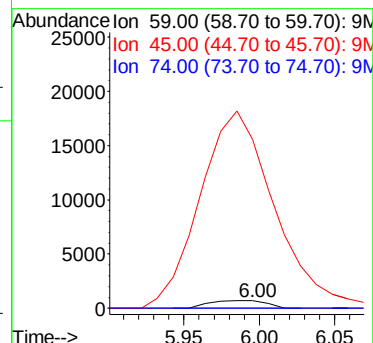
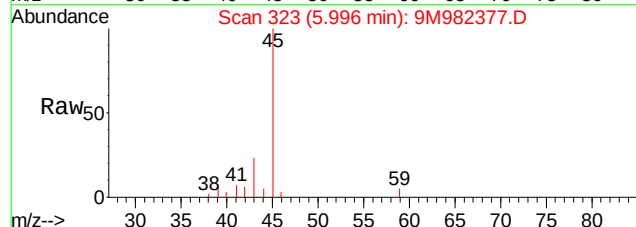
Thu Sep 07 09:46:21 2017

Page 2



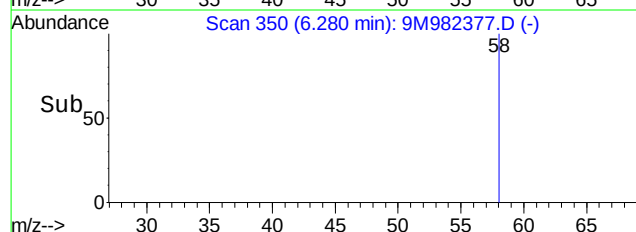
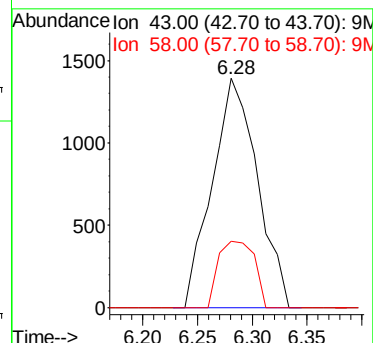
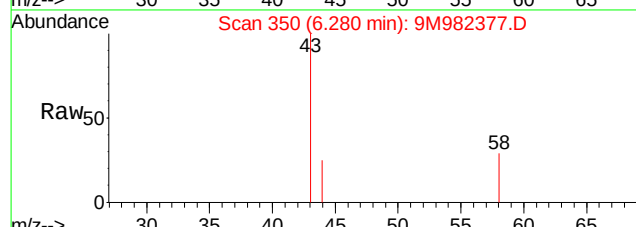
#9
Diethyl ether
Concen: 0.71 ug/L
RT: 6.00 min Scan# 323
Delta R.T. 0.06 min
Lab File: 9M982377.D
Acq: 6 Sep 2017 18:16

Tgt Ion: 59 Resp: 1875
Ion Ratio Lower Upper
59 100
45 3376.3 48.1 112.3#
74 0.0 37.1 86.5#



#13
Acetone
Concen: 2.85 ug/L
RT: 6.28 min Scan# 350
Delta R.T. 0.00 min
Lab File: 9M982377.D
Acq: 6 Sep 2017 18:16

Tgt Ion: 43 Resp: 3989
Ion Ratio Lower Upper
43 100
58 23.0 18.9 44.1



Data File : C:\MSDCHEM\1\DATA\090617\9M982377.D
 Acq On : 6 Sep 2017 18:16
 Sample : L17081366-17 B 826-SPE
 Misc : 1,1
 MS Integration Params: RTEINT.P

Vial: 15
 Operator: JDS
 Inst : hpms9
 Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Smoothing : ON Filtering: 5
 Sampling : 1 Min Area: 100 Area counts
 Start Thrs: 0.2 Max Peaks: 100
 Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
 Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.431	69	80	81	rBV2	807	4006	0.34%	0.067%
2	3.526	86	89	93	rVV2	889	2109	0.18%	0.035%
3	3.684	101	104	111	rBV2	1603	3263	0.27%	0.054%
4	3.990	123	133	143	rVB3	6492	34274	2.88%	0.571%
5	4.128	144	146	155	rVB	574	2033	0.17%	0.034%
6	4.571	184	188	195	rBB	448	2205	0.19%	0.037%
7	4.676	195	198	200	rBV	403	1148	0.10%	0.019%
8	4.803	207	210	214	rVB	436	1416	0.12%	0.024%
9	4.866	214	216	218	rBB	472	752	0.06%	0.013%
10	4.919	219	221	224	rBB	335	810	0.07%	0.013%
11	5.035	231	232	237	rBB	384	1063	0.09%	0.018%
12	5.109	237	239	244	rBB	411	1106	0.09%	0.018%
13	5.204	245	248	250	rBB	382	911	0.08%	0.015%
14	5.288	251	256	257	rBB	328	798	0.07%	0.013%
15	5.331	258	260	264	rBB	376	857	0.07%	0.014%
16	5.405	264	267	269	rBB	447	694	0.06%	0.012%
17	5.457	269	272	274	rBB	356	443	0.04%	0.007%
18	5.510	274	277	279	rBB	396	640	0.05%	0.011%
19	5.605	284	286	292	rBB	342	1016	0.09%	0.017%
20	5.985	315	322	335	rBB	28452	98797	8.29%	1.646%
21	6.164	336	339	341	rBB	412	688	0.06%	0.011%
22	6.280	342	350	359	rBB	2149	6796	0.57%	0.113%
23	7.325	445	449	450	rBB	317	599	0.05%	0.010%
24	7.557	467	471	474	rBB	378	641	0.05%	0.011%
25	7.832	495	497	503	rBB	784	1365	0.11%	0.023%
26	8.022	513	515	518	rBB	361	449	0.04%	0.007%
27	8.391	543	550	553	rBB	417	1337	0.11%	0.022%
28	9.668	661	671	681	rBB	146242	404578	33.95%	6.741%
29	10.301	725	731	742	rBB	176992	443753	37.24%	7.393%
30	10.702	762	769	780	rBV	376129	996431	83.62%	16.601%
31	10.829	780	781	784	rVB	778	1391	0.12%	0.023%
32	11.198	813	816	819	rBB	360	620	0.05%	0.010%
33	12.201	908	911	915	rBB	356	668	0.06%	0.011%
34	12.433	932	933	937	rBB	380	451	0.04%	0.008%
35	12.675	949	956	974	rBV	466983	1191646	100.00%	19.854%
36	12.929	979	980	983	rBB	396	473	0.04%	0.008%
37	13.235	1005	1009	1012	rBB	356	869	0.07%	0.014%
38	13.699	1051	1053	1055	rBB	386	465	0.04%	0.008%
39	14.121	1090	1093	1096	rBB	360	651	0.05%	0.011%
40	14.417	1116	1121	1123	rBB	382	662	0.06%	0.011%
41	14.564	1127	1135	1155	rBB	435917	1030589	86.48%	17.171%
42	14.807	1155	1158	1160	rBB	666	1021	0.09%	0.017%

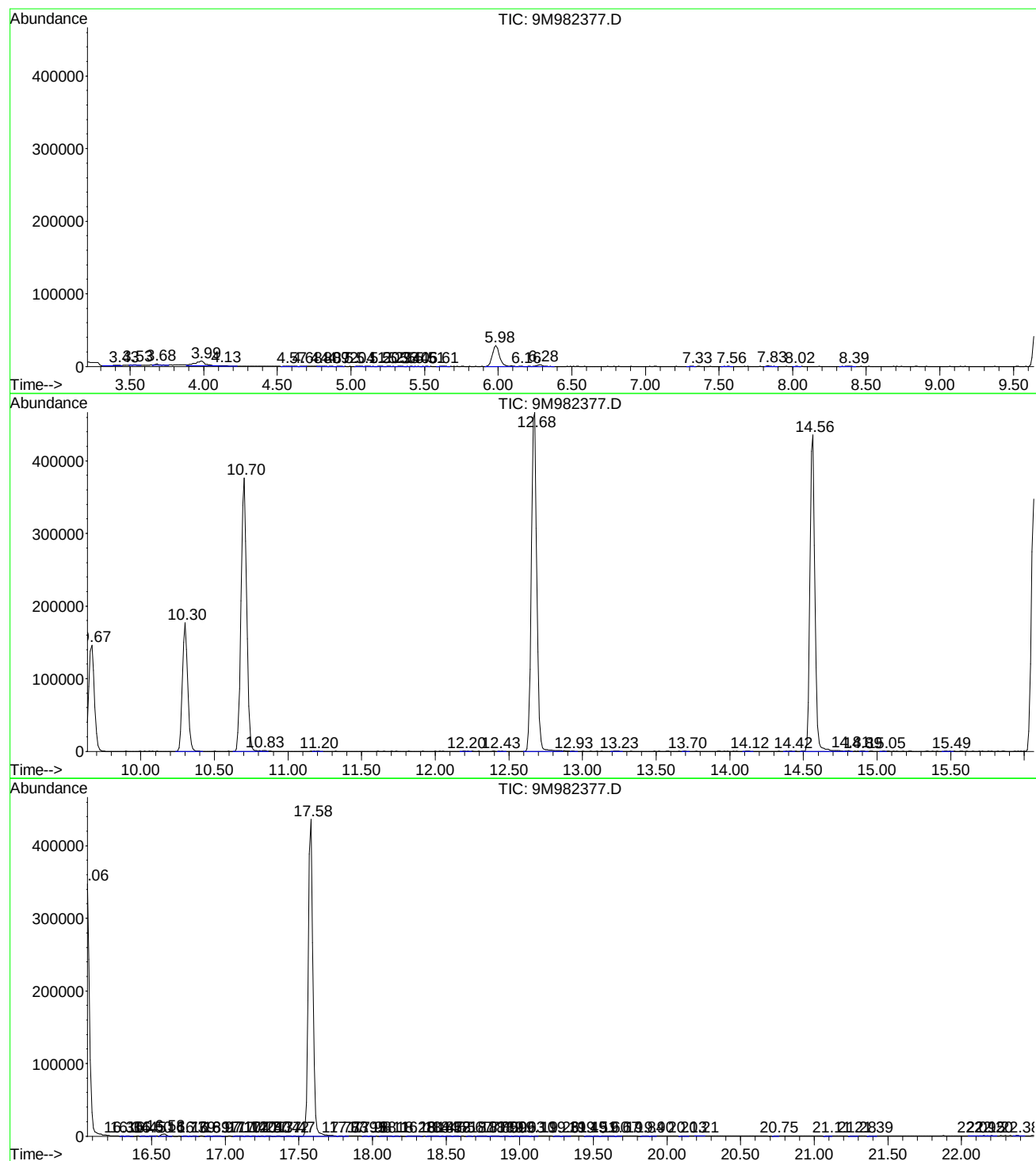
43	14.892	1165	1166	1170	rBB	348	610	0.05%	0.010%
44	15.050	1178	1181	1182	rBB	407	472	0.04%	0.008%
45	15.493	1218	1223	1225	rBB	349	617	0.05%	0.010%
46	16.063	1270	1277	1294	rBV	347552	754906	63.35%	12.577%
47	16.295	1298	1299	1301	rBB	425	471	0.04%	0.008%
48	16.337	1301	1303	1306	rBB	374	642	0.05%	0.011%
49	16.453	1311	1314	1315	rBB	348	603	0.05%	0.010%
50	16.496	1316	1318	1321	rBV	456	1189	0.10%	0.020%
51	16.580	1323	1326	1331	rBB	2952	7225	0.61%	0.120%
52	16.728	1338	1340	1342	rBB	377	648	0.05%	0.011%
53	16.791	1342	1346	1348	rBB	437	875	0.07%	0.015%
54	16.886	1353	1355	1357	rBB	397	656	0.06%	0.011%
55	16.970	1357	1363	1365	rBB	402	1305	0.11%	0.022%
56	17.097	1371	1375	1378	rBB	406	1400	0.12%	0.023%
57	17.139	1378	1379	1382	rBB	368	644	0.05%	0.011%
58	17.203	1382	1385	1386	rBB	359	623	0.05%	0.010%
59	17.245	1386	1389	1391	rBB	365	640	0.05%	0.011%
60	17.298	1391	1394	1397	rBB	462	916	0.08%	0.015%
61	17.371	1398	1401	1403	rBB	404	693	0.06%	0.012%
62	17.424	1404	1406	1409	rBB	366	831	0.07%	0.014%
63	17.466	1409	1410	1414	rBB	369	659	0.06%	0.011%
64	17.582	1415	1421	1438	rBB	436664	942926	79.13%	15.710%
65	17.772	1438	1439	1442	rBB	354	643	0.05%	0.011%
66	17.825	1442	1444	1445	rBV	373	660	0.06%	0.011%
67	17.952	1454	1456	1458	rBB	443	731	0.06%	0.012%
68	17.983	1458	1459	1462	rBB	390	456	0.04%	0.008%
69	18.110	1465	1471	1474	rBB	427	1777	0.15%	0.030%
70	18.163	1474	1476	1478	rBB	382	638	0.05%	0.011%
71	18.279	1482	1487	1492	rBB	461	1996	0.17%	0.033%
72	18.437	1495	1502	1504	rBB	403	1806	0.15%	0.030%
73	18.469	1504	1505	1507	rBB	374	449	0.04%	0.007%
74	18.522	1507	1510	1512	rBB	401	838	0.07%	0.014%
75	18.553	1512	1513	1517	rBB	457	935	0.08%	0.016%
76	18.669	1521	1524	1525	rBB	384	657	0.06%	0.011%
77	18.775	1527	1534	1536	rBB	485	1698	0.14%	0.028%
78	18.849	1536	1541	1543	rBB	414	1321	0.11%	0.022%
79	18.902	1544	1546	1549	rBB	377	902	0.08%	0.015%
80	18.965	1549	1552	1555	rBB	403	916	0.08%	0.015%
81	19.028	1555	1558	1562	rBB	476	1379	0.12%	0.023%
82	19.102	1562	1565	1567	rBV	385	890	0.07%	0.015%
83	19.260	1577	1580	1582	rBB	462	980	0.08%	0.016%
84	19.313	1582	1585	1588	rBV	420	1394	0.12%	0.023%
85	19.450	1597	1598	1602	rBB	422	918	0.08%	0.015%
86	19.514	1602	1604	1607	rBB	404	959	0.08%	0.016%
87	19.598	1607	1612	1617	rBB	441	2112	0.18%	0.035%
88	19.672	1617	1619	1621	rBV	429	874	0.07%	0.015%
89	19.841	1633	1635	1639	rBB	396	1123	0.09%	0.019%
90	19.904	1639	1641	1643	rBV	479	1055	0.09%	0.018%
91	20.126	1658	1662	1664	rBV	456	1490	0.13%	0.025%
92	20.210	1668	1670	1674	rVB	254	588	0.05%	0.010%
93	20.748	1718	1721	1722	rBV	429	971	0.08%	0.016%
94	21.107	1751	1755	1756	rBV	462	1280	0.11%	0.021%
95	21.276	1767	1771	1773	rBV	505	1701	0.14%	0.028%
96	21.392	1779	1782	1785	rBV	491	1658	0.14%	0.028%
97	22.089	1844	1848	1850	rBV	292	447	0.04%	0.007%
98	22.152	1851	1854	1856	rVB	401	466	0.04%	0.008%
99	22.205	1856	1859	1862	rBV	457	679	0.06%	0.011%
100	22.384	1873	1876	1880	rVB	384	667	0.06%	0.011%

Sum of corrected areas: 6002089

9M982377.D 8260C.M Thu Sep 07 13:45:12 2017

Page 2

File : C:\MSDCHEM\1\DATA\090617\9M982377.D
Operator : JDS
Acquired : 6 Sep 2017 18:16 using AcqMethod 8260C
Instrument : hpms9
Sample Name: L17081366-17 B 826-SPE
Misc Info : 1,1
Vial Number: 15
Quant File :8260C.RES (RTE Integrator)



Tentatively Identified Compound (LSC) summary

Operator ID: JDS Date Acquired: 6 Sep 2017 18:16
 Data File: C:\MSDCHEM\1\DATA\090617\9M982377.D
 Name: L17081366-17 B 826-SPE
 Misc: 1,1
 Method: C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title: 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Library Searched: C:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--
				#	RT Resp Conc

2.1.1.4 Standards Data

Data File : C:\MSDCHEM\1\DATA\081417\9M981990.D Vial: 2
 Acq On : 14 Aug 2017 9:43 Operator: ADC
 Sample : WG625140-02 0.5ug/L ICAL 8260C Inst : hpms9
 Misc : 1,1 STD83326 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 15 09:53:15 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	500615	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	378912	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	183432	50.00	ug/L	0.00

System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	135423	48.3131	ug/L	0.00
Spiked Amount	50.000	Range 86 - 118	Recovery	=	96.62%	
43) 1,2-Dichloroethane-d4	10.30	65	161653	49.3730	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	98.74%	
58) Toluene-d8	12.67	98	464558	49.8009	ug/L	0.00
Spiked Amount	50.000	Range 88 - 110	Recovery	=	99.60%	
79) p-Bromofluorobenzene	16.06	95	165938	51.0186	ug/L	0.00
Spiked Amount	50.000	Range 86 - 115	Recovery	=	102.04%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Chloromethane	3.68	50	4479	0.8912	ug/L	95
4) Vinyl Chloride	3.89	62	1880	0.5262	ug/L #	68
6) Bromomethane	4.79	94	914	0.4161	ug/L	99
13) Acetone	6.29	43	743	0.4884	ug/L #	43
14) 1,1-Dichloroethene	6.50	61	1859	0.4294	ug/L #	55
18) Methyl acetate	7.02	43	1852	0.4739	ug/L #	65
20) Carbon Disulfide	7.31	76	3951	0.5595	ug/L #	74
22) Methyl Tert Butyl Ether	7.49	73	3631	0.4093	ug/L #	48
27) 1,1-Dichloroethane	8.34	63	2247	0.4207	ug/L #	63
33) Chloroform	9.37	83	2002	0.4199	ug/L	85
46) Benzene	10.46	78	4644	0.4222	ug/L	87
59) Toluene	12.77	91	4746	0.4323	ug/L	95
60) Ethyl Methacrylate	12.87	69	216	1.4820	ug/L #	57
72) m-,p-Xylene	14.74	106	3536	0.7448	ug/L	76
74) Styrene	15.34	104	1878	0.9616	ug/L #	66
93) 1,4-Dichlorobenzene	17.62	146	2472	0.4255	ug/L #	1
94) n-Butylbenzene	17.82	91	2597	0.8985	ug/L #	65
97) 1,2,4-Trichlorobenzene	20.26	180	966	0.8639	ug/L #	77
98) Hexachlorobutadiene	20.40	225	216	0.7672	ug/L #	23
99) Naphthalene	20.63	128	3871	0.5895	ug/L #	68

(#) = qualifier out of range (m) = manual integration
 9M981990.D 8260C.M Tue Aug 15 09:53:52 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\081417\9M981990.D

Vial: 2

Acq On : 14 Aug 2017 9:43

Operator: ADC

Sample : WG625140-02 0.5ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 9:53 2017

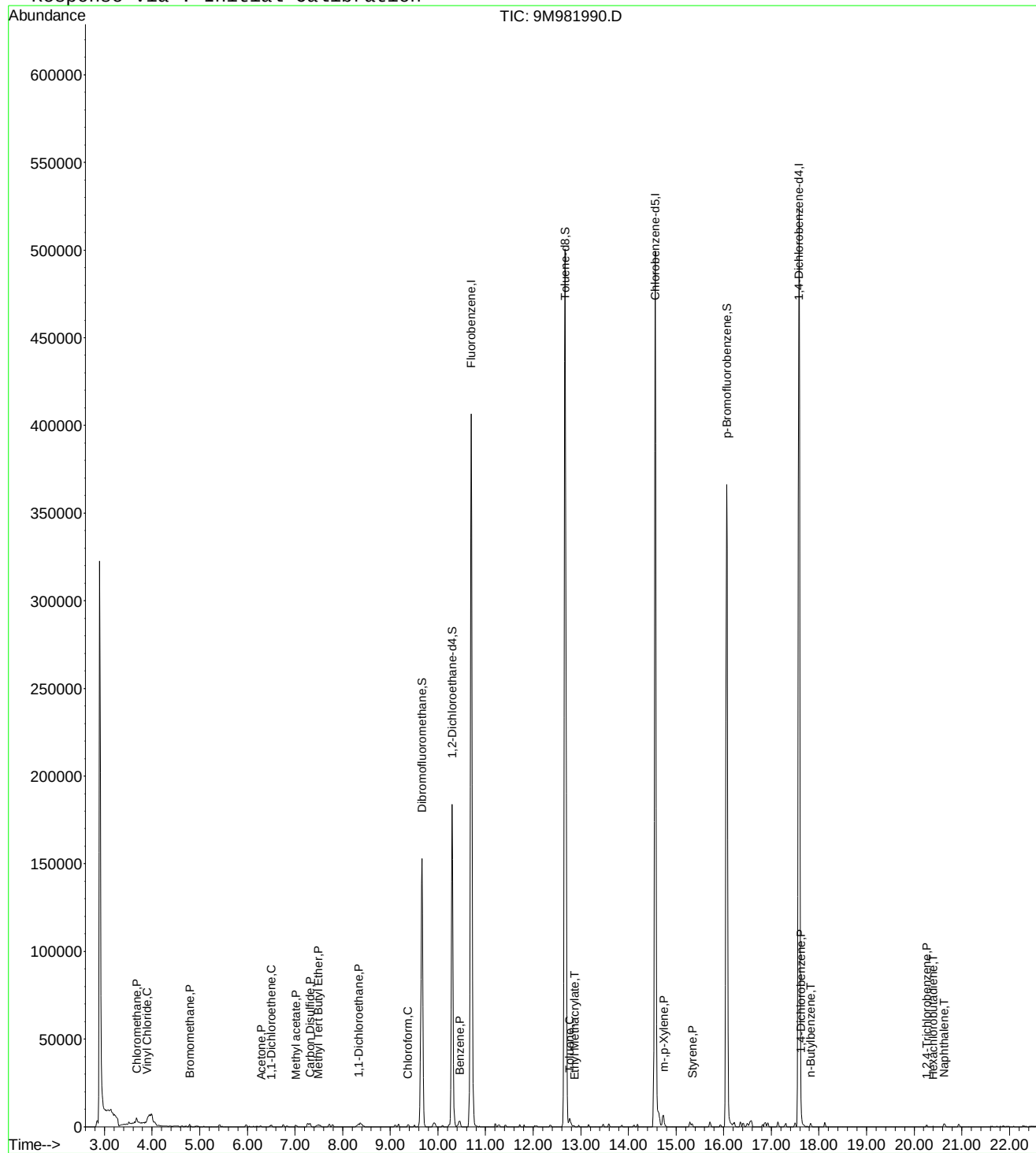
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration



9M981990.D 8260C.M

Tue Aug 15 09:53:52 2017

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Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\081417\9M981990.D

Vial: 2

Acq On : 14 Aug 2017 9:43

Operator: ADC

Sample : WG625140-02 0.5ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	50.0000	50.0000	0.0	100	0.00
2 P	Dichlorodifluoromethane	-1.0000	0.3761	0.0	100	0.00
3 P	Chloromethane	-1.0000	0.8912	0.0	100	0.00
4 C	Vinyl Chloride	-1.0000	0.5262	0.0	100	0.00
5 T	1,3-Butadiene	-1.0000	0.1642	0.0	100	0.00
6 P	Bromomethane	-1.0000	0.4161	0.0	100	0.01
7 P	Chloroethane	-1.0000	0.3087	0.0	100	0.00
8 P	Trichlorofluoromethane	-1.0000	0.3309	0.0	100	0.01
9 T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.94#
10 T	Isoprene	-1.0000	0.2475	0.0	100	0.00
11 T	Acrolein	-1.0000	0.0000	0.0	0	-6.17#
12 P	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.0799	0.0	100	0.00
13 P	Acetone	-1.0000	0.4884	0.0	100	0.01
14 C	1,1-Dichloroethene	-1.0000	0.4294	0.0	100	0.01
15 T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.60#
16 T	Dimethyl Sulfide	-1.0000	0.2525	0.0	100	0.00
17 T	Iodomethane	-1.0000	0.0652	0.0	100	0.00
18 P	Methyl acetate	-1.0000	0.4739	0.0	100	0.00
19 P	Methylene Chloride	-1.0000	0.3949	0.0	100	0.00
20 P	Carbon Disulfide	-1.0000	0.5595	0.0	100	0.00
21 T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.45#
22 P	Methyl Tert Butyl Ether	-1.0000	0.4093	0.0	100	0.01
23 P	trans-1,2-Dichloroethene	-1.0000	0.3772	0.0	100	0.00
24 T	n-Hexane	-1.0000	0.2467	0.0	100	0.00
25 T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.12#
26 T	Vinyl Acetate	-1.0000	0.2482	0.0	100	0.00
27 P	1,1-Dichloroethane	-1.0000	0.4207	0.0	100	0.00
28 T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.70#
29 P	2-Butanone	-1.0000	0.0000	0.0	0	-8.88#
30 T	Propionitrile	-1.0000	0.0000	0.0	0	-9.00#
31 T	2,2-Dichloropropane	-1.0000	0.2990	0.0	100	0.00
32 P	cis-1,2-Dichloroethene	-1.0000	0.1821	0.0	100	0.01
33 C	Chloroform	0.5000	0.4199	16.0	100	0.00
34 T	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.52#
35 T	Bromochloromethane	-1.0000	0.2356	0.0	100	0.00
36 T	Tetrahydrofuran	-1.0000	0.0000	0.0	0	-9.63#
37 S	Dibromofluoromethane	50.0000	48.3131	3.4	100	0.00
38 P	1,1,1-Trichloroethane	-1.0000	0.3390	0.0	100	0.00
39 P	Cyclohexane	-1.0000	0.3752	0.0	100	-0.02
40 T	1,1-Dichloropropene	-1.0000	0.2462	0.0	100	0.00
41 T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.20#
42 P	Carbon Tetrachloride	-1.0000	0.3392	0.0	100	0.00
43 S	1,2-Dichloroethane-d4	50.0000	49.3730	1.3	100	0.00
44	Heptane	-1.0000	0.0000	0.0	100	0.00
45 P	1,2-Dichloroethane	-1.0000	0.3992	0.0	100	0.00
46 P	Benzene	-1.0000	0.4222	0.0	100	0.00
47 P	Trichloroethene	-1.0000	0.3306	0.0	100	0.00
48 P	Methylcyclohexane	-1.0000	0.3253	0.0	100	0.00
49 C	1,2-Dichloropropane	-1.0000	0.3561	0.0	100	0.00
50 T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.71#
51 P	Bromodichloromethane	-1.0000	0.3337	0.0	100	0.00
52 T	Dibromomethane	-1.0000	0.1751	0.0	100	0.00
53 T	2-Chloroethyl Vinyl Ether	-1.0000	0.0000	0.0	0	-12.02#
54 P	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.05#

(#) = Out of Range

9M981990.D 8260C.M

Tue Aug 15 09:53:42 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\081417\9M981990.D

Vial: 2

Acq On : 14 Aug 2017 9:43

Operator: ADC

Sample : WG625140-02 0.5ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55 P	cis-1,3-Dichloropropene	-1.0000	0.3061	0.0	100	0.00
56 T	Dimethyl Disulfide	-1.0000	0.0000	0.0	0	-12.62#
57 I	Chlorobenzene-d5	50.0000	50.0000	0.0	100	0.00
58 S	Toluene-d8	50.0000	49.8009	0.4	100	0.00
59 C	Toluene	-1.0000	0.4323	0.0	100	0.00
60 T	Ethyl Methacrylate	-1.0000	1.4820	0.0	0	0.00
61 P	trans-1,3-Dichloropropene	-1.0000	0.2260	0.0	100	0.01
62 P	1,1,2-Trichloroethane	-1.0000	0.2930	0.0	100	0.00
63 P	2-Hexanone	-1.0000	0.0000	0.0	0	-13.10#
64 T	1,3-Dichloropropane	-1.0000	0.3321	0.0	100	0.00
65 P	Tetrachloroethene	-1.0000	0.1965	0.0	100	0.00
66 P	Dibromochloromethane	-1.0000	0.3111	0.0	100	0.01
67 P	1,2-Dibromoethane	-1.0000	0.1946	0.0	100	0.00
68 T	1-Chlorohexane	-1.0000	0.2841	0.0	100	0.01
69 P	Chlorobenzene	-1.0000	0.3954	0.0	100	0.00
70 T	1,1,1,2-Tetrachloroethane	-1.0000	0.3100	0.0	100	0.00
71 C	Ethylbenzene	-1.0000	0.3404	0.0	100	0.00
72 P	m-,p-Xylene	1.0000	0.7448	25.5#	100	0.01
73 P	o-Xylene	-1.0000	0.3052	0.0	100	0.00
74 P	Styrene	-1.0000	0.9616	0.0	100	0.01
75 P	Bromoform	-1.0000	0.0000	0.0	0	-15.83#
76 P	Isopropylbenzene	-1.0000	0.3443	0.0	100	0.00
77 I	1,4-Dichlorobenzene-d4	50.0000	50.0000	0.0	100	0.00
78 P	1,1,2,2-Tetrachloroethane	-1.0000	0.3124	0.0	100	0.00
79 S	p-Bromofluorobenzene	50.0000	51.0186	-2.0	100	0.00
80 T	1,2,3-Trichloropropane	-1.0000	0.1768	0.0	100	0.00
81 T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-16.17#
82 T	n-Propylbenzene	-1.0000	0.3699	0.0	100	0.00
83 T	Bromobenzene	-1.0000	0.2890	0.0	100	0.00
84 T	1,3,5-Trimethylbenzene	-1.0000	0.3667	0.0	100	0.00
85 T	2-Chlorotoluene	-1.0000	0.3790	0.0	100	0.01
86 T	4-Chlorotoluene	-1.0000	0.3188	0.0	100	0.00
87 T	a-Methylstyrene	-1.0000	0.2242	0.0	0	0.01
88 T	tert-Butylbenzene	-1.0000	0.0000	0.0	0	-16.87#
89 T	1,2,4-Trimethylbenzene	-1.0000	0.3114	0.0	100	0.00
90 T	sec-Butylbenzene	-1.0000	0.3718	0.0	100	0.00
91 T	p-Isopropyltoluene	-1.0000	0.3052	0.0	100	0.00
92 P	1,3-Dichlorobenzene	-1.0000	0.3410	0.0	100	0.00
93 P	1,4-Dichlorobenzene	-1.0000	0.4255	0.0	100	0.00
94 T	n-Butylbenzene	-1.0000	0.8985	0.0	100	0.00
95 P	1,2-Dichlorobenzene	-1.0000	0.3583	0.0	100	0.00
96 P	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.12#
97 P	1,2,4-Trichlorobenzene	-1.0000	0.8639	0.0	100	0.00
98 T	Hexachlorobutadiene	-1.0000	0.7672	0.0	0	0.00
99 T	Naphthalene	-1.0000	0.5895	0.0	100	0.00
100 T	1,2,3-Trichlorobenzene	-1.0000	0.3035	0.0	100	0.00

(#) = Out of Range
 9M981990.D 8260C.M

SPCC's out = 0 CCC's out = 0
 Tue Aug 15 09:53:42 2017

Page 2

Data File : C:\MSDCHEM\1\DATA\081417\9M981992.D

Vial: 4

Acq On : 14 Aug 2017 10:43

Operator: ADC

Sample : WG625140-04 2ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 09:53:15 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	464339	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	355509	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	169527	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.66	111	127466	49.0271	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	98.06%
43) 1,2-Dichloroethane-d4	10.30	65	150649	49.6067	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.22%
58) Toluene-d8	12.67	98	434766	49.6753	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	99.36%
79) p-Bromofluorobenzene	16.06	95	150977	50.2261	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	100.46%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.23	85	5729	1.6858	ug/L	# 78
3) Chloromethane	3.68	50	9898	2.1233	ug/L	94
4) Vinyl Chloride	3.90	62	7044	2.1256	ug/L	94
5) 1,3-Butadiene	3.94	54	2603	2.1336	ug/L	85
6) Bromomethane	4.79	94	4466	2.1918	ug/L	96
7) Chloroethane	4.94	64	3416	1.7734	ug/L	84
8) Trichlorofluoromethane	5.42	101	8345	1.9548	ug/L	# 95
9) Diethyl ether	5.94	59	64485	24.3905	ug/L	99
10) Isoprene	5.97	67	5694	1.6372	ug/L	95
11) Acrolein	6.17	56	4729	10.6210	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	3876	1.7291	ug/L	94
13) Acetone	6.28	43	2884	2.0439	ug/L	# 68
14) 1,1-Dichloroethene	6.49	61	7525	1.8742	ug/L	89
15) Tert-Butyl Alcohol	6.60	59	22715	46.6549	ug/L	93
16) Dimethyl Sulfide	6.76	62	5668	1.8044	ug/L	99
17) Iodomethane	7.02	142	3645	1.1863	ug/L	87
18) Methyl acetate	7.03	43	6866	1.8943	ug/L	# 95
19) Methylene Chloride	7.27	84	4885	1.8600	ug/L	96
20) Carbon Disulfide	7.32	76	12242	1.8690	ug/L	91
21) Acrylonitrile	7.46	53	20221	11.8644	ug/L	97
22) Methyl Tert Butyl Ether	7.49	73	15492	1.8826	ug/L	90
23) trans-1,2-Dichloroethene	7.71	61	6990	1.8736	ug/L	91
24) n-Hexane	7.79	57	5195	1.4776	ug/L	96
25) Diisopropyl ether	8.13	45	247891	24.5592	ug/L	99
26) Vinyl Acetate	8.31	43	10144	1.6072	ug/L	# 78
27) 1,1-Dichloroethane	8.33	63	9180	1.8530	ug/L	# 92
28) Ethyl-Tert-Butyl ether	8.70	59	227261	24.6364	ug/L	99
29) 2-Butanone	8.90	43	3311	1.5756	ug/L	# 57
30) Propionitrile	9.00	54	15227	24.1467	ug/L	94
31) 2,2-Dichloropropane	9.09	77	6536	1.8116	ug/L	81
32) cis-1,2-Dichloroethene	9.17	96	4680	1.7599	ug/L	99
33) Chloroform	9.38	83	8191	1.8520	ug/L	99
35) Bromochloromethane	9.60	130	3521	1.8476	ug/L	97
36) Tetrahydrofuran	9.63	42	31805	24.2993	ug/L	97
38) 1,1,1-Trichloroethane	9.90	97	7359	1.8135	ug/L	94
39) Cyclohexane	9.93	56	8958	1.7582	ug/L	93
40) 1,1-Dichloropropene	10.10	75	5023	1.6377	ug/L	91
41) Tert-Amyl-Methyl ether	10.20	73	186023	24.3049	ug/L	97
42) Carbon Tetrachloride	10.24	117	6473	1.7641	ug/L	95
45) 1,2-Dichloroethane	10.42	62	7705	1.8040	ug/L	96

(#) = qualifier out of range (m) = manual integration
 9M981992.D 8260C.M Tue Aug 15 09:55:05 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\081417\9M981992.D

Vial: 4

Acq On : 14 Aug 2017 10:43

Operator: ADC

Sample : WG625140-04 2ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 09:53:15 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.46	78	19765	1.9371	ug/L	97
47) Trichloroethene	11.21	130	4840	1.7856	ug/L	99
48) Methylcyclohexane	11.29	83	6790	1.6819	ug/L	97
49) 1,2-Dichloropropane	11.43	63	4922	1.7415	ug/L	93
50) 1,4-Dioxane	11.72	88	1373	54.0454	ug/L	83
51) Bromodichloromethane	11.72	83	6019	1.7721	ug/L #	90
52) Dibromomethane	11.81	174	3082	1.6580	ug/L	93
53) 2-Chloroethyl Vinyl Ether	12.02	63	2299	1.0281	ug/L #	49
54) 4-Methyl-2-Pentanone	12.05	58	1848	1.0945	ug/L #	41
55) cis-1,3-Dichloropropene	12.36	75	6049	1.5968	ug/L	89
56) Dimethyl Disulfide	12.62	79	2492	4.3225	ug/L	95
59) Toluene	12.78	91	18902	1.8352	ug/L	100
60) Ethyl Methacrylate	12.87	69	4018	2.3668	ug/L #	57
61) trans-1,3-Dichloropropene	12.96	75	5534	1.6018	ug/L	82
62) 1,1,2-Trichloroethane	13.17	97	4298	1.6993	ug/L	97
63) 2-Hexanone	13.14	43	676	3.6194	ug/L #	30
64) 1,3-Dichloropropane	13.47	76	7581	1.8280	ug/L	97
65) Tetrachloroethene	13.59	164	3480	1.6679	ug/L	99
66) Dibromochloromethane	13.85	129	4935	1.6715	ug/L	94
67) 1,2-Dibromoethane	14.12	107	4513	1.6833	ug/L	97
68) 1-Chlorohexane	14.19	91	4129	1.4642	ug/L	99
69) Chlorobenzene	14.61	112	12205	1.7083	ug/L	99
70) 1,1,1,2-Tetrachloroethane	14.65	131	4535	1.6271	ug/L	91
71) Ethylbenzene	14.65	106	6193	1.6447	ug/L	98
72) m-, p-Xylene	14.73	106	15596	3.5015	ug/L	93
73) o-Xylene	15.29	106	7635	1.6559	ug/L	94
74) Styrene	15.33	104	10177	1.9256	ug/L	92
75) Bromoform	15.83	173	2943	2.4910	ug/L	97
76) Isopropylbenzene	15.71	105	19508	1.6853	ug/L	95
78) 1,1,2,2-Tetrachloroethane	15.93	83	5918	1.7128	ug/L #	96
80) 1,2,3-Trichloropropane	16.12	110	2362	2.0358	ug/L #	1
81) trans-1,4-Dichloro-2-Buten	16.18	53	1332	1.0401	ug/L #	1
82) n-Propylbenzene	16.22	91	20304	1.7497	ug/L	98
83) Bromobenzene	16.35	156	5257	1.7927	ug/L	97
84) 1,3,5-Trimethylbenzene	16.41	105	15380	1.7111	ug/L	99
85) 2-Chlorotoluene	16.49	91	15452	2.0140	ug/L	90
86) 4-Chlorotoluene	16.54	91	11356	1.6650	ug/L	96
87) a-Methylstyrene	16.82	118	6236	1.3085	ug/L	81
88) tert-Butylbenzene	16.86	134	3544	1.8320	ug/L	100
89) 1,2,4-Trimethylbenzene	16.92	105	16076	1.7249	ug/L	96
90) sec-Butylbenzene	17.15	105	18800	1.7183	ug/L	96
91) p-Isopropyltoluene	17.29	119	14455	1.5850	ug/L	99
92) 1,3-Dichlorobenzene	17.51	146	8798	1.6970	ug/L	95
93) 1,4-Dichlorobenzene	17.62	146	9643	1.7960	ug/L	94
94) n-Butylbenzene	17.83	91	10953	1.8809	ug/L #	93
95) 1,2-Dichlorobenzene	18.12	146	9624	1.7155	ug/L	95
96) 1,2-Dibromo-3-Chloropropan	19.12	157	974	2.1958	ug/L	87
97) 1,2,4-Trichlorobenzene	20.26	180	4931	1.8202	ug/L	94
98) Hexachlorobutadiene	20.41	225	2467	1.9735	ug/L	84
99) Naphthalene	20.63	128	18110	1.6852	ug/L	98
100) 1,2,3-Trichlorobenzene	20.93	180	5851	1.5215	ug/L	99

(#) = qualifier out of range (m) = manual integration
 9M981992.D 8260C.M Tue Aug 15 09:55:06 2017

Page 2

Vial: 4
Operator: ADC
Inst : hpms9
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9
Last Update : Mon Aug 14 14:47:27 2017
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\081417\9M981992.D

Vial: 4

Acq On : 14 Aug 2017 10:43

Operator: ADC

Sample : WG625140-04 2ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	50.0000	50.0000	0.0	100	0.00
2 P	Dichlorodifluoromethane	2.0000	1.6858	15.7	100	0.00
3 P	Chloromethane	2.0000	2.1233	-6.2	100	0.00
4 C	Vinyl Chloride	2.0000	2.1256	-6.3	100	0.01
5 T	1,3-Butadiene	2.0000	2.1336	-6.7	100	0.01
6 P	Bromomethane	2.0000	2.1918	-9.6	100	0.01
7 P	Chloroethane	2.0000	1.7734	11.3	100	0.00
8 P	Trichlorofluoromethane	2.0000	1.9548	2.3	100	0.01
9 T	Diethyl ether	25.0000	24.3905	2.4	100	0.00
10 T	Isoprene	2.0000	1.6372	18.1	100	0.00
11 T	Acrolein	12.5000	10.6210	15.0	100	0.00
12 P	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.7291	13.5	100	0.01
13 P	Acetone	2.0000	2.0439	-2.2	100	0.00
14 C	1,1-Dichloroethene	2.0000	1.8742	6.3	100	0.00
15 T	Tert-Butyl Alcohol	50.0000	46.6549	6.7	100	0.00
16 T	Dimethyl Sulfide	2.0000	1.8044	9.8	100	0.01
17 T	Iodomethane	-1.0000	1.1863	0.0	100	0.01
18 P	Methyl acetate	2.0000	1.8944	5.3	100	0.01
19 P	Methylene Chloride	2.0000	1.8601	7.0	100	0.00
20 P	Carbon Disulfide	2.0000	1.8690	6.6	100	0.01
21 T	Acrylonitrile	12.5000	11.8644	5.1	100	0.01
22 P	Methyl Tert Butyl Ether	2.0000	1.8826	5.9	100	0.01
23 P	trans-1,2-Dichloroethene	2.0000	1.8736	6.3	100	0.00
24 T	n-Hexane	-1.0000	1.4776	0.0	100	0.00
25 T	Diisopropyl ether	25.0000	24.5592	1.8	100	0.01
26 T	Vinyl Acetate	-1.0000	1.6072	0.0	100	0.01
27 P	1,1-Dichloroethane	2.0000	1.8530	7.4	100	0.00
28 T	Ethyl-Tert-Butyl ether	25.0000	24.6364	1.5	100	0.00
29 P	2-Butanone	-1.0000	1.5756	0.0	100	0.02
30 T	Propionitrile	25.0000	24.1467	3.4	100	0.00
31 T	2,2-Dichloropropane	2.0000	1.8116	9.4	100	0.00
32 P	cis-1,2-Dichloroethene	2.0000	1.7599	12.0	100	0.00
33 C	Chloroform	2.0000	1.8520	7.4	100	0.00
34 T	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.52#
35 T	Bromochloromethane	2.0000	1.8476	7.6	100	0.00
36 T	Tetrahydrofuran	25.0000	24.2993	2.8	100	0.00
37 S	Dibromofluoromethane	50.0000	49.0271	1.9	100	0.00
38 P	1,1,1-Trichloroethane	2.0000	1.8136	9.3	100	0.00
39 P	Cyclohexane	-1.0000	1.7582	0.0	100	0.00
40 T	1,1-Dichloropropene	2.0000	1.6377	18.1	100	0.00
41 T	Tert-Amyl-Methyl ether	25.0000	24.3049	2.8	100	0.00
42 P	Carbon Tetrachloride	2.0000	1.7641	11.8	100	0.00
43 S	1,2-Dichloroethane-d4	50.0000	49.6067	0.8	100	0.00
44	Heptane	-1.0000	0.0000	0.0	100	0.00
45 P	1,2-Dichloroethane	2.0000	1.8040	9.8	100	0.00
46 P	Benzene	2.0000	1.9371	3.1	100	0.00
47 P	Trichloroethene	2.0000	1.7856	10.7	100	0.00
48 P	Methylcyclohexane	-1.0000	1.6819	0.0	100	0.00
49 C	1,2-Dichloropropane	2.0000	1.7415	12.9	100	0.01
50 T	1,4-Dioxane	50.0000	54.0454	-8.1	100	0.01
51 P	Bromodichloromethane	2.0000	1.7721	11.4	100	0.00
52 T	Dibromomethane	2.0000	1.6580	17.1	100	0.00
53 T	2-Chloroethyl Vinyl Ether	-1.0000	1.0281	0.0	0	0.00
54 P	4-Methyl-2-Pentanone	-1.0000	1.0945	0.0	100	0.00

(#) = Out of Range

9M981992.D 8260C.M

Tue Aug 15 09:55:00 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\081417\9M981992.D

Vial: 4

Acq On : 14 Aug 2017 10:43

Operator: ADC

Sample : WG625140-04 2ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55 P	cis-1,3-Dichloropropene	2.0000	1.5968	20.2	100	0.00
56 T	Dimethyl Disulfide	-1.0000	4.3225	0.0	0	0.00
57 I	Chlorobenzene-d5	50.0000	50.0000	0.0	100	0.00
58 S	Toluene-d8	50.0000	49.6753	0.6	100	0.00
59 C	Toluene	2.0000	1.8352	8.2	100	0.00
60 T	Ethyl Methacrylate	2.0000	2.3668	-18.3	100	0.00
61 P	trans-1,3-Dichloropropene	2.0000	1.6018	19.9	100	0.01
62 P	1,1,2-Trichloroethane	2.0000	1.6993	15.0	100	0.00
63 P	2-Hexanone	-1.0000	3.6194	0.0	0	0.03
64 T	1,3-Dichloropropane	2.0000	1.8280	8.6	100	0.00
65 P	Tetrachloroethene	2.0000	1.6679	16.6	100	0.00
66 P	Dibromochloromethane	2.0000	1.6715	16.4	100	0.00
67 P	1,2-Dibromoethane	2.0000	1.6833	15.8	100	0.00
68 T	1-Chlorohexane	2.0000	1.4642	26.8#	100	0.00
69 P	Chlorobenzene	2.0000	1.7083	14.6	100	0.00
70 T	1,1,1,2-Tetrachloroethane	2.0000	1.6271	18.6	100	0.00
71 C	Ethylbenzene	2.0000	1.6447	17.8	100	0.01
72 P	m-,p-Xylene	4.0000	3.5015	12.5	100	0.00
73 P	o-Xylene	2.0000	1.6559	17.2	100	0.00
74 P	Styrene	2.0000	1.9256	3.7	100	0.00
75 P	Bromoform	2.0000	2.4910	-24.6	100	0.00
76 P	Isopropylbenzene	2.0000	1.6853	15.7	100	0.00
77 I	1,4-Dichlorobenzene-d4	50.0000	50.0000	0.0	100	0.00
78 P	1,1,2,2-Tetrachloroethane	2.0000	1.7128	14.4	100	0.00
79 S	p-Bromofluorobenzene	50.0000	50.2261	-0.5	100	0.00
80 T	1,2,3-Trichloropropane	2.0000	2.0358	-1.8	100	0.00
81 T	trans-1,4-Dichloro-2-Butene	-1.0000	1.0401	0.0	0	0.00
82 T	n-Propylbenzene	2.0000	1.7497	12.5	100	0.00
83 T	Bromobenzene	2.0000	1.7927	10.4	100	0.00
84 T	1,3,5-Trimethylbenzene	2.0000	1.7111	14.4	100	0.00
85 T	2-Chlorotoluene	2.0000	2.0140	-0.7	100	0.00
86 T	4-Chlorotoluene	2.0000	1.6650	16.7	100	0.00
87 T	a-Methylstyrene	2.0000	1.3085	34.6#	100	0.01
88 T	tert-Butylbenzene	2.0000	1.8320	8.4	100	-0.01
89 T	1,2,4-Trimethylbenzene	2.0000	1.7249	13.8	100	0.00
90 T	sec-Butylbenzene	2.0000	1.7183	14.1	100	0.01
91 T	p-Isopropyltoluene	2.0000	1.5850	20.7	100	0.00
92 P	1,3-Dichlorobenzene	2.0000	1.6970	15.1	100	0.01
93 P	1,4-Dichlorobenzene	2.0000	1.7960	10.2	100	0.00
94 T	n-Butylbenzene	2.0000	1.8809	6.0	100	0.01
95 P	1,2-Dichlorobenzene	2.0000	1.7155	14.2	100	0.00
96 P	1,2-Dibromo-3-Chloropropane	2.0000	2.1958	-9.8	100	0.00
97 P	1,2,4-Trichlorobenzene	2.0000	1.8202	9.0	100	0.00
98 T	Hexachlorobutadiene	2.0000	1.9735	1.3	100	0.00
99 T	Naphthalene	2.0000	1.6852	15.7	100	0.00
100 T	1,2,3-Trichlorobenzene	2.0000	1.5215	23.9	100	0.00

(#) = Out of Range
 9M981992.D 8260C.M

SPCC's out = 0 CCC's out = 0
 Tue Aug 15 09:55:00 2017

Page 2

Data File : C:\MSDCHEM\1\DATA\081417\9M981993.D

Vial: 5

Acq On : 14 Aug 2017 11:14

Operator: ADC

Sample : WG625140-05 5ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01:16 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	471805	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	353767	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	172047	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.66	111	130535	49.4130	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	98.82%
43) 1,2-Dichloroethane-d4	10.30	65	156161	50.6080	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	101.22%
58) Toluene-d8	12.67	98	446300	51.2442	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	102.48%
79) p-Bromofluorobenzene	16.06	95	163598	53.6276	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	107.26%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.23	85	15106	4.3748	ug/L	100
3) Chloromethane	3.68	50	23231	4.9046	ug/L	95
4) Vinyl Chloride	3.89	62	15820	4.6984	ug/L	99
5) 1,3-Butadiene	3.93	54	6309	5.0894	ug/L	96
6) Bromomethane	4.78	94	10579	5.1098	ug/L	94
7) Chloroethane	4.94	64	9762	4.9876	ug/L	98
8) Trichlorofluoromethane	5.41	101	21346	4.9211	ug/L	98
9) Diethyl ether	5.94	59	138548	51.5746	ug/L	99
10) Isoprene	5.97	67	16848	4.7677	ug/L	97
11) Acrolein	6.17	56	11246	24.8579	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	10804	4.7435	ug/L	99
13) Acetone	6.28	43	6982	4.8699	ug/L	97
14) 1,1-Dichloroethene	6.49	61	19411	4.7579	ug/L	97
15) Tert-Butyl Alcohol	6.60	59	48701	98.4453	ug/L	96
16) Dimethyl Sulfide	6.75	62	15521	4.8629	ug/L	99
17) Iodomethane	7.00	142	12130	3.8854	ug/L	93
18) Methyl acetate	7.01	43	18082	4.9099	ug/L	96
19) Methylene Chloride	7.27	84	13473	5.0489	ug/L	98
20) Carbon Disulfide	7.31	76	31775	4.7743	ug/L	99
21) Acrylonitrile	7.45	53	43648	25.2046	ug/L	98
22) Methyl Tert Butyl Ether	7.48	73	41298	4.9392	ug/L	96
23) trans-1,2-Dichloroethene	7.71	61	18178	4.7954	ug/L	96
24) n-Hexane	7.80	57	15501	4.3391	ug/L	98
25) Diisopropyl ether	8.13	45	538100	52.4673	ug/L	99
26) Vinyl Acetate	8.30	43	29203	4.5536	ug/L	92
27) 1,1-Dichloroethane	8.33	63	24883	4.9432	ug/L	98
28) Ethyl-Tert-Butyl ether	8.70	59	490274	52.3075	ug/L	100
29) 2-Butanone	8.89	43	8980	4.2057	ug/L	96
30) Propionitrile	9.00	54	32730	47.1845	ug/L	98
31) 2,2-Dichloropropane	9.10	77	18241	4.9759	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	13009	4.8146	ug/L	97
33) Chloroform	9.38	83	23080	5.1359	ug/L	98
34) 1-Bromopropane	9.51	122	1749	3.4446	ug/L	98
35) Bromochloromethane	9.61	130	9744	5.0321	ug/L	98
36) Tetrahydrofuran	9.63	42	68075	51.1869	ug/L	99
38) 1,1,1-Trichloroethane	9.91	97	19772	4.7955	ug/L	97
39) Cyclohexane	9.94	56	23937	4.6238	ug/L	97
40) 1,1-Dichloropropene	10.10	75	14725	4.7248	ug/L	100
41) Tert-Amyl-Methyl ether	10.20	73	407805	52.4387	ug/L	98
42) Carbon Tetrachloride	10.24	117	18132	4.8634	ug/L	99

(#) = qualifier out of range (m) = manual integration
 9M981993.D 8260C.M Tue Aug 15 10:01:17 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\081417\9M981993.D

Vial: 5

Acq On : 14 Aug 2017 11:14

Operator: ADC

Sample : WG625140-05 5ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01:16 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.42	62	22344	5.1487	ug/L	97
46) Benzene	10.46	78	51478	4.9653	ug/L	99
47) Trichloroethene	11.20	130	13329	4.8396	ug/L	99
48) Methylcyclohexane	11.28	83	18599	4.5342	ug/L	96
49) 1,2-Dichloropropane	11.42	63	13903	4.8414	ug/L	100
50) 1,4-Dioxane	11.71	88	4510	103.7004	ug/L	99
51) Bromodichloromethane	11.72	83	16762	4.8571	ug/L	99
52) Dibromomethane	11.82	174	9138	4.8382	ug/L	98
53) 2-Chloroethyl Vinyl Ether	12.02	63	8286	3.6470	ug/L	89
54) 4-Methyl-2-Pentanone	12.05	58	5650	3.2934	ug/L	93
55) cis-1,3-Dichloropropene	12.35	75	17803	4.6252	ug/L	99
56) Dimethyl Disulfide	12.62	79	7502	6.0978	ug/L	88
59) Toluene	12.78	91	52057	5.0792	ug/L	99
60) Ethyl Methacrylate	12.87	69	14425	4.7967	ug/L	99
61) trans-1,3-Dichloropropene	12.96	75	15542	4.5208	ug/L	96
62) 1,1,2-Trichloroethane	13.17	97	12730	5.0577	ug/L	100
63) 2-Hexanone	13.11	43	8730	5.8859	ug/L #	66
64) 1,3-Dichloropropane	13.47	76	20450	4.9554	ug/L	100
65) Tetrachloroethene	13.59	164	10735	5.1703	ug/L	98
66) Dibromochloromethane	13.85	129	13547	4.6110	ug/L	94
67) 1,2-Dibromoethane	14.12	107	13059	4.8949	ug/L	100
68) 1-Chlorohexane	14.20	91	12410	4.4224	ug/L	96
69) Chlorobenzene	14.61	112	34475	4.8491	ug/L	88
70) 1,1,1,2-Tetrachloroethane	14.64	131	13569	4.8923	ug/L	98
71) Ethylbenzene	14.64	106	18258	4.8727	ug/L	98
72) m-,p-Xylene	14.73	106	46091	10.3989	ug/L	99
73) o-Xylene	15.29	106	22639	4.9341	ug/L	99
74) Styrene	15.33	104	31647	4.4030	ug/L	97
75) Bromoform	15.83	173	9573	4.8289	ug/L	97
76) Isopropylbenzene	15.71	105	56740	4.9258	ug/L	97
78) 1,1,2,2-Tetrachloroethane	15.93	83	17857	5.0926	ug/L	98
80) 1,2,3-Trichloropropane	16.12	110	6086	5.1688	ug/L	85
81) trans-1,4-Dichloro-2-Butene	16.17	53	5521	4.2480	ug/L	96
82) n-Propylbenzene	16.22	91	60679	5.1524	ug/L	99
83) Bromobenzene	16.35	156	15670	5.2654	ug/L	80
84) 1,3,5-Trimethylbenzene	16.41	105	46213	5.0660	ug/L	97
85) 2-Chlorotoluene	16.49	91	37658	4.8364	ug/L	99
86) 4-Chlorotoluene	16.54	91	32639	4.7155	ug/L	90
87) a-Methylstyrene	16.81	118	20733	4.2867	ug/L	78
88) tert-Butylbenzene	16.87	134	10368	5.2811	ug/L	95
89) 1,2,4-Trimethylbenzene	16.92	105	48002	5.0751	ug/L	99
90) sec-Butylbenzene	17.13	105	55434	4.9924	ug/L	98
91) p-Isopropyltoluene	17.29	119	46616	5.0366	ug/L	99
92) 1,3-Dichlorobenzene	17.49	146	25721	4.8886	ug/L	99
93) 1,4-Dichlorobenzene	17.62	146	26585	4.8789	ug/L	88
94) n-Butylbenzene	17.82	91	34409	4.5172	ug/L	96
95) 1,2-Dichlorobenzene	18.13	146	28202	4.9535	ug/L	97
96) 1,2-Dibromo-3-Chloropropan	19.12	157	3684	4.6441	ug/L	82
97) 1,2,4-Trichlorobenzene	20.26	180	15941	4.3722	ug/L	99
98) Hexachlorobutadiene	20.41	225	7723	4.7097	ug/L	99
99) Naphthalene	20.63	128	59990	4.7767	ug/L	99
100) 1,2,3-Trichlorobenzene	20.93	180	18017	4.6167	ug/L	98

 (#) = qualifier out of range (m) = manual integration
 9M981993.D 8260C.M Tue Aug 15 10:01:17 2017

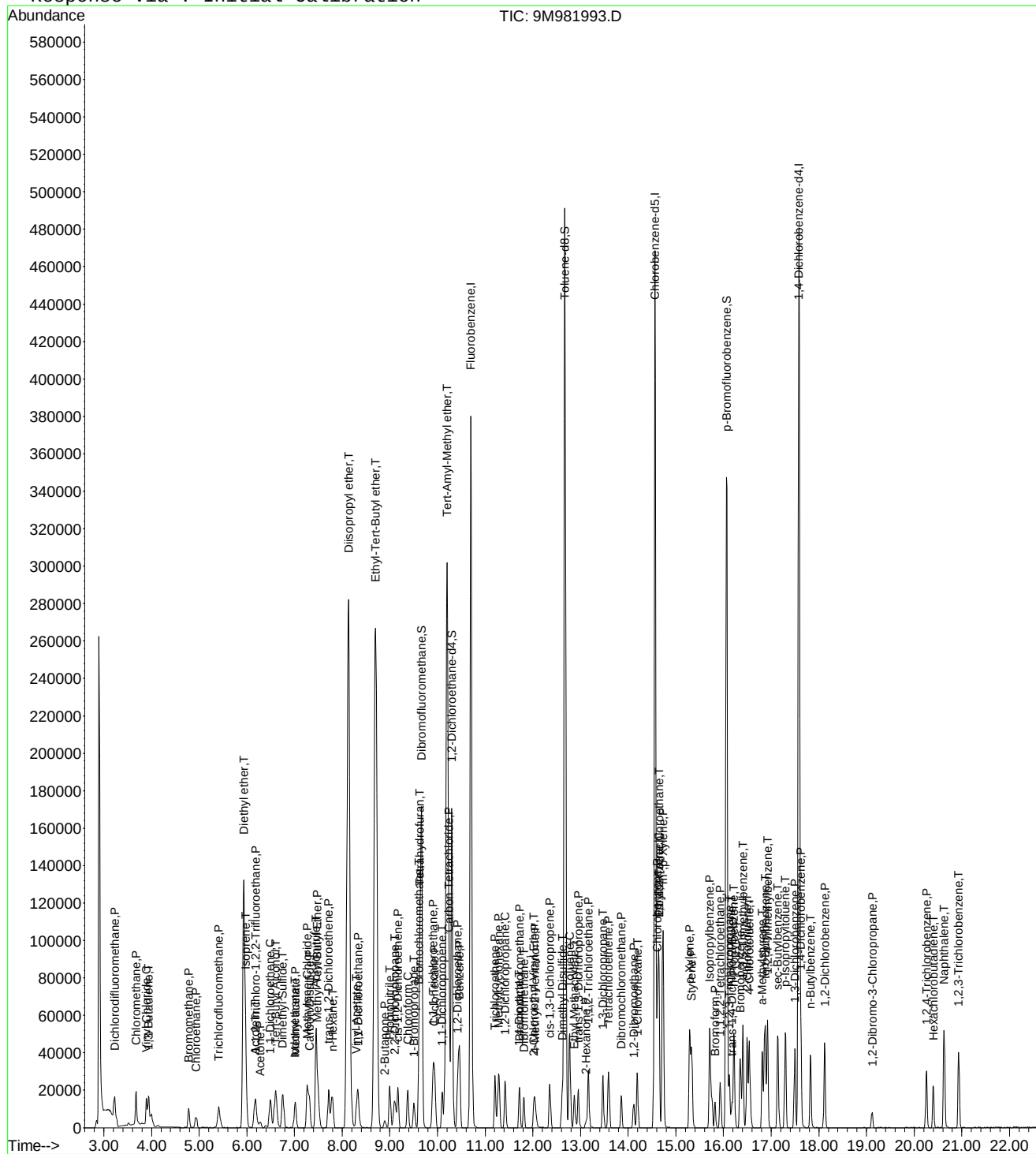
Page 2

Data File : C:\MSDCHEM\1\DATA\081417\9M981993.D
Acq On : 14 Aug 2017 11:14
Sample : WG625140-05 5ug/L ICAL 8260C
Misc : 1,1 STD83326
MS Integration Params: RTEINT.P
Quant Time: Aug 15 10:01 2017

Vial: 5
Operator: ADC
Inst : hpms9
Multiplr: 1.00

Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9
Last Update : Mon Aug 14 14:47:27 2017
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\081417\9M981993.D

Vial: 5

Acq On : 14 Aug 2017 11:14

Operator: ADC

Sample : WG625140-05 5ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	50.0000	50.0000	0.0	100	0.00
2 P	Dichlorodifluoromethane	5.0000	4.3748	12.5	100	0.00
3 P	Chloromethane	5.0000	4.9046	1.9	100	0.00
4 C	Vinyl Chloride	5.0000	4.6984	6.0	100	0.00
5 T	1,3-Butadiene	5.0000	5.0894	-1.8	100	0.00
6 P	Bromomethane	5.0000	5.1098	-2.2	100	0.00
7 P	Chloroethane	5.0000	4.9876	0.2	100	0.00
8 P	Trichlorofluoromethane	5.0000	4.9211	1.6	100	0.00
9 T	Diethyl ether	50.0000	51.5746	-3.1	100	0.00
10 T	Isoprene	5.0000	4.7677	4.6	100	0.00
11 T	Acrolein	25.0000	24.8579	0.6	100	0.00
12 P	1,1,2-Trichloro-1,2,2-Trifl	5.0000	4.7435	5.1	100	0.00
13 P	Acetone	5.0000	4.8699	2.6	100	0.00
14 C	1,1-Dichloroethene	5.0000	4.7579	4.8	100	0.00
15 T	Tert-Butyl Alcohol	100.0000	98.4453	1.6	100	0.00
16 T	Dimethyl Sulfide	5.0000	4.8629	2.7	100	0.00
17 T	Iodomethane	5.0000	3.8854	22.3	100	0.00
18 P	Methyl acetate	5.0000	4.9099	1.8	100	0.00
19 P	Methylene Chloride	5.0000	5.0489	-1.0	100	0.00
20 P	Carbon Disulfide	5.0000	4.7743	4.5	100	0.00
21 T	Acrylonitrile	25.0000	25.2046	-0.8	100	0.00
22 P	Methyl Tert Butyl Ether	5.0000	4.9392	1.2	100	0.00
23 P	trans-1,2-Dichloroethene	5.0000	4.7954	4.1	100	0.00
24 T	n-Hexane	5.0000	4.3391	13.2	100	0.01
25 T	Diisopropyl ether	50.0000	52.4673	-4.9	100	0.01
26 T	Vinyl Acetate	5.0000	4.5536	8.9	100	0.00
27 P	1,1-Dichloroethane	5.0000	4.9432	1.1	100	0.00
28 T	Ethyl-Tert-Butyl ether	50.0000	52.3075	-4.6	100	0.00
29 P	2-Butanone	5.0000	4.2057	15.9	100	0.01
30 T	Propionitrile	50.0000	47.1845	5.6	100	0.00
31 T	2,2-Dichloropropane	5.0000	4.9759	0.5	100	0.00
32 P	cis-1,2-Dichloroethene	5.0000	4.8146	3.7	100	0.00
33 C	Chloroform	5.0000	5.1359	-2.7	100	0.00
34 T	1-Bromopropane	5.0000	3.4446	31.1#	100	-0.01
35 T	Bromochloromethane	5.0000	5.0321	-0.6	100	0.00
36 T	Tetrahydrofuran	50.0000	51.1870	-2.4	100	0.00
37 S	Dibromofluoromethane	50.0000	49.4130	1.2	100	0.00
38 P	1,1,1-Trichloroethane	5.0000	4.7955	4.1	100	0.00
39 P	Cyclohexane	5.0000	4.6238	7.5	100	0.00
40 T	1,1-Dichloropropene	5.0000	4.7248	5.5	100	0.00
41 T	Tert-Amyl-Methyl ether	50.0000	52.4387	-4.9	100	0.00
42 P	Carbon Tetrachloride	5.0000	4.8634	2.7	100	0.00
43 S	1,2-Dichloroethane-d4	50.0000	50.6080	-1.2	100	0.00
44	Heptane	-1.0000	0.0000	0.0	100	0.00
45 P	1,2-Dichloroethane	5.0000	5.1487	-3.0	100	0.00
46 P	Benzene	5.0000	4.9653	0.7	100	0.00
47 P	Trichloroethene	5.0000	4.8396	3.2	100	0.00
48 P	Methylcyclohexane	5.0000	4.5343	9.3	100	-0.01
49 C	1,2-Dichloropropane	5.0000	4.8414	3.2	100	0.00
50 T	1,4-Dioxane	100.0000	103.7004	-3.7	100	0.00
51 P	Bromodichloromethane	5.0000	4.8571	2.9	100	0.00
52 T	Dibromomethane	5.0000	4.8382	3.2	100	0.01
53 T	2-Chloroethyl Vinyl Ether	5.0000	3.6470	27.1#	100	0.00
54 P	4-Methyl-2-Pentanone	5.0000	3.2934	34.1#	100	0.00

(#) = Out of Range

9M981993.D 8260C.M

Tue Aug 15 09:55:26 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\081417\9M981993.D

Vial: 5

Acq On : 14 Aug 2017 11:14

Operator: ADC

Sample : WG625140-05 5ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55 P	cis-1,3-Dichloropropene	5.0000	4.6252	7.5	100	0.00
56 T	Dimethyl Disulfide	5.0000	6.0978	-22.0	100	0.00
57 I	Chlorobenzene-d5	50.0000	50.0000	0.0	100	0.00
58 S	Toluene-d8	50.0000	51.2442	-2.5	100	0.00
59 C	Toluene	5.0000	5.0792	-1.6	100	0.00
60 T	Ethyl Methacrylate	5.0000	4.7967	4.1	100	0.00
61 P	trans-1,3-Dichloropropene	5.0000	4.5209	9.6	100	0.01
62 P	1,1,2-Trichloroethane	5.0000	5.0577	-1.2	100	0.00
63 P	2-Hexanone	5.0000	5.8859	-17.7	100	0.01
64 T	1,3-Dichloropropane	5.0000	4.9554	0.9	100	0.00
65 P	Tetrachloroethene	5.0000	5.1703	-3.4	100	0.00
66 P	Dibromochloromethane	5.0000	4.6110	7.8	100	0.00
67 P	1,2-Dibromoethane	5.0000	4.8949	2.1	100	0.00
68 T	1-Chlorohexane	5.0000	4.4224	11.6	100	0.01
69 P	Chlorobenzene	5.0000	4.8491	3.0	100	0.00
70 T	1,1,1,2-Tetrachloroethane	5.0000	4.8923	2.2	100	0.00
71 C	Ethylbenzene	5.0000	4.8727	2.5	100	0.01
72 P	m-,p-Xylene	10.0000	10.3989	-4.0	100	0.00
73 P	o-Xylene	5.0000	4.9341	1.3	100	0.00
74 P	Styrene	5.0000	4.4030	11.9	100	0.00
75 P	Bromoform	5.0000	4.8289	3.4	100	0.00
76 P	Isopropylbenzene	5.0000	4.9258	1.5	100	0.00
77 I	1,4-Dichlorobenzene-d4	50.0000	50.0000	0.0	100	0.00
78 P	1,1,2,2-Tetrachloroethane	5.0000	5.0926	-1.9	100	0.00
79 S	p-Bromofluorobenzene	50.0000	53.6276	-7.3	100	0.00
80 T	1,2,3-Trichloropropane	5.0000	5.1688	-3.4	100	0.00
81 T	trans-1,4-Dichloro-2-Butene	5.0000	4.2480	15.0	100	0.00
82 T	n-Propylbenzene	5.0000	5.1524	-3.0	100	0.00
83 T	Bromobenzene	5.0000	5.2654	-5.3	100	0.00
84 T	1,3,5-Trimethylbenzene	5.0000	5.0660	-1.3	100	0.00
85 T	2-Chlorotoluene	5.0000	4.8364	3.3	100	0.00
86 T	4-Chlorotoluene	5.0000	4.7154	5.7	100	0.00
87 T	a-Methylstyrene	5.0000	4.2867	14.3	100	0.00
88 T	tert-Butylbenzene	5.0000	5.2811	-5.6	100	0.00
89 T	1,2,4-Trimethylbenzene	5.0000	5.0751	-1.5	100	0.00
90 T	sec-Butylbenzene	5.0000	4.9924	0.2	100	0.00
91 T	p-Isopropyltoluene	5.0000	5.0366	-0.7	100	0.00
92 P	1,3-Dichlorobenzene	5.0000	4.8886	2.2	100	0.00
93 P	1,4-Dichlorobenzene	5.0000	4.8789	2.4	100	0.00
94 T	n-Butylbenzene	5.0000	4.5172	9.7	100	0.00
95 P	1,2-Dichlorobenzene	5.0000	4.9535	0.9	100	0.01
96 P	1,2-Dibromo-3-Chloropropane	5.0000	4.6441	7.1	100	0.00
97 P	1,2,4-Trichlorobenzene	5.0000	4.3722	12.6	100	0.00
98 T	Hexachlorobutadiene	5.0000	4.7097	5.8	100	0.00
99 T	Naphthalene	5.0000	4.7767	4.5	100	0.00
100 T	1,2,3-Trichlorobenzene	5.0000	4.6167	7.7	100	0.00

(#) = Out of Range
 9M981993.D 8260C.M

SPCC's out = 0 CCC's out = 0
 Tue Aug 15 09:55:26 2017

Page 2

Data File : C:\MSDCHEM\1\DATA\081417\9M981994.D

Vial: 6

Acq On : 14 Aug 2017 11:44

Operator: ADC

Sample : WG625140-03 1ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01:17 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	469029	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	355151	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	168811	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.67	111	127803	48.6651	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	97.34%
43) 1,2-Dichloroethane-d4	10.30	65	154344	50.3152	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	100.64%
58) Toluene-d8	12.67	98	438373	50.1379	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	100.28%
79) p-Bromofluorobenzene	16.06	95	154286	51.5446	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	103.08%

Target Compounds

					Qvalue	
2) Dichlorodifluoromethane	3.23	85	2414	0.7032	ug/L	# 67
3) Chloromethane	3.68	50	5731	1.2171	ug/L	97
4) Vinyl Chloride	3.89	62	3018	0.9016	ug/L	99
5) 1,3-Butadiene	3.94	54	1034	0.8391	ug/L	# 55
6) Bromomethane	4.79	94	2256	1.0961	ug/L	76
7) Chloroethane	4.93	64	1611	0.8280	ug/L	# 45
8) Trichlorofluoromethane	5.40	101	3680	0.8534	ug/L	# 88
9) Diethyl ether	5.94	59	13124	4.9143	ug/L	95
10) Isoprene	5.98	67	2874	0.8181	ug/L	89
11) Acrolein	6.17	56	647	1.4386	ug/L	# 13
12) 1,1,2-Trichloro-1,2,2-Trif	6.21	101	1509	0.6664	ug/L	94
13) Acetone	6.28	43	1561	1.0952	ug/L	# 43
14) 1,1-Dichloroethene	6.50	61	3944	0.9725	ug/L	81
15) Tert-Butyl Alcohol	6.60	59	4039	8.2129	ug/L	# 57
16) Dimethyl Sulfide	6.75	62	2479	0.7813	ug/L	93
17) Iodomethane	7.02	142	1843	0.5938	ug/L	# 49
18) Methyl acetate	7.03	43	3514	0.9598	ug/L	# 75
19) Methylene Chloride	7.27	84	2422	0.9130	ug/L	98
20) Carbon Disulfide	7.31	76	6115	0.9242	ug/L	# 74
21) Acrylonitrile	7.45	53	3872	2.2491	ug/L	93
22) Methyl Tert Butyl Ether	7.49	73	7958	0.9574	ug/L	# 72
23) trans-1,2-Dichloroethene	7.71	61	3628	0.9627	ug/L	81
24) n-Hexane	7.80	57	2742	0.7721	ug/L	91
25) Diisopropyl ether	8.14	45	48036	4.7115	ug/L	98
26) Vinyl Acetate	8.31	43	4378	0.6867	ug/L	# 78
27) 1,1-Dichloroethane	8.34	63	4389	0.8771	ug/L	# 82
28) Ethyl-Tert-Butyl ether	8.71	59	42939	4.6083	ug/L	99
30) Propionitrile	9.01	54	1840	5.9643	ug/L	# 61
31) 2,2-Dichloropropane	9.10	77	3688	1.0120	ug/L	# 52
32) cis-1,2-Dichloroethene	9.17	96	2229	0.8298	ug/L	95
33) Chloroform	9.37	83	4137	0.9260	ug/L	97
35) Bromochloromethane	9.61	130	1549	0.8047	ug/L	96
36) Tetrahydrofuran	9.64	42	5897	4.4603	ug/L	90
38) 1,1,1-Trichloroethane	9.91	97	3748	0.9144	ug/L	96
39) Cyclohexane	9.94	56	4465	0.8676	ug/L	# 89
40) 1,1-Dichloropropene	10.10	75	2833	0.9144	ug/L	79
41) Tert-Amyl-Methyl ether	10.21	73	34510	4.4638	ug/L	93
42) Carbon Tetrachloride	10.24	117	3167	0.8545	ug/L	# 89
45) 1,2-Dichloroethane	10.43	62	4006	0.9286	ug/L	89
46) Benzene	10.46	78	9986	0.9689	ug/L	94

(#) = qualifier out of range (m) = manual integration
 9M981994.D 8260C.M Tue Aug 15 10:01:17 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\081417\9M981994.D

Vial: 6

Acq On : 14 Aug 2017 11:44

Operator: ADC

Sample : WG625140-03 1ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01:17 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47) Trichloroethene	11.21	130	2417	0.8828	ug/L	94
48) Methylcyclohexane	11.28	83	3254	0.7980	ug/L	96
49) 1,2-Dichloropropane	11.43	63	2549	0.8929	ug/L #	68
51) Bromodichloromethane	11.72	83	2767	0.8065	ug/L #	94
52) Dibromomethane	11.81	174	1483	0.7898	ug/L	85
55) cis-1,3-Dichloropropene	12.36	75	2807	0.7336	ug/L #	65
56) Dimethyl Disulfide	12.62	79	817	3.7116	ug/L #	1
59) Toluene	12.77	91	9708	0.9435	ug/L	97
60) Ethyl Methacrylate	12.89	69	770	1.6137	ug/L #	57
61) trans-1,3-Dichloropropene	12.96	75	2454	0.7110	ug/L #	49
62) 1,1,2-Trichloroethane	13.17	97	2280	0.9023	ug/L	99
64) 1,3-Dichloropropane	13.48	76	3712	0.8960	ug/L	97
65) Tetrachloroethene	13.60	164	2053	0.9849	ug/L	85
66) Dibromochloromethane	13.86	129	2308	0.7825	ug/L	92
67) 1,2-Dibromoethane	14.12	107	2023	0.7553	ug/L	97
68) 1-Chlorohexane	14.19	91	2163	0.7678	ug/L	99
69) Chlorobenzene	14.62	112	6854	0.9603	ug/L	95
70) 1,1,1,2-Tetrachloroethane	14.64	131	2454	0.8813	ug/L	99
71) Ethylbenzene	14.64	106	3171	0.8430	ug/L	100
72) m-,p-Xylene	14.73	106	7771	1.7464	ug/L	88
73) o-Xylene	15.29	106	3824	0.8302	ug/L	97
74) Styrene	15.33	104	4470	1.2723	ug/L	92
75) Bromoform	15.83	173	1400	1.9512	ug/L #	60
76) Isopropylbenzene	15.71	105	9854	0.8521	ug/L	95
78) 1,1,2,2-Tetrachloroethane	15.94	83	2953	0.8583	ug/L #	91
80) 1,2,3-Trichloropropane	16.13	110	810	0.7011	ug/L #	1
82) n-Propylbenzene	16.22	91	10248	0.8869	ug/L	91
83) Bromobenzene	16.36	156	2672	0.9150	ug/L	64
84) 1,3,5-Trimethylbenzene	16.41	105	8231	0.9196	ug/L	91
85) 2-Chlorotoluene	16.49	91	7730	1.0118	ug/L	81
86) 4-Chlorotoluene	16.55	91	5356	0.7886	ug/L	93
87) a-Methylstyrene	16.81	118	3273	0.6897	ug/L	86
88) tert-Butylbenzene	16.86	134	1553	0.8062	ug/L	78
89) 1,2,4-Trimethylbenzene	16.93	105	8182	0.8816	ug/L	79
90) sec-Butylbenzene	17.14	105	9319	0.8554	ug/L	93
91) p-Isopropyltoluene	17.30	119	6959	0.7663	ug/L	93
92) 1,3-Dichlorobenzene	17.50	146	4328	0.8384	ug/L	84
93) 1,4-Dichlorobenzene	17.62	146	4767	0.8916	ug/L	86
94) n-Butylbenzene	17.82	91	4833	1.1803	ug/L #	78
95) 1,2-Dichlorobenzene	18.12	146	4897	0.8766	ug/L	89
97) 1,2,4-Trichlorobenzene	20.26	180	2523	1.2525	ug/L #	86
98) Hexachlorobutadiene	20.41	225	923	1.1541	ug/L	87
99) Naphthalene	20.63	128	8783	0.9848	ug/L	90
100) 1,2,3-Trichlorobenzene	20.94	180	2800	0.7312	ug/L	95

 (#) = qualifier out of range (m) = manual integration
 9M981994.D 8260C.M Tue Aug 15 10:01:17 2017

Page 2

```
Vial: 6
Operator: ADC
Inst      : hpms9
Multiplr: 1.00
```

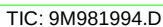
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration



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Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\081417\9M981994.D

Vial: 6

Acq On : 14 Aug 2017 11:44

Operator: ADC

Sample : WG625140-03 1ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	50.0000	50.0000	0.0	100	0.00
2 P	Dichlorodifluoromethane	-1.0000	0.7032	0.0	100	0.00
3 P	Chloromethane	1.0000	1.2171	-21.7	100	0.00
4 C	Vinyl Chloride	1.0000	0.9016	9.8	100	0.00
5 T	1,3-Butadiene	1.0000	0.8391	16.1	100	0.00
6 P	Bromomethane	1.0000	1.0961	-9.6	100	0.01
7 P	Chloroethane	1.0000	0.8280	17.2	100	0.00
8 P	Trichlorofluoromethane	1.0000	0.8534	14.7	100	0.00
9 T	Diethyl ether	5.0000	4.9143	1.7	100	0.00
10 T	Isoprene	1.0000	0.8181	18.2	100	0.01
11 T	Acrolein	-1.0000	1.4386	0.0	100	0.00
12 P	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.6664	0.0	100	0.02
13 P	Acetone	-1.0000	1.0952	0.0	100	0.00
14 C	1,1-Dichloroethene	1.0000	0.9725	2.8	100	0.01
15 T	Tert-Butyl Alcohol	10.0000	8.2128	17.9	100	0.00
16 T	Dimethyl Sulfide	1.0000	0.7813	21.9	100	0.00
17 T	Iodomethane	-1.0000	0.5938	0.0	100	0.01
18 P	Methyl acetate	1.0000	0.9598	4.0	100	0.01
19 P	Methylene Chloride	1.0000	0.9130	8.7	100	0.00
20 P	Carbon Disulfide	1.0000	0.9242	7.6	100	0.00
21 T	Acrylonitrile	2.5000	2.2491	10.0	100	0.00
22 P	Methyl Tert Butyl Ether	1.0000	0.9574	4.3	100	0.01
23 P	trans-1,2-Dichloroethene	1.0000	0.9627	3.7	100	0.00
24 T	n-Hexane	-1.0000	0.7721	0.0	100	0.01
25 T	Diisopropyl ether	5.0000	4.7115	5.8	100	0.01
26 T	Vinyl Acetate	-1.0000	0.6867	0.0	100	0.00
27 P	1,1-Dichloroethane	1.0000	0.8771	12.3	100	0.00
28 T	Ethyl-Tert-Butyl ether	5.0000	4.6083	7.8	100	0.00
29 P	2-Butanone	-1.0000	0.3109	0.0	100	0.02
30 T	Propionitrile	5.0000	5.9642	-19.3	100	0.01
31 T	2,2-Dichloropropane	1.0000	1.0120	-1.2	100	0.00
32 P	cis-1,2-Dichloroethene	1.0000	0.8298	17.0	100	0.00
33 C	Chloroform	1.0000	0.9261	7.4	100	0.00
34 T	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.52#
35 T	Bromochloromethane	1.0000	0.8047	19.5	100	0.00
36 T	Tetrahydrofuran	5.0000	4.4603	10.8	100	0.00
37 S	Dibromofluoromethane	50.0000	48.6651	2.7	100	0.00
38 P	1,1,1-Trichloroethane	1.0000	0.9144	8.6	100	0.00
39 P	Cyclohexane	-1.0000	0.8676	0.0	100	0.00
40 T	1,1-Dichloropropene	1.0000	0.9144	8.6	100	0.00
41 T	Tert-Amyl-Methyl ether	5.0000	4.4638	10.7	100	0.00
42 P	Carbon Tetrachloride	1.0000	0.8545	14.6	100	0.00
43 S	1,2-Dichloroethane-d4	50.0000	50.3152	-0.6	100	0.00
44	Heptane	-1.0000	0.0000	0.0	100	0.00
45 P	1,2-Dichloroethane	1.0000	0.9286	7.1	100	0.00
46 P	Benzene	1.0000	0.9689	3.1	100	0.00
47 P	Trichloroethene	1.0000	0.8828	11.7	100	0.00
48 P	Methylcyclohexane	-1.0000	0.7980	0.0	100	0.00
49 C	1,2-Dichloropropane	1.0000	0.8929	10.7	100	0.01
50 T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.71#
51 P	Bromodichloromethane	1.0000	0.8065	19.3	100	0.00
52 T	Dibromomethane	1.0000	0.7898	21.0	100	0.00
53 T	2-Chloroethyl Vinyl Ether	-1.0000	0.2209	0.0	0	0.01
54 P	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.05#

(#) = Out of Range

9M981994.D 8260C.M

Tue Aug 15 09:56:16 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\081417\9M981994.D

Vial: 6

Acq On : 14 Aug 2017 11:44

Operator: ADC

Sample : WG625140-03 1ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55 P	cis-1,3-Dichloropropene	1.0000	0.7336	26.6#	100	0.00
56 T	Dimethyl Disulfide	-1.0000	3.7116	0.0	0	0.00
57 I	Chlorobenzene-d5	50.0000	50.0000	0.0	100	0.00
58 S	Toluene-d8	50.0000	50.1379	-0.3	100	0.00
59 C	Toluene	1.0000	0.9435	5.6	100	0.00
60 T	Ethyl Methacrylate	-1.0000	1.6137	0.0	0	0.01
61 P	trans-1,3-Dichloropropene	1.0000	0.7110	28.9#	100	0.01
62 P	1,1,2-Trichloroethane	1.0000	0.9023	9.8	100	0.00
63 P	2-Hexanone	-1.0000	0.0000	0.0	0	-13.10#
64 T	1,3-Dichloropropane	1.0000	0.8960	10.4	100	0.00
65 P	Tetrachloroethene	1.0000	0.9849	1.5	100	0.01
66 P	Dibromochloromethane	1.0000	0.7825	21.7	100	0.00
67 P	1,2-Dibromoethane	1.0000	0.7553	24.5	100	0.00
68 T	1-Chlorohexane	1.0000	0.7678	23.2	100	0.00
69 P	Chlorobenzene	1.0000	0.9603	4.0	100	0.00
70 T	1,1,1,2-Tetrachloroethane	1.0000	0.8813	11.9	100	0.00
71 C	Ethylbenzene	1.0000	0.8430	15.7	100	0.00
72 P	m-,p-Xylene	2.0000	1.7464	12.7	100	0.00
73 P	o-Xylene	1.0000	0.8302	17.0	100	0.00
74 P	Styrene	1.0000	1.2723	-27.2#	100	0.00
75 P	Bromoform	-1.0000	1.9512	0.0	100	0.00
76 P	Isopropylbenzene	1.0000	0.8521	14.8	100	0.00
77 I	1,4-Dichlorobenzene-d4	50.0000	50.0000	0.0	100	0.00
78 P	1,1,2,2-Tetrachloroethane	1.0000	0.8583	14.2	100	0.00
79 S	p-Bromofluorobenzene	50.0000	51.5446	-3.1	100	0.00
80 T	1,2,3-Trichloropropane	1.0000	0.7011	29.9#	100	0.00
81 T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-16.17#
82 T	n-Propylbenzene	1.0000	0.8869	11.3	100	0.00
83 T	Bromobenzene	1.0000	0.9151	8.5	100	0.00
84 T	1,3,5-Trimethylbenzene	1.0000	0.9196	8.0	100	0.00
85 T	2-Chlorotoluene	1.0000	1.0118	-1.2	100	0.00
86 T	4-Chlorotoluene	1.0000	0.7886	21.1	100	0.00
87 T	a-Methylstyrene	-1.0000	0.6897	0.0	0	0.00
88 T	tert-Butylbenzene	1.0000	0.8062	19.4	100	0.00
89 T	1,2,4-Trimethylbenzene	1.0000	0.8816	11.8	100	0.00
90 T	sec-Butylbenzene	1.0000	0.8554	14.5	100	0.00
91 T	p-Isopropyltoluene	1.0000	0.7663	23.4	100	0.00
92 P	1,3-Dichlorobenzene	1.0000	0.8384	16.2	100	0.00
93 P	1,4-Dichlorobenzene	1.0000	0.8916	10.8	100	0.00
94 T	n-Butylbenzene	1.0000	1.1803	-18.0	100	0.00
95 P	1,2-Dichlorobenzene	1.0000	0.8766	12.3	100	0.00
96 P	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.12#
97 P	1,2,4-Trichlorobenzene	1.0000	1.2525	-25.3#	100	0.00
98 T	Hexachlorobutadiene	1.0000	1.1541	-15.4	100	0.00
99 T	Naphthalene	1.0000	0.9848	1.5	100	0.00
100 T	1,2,3-Trichlorobenzene	1.0000	0.7312	26.9#	100	0.00

(#) = Out of Range
 9M981994.D 8260C.M

SPCC's out = 0 CCC's out = 0
 Tue Aug 15 09:56:16 2017

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Data File : C:\MSDCHEM\1\DATA\081417\9M981995.D

Vial: 7

Acq On : 14 Aug 2017 12:14

Operator: ADC

Sample : WG625140-06 20ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01:18 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	462190	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	354778	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	176050	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.66	111	131158	50.6817	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	101.36%
43) 1,2-Dichloroethane-d4	10.31	65	152033	50.2952	ug/L	0.01
Spiked Amount	50.000	Range	80 - 120	Recovery	=	100.60%
58) Toluene-d8	12.67	98	445978	51.0613	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	102.12%
79) p-Bromofluorobenzene	16.06	95	164572	52.7203	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	105.44%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.23	85	72607	21.4649	ug/L	100
3) Chloromethane	3.68	50	90275	19.4556	ug/L	100
4) Vinyl Chloride	3.90	62	70830	21.4735	ug/L	99
5) 1,3-Butadiene	3.94	54	26409	21.7472	ug/L	97
6) Bromomethane	4.79	94	38214	18.8419	ug/L	100
7) Chloroethane	4.94	64	40151	20.9406	ug/L	99
8) Trichlorofluoromethane	5.42	101	86730	20.4105	ug/L	99
9) Diethyl ether	5.94	59	200535	76.2022	ug/L	99
10) Isoprene	5.98	67	70390	20.3335	ug/L	98
11) Acrolein	6.18	56	17065	38.5048	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	45733	20.4966	ug/L	98
13) Acetone	6.28	43	28832	20.5283	ug/L	98
14) 1,1-Dichloroethene	6.50	61	79279	19.8368	ug/L	96
15) Tert-Butyl Alcohol	6.61	59	69533	143.4796	ug/L	100
16) Dimethyl Sulfide	6.76	62	64624	20.6688	ug/L	98
17) Iodomethane	7.02	142	59285	19.3849	ug/L	98
18) Methyl acetate	7.03	43	72544	20.1082	ug/L	99
19) Methylene Chloride	7.27	84	53176	20.3418	ug/L	98
20) Carbon Disulfide	7.31	76	130118	19.9575	ug/L	99
21) Acrylonitrile	7.46	53	65047	38.3429	ug/L	100
22) Methyl Tert Butyl Ether	7.48	73	162487	19.8376	ug/L	100
23) trans-1,2-Dichloroethene	7.72	61	73639	19.8303	ug/L	99
24) n-Hexane	7.79	57	66361	18.9623	ug/L	99
25) Diisopropyl ether	8.13	45	785039	78.1374	ug/L	100
26) Vinyl Acetate	8.30	43	121980	19.4159	ug/L	98
27) 1,1-Dichloroethane	8.33	63	100723	20.4257	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	710238	77.3519	ug/L	100
29) 2-Butanone	8.89	43	42286	20.2162	ug/L	100
30) Propionitrile	9.00	54	50032	71.6702	ug/L	99
31) 2,2-Dichloropropane	9.10	77	71434	19.8915	ug/L	100
32) cis-1,2-Dichloroethene	9.17	96	55166	20.8414	ug/L	98
33) Chloroform	9.38	83	92219	20.9482	ug/L	98
34) 1-Bromopropane	9.52	122	9895	19.8934	ug/L	98
35) Bromochloromethane	9.61	130	38498	20.2953	ug/L	98
36) Tetrahydrofuran	9.63	42	100409	77.0702	ug/L	99
38) 1,1,1-Trichloroethane	9.91	97	81641	20.2131	ug/L	100
39) Cyclohexane	9.94	56	100072	19.7325	ug/L	99
40) 1,1-Dichloropropene	10.10	75	61224	20.0537	ug/L	99
41) Tert-Amyl-Methyl ether	10.20	73	591991	77.7064	ug/L	99
42) Carbon Tetrachloride	10.24	117	74006	20.2630	ug/L	100

(#) = qualifier out of range (m) = manual integration
 9M981995.D 8260C.M Tue Aug 15 10:01:18 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\081417\9M981995.D

Vial: 7

Acq On : 14 Aug 2017 12:14

Operator: ADC

Sample : WG625140-06 20ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01:18 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.42	62	86287	20.2967	ug/L	99
46) Benzene	10.46	78	204278	20.1134	ug/L	99
47) Trichloroethene	11.20	130	54898	20.3473	ug/L	97
48) Methylcyclohexane	11.29	83	78861	19.6255	ug/L	99
49) 1,2-Dichloropropane	11.42	63	57213	20.3375	ug/L	100
50) 1,4-Dioxane	11.71	88	7138	147.9604	ug/L	89
51) Bromodichloromethane	11.72	83	67677	20.0185	ug/L	99
52) Dibromomethane	11.81	174	38160	20.6244	ug/L	98
53) 2-Chloroethyl Vinyl Ether	12.02	63	42851	19.2527	ug/L	98
54) 4-Methyl-2-Pentanone	12.05	58	31755	18.8953	ug/L	98
55) cis-1,3-Dichloropropene	12.35	75	78284	20.7610	ug/L	98
56) Dimethyl Disulfide	12.62	79	38079	17.3029	ug/L	84
59) Toluene	12.78	91	211350	20.5626	ug/L	98
60) Ethyl Methacrylate	12.87	69	71161	17.9718	ug/L	99
61) trans-1,3-Dichloropropene	12.96	75	71305	20.6820	ug/L	98
62) 1,1,2-Trichloroethane	13.17	97	52201	20.6808	ug/L	100
63) 2-Hexanone	13.10	43	53767	18.5116	ug/L #	83
64) 1,3-Dichloropropane	13.47	76	84584	20.4379	ug/L	97
65) Tetrachloroethene	13.59	164	40868	19.6272	ug/L	98
66) Dibromochloromethane	13.85	129	60004	20.3654	ug/L	98
67) 1,2-Dibromoethane	14.12	107	55246	20.6487	ug/L	99
68) 1-Chlorohexane	14.19	91	57205	20.3275	ug/L	99
69) Chlorobenzene	14.61	112	144615	20.2831	ug/L	97
70) 1,1,1,2-Tetrachloroethane	14.64	131	56814	20.4260	ug/L	100
71) Ethylbenzene	14.63	106	77064	20.5082	ug/L	97
72) m-,p-Xylene	14.73	106	190636	42.8882	ug/L	97
73) o-Xylene	15.29	106	95507	20.7560	ug/L	100
74) Styrene	15.33	104	150619	18.0497	ug/L	100
75) Bromoform	15.83	173	44766	17.1672	ug/L	99
76) Isopropylbenzene	15.71	105	239590	20.7404	ug/L	100
78) 1,1,2,2-Tetrachloroethane	15.93	83	75374	21.0071	ug/L	99
80) 1,2,3-Trichloropropane	16.12	110	25481	21.1487	ug/L	89
81) trans-1,4-Dichloro-2-Butene	16.17	53	26525	19.9448	ug/L	86
82) n-Propylbenzene	16.22	91	262895	21.8153	ug/L	100
83) Bromobenzene	16.35	156	64900	21.3116	ug/L	99
84) 1,3,5-Trimethylbenzene	16.41	105	204940	21.9554	ug/L	97
85) 2-Chlorotoluene	16.49	91	165260	20.7415	ug/L	89
86) 4-Chlorotoluene	16.54	91	161665	22.8251	ug/L	91
87) a-Methylstyrene	16.81	118	101966	20.6030	ug/L	99
88) tert-Butylbenzene	16.87	134	43618	21.7123	ug/L	99
89) 1,2,4-Trimethylbenzene	16.92	105	212865	21.9939	ug/L	100
90) sec-Butylbenzene	17.14	105	249647	21.9720	ug/L	99
91) p-Isopropyltoluene	17.29	119	212438	22.4310	ug/L	98
92) 1,3-Dichlorobenzene	17.49	146	113648	21.1091	ug/L	99
93) 1,4-Dichlorobenzene	17.62	146	114924	20.6115	ug/L	98
94) n-Butylbenzene	17.82	91	165400	18.9170	ug/L	99
95) 1,2-Dichlorobenzene	18.12	146	122954	21.1050	ug/L	98
96) 1,2-Dibromo-3-Chloropropan	19.12	157	19618	18.7116	ug/L	96
97) 1,2,4-Trichlorobenzene	20.26	180	78568	18.5689	ug/L	99
98) Hexachlorobutadiene	20.41	225	33593	17.8716	ug/L	97
99) Naphthalene	20.63	128	291834	21.5082	ug/L	99
100) 1,2,3-Trichlorobenzene	20.93	180	87912	22.0143	ug/L	100

 (#) = qualifier out of range (m) = manual integration
 9M981995.D 8260C.M Tue Aug 15 10:01:18 2017

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Data File : C:\MSDCHEM\1\DATA\081417\9M981996.D

Vial: 8

Acq On : 14 Aug 2017 12:44

Operator: ADC

Sample : WG625140-07 50ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01:19 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	467532	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	362100	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	186814	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.67	111	133166	50.8696	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	101.74%
43) 1,2-Dichloroethane-d4	10.30	65	152705	49.9403	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.88%
58) Toluene-d8	12.67	98	447907	50.2452	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	100.50%
79) p-Bromofluorobenzene	16.06	95	164352	49.6162	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	99.24%

Target Compounds

					Qvalue
2) Dichlorodifluoromethane	3.23	85	187929	54.9228	ug/L 100
3) Chloromethane	3.69	50	240724	51.2867	ug/L 100
4) Vinyl Chloride	3.90	62	183919	55.1215	ug/L 99
5) 1,3-Butadiene	3.95	54	68089	55.4290	ug/L 98
6) Bromomethane	4.79	94	98582	48.0517	ug/L 100
7) Chloroethane	4.94	64	108202	55.7876	ug/L 100
8) Trichlorofluoromethane	5.42	101	229158	53.3124	ug/L 99
9) Diethyl ether	5.94	59	269192	101.1227	ug/L 99
10) Isoprene	5.98	67	192096	54.8566	ug/L 100
11) Acrolein	6.18	56	23495	52.4075	ug/L 96
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	119862	53.1060	ug/L 100
13) Acetone	6.28	43	70847	49.8666	ug/L 99
14) 1,1-Dichloroethene	6.50	61	213252	52.7491	ug/L 98
15) Tert-Butyl Alcohol	6.62	59	98080	200.0732	ug/L 99
16) Dimethyl Sulfide	6.76	62	170545	53.9224	ug/L 99
17) Iodomethane	7.02	142	166516	53.8249	ug/L 100
18) Methyl acetate	7.03	43	187778	51.4546	ug/L 99
19) Methylene Chloride	7.27	84	137841	52.1269	ug/L 98
20) Carbon Disulfide	7.31	76	353465	53.5951	ug/L 100
21) Acrylonitrile	7.46	53	92012	53.6180	ug/L 98
22) Methyl Tert Butyl Ether	7.48	73	430298	51.9337	ug/L 99
23) trans-1,2-Dichloroethene	7.72	61	196603	52.3384	ug/L 100
24) n-Hexane	7.79	57	185509	52.4027	ug/L 99
25) Diisopropyl ether	8.14	45	1045382	102.8613	ug/L 100
26) Vinyl Acetate	8.30	43	324691	51.0915	ug/L 100
27) 1,1-Dichloroethane	8.34	63	267800	53.6868	ug/L 100
28) Ethyl-Tert-Butyl ether	8.71	59	954230	102.7375	ug/L 100
29) 2-Butanone	8.88	43	106859	50.5036	ug/L 98
30) Propionitrile	9.00	54	69348	96.9116	ug/L 98
31) 2,2-Dichloropropane	9.11	77	187353	51.5741	ug/L 98
32) cis-1,2-Dichloroethene	9.17	96	145542	54.3566	ug/L 100
33) Chloroform	9.38	83	241443	54.2188	ug/L 99
34) 1-Bromopropane	9.52	122	27084	53.8289	ug/L 97
35) Bromochloromethane	9.61	130	102972	53.6643	ug/L 99
36) Tetrahydrofuran	9.63	42	136247	103.3831	ug/L 99
38) 1,1,1-Trichloroethane	9.91	97	219366	53.6913	ug/L 99
39) Cyclohexane	9.94	56	266014	51.8540	ug/L 100
40) 1,1-Dichloropropene	10.10	75	168701	54.6261	ug/L 99
41) Tert-Amyl-Methyl ether	10.20	73	794022	103.0347	ug/L 99
42) Carbon Tetrachloride	10.25	117	199929	54.1154	ug/L 100

(#) = qualifier out of range (m) = manual integration
 9M981996.D 8260C.M Tue Aug 15 10:01:19 2017

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Data File : C:\MSDCHEM\1\DATA\081417\9M981996.D

Vial: 8

Acq On : 14 Aug 2017 12:44

Operator: ADC

Sample : WG625140-07 50ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01:19 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.43	62	223741	52.0278	ug/L	100
46) Benzene	10.46	78	530801	51.6659	ug/L	100
47) Trichloroethene	11.21	130	147386	54.0027	ug/L	98
48) Methylcyclohexane	11.29	83	210823	51.8662	ug/L	99
49) 1,2-Dichloropropane	11.42	63	153783	54.0407	ug/L	100
50) 1,4-Dioxane	11.71	88	9850	190.2603	ug/L	95
51) Bromodichloromethane	11.72	83	185897	54.3591	ug/L	100
52) Dibromomethane	11.81	174	102983	55.0236	ug/L	98
53) 2-Chloroethyl Vinyl Ether	12.02	63	114911	51.0389	ug/L	99
54) 4-Methyl-2-Pentanone	12.05	58	86422	50.8366	ug/L	98
55) cis-1,3-Dichloropropene	12.36	75	216522	56.7658	ug/L	99
56) Dimethyl Disulfide	12.62	79	119337	46.4352	ug/L	99
59) Toluene	12.77	91	558519	53.2405	ug/L	100
60) Ethyl Methacrylate	12.87	69	205889	48.3132	ug/L	99
61) trans-1,3-Dichloropropene	12.95	75	208913	59.3700	ug/L	99
62) 1,1,2-Trichloroethane	13.17	97	138018	53.5737	ug/L	100
63) 2-Hexanone	13.11	43	157000	46.5776	ug/L #	83
64) 1,3-Dichloropropane	13.47	76	225263	53.3292	ug/L	99
65) Tetrachloroethene	13.59	164	113407	53.3632	ug/L	99
66) Dibromochloromethane	13.85	129	167353	55.6513	ug/L	97
67) 1,2-Dibromoethane	14.11	107	152646	55.8992	ug/L	100
68) 1-Chlorohexane	14.19	91	164819	57.3833	ug/L	100
69) Chlorobenzene	14.61	112	390202	53.6214	ug/L	100
70) 1,1,1,2-Tetrachloroethane	14.65	131	154624	54.4670	ug/L	99
71) Ethylbenzene	14.64	106	209466	54.6158	ug/L	98
72) m-,p-Xylene	14.73	106	514779	113.4702	ug/L	99
73) o-Xylene	15.29	106	256126	54.5370	ug/L	99
74) Styrene	15.33	104	427348	48.8242	ug/L	99
75) Bromoform	15.83	173	129787	46.0769	ug/L	99
76) Isopropylbenzene	15.71	105	650121	55.1406	ug/L	100
78) 1,1,2,2-Tetrachloroethane	15.93	83	211481	55.5448	ug/L	99
80) 1,2,3-Trichloropropane	16.12	110	71412	55.8553	ug/L	97
81) trans-1,4-Dichloro-2-Butene	16.17	53	73828	52.3144	ug/L	93
82) n-Propylbenzene	16.22	91	727029	56.8536	ug/L	100
83) Bromobenzene	16.36	156	173792	53.7810	ug/L	98
84) 1,3,5-Trimethylbenzene	16.41	105	552197	55.7489	ug/L	100
85) 2-Chlorotoluene	16.49	91	457667	54.1313	ug/L	91
86) 4-Chlorotoluene	16.54	91	435558	57.9522	ug/L	91
87) a-Methylstyrene	16.81	118	302477	57.5961	ug/L	99
88) tert-Butylbenzene	16.87	134	116743	54.7644	ug/L	89
89) 1,2,4-Trimethylbenzene	16.93	105	576835	56.1665	ug/L	100
90) sec-Butylbenzene	17.14	105	691464	57.3508	ug/L	100
91) p-Isopropyltoluene	17.30	119	588233	58.5319	ug/L	100
92) 1,3-Dichlorobenzene	17.50	146	319317	55.8929	ug/L	100
93) 1,4-Dichlorobenzene	17.62	146	317078	53.5910	ug/L	99
94) n-Butylbenzene	17.82	91	493440	52.0554	ug/L	99
95) 1,2-Dichlorobenzene	18.12	146	341286	55.2061	ug/L	100
96) 1,2-Dibromo-3-Chloropropan	19.12	157	61548	52.7825	ug/L	99
97) 1,2,4-Trichlorobenzene	20.25	180	240363	52.3059	ug/L	100
98) Hexachlorobutadiene	20.41	225	104638	51.1811	ug/L	99
99) Naphthalene	20.63	128	855520	58.8553	ug/L	100
100) 1,2,3-Trichlorobenzene	20.94	180	260694	61.5197	ug/L	99

 (#) = qualifier out of range (m) = manual integration
 9M981996.D 8260C.M Tue Aug 15 10:01:19 2017

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Data File : C:\MSDCHEM\1\DATA\081417\9M981997.D Vial: 9
 Acq On : 14 Aug 2017 13:14 Operator: ADC
 Sample : WG625140-08 100ug/L ICAL 8260C Inst : hpms9
 Misc : 1,1 STD83326 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 15 10:01:19 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	524098	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	411214	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	235373	50.00	ug/L	0.00

System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	147069	50.1170	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	100.24%
43) 1,2-Dichloroethane-d4	10.30	65	168392	49.1268	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	98.26%
58) Toluene-d8	12.67	98	491835	48.5833	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	97.16%
79) p-Bromofluorobenzene	16.06	95	192329	46.0835	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	92.16%

Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.23	85	393487	102.5860	ug/L 99
3) Chloromethane	3.68	50	465873	88.5425	ug/L 99
4) Vinyl Chloride	3.90	62	357232	95.5089	ug/L 100
5) 1,3-Butadiene	3.93	54	136973	99.4703	ug/L 98
6) Bromomethane	4.78	94	213941	93.0260	ug/L 100
7) Chloroethane	4.93	64	234034	107.6416	ug/L 100
8) Trichlorofluoromethane	5.41	101	494382	102.6018	ug/L 99
9) Diethyl ether	5.94	59	589863	197.6680	ug/L 99
10) Isoprene	5.97	67	418185	106.5314	ug/L 100
11) Acrolein	6.17	56	52047	103.5649	ug/L 98
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	259410	102.5292	ug/L 99
13) Acetone	6.28	43	152101	95.5035	ug/L 99
14) 1,1-Dichloroethene	6.49	61	463523	102.2804	ug/L 99
15) Tert-Butyl Alcohol	6.61	59	225464	410.2840	ug/L 99
16) Dimethyl Sulfide	6.75	62	369876	104.3243	ug/L 100
17) Iodomethane	7.00	142	365166	105.2972	ug/L 98
18) Methyl acetate	7.01	43	409739	100.1581	ug/L 100
19) Methylene Chloride	7.27	84	304211	102.6259	ug/L 98
20) Carbon Disulfide	7.31	76	755920	102.2476	ug/L 100
21) Acrylonitrile	7.46	53	202406	105.2177	ug/L 99
22) Methyl Tert Butyl Ether	7.48	73	949625	102.2424	ug/L 99
23) trans-1,2-Dichloroethene	7.71	61	432867	102.7977	ug/L 100
24) n-Hexane	7.79	57	404501	101.9311	ug/L 99
25) Diisopropyl ether	8.13	45	2263831	198.7101	ug/L 99
26) Vinyl Acetate	8.30	43	714040	100.2304	ug/L 100
27) 1,1-Dichloroethane	8.33	63	578772	103.5054	ug/L 100
28) Ethyl-Tert-Butyl ether	8.70	59	2085043	200.2580	ug/L 99
29) 2-Butanone	8.88	43	236298	99.6255	ug/L 97
30) Propionitrile	9.00	54	156295	191.3131	ug/L 100
31) 2,2-Dichloropropane	9.10	77	411663	101.0908	ug/L 99
32) cis-1,2-Dichloroethene	9.17	96	322996	107.6119	ug/L 99
33) Chloroform	9.38	83	526105	105.3918	ug/L 100
34) 1-Bromopropane	9.52	122	58487	103.6958	ug/L 98
35) Bromochloromethane	9.61	130	228925	106.4287	ug/L 98
36) Tetrahydrofuran	9.63	42	305984	207.1192	ug/L 100
38) 1,1,1-Trichloroethane	9.91	97	476804	104.1054	ug/L 100
39) Cyclohexane	9.93	56	569826	99.0875	ug/L 99
40) 1,1-Dichloropropene	10.10	75	377284	108.9807	ug/L 99
41) Tert-Amyl-Methyl ether	10.20	73	1753019	202.9254	ug/L 100
42) Carbon Tetrachloride	10.24	117	445652	107.6068	ug/L 100

(#) = qualifier out of range (m) = manual integration
 9M981997.D 8260C.M Tue Aug 15 10:01:20 2017

Data File : C:\MSDCHEM\1\DATA\081417\9M981997.D

Vial: 9

Acq On : 14 Aug 2017 13:14

Operator: ADC

Sample : WG625140-08 100ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01:19 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.42	62	492358	102.1338	ug/L	99
46) Benzene	10.45	78	1154551	100.2499	ug/L	100
47) Trichloroethene	11.20	130	324026	105.9102	ug/L	98
48) Methylcyclohexane	11.29	83	453868	99.6082	ug/L	99
49) 1,2-Dichloropropane	11.42	63	336783	105.5751	ug/L	99
50) 1,4-Dioxane	11.71	88	24206	379.1734	ug/L	95
51) Bromodichloromethane	11.72	83	418086	109.0597	ug/L	99
52) Dibromomethane	11.81	174	231464	110.3229	ug/L	100
53) 2-Chloroethyl Vinyl Ether	12.02	63	261242	103.5098	ug/L	98
54) 4-Methyl-2-Pentanone	12.05	58	195296	102.4812	ug/L	99
55) cis-1,3-Dichloropropene	12.35	75	491181	114.8749	ug/L	98
56) Dimethyl Disulfide	12.62	79	279524	93.3024	ug/L	96
59) Toluene	12.78	91	1215943	102.0652	ug/L	100
60) Ethyl Methacrylate	12.86	69	471318	95.9309	ug/L	99
61) trans-1,3-Dichloropropene	12.95	75	462931	115.8454	ug/L	100
62) 1,1,2-Trichloroethane	13.17	97	307408	105.0731	ug/L	100
63) 2-Hexanone	13.10	43	369751	92.9101	ug/L	100
64) 1,3-Dichloropropane	13.47	76	502791	104.8150	ug/L	100
65) Tetrachloroethene	13.59	164	250258	103.6933	ug/L	99
66) Dibromochloromethane	13.85	129	388725	113.8269	ug/L	99
67) 1,2-Dibromoethane	14.12	107	344908	111.2203	ug/L	100
68) 1-Chlorohexane	14.19	91	364255	111.6720	ug/L	99
69) Chlorobenzene	14.61	112	867135	104.9290	ug/L	99
70) 1,1,1,2-Tetrachloroethane	14.64	131	346637	107.5208	ug/L	99
71) Ethylbenzene	14.63	106	473163	108.6366	ug/L	95
72) m-,p-Xylene	14.73	106	1151445	223.4935	ug/L	98
73) o-Xylene	15.29	106	579368	108.6306	ug/L	98
74) Styrene	15.33	104	977194	97.5394	ug/L	99
75) Bromoform	15.83	173	310088	95.3267	ug/L	99
76) Isopropylbenzene	15.71	105	1447192	108.0847	ug/L	99
78) 1,1,2,2-Tetrachloroethane	15.93	83	494705	103.1267	ug/L	100
80) 1,2,3-Trichloropropane	16.12	110	164687	102.2363	ug/L	92
81) trans-1,4-Dichloro-2-Butene	16.17	53	176997	99.5449	ug/L	91
82) n-Propylbenzene	16.22	91	1625824	100.9096	ug/L	99
83) Bromobenzene	16.35	156	401762	98.6780	ug/L	100
84) 1,3,5-Trimethylbenzene	16.41	105	1255203	100.5794	ug/L	99
85) 2-Chlorotoluene	16.49	91	999503	93.8288	ug/L	91
86) 4-Chlorotoluene	16.54	91	1017685	107.4707	ug/L	90
87) a-Methylstyrene	16.81	118	710854	107.4320	ug/L	100
88) tert-Butylbenzene	16.87	134	269390	100.3002	ug/L	89
89) 1,2,4-Trimethylbenzene	16.92	105	1309275	101.1834	ug/L	99
90) sec-Butylbenzene	17.13	105	1563016	102.8930	ug/L	99
91) p-Isopropyltoluene	17.29	119	1354148	106.9453	ug/L	99
92) 1,3-Dichlorobenzene	17.49	146	764189	106.1667	ug/L	100
93) 1,4-Dichlorobenzene	17.62	146	780818	104.7438	ug/L	99
94) n-Butylbenzene	17.82	91	1180765	98.3061	ug/L	100
95) 1,2-Dichlorobenzene	18.12	146	821333	105.4486	ug/L	99
96) 1,2-Dibromo-3-Chloropropan	19.12	157	145271	97.7462	ug/L	100
97) 1,2,4-Trichlorobenzene	20.26	180	570672	97.9878	ug/L	99
98) Hexachlorobutadiene	20.41	225	256337	98.8898	ug/L	99
99) Naphthalene	20.63	128	1886247	102.7530	ug/L	99
100) 1,2,3-Trichlorobenzene	20.93	180	598689	112.1339	ug/L	99

(#) = qualifier out of range (m) = manual integration
 9M981997.D 8260C.M Tue Aug 15 10:01:20 2017

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Data File : C:\MSDCHEM\1\DATA\081417\9M981998.D

Vial: 10

Acq On : 14 Aug 2017 13:45

Operator: ADC

Sample : WG625140-09 200ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01:20 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	498409	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	406161	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	248332	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.67	111	144860	51.9086	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	103.82%
43) 1,2-Dichloroethane-d4	10.30	65	164822	50.5637	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	101.12%
58) Toluene-d8	12.67	98	489551	48.9593	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	97.92%
79) p-Bromofluorobenzene	16.06	95	208157	47.2733	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	94.54%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.23	85	791228	216.9133	ug/L	98
3) Chloromethane	3.68	50	857031	171.2802	ug/L	100
4) Vinyl Chloride	3.90	62	686270	192.9367	ug/L	99
5) 1,3-Butadiene	3.94	54	272499	208.0895	ug/L	98
6) Bromomethane	4.78	94	416684	190.5213	ug/L	100
7) Chloroethane	4.93	64	433641	209.7289	ug/L	99
8) Trichlorofluoromethane	5.41	101	982634	214.4424	ug/L	99
10) Isoprene	5.97	67	839883	224.9855	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	517075	214.9022	ug/L	99
13) Acetone	6.28	43	319285	210.8106	ug/L	100
14) 1,1-Dichloroethene	6.49	61	921643	213.8506	ug/L	100
16) Dimethyl Sulfide	6.75	62	746050	221.2707	ug/L	100
17) Iodomethane	7.01	142	741518	224.8406	ug/L	99
18) Methyl acetate	7.02	43	813296	209.0518	ug/L	99
19) Methylene Chloride	7.27	84	598365	212.2632	ug/L	98
20) Carbon Disulfide	7.31	76	1538505	218.8280	ug/L	100
21) Acrylonitrile	7.48	53	21103	11.5355	ug/L	# 30
22) Methyl Tert Butyl Ether	7.48	73	1873349	212.0920	ug/L	99
23) trans-1,2-Dichloroethene	7.71	61	861046	215.0215	ug/L	99
24) n-Hexane	7.79	57	834531	221.1344	ug/L	100
26) Vinyl Acetate	8.30	43	1524577	225.0366	ug/L	99
27) 1,1-Dichloroethane	8.34	63	1146179	215.5434	ug/L	100
29) 2-Butanone	8.88	43	482133	213.7489	ug/L	98
31) 2,2-Dichloropropane	9.11	77	813314	210.0172	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	640519	224.3994	ug/L	99
33) Chloroform	9.38	83	1039943	219.0638	ug/L	100
34) 1-Bromopropane	9.51	122	118672	221.2466	ug/L	99
35) Bromochloromethane	9.61	130	455230	222.5477	ug/L	97
38) 1,1,1-Trichloroethane	9.91	97	953137	218.8342	ug/L	100
39) Cyclohexane	9.93	56	1154761	211.1521	ug/L	99
40) 1,1-Dichloropropene	10.10	75	748515	227.3570	ug/L	100
42) Carbon Tetrachloride	10.25	117	881632	223.8505	ug/L	99
45) 1,2-Dichloroethane	10.43	62	974611	212.5917	ug/L	99
46) Benzene	10.46	78	2251855	205.6071	ug/L	99
47) Trichloroethene	11.21	130	640089	220.0012	ug/L	99
48) Methylcyclohexane	11.28	83	922157	212.8125	ug/L	100
49) 1,2-Dichloropropane	11.42	63	676279	222.9276	ug/L	99
50) 1,4-Dioxane	11.71	88	765	43.3504	ug/L	# 9
51) Bromodichloromethane	11.72	83	843804	231.4552	ug/L	100
52) Dibromomethane	11.81	174	470310	235.7181	ug/L	99

(#) = qualifier out of range (m) = manual integration
 9M981998.D 8260C.M Tue Aug 15 10:01:21 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\081417\9M981998.D Vial: 10
 Acq On : 14 Aug 2017 13:45 Operator: ADC
 Sample : WG625140-09 200ug/L ICAL 8260C Inst : hpms9
 Misc : 1,1 STD83326 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 15 10:01:20 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) 2-Chloroethyl Vinyl Ether	12.02	63	543378	226.3952	ug/L	98
54) 4-Methyl-2-Pentanone	12.04	58	423184	233.5106	ug/L	99
55) cis-1,3-Dichloropropene	12.36	75	992885	244.1795	ug/L	98
56) Dimethyl Disulfide	12.61	79	606272	208.4207	ug/L	93
59) Toluene	12.77	91	2375622	201.8885	ug/L	98
60) Ethyl Methacrylate	12.86	69	1000949	204.6148	ug/L	98
61) trans-1,3-Dichloropropene	12.95	75	950375	240.7837	ug/L	98
62) 1,1,2-Trichloroethane	13.17	97	624321	216.0499	ug/L	99
63) 2-Hexanone	13.11	43	801175	199.7270	ug/L	98
64) 1,3-Dichloropropane	13.48	76	1006636	212.4604	ug/L	100
65) Tetrachloroethene	13.59	164	506089	212.3046	ug/L	99
66) Dibromochloromethane	13.86	129	802773	237.9933	ug/L	99
67) 1,2-Dibromoethane	14.11	107	711496	232.2859	ug/L	100
68) 1-Chlorohexane	14.19	91	775588	240.7353	ug/L	99
69) Chlorobenzene	14.61	112	1762852	215.9705	ug/L	98
70) 1,1,1,2-Tetrachloroethane	14.65	131	726522	228.1581	ug/L	100
71) Ethylbenzene	14.64	106	994646	231.2085	ug/L	88
72) m-,p-Xylene	14.73	106	2325138	456.9200	ug/L	90
73) o-Xylene	15.29	106	1201310	228.0461	ug/L	95
74) Styrene	15.33	104	2046725	205.9858	ug/L	98
75) Bromoform	15.83	173	684067	211.1093	ug/L	100
76) Isopropylbenzene	15.71	105	2907876	219.8789	ug/L	96
78) 1,1,2,2-Tetrachloroethane	15.93	83	1087362	214.8439	ug/L	99
80) 1,2,3-Trichloropropane	16.12	110	357009	210.0627	ug/L	67
81) trans-1,4-Dichloro-2-Butene	16.18	53	405714	216.2704	ug/L #	46
82) n-Propylbenzene	16.22	91	3300798	194.1788	ug/L	96
83) Bromobenzene	16.36	156	865604	201.5091	ug/L	100
84) 1,3,5-Trimethylbenzene	16.41	105	2615198	198.6202	ug/L	97
85) 2-Chlorotoluene	16.49	91	2148801	191.1931	ug/L	93
86) 4-Chlorotoluene	16.54	91	2119562	212.1519	ug/L	88
87) a-Methylstyrene	16.81	118	1590901	227.8875	ug/L	97
88) tert-Butylbenzene	16.87	134	588079	207.5296	ug/L	85
89) 1,2,4-Trimethylbenzene	16.93	105	2746791	201.1999	ug/L	97
90) sec-Butylbenzene	17.14	105	3245392	202.4946	ug/L	96
91) p-Isopropyltoluene	17.30	119	2864824	214.4459	ug/L	96
92) 1,3-Dichlorobenzene	17.50	146	1671395	220.0850	ug/L	97
93) 1,4-Dichlorobenzene	17.62	146	1706322	216.9518	ug/L	98
94) n-Butylbenzene	17.82	91	2557272	201.1428	ug/L	97
95) 1,2-Dichlorobenzene	18.12	146	1743934	212.2148	ug/L	98
96) 1,2-Dibromo-3-Chloropropan	19.12	157	317226	200.9198	ug/L	99
97) 1,2,4-Trichlorobenzene	20.25	180	1243582	201.6924	ug/L	100
98) Hexachlorobutadiene	20.41	225	554946	202.2201	ug/L	100
99) Naphthalene	20.63	128	3635353	187.4367	ug/L	95
100) 1,2,3-Trichlorobenzene	20.94	180	1275571	226.4458	ug/L	99

(#) = qualifier out of range (m) = manual integration
 9M981998.D 8260C.M Tue Aug 15 10:01:21 2017

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Data File : C:\MSDCHEM\1\DATA\081417\9M981998.D

Vial: 10

Acq On : 14 Aug 2017 13:45

Operator: ADC

Sample : WG625140-09 200ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01 2017

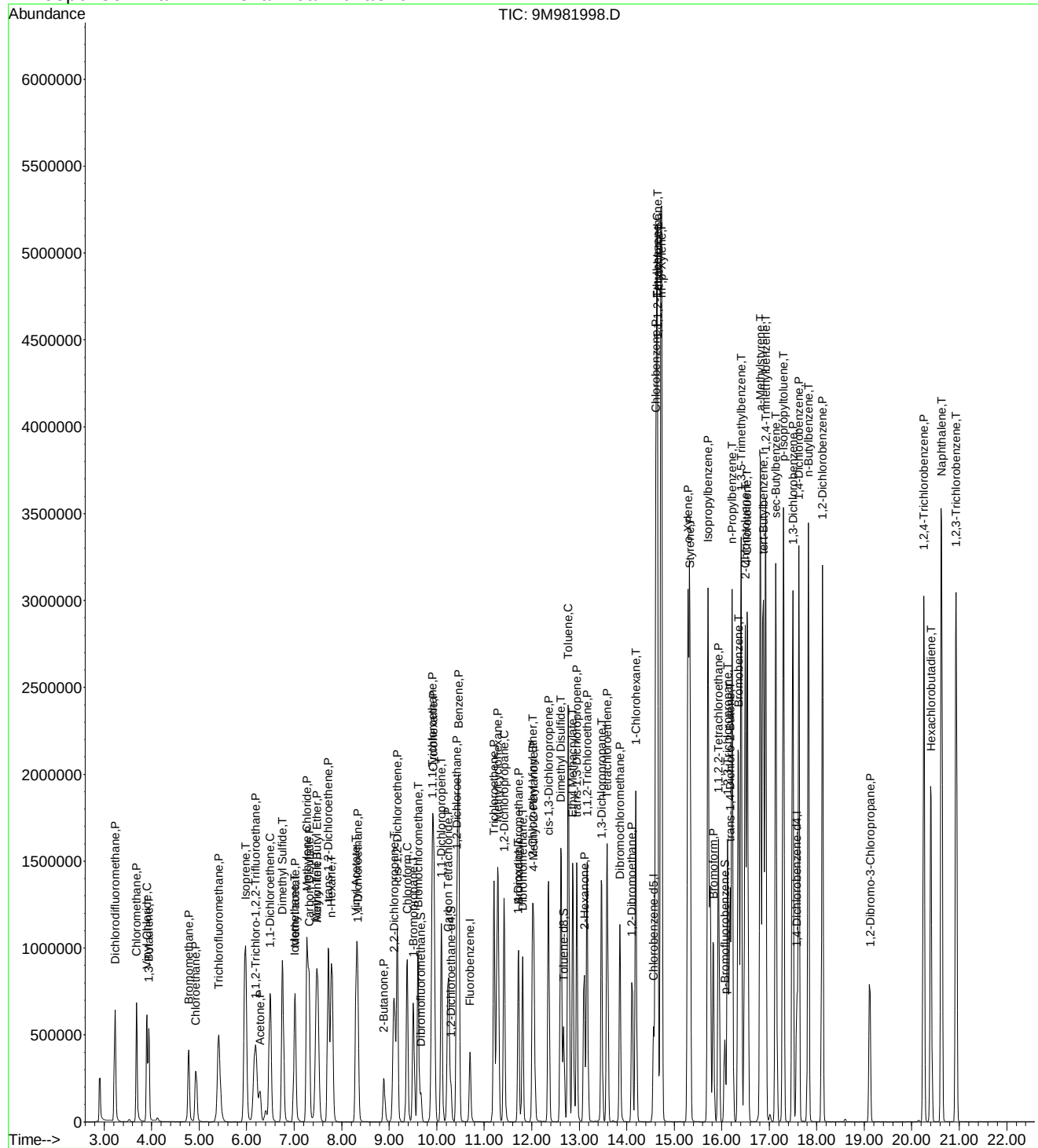
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\081417\9M981999.D Vial: 11
 Acq On : 14 Aug 2017 14:15 Operator: ADC
 Sample : WG625140-10 300ug/L ICAL 8260C Inst : hpms9
 Misc : 1,1 STD83326 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 15 10:01:21 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	493476	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	392462	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	230145	50.00	ug/L	0.00

System Monitoring Compounds						
37) Dibromofluoromethane	9.67	111	140929	51.0048	ug/L	0.00
Spiked Amount	50.000	Range 86 - 118	Recovery	=	102.00%	
43) 1,2-Dichloroethane-d4	10.30	65	161923	50.1709	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	100.34%	
58) Toluene-d8	12.67	98	485922	50.2926	ug/L	0.00
Spiked Amount	50.000	Range 88 - 110	Recovery	=	100.58%	
79) p-Bromofluorobenzene	16.06	95	195428	47.8898	ug/L	0.00
Spiked Amount	50.000	Range 86 - 115	Recovery	=	95.78%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.23	85	2800	0.7753	ug/L	# 67
3) Chloromethane	3.68	50	13650	2.7553	ug/L	98
4) Vinyl Chloride	3.91	62	1479	0.4200	ug/L	# 70
5) 1,3-Butadiene	3.94	54	328748	253.5527	ug/L	99
6) Bromomethane	4.77	94	49187	22.7147	ug/L	99
9) Diethyl ether	5.94	59	891755	317.3783	ug/L	98
10) Isoprene	5.97	67	1226043	331.7121	ug/L	99
11) Acrolein	6.18	56	78757	166.4380	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.21	101	1089	0.4571	ug/L	# 34
13) Acetone	6.28	43	436932	291.3718	ug/L	99
14) 1,1-Dichloroethene	6.49	61	1826	0.4279	ug/L	98
15) Tert-Butyl Alcohol	6.64	59	415493	803.0036	ug/L	95
16) Dimethyl Sulfide	6.75	62	1084028	324.7254	ug/L	99
17) Iodomethane	7.01	142	936703	286.8631	ug/L	99
18) Methyl acetate	7.02	43	1189858	308.9017	ug/L	98
20) Carbon Disulfide	7.31	76	2219094	318.7862	ug/L	100
21) Acrylonitrile	7.46	53	287970	158.9860	ug/L	98
23) trans-1,2-Dichloroethene	7.72	61	4051	1.0217	ug/L	89
24) n-Hexane	7.79	57	1133320	303.3096	ug/L	99
25) Diisopropyl ether	8.14	45	3305348	308.1339	ug/L	99
26) Vinyl Acetate	8.31	43	1950279	290.7504	ug/L	99
28) Ethyl-Tert-Butyl ether	8.71	59	3091533	315.3518	ug/L	98
29) 2-Butanone	8.89	43	718880	321.8944	ug/L	96
30) Propionitrile	9.00	54	250195	322.8097	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	1411	0.4993	ug/L	84
34) 1-Bromopropane	9.51	122	174717	328.9905	ug/L	98
36) Tetrahydrofuran	9.64	42	450447	323.8261	ug/L	99
39) Cyclohexane	9.93	56	1632388	301.4718	ug/L	100
40) 1,1-Dichloropropene	10.10	75	2772	0.8504	ug/L	# 65
41) Tert-Amyl-Methyl ether	10.21	73	2610916	320.9882	ug/L	99
47) Trichloroethene	11.21	130	2096	0.7276	ug/L	94
48) Methylcyclohexane	11.28	83	1305634	304.3222	ug/L	99
50) 1,4-Dioxane	11.71	88	39568	634.8601	ug/L	97
53) 2-Chloroethyl Vinyl Ether	12.01	63	798546	336.0353	ug/L	98
54) 4-Methyl-2-Pentanone	12.04	58	639203	356.2346	ug/L	99
56) Dimethyl Disulfide	12.61	79	878502	303.4410	ug/L	92
59) Toluene	12.77	91	5306	0.4667	ug/L	99
60) Ethyl Methacrylate	12.86	69	1435556	303.0058	ug/L	98
61) trans-1,3-Dichloropropene	12.96	75	1578	0.4138	ug/L	# 49
63) 2-Hexanone	13.10	43	1214519	311.3878	ug/L	98

(#) = qualifier out of range (m) = manual integration
 9M981999.D 8260C.M Tue Aug 15 10:01:21 2017

Data File : C:\MSDCHEM\1\DATA\081417\9M981999.D Vial: 11
 Acq On : 14 Aug 2017 14:15 Operator: ADC
 Sample : WG625140-10 300ug/L ICAL 8260C Inst : hpms9
 Misc : 1,1 STD83326 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 15 10:01:21 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
65) Tetrachloroethene	13.58	164	2126	0.9230	ug/L	96
68) 1-Chlorohexane	14.19	91	1056428	339.3510	ug/L	98
69) Chlorobenzene	14.62	112	4058	0.5145	ug/L	98
71) Ethylbenzene	14.65	106	1722	0.4143	ug/L	62
72) m-,p-Xylene	14.73	106	5601	1.1391	ug/L	88
74) Styrene	15.33	104	3673	1.1409	ug/L	91
76) Isopropylbenzene	15.71	105	11738	0.9185	ug/L	97
81) trans-1,4-Dichloro-2-Buten	16.17	53	537259	309.0238	ug/L	61
82) n-Propylbenzene	16.18	91	122392	7.7690	ug/L #	58
83) Bromobenzene	16.36	156	2031	0.5102	ug/L	58
84) 1,3,5-Trimethylbenzene	16.41	105	6792	0.5566	ug/L	97
85) 2-Chlorotoluene	16.50	91	5972	0.5734	ug/L	82
86) 4-Chlorotoluene	16.54	91	8861	0.9570	ug/L	92
87) a-Methylstyrene	16.81	118	2120622	327.7720	ug/L	99
88) tert-Butylbenzene	16.88	134	1511	0.5754	ug/L #	1
89) 1,2,4-Trimethylbenzene	16.93	105	8046	0.6359	ug/L	89
90) sec-Butylbenzene	17.14	105	14405	0.9698	ug/L	100
91) p-Isopropyltoluene	17.30	119	9967	0.8050	ug/L	95
92) 1,3-Dichlorobenzene	17.50	146	7863	1.1172	ug/L	98
93) 1,4-Dichlorobenzene	17.62	146	8965	1.2299	ug/L	94
94) n-Butylbenzene	17.82	91	11691	1.6120	ug/L	98
95) 1,2-Dichlorobenzene	18.12	146	5194	0.6820	ug/L	99
97) 1,2,4-Trichlorobenzene	20.26	180	9215	2.2600	ug/L	96
98) Hexachlorobutadiene	20.40	225	2067	1.4710	ug/L	89
99) Naphthalene	20.63	128	19880	1.4239	ug/L	97
100) 1,2,3-Trichlorobenzene	20.94	180	7876	1.5087	ug/L	96

 (#) = qualifier out of range (m) = manual integration
 9M981999.D 8260C.M Tue Aug 15 10:01:21 2017

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Data File : C:\MSDCHEM\1\DATA\081417\9M981999.D

Vial: 11

Acq On : 14 Aug 2017 14:15

Operator: ADC

Sample : WG625140-10 300ug/L ICAL 8260C

Inst : hpms9

Misc : 1,1 STD83326

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01 2017

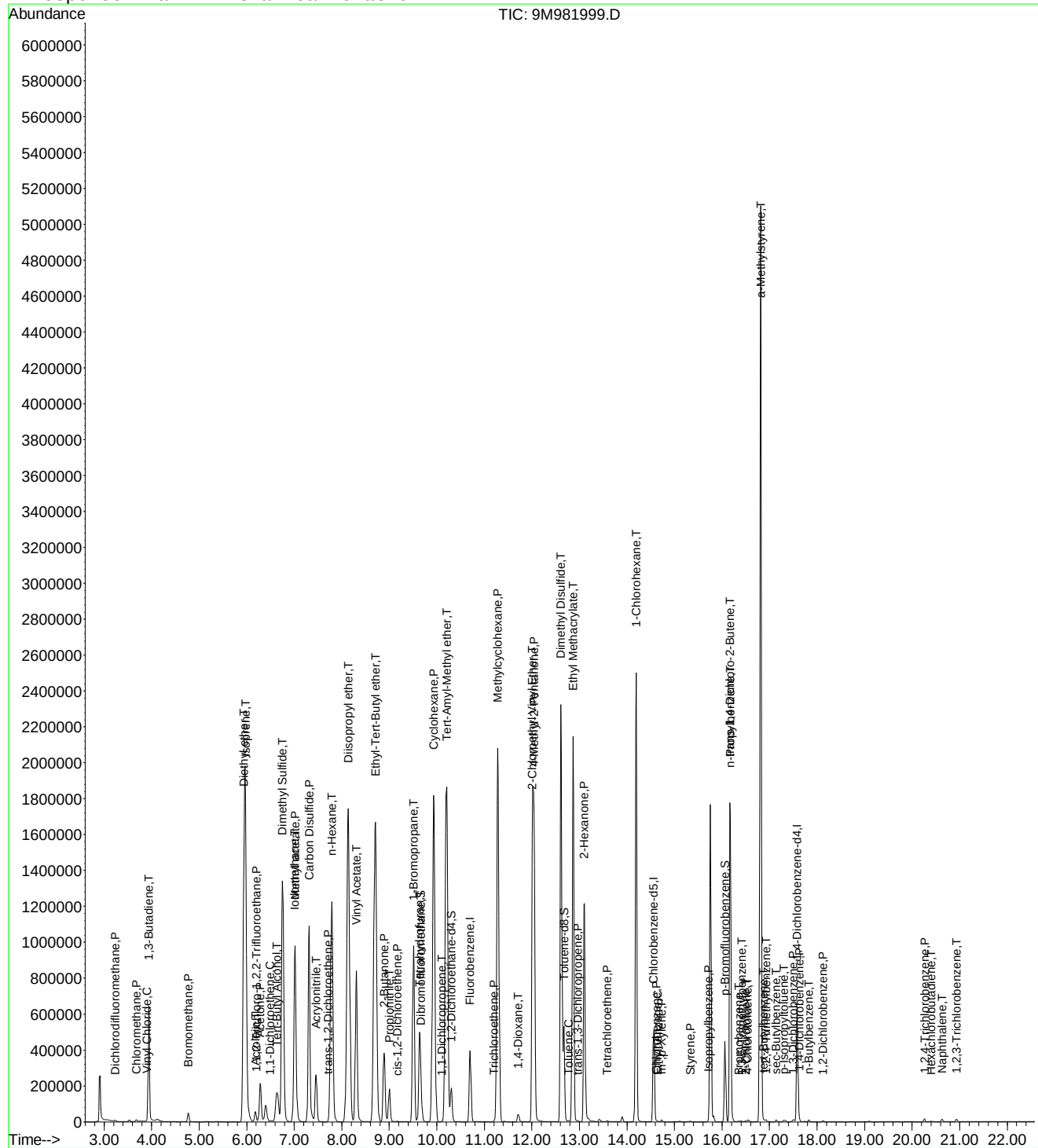
Quant Results File: 8260C.RES

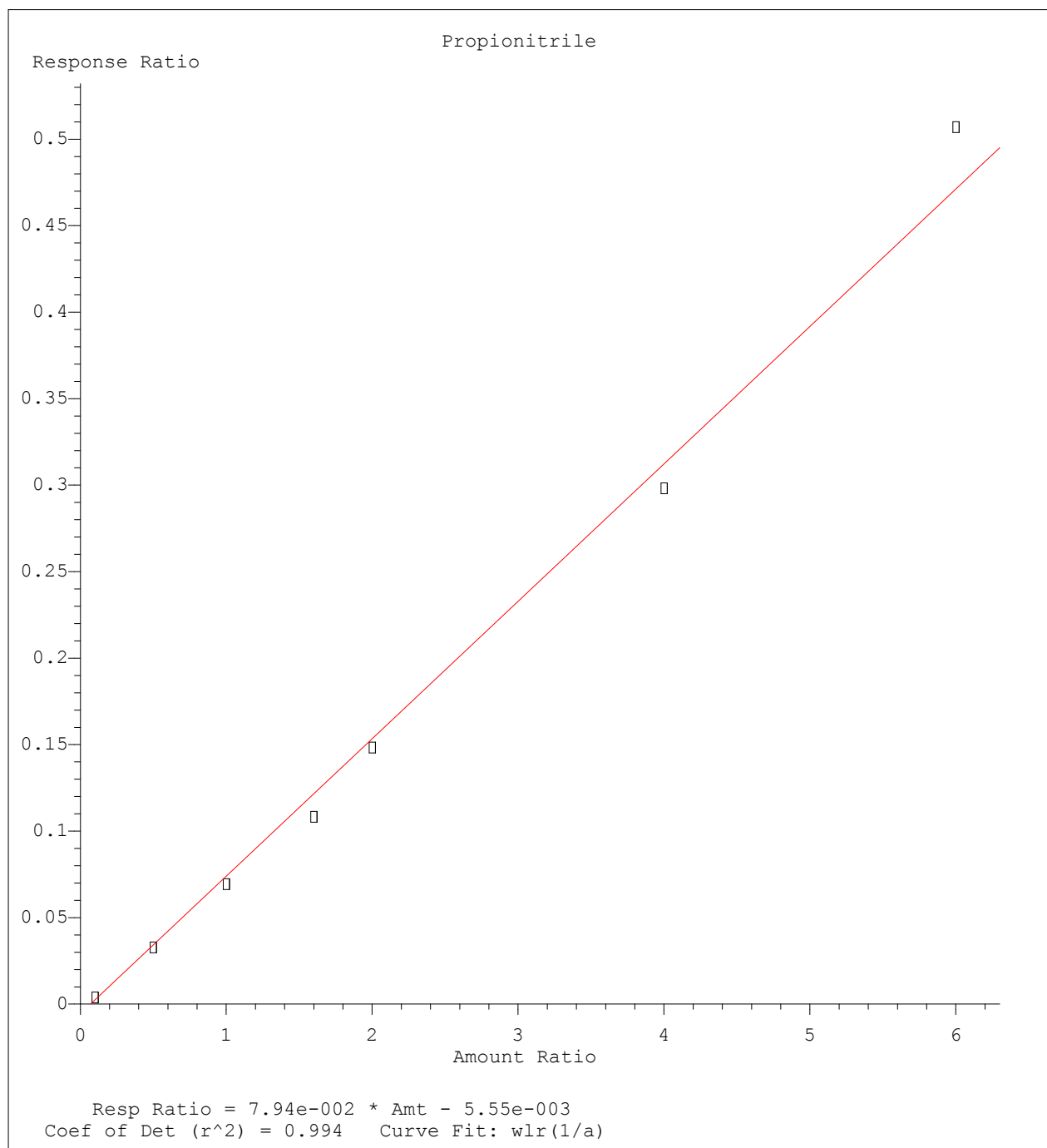
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Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

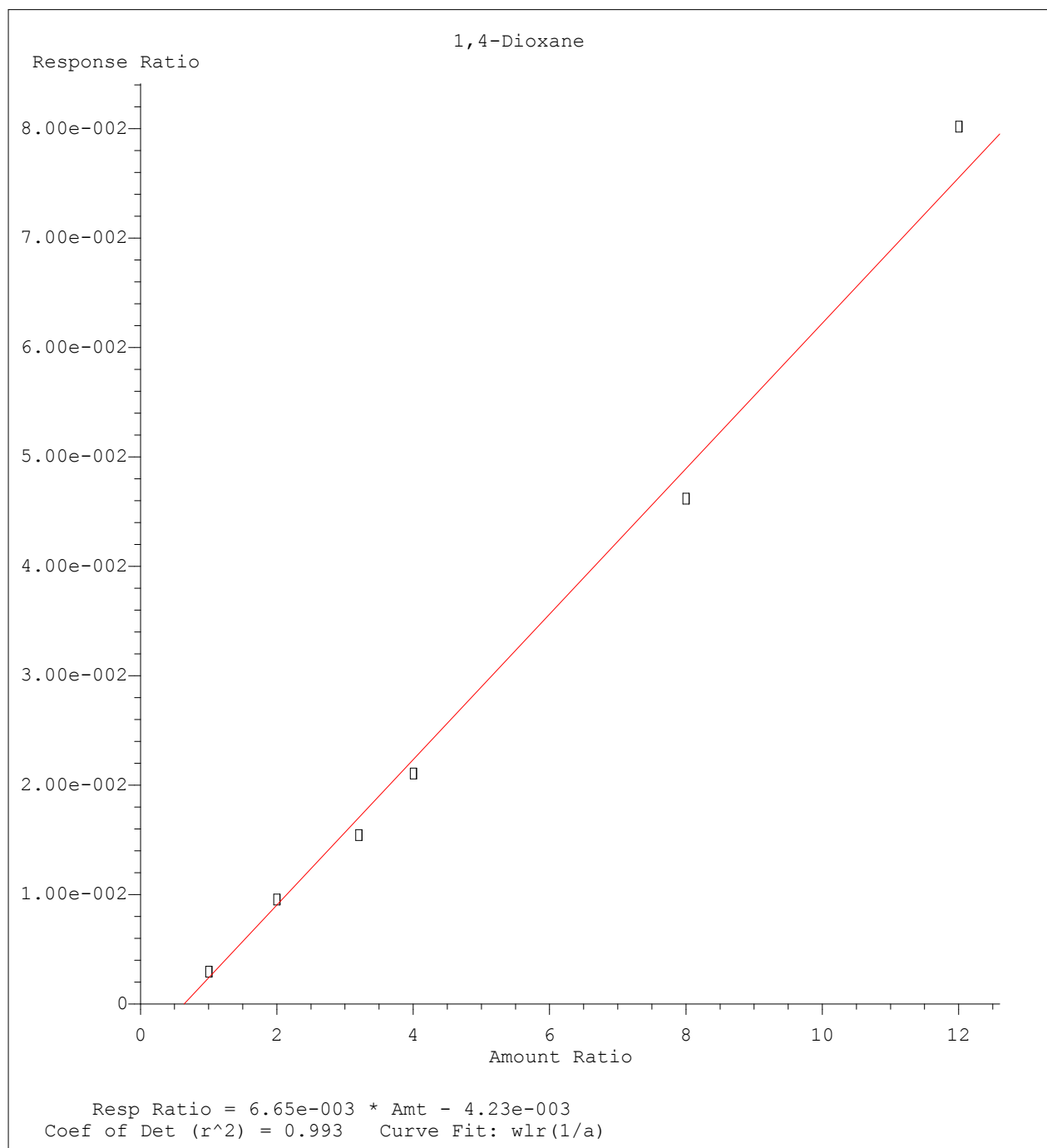
Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

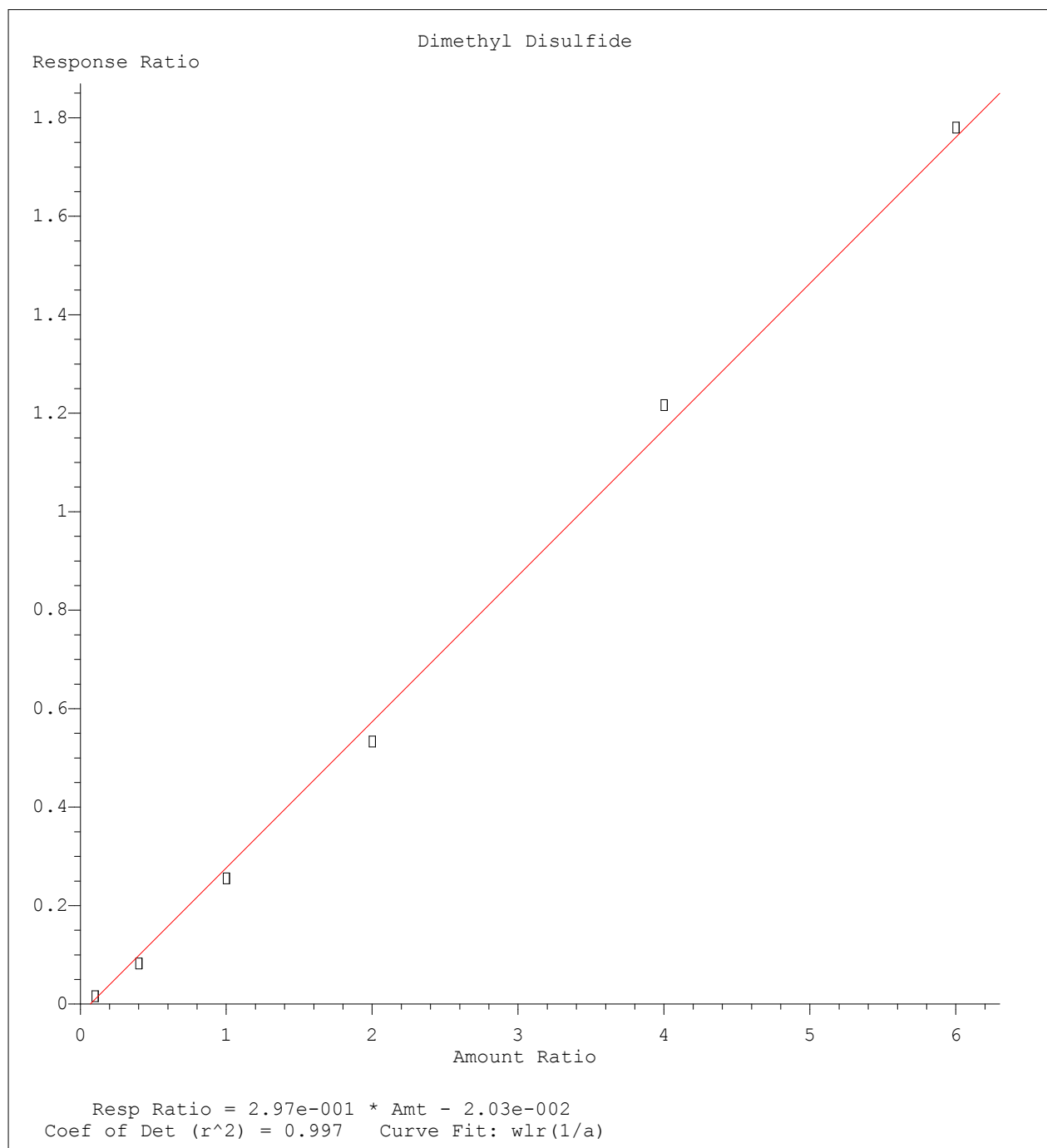




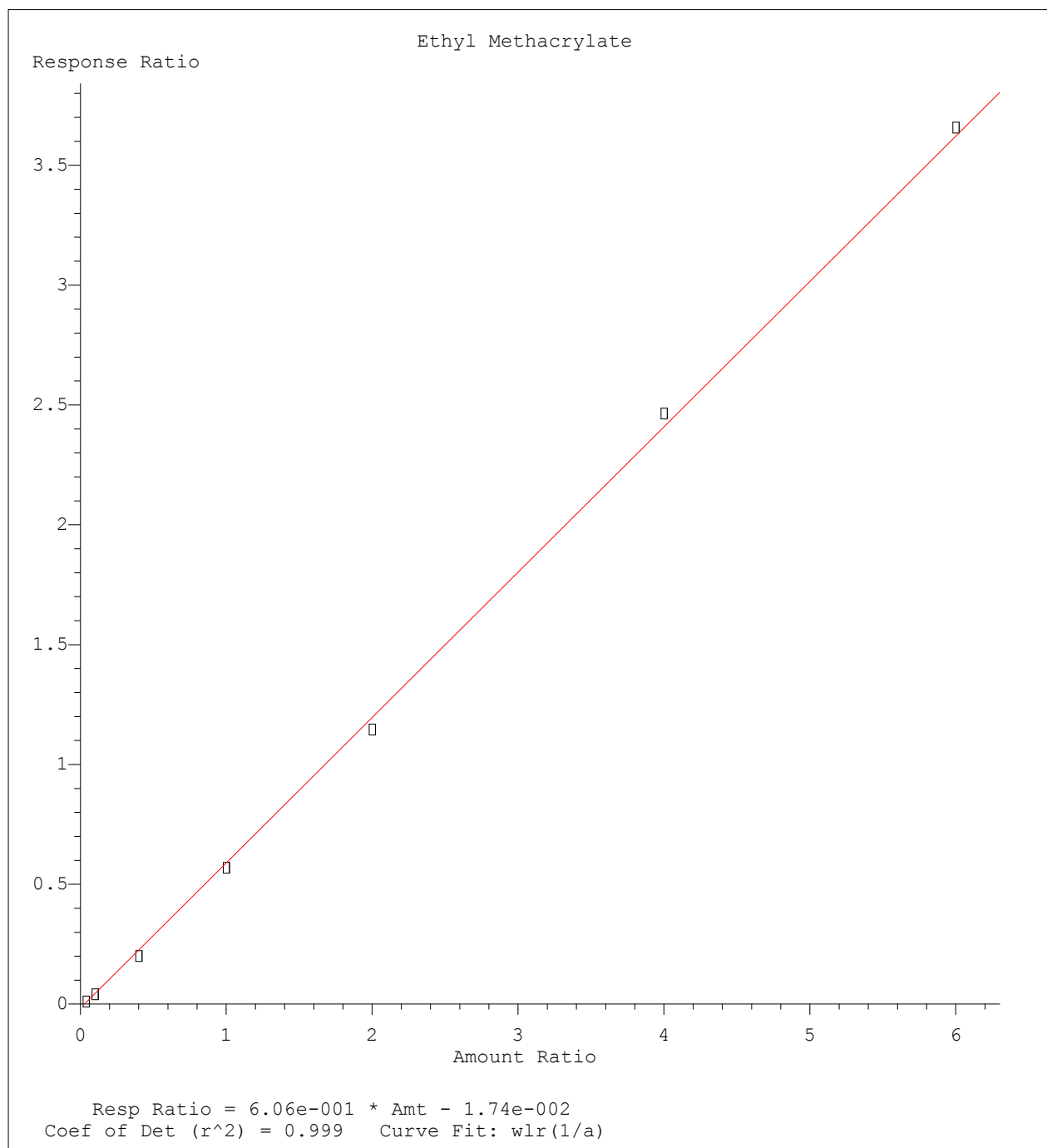
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Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



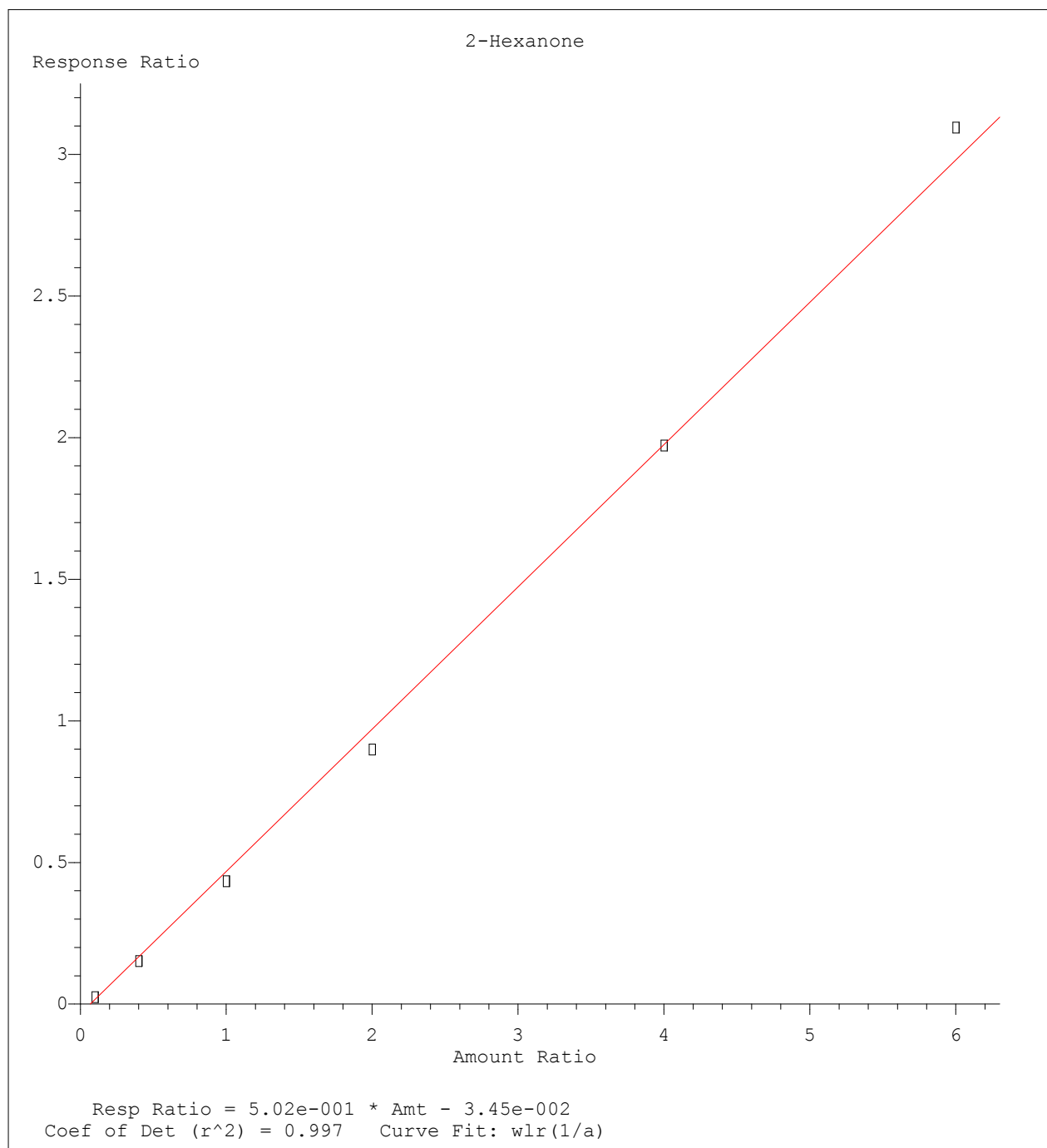
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Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



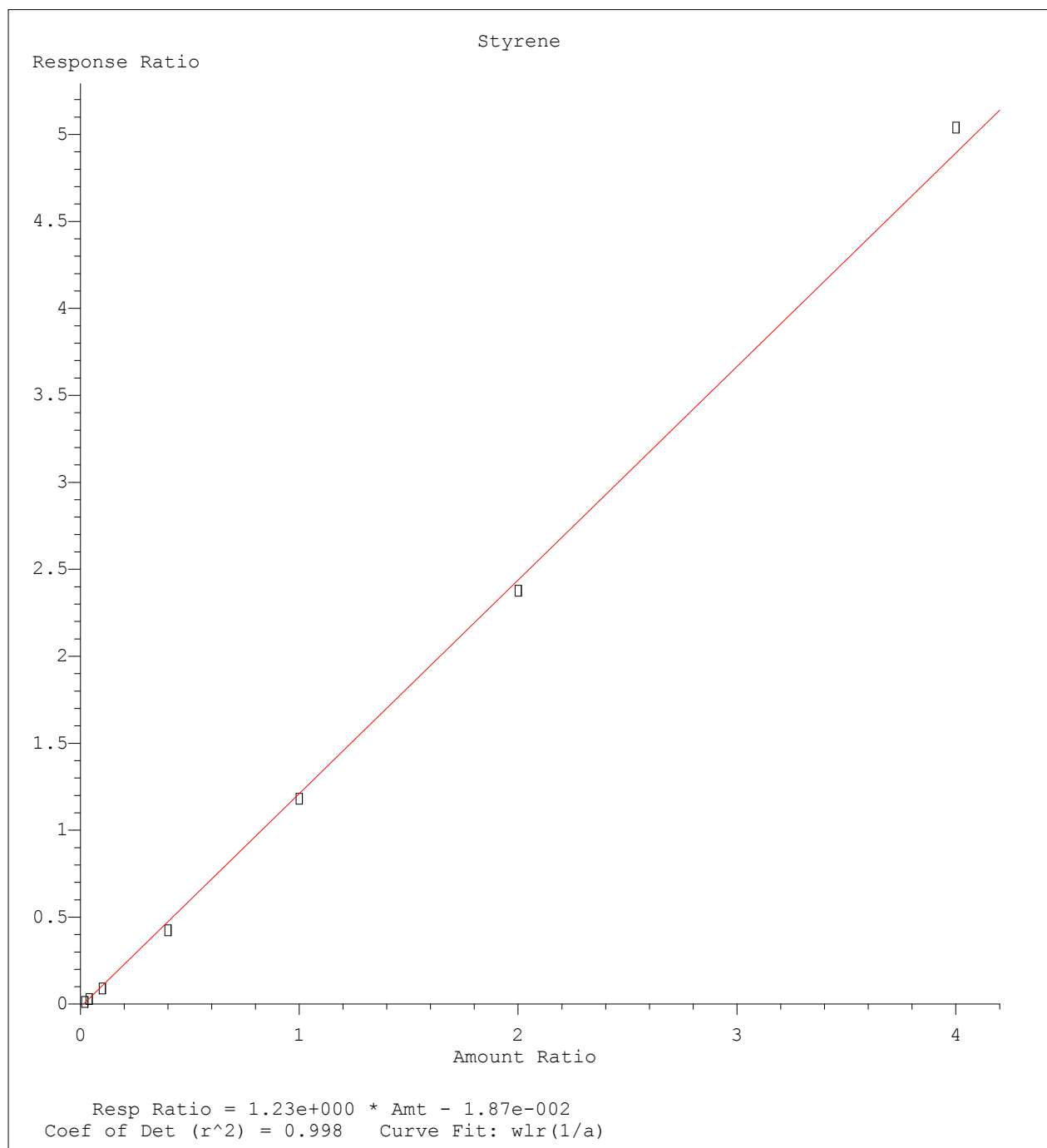
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Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



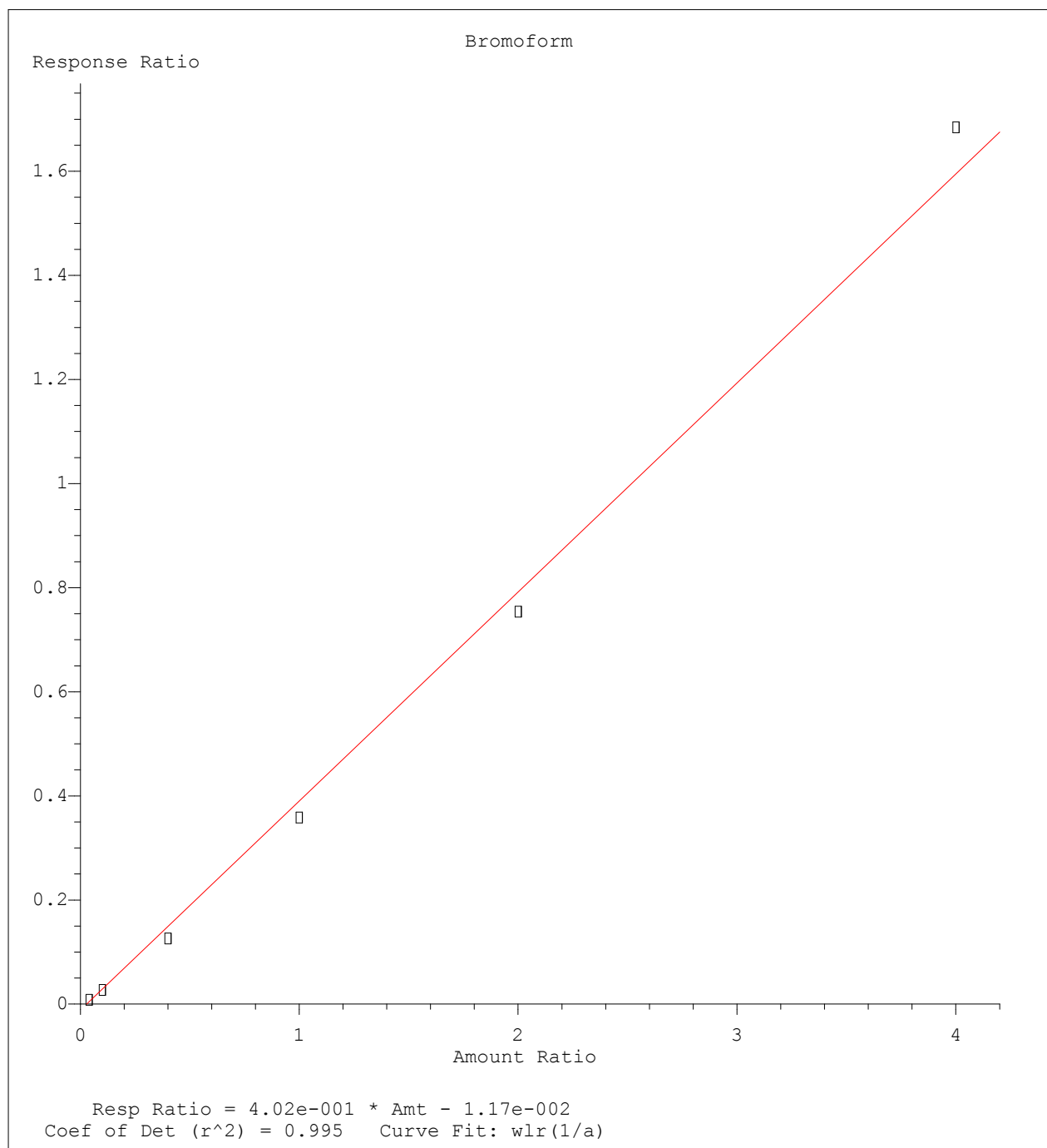
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Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



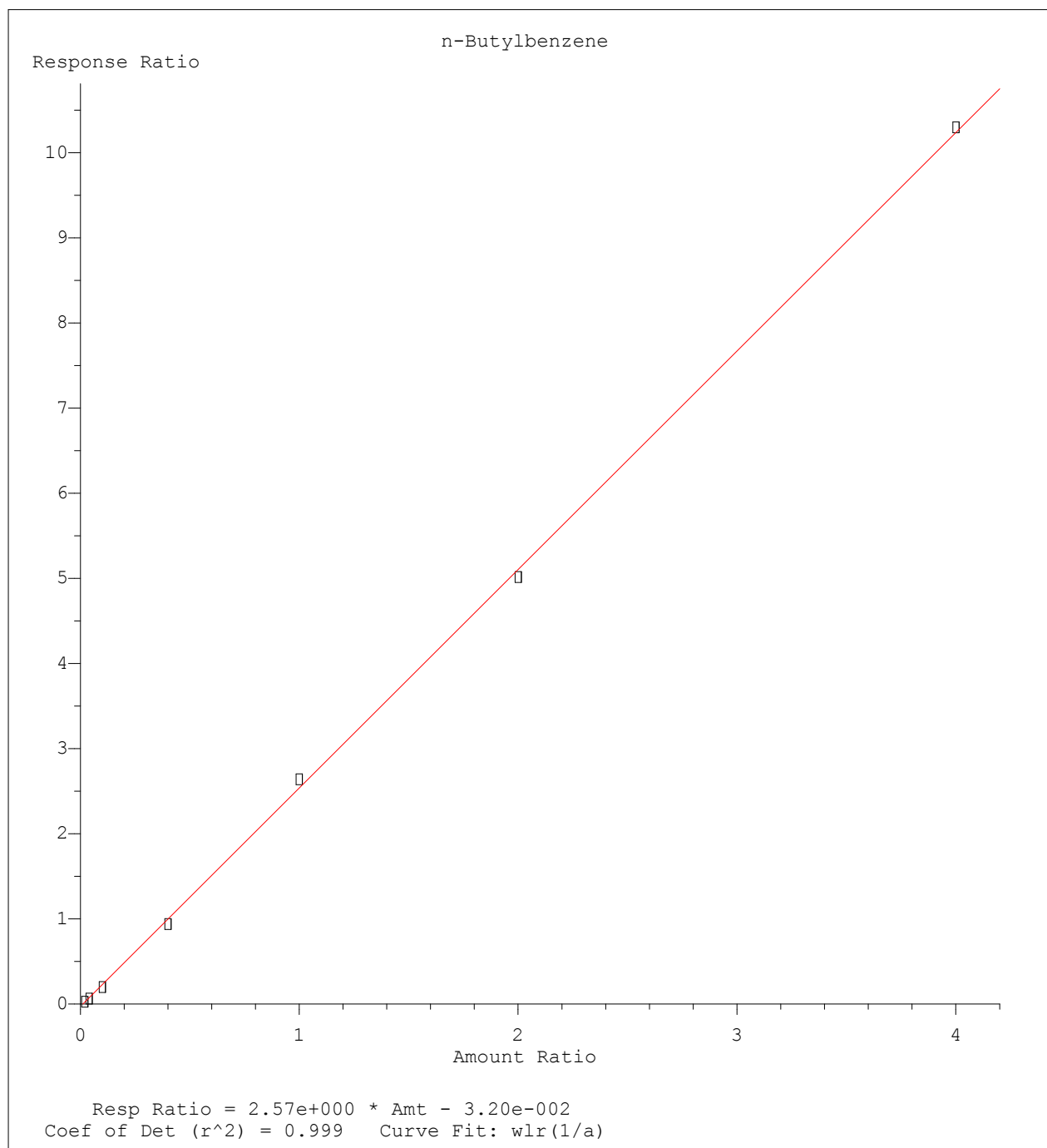
Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



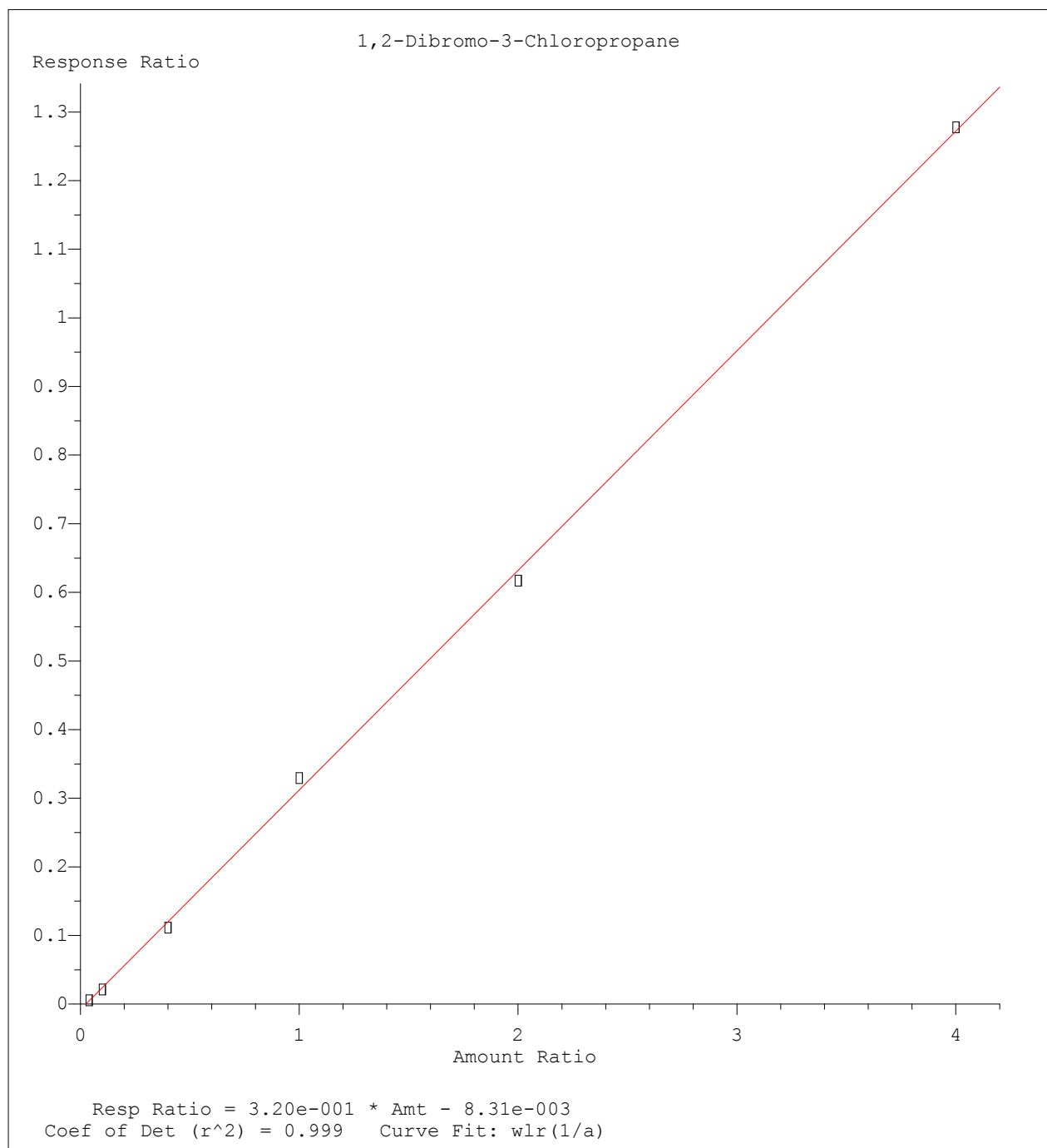
Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



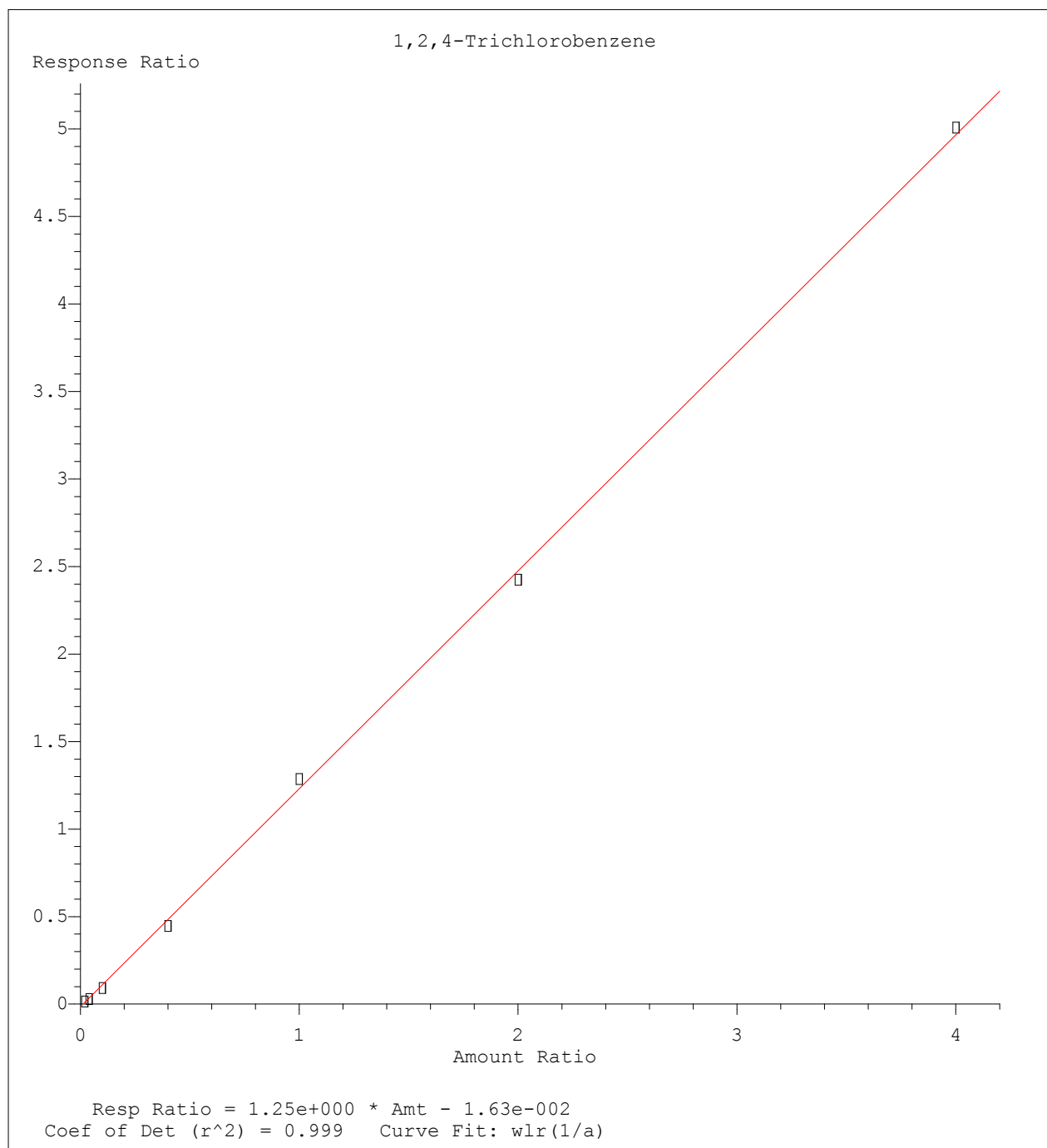
Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



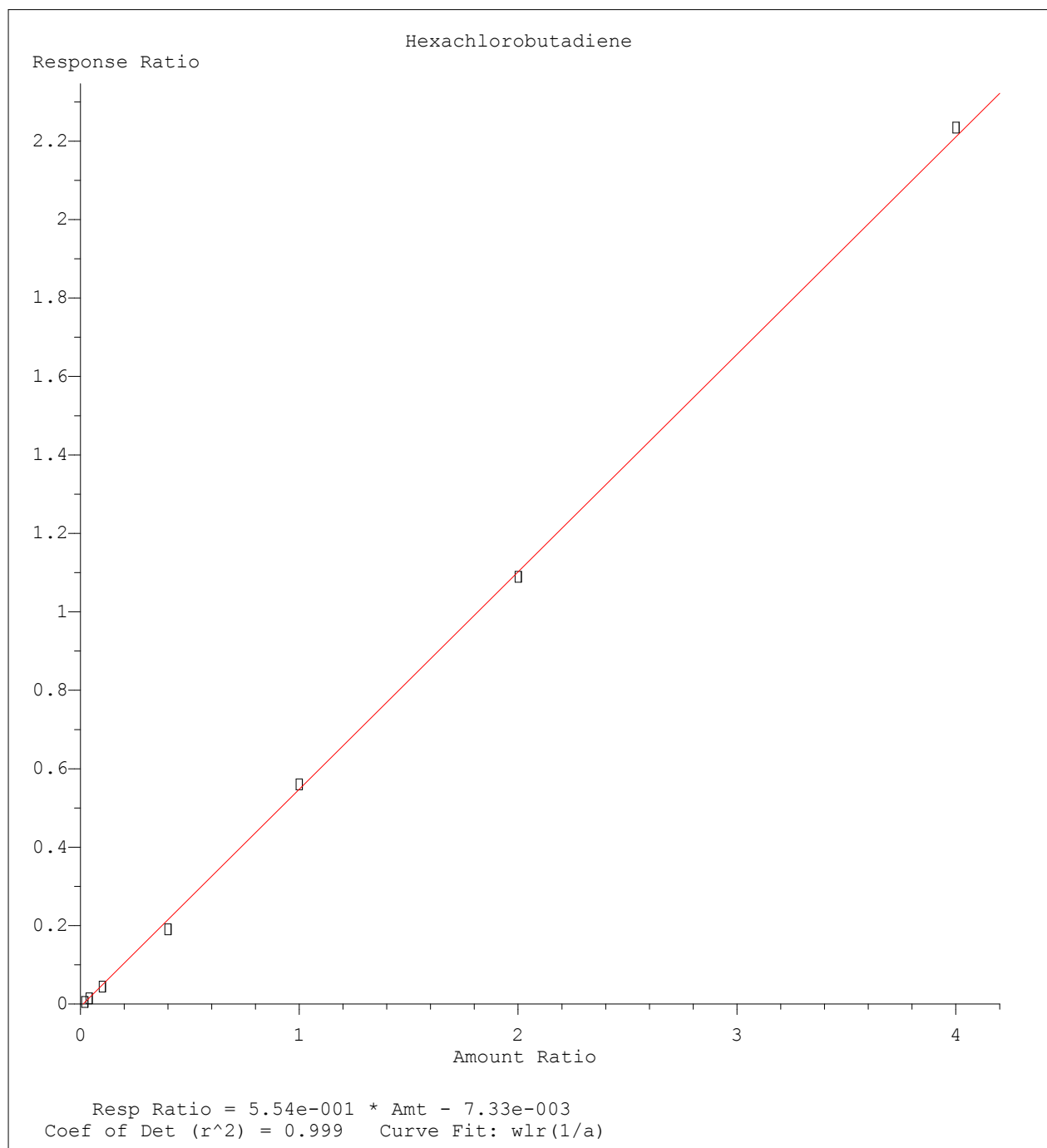
Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



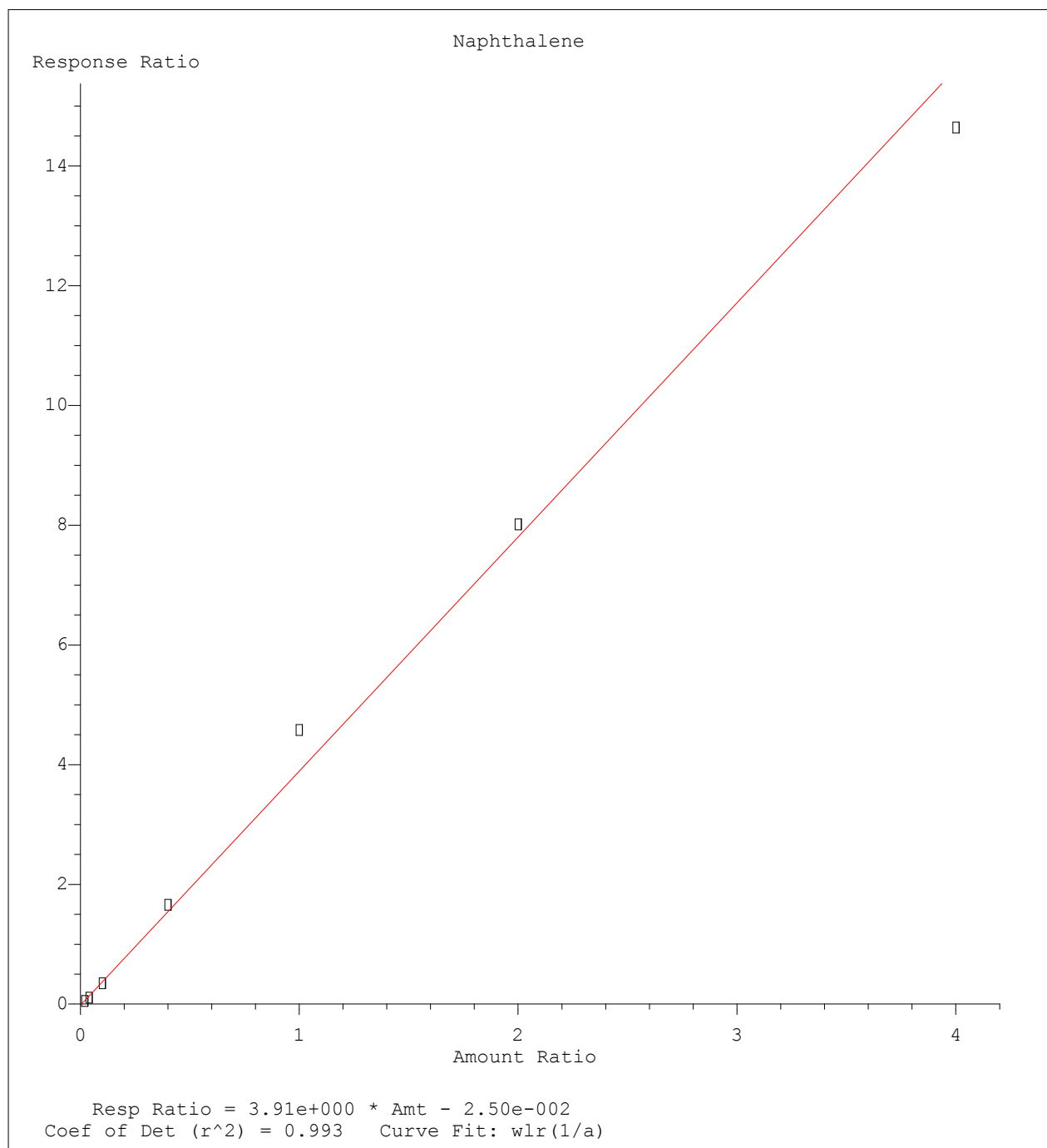
Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017

Data File : C:\MSDCHEM\1\DATA\081417\9M982001.D

Vial: 13

Acq On : 14 Aug 2017 15:16

Operator: ADC

Sample : WG625140-11 50ug/L ICV 8260C

Inst : hpms9

Misc : 1,1 STD83237

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01:23 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	472400	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	373527	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	229758	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.66	111	135356	51.1734	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	102.34%
43) 1,2-Dichloroethane-d4	10.30	65	153527	49.6918	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	99.38%
58) Toluene-d8	12.67	98	453677	49.3356	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	98.68%
79) p-Bromofluorobenzene	16.06	95	189736	46.5733	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	93.14%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.22	85	189066	54.6857	ug/L	100
3) Chloromethane	3.67	50	230922	48.6914	ug/L	99
4) Vinyl Chloride	3.88	62	152498	45.2335	ug/L	99
5) 1,3-Butadiene	3.93	54	57601	46.4078	ug/L	97
6) Bromomethane	4.75	94	87327	42.1271	ug/L	99
7) Chloroethane	4.91	64	107798	55.0066	ug/L	99
8) Trichlorofluoromethane	5.39	101	218191	50.2379	ug/L	100
9) Diethyl ether	5.93	59	254704	94.6943	ug/L	99
10) Isoprene	5.95	67	196471	55.5278	ug/L	100
11) Acrolein	6.17	56	56083	123.8086	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.16	101	126227	55.3498	ug/L	99
13) Acetone	6.28	43	73264	51.0364	ug/L	99
14) 1,1-Dichloroethene	6.48	61	193278	47.3158	ug/L	100
15) Tert-Butyl Alcohol	6.65	59	137847	278.2962	ug/L	95
16) Dimethyl Sulfide	6.74	62	135018	42.2497	ug/L	99
17) Iodomethane	7.00	142	206727	66.1342	ug/L	99
18) Methyl acetate	7.02	43	179127	48.5783	ug/L	99
19) Methylene Chloride	7.26	84	131666	49.2786	ug/L	98
20) Carbon Disulfide	7.30	76	315031	47.2752	ug/L	99
21) Acrylonitrile	7.45	53	96625	55.7259	ug/L	99
22) Methyl Tert Butyl Ether	7.48	73	428228	51.1513	ug/L	99
23) trans-1,2-Dichloroethene	7.70	61	184988	48.7388	ug/L	99
24) n-Hexane	7.78	57	174266	48.7195	ug/L	100
25) Diisopropyl ether	8.13	45	1029502	100.2549	ug/L	100
26) Vinyl Acetate	8.30	43	382001	59.4900	ug/L	99
27) 1,1-Dichloroethane	8.33	63	249376	49.4781	ug/L	100
28) Ethyl-Tert-Butyl ether	8.70	59	955091	101.7706	ug/L	99
29) 2-Butanone	8.89	43	111253	52.0385	ug/L	98
30) Propionitrile	9.00	54	76852	105.9533	ug/L	99
31) 2,2-Dichloropropane	9.10	77	188856	51.4521	ug/L	99
32) cis-1,2-Dichloroethene	9.16	96	138568	51.2187	ug/L	100
33) Chloroform	9.37	83	233605	51.9181	ug/L	100
34) 1-Bromopropane	9.51	122	33099	65.1057	ug/L	99
35) Bromochloromethane	9.60	130	97019	50.0409	ug/L	99
36) Tetrahydrofuran	9.64	42	132833	99.7540	ug/L	99
38) 1,1,1-Trichloroethane	9.90	97	206093	49.9228	ug/L	99
39) Cyclohexane	9.93	56	254115	49.0241	ug/L	99
40) 1,1-Dichloropropene	10.09	75	161588	51.7837	ug/L	100
41) Tert-Amyl-Methyl ether	10.20	73	805900	103.4984	ug/L	99
42) Carbon Tetrachloride	10.24	117	188504	50.4972	ug/L	99

(#) = qualifier out of range (m) = manual integration
 9M982001.D 8260C.M Tue Aug 15 10:01:23 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\081417\9M982001.D

Vial: 13

Acq On : 14 Aug 2017 15:16

Operator: ADC

Sample : WG625140-11 50ug/L ICV 8260C

Inst : hpms9

Misc : 1,1 STD83237

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 15 10:01:23 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.42	62	215284	49.5453	ug/L	100
46) Benzene	10.46	78	508127	48.9492	ug/L	99
47) Trichloroethene	11.20	130	138193	50.1126	ug/L	100
48) Methylcyclohexane	11.28	83	205338	49.9963	ug/L	99
49) 1,2-Dichloropropane	11.42	63	148482	51.6402	ug/L	100
50) 1,4-Dioxane	11.71	88	12195	225.9620	ug/L	96
51) Bromodichloromethane	11.71	83	175988	50.9313	ug/L	99
52) Dibromomethane	11.81	174	99482	52.6053	ug/L	100
53) 2-Chloroethyl Vinyl Ether	12.01	63	113947	50.0892	ug/L	98
54) 4-Methyl-2-Pentanone	12.05	58	97479	56.7498	ug/L	99
55) cis-1,3-Dichloropropene	12.35	75	225084	58.4024	ug/L	99
56) Dimethyl Disulfide	12.61	79	117639	45.3861	ug/L	99
59) Toluene	12.77	91	542597	50.1404	ug/L	99
60) Ethyl Methacrylate	12.86	69	220766	50.1628	ug/L	100
61) trans-1,3-Dichloropropene	12.95	75	205759	56.6849	ug/L	100
62) 1,1,2-Trichloroethane	13.16	97	139118	52.3487	ug/L	99
63) 2-Hexanone	13.11	43	191068	54.3339	ug/L #	86
64) 1,3-Dichloropropane	13.47	76	236193	54.2062	ug/L	99
65) Tetrachloroethene	13.58	164	109853	50.1096	ug/L	100
66) Dibromochloromethane	13.86	129	166100	53.5449	ug/L	98
67) 1,2-Dibromoethane	14.11	107	152604	54.1742	ug/L	99
68) 1-Chlorohexane	14.19	91	161126	54.3814	ug/L	98
69) Chlorobenzene	14.61	112	399213	53.1814	ug/L	99
70) 1,1,1,2-Tetrachloroethane	14.64	131	154156	52.6410	ug/L	99
71) Ethylbenzene	14.64	106	212763	53.7784	ug/L	96
72) m-,p-Xylene	14.72	106	519058	110.9133	ug/L	98
73) o-Xylene	15.29	106	264047	54.5036	ug/L	99
74) Styrene	15.32	104	449596	49.7796	ug/L	100
75) Bromoform	15.82	173	137515	47.2874	ug/L	99
76) Isopropylbenzene	15.71	105	645075	53.0389	ug/L	100
78) 1,1,2,2-Tetrachloroethane	15.94	83	255128	54.4840	ug/L	99
80) 1,2,3-Trichloropropane	16.13	110	87183	55.4452	ug/L	96
81) trans-1,4-Dichloro-2-Butene	16.17	53	78921	45.4707	ug/L	82
82) n-Propylbenzene	16.22	91	778219	49.4820	ug/L	100
83) Bromobenzene	16.35	156	192757	48.5007	ug/L	97
84) 1,3,5-Trimethylbenzene	16.41	105	595904	48.9167	ug/L	100
85) 2-Chlorotoluene	16.50	91	518828	49.8955	ug/L	91
86) 4-Chlorotoluene	16.54	91	474177	51.2983	ug/L	91
87) a-Methylstyrene	16.81	118	364735	56.4699	ug/L	98
88) tert-Butylbenzene	16.86	134	131910	50.3135	ug/L	88
89) 1,2,4-Trimethylbenzene	16.92	105	663907	52.5620	ug/L	99
90) sec-Butylbenzene	17.14	105	774167	52.2087	ug/L	99
91) p-Isopropyltoluene	17.30	119	670555	54.2520	ug/L	99
92) 1,3-Dichlorobenzene	17.50	146	378710	53.8989	ug/L	99
93) 1,4-Dichlorobenzene	17.62	146	401549	55.1827	ug/L	99
94) n-Butylbenzene	17.82	91	575564	49.4023	ug/L	100
95) 1,2-Dichlorobenzene	18.12	146	430066	56.5643	ug/L	100
96) 1,2-Dibromo-3-Chloropropan	19.11	157	70625	49.3332	ug/L	100
97) 1,2,4-Trichlorobenzene	20.25	180	281436	49.8281	ug/L	99
98) Hexachlorobutadiene	20.40	225	125712	50.0113	ug/L	99
99) Naphthalene	20.62	128	954809	53.4382	ug/L	100
100) 1,2,3-Trichlorobenzene	20.94	180	296552	56.9013	ug/L	99

(#) = qualifier out of range (m) = manual integration
 9M982001.D 8260C.M Tue Aug 15 10:01:23 2017

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Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\081417\9M982001.D

Vial: 13

Acq On : 14 Aug 2017 15:16

Operator: ADC

Sample : WG625140-11 50ug/L ICV 8260C

Inst : hpms9

Misc : 1,1 STD83237

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	50.0000	50.0000	0.0	101	0.00
2 P	Dichlorodifluoromethane	50.0000	54.6857	-9.4	101	0.00
3 P	Chloromethane	50.0000	48.6914	2.6	96	0.00
4 C	Vinyl Chloride	50.0000	45.2335	9.5	83	0.00
5 T	1,3-Butadiene	50.0000	46.4078	7.2	85	0.00
6 P	Bromomethane	50.0000	42.1271	15.7	89	-0.03
7 P	Chloroethane	50.0000	55.0066	-10.0	100	-0.03
8 P	Trichlorofluoromethane	50.0000	50.2379	-0.5	95	-0.02
9 T	Diethyl ether	100.0000	94.6942	5.3	95	0.00
10 T	Isoprene	50.0000	55.5278	-11.1	102	-0.02
11 T	Acrolein	50.0000	123.8086	-147.6#	239	0.00
12 P	1,1,2-Trichloro-1,2,2-Trifl	50.0000	55.3498	-10.7	105	-0.02
13 P	Acetone	50.0000	51.0365	-2.1	103	0.00
14 C	1,1-Dichloroethene	50.0000	47.3158	5.4	91	0.00
15 T	Tert-Butyl Alcohol	200.0000	278.2962	-39.1#	141	0.05
16 T	Dimethyl Sulfide	50.0000	42.2497	15.5	79	0.00
17 T	Iodomethane	50.0000	66.1342	-32.3#	124	0.00
18 P	Methyl acetate	50.0000	48.5783	2.8	95	0.00
19 P	Methylene Chloride	50.0000	49.2786	1.4	96	0.00
20 P	Carbon Disulfide	50.0000	47.2752	5.4	89	0.00
21 T	Acrylonitrile	50.0000	55.7259	-11.5	105	0.00
22 P	Methyl Tert Butyl Ether	50.0000	51.1513	-2.3	100	0.00
23 P	trans-1,2-Dichloroethene	50.0000	48.7388	2.5	94	0.00
24 T	n-Hexane	50.0000	48.7195	2.6	94	0.00
25 T	Diisopropyl ether	100.0000	100.2549	-0.3	98	0.00
26 T	Vinyl Acetate	50.0000	59.4900	-19.0	118	0.00
27 P	1,1-Dichloroethane	50.0000	49.4781	1.0	93	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	101.7706	-1.8	100	0.00
29 P	2-Butanone	50.0000	52.0385	-4.1	104	0.00
30 T	Propionitrile	100.0000	105.9533	-6.0	111	0.00
31 T	2,2-Dichloropropane	50.0000	51.4521	-2.9	101	0.00
32 P	cis-1,2-Dichloroethene	50.0000	51.2187	-2.4	95	0.00
33 C	Chloroform	50.0000	51.9181	-3.8	97	0.00
34 T	1-Bromopropane	50.0000	65.1057	-30.2#	122	0.00
35 T	Bromochloromethane	50.0000	50.0409	-0.1	94	0.00
36 T	Tetrahydrofuran	100.0000	99.7540	0.2	97	0.00
37 S	Dibromofluoromethane	50.0000	51.1734	-2.3	102	0.00
38 P	1,1,1-Trichloroethane	50.0000	49.9228	0.2	94	0.00
39 P	Cyclohexane	50.0000	49.0241	2.0	96	0.00
40 T	1,1-Dichloropropene	50.0000	51.7837	-3.6	96	0.00
41 T	Tert-Amyl-Methyl ether	100.0000	103.4984	-3.5	101	0.00
42 P	Carbon Tetrachloride	50.0000	50.4972	-1.0	94	0.00
43 S	1,2-Dichloroethane-d4	50.0000	49.6918	0.6	101	0.00
44	Heptane	-1.0000	0.0000	0.0	98	0.00
45 P	1,2-Dichloroethane	50.0000	49.5453	0.9	96	0.00
46 P	Benzene	50.0000	48.9492	2.1	96	0.00
47 P	Trichloroethene	50.0000	50.1126	-0.2	94	0.00
48 P	Methylcyclohexane	50.0000	49.9963	0.0	97	0.00
49 C	1,2-Dichloropropane	50.0000	51.6402	-3.3	97	0.00
50 T	1,4-Dioxane	200.0000	225.9620	-13.0	124	0.00
51 P	Bromodichloromethane	50.0000	50.9313	-1.9	95	0.00
52 T	Dibromomethane	50.0000	52.6053	-5.2	97	0.00
53 T	2-Chloroethyl Vinyl Ether	50.0000	50.0892	-0.2	99	0.00
54 P	4-Methyl-2-Pentanone	50.0000	56.7498	-13.5	113	0.00

(#)= Out of Range

9M982001.D 8260C.M

Tue Aug 15 10:03:53 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\081417\9M982001.D

Vial: 13

Acq On : 14 Aug 2017 15:16

Operator: ADC

Sample : WG625140-11 50ug/L ICV 8260C

Inst : hpms9

Misc : 1,1 STD83237

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55 P	cis-1,3-Dichloropropene	50.0000	58.4024	-16.8	104	0.00
56 T	Dimethyl Disulfide	50.0000	45.3861	9.2	99	0.00
57 I	Chlorobenzene-d5	50.0000	50.0000	0.0	103	0.00
58 S	Toluene-d8	50.0000	49.3356	1.3	101	0.00
59 C	Toluene	50.0000	50.1404	-0.3	97	0.00
60 T	Ethyl Methacrylate	50.0000	50.1628	-0.3	107	0.00
61 P	trans-1,3-Dichloropropene	50.0000	56.6849	-13.4	98	0.00
62 P	1,1,2-Trichloroethane	50.0000	52.3487	-4.7	101	0.00
63 P	2-Hexanone	50.0000	54.3339	-8.7	122	0.00
64 T	1,3-Dichloropropane	50.0000	54.2062	-8.4	105	0.00
65 P	Tetrachloroethene	50.0000	50.1096	-0.2	97	0.00
66 P	Dibromochloromethane	50.0000	53.5449	-7.1	99	0.00
67 P	1,2-Dibromoethane	50.0000	54.1742	-8.3	100	0.00
68 T	1-Chlorohexane	50.0000	54.3814	-8.8	98	0.00
69 P	Chlorobenzene	50.0000	53.1814	-6.4	102	0.00
70 T	1,1,1,2-Tetrachloroethane	50.0000	52.6410	-5.3	100	0.00
71 C	Ethylbenzene	50.0000	53.7784	-7.6	102	0.00
72 P	m-,p-Xylene	100.0000	110.9133	-10.9	101	0.00
73 P	o-Xylene	50.0000	54.5036	-9.0	103	0.00
74 P	Styrene	50.0000	49.7796	0.4	105	0.00
75 P	Bromoform	50.0000	47.2874	5.4	106	0.00
76 P	Isopropylbenzene	50.0000	53.0389	-6.1	99	0.00
77 I	1,4-Dichlorobenzene-d4	50.0000	50.0000	0.0	123	0.00
78 P	1,1,2,2-Tetrachloroethane	50.0000	54.4840	-9.0	121	0.00
79 S	p-Bromofluorobenzene	50.0000	46.5733	6.9	115	0.00
80 T	1,2,3-Trichloropropane	50.0000	55.4452	-10.9	122	0.00
81 T	trans-1,4-Dichloro-2-Butene	50.0000	45.4707	9.1	107	0.00
82 T	n-Propylbenzene	50.0000	49.4819	1.0	107	0.00
83 T	Bromobenzene	50.0000	48.5007	3.0	111	0.00
84 T	1,3,5-Trimethylbenzene	50.0000	48.9167	2.2	108	0.00
85 T	2-Chlorotoluene	50.0000	49.8955	0.2	113	0.00
86 T	4-Chlorotoluene	50.0000	51.2983	-2.6	109	0.00
87 T	a-Methylstyrene	50.0000	56.4699	-12.9	121	0.00
88 T	tert-Butylbenzene	50.0000	50.3135	-0.6	113	0.00
89 T	1,2,4-Trimethylbenzene	50.0000	52.5620	-5.1	115	0.00
90 T	sec-Butylbenzene	50.0000	52.2087	-4.4	112	0.00
91 T	p-Isopropyltoluene	50.0000	54.2520	-8.5	114	0.00
92 P	1,3-Dichlorobenzene	50.0000	53.8989	-7.8	119	0.00
93 P	1,4-Dichlorobenzene	50.0000	55.1827	-10.4	127	0.00
94 T	n-Butylbenzene	50.0000	49.4023	1.2	117	0.00
95 P	1,2-Dichlorobenzene	50.0000	56.5643	-13.1	126	0.00
96 P	1,2-Dibromo-3-Chloropropane	50.0000	49.3332	1.3	115	0.00
97 P	1,2,4-Trichlorobenzene	50.0000	49.8281	0.3	117	0.00
98 T	Hexachlorobutadiene	50.0000	50.0114	-0.0	120	0.00
99 T	Naphthalene	50.0000	53.4382	-6.9	112	0.00
100 T	1,2,3-Trichlorobenzene	50.0000	56.9014	-13.8	114	0.00

(#) = Out of Range
 9M982001.D 8260C.M

SPCC's out = 0 CCC's out = 0
 Tue Aug 15 10:03:53 2017

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Data File : C:\MSDCHEM\1\data\082817\9M982214.D

Vial: 1

Acq On : 28 Aug 2017 14:08

Operator: JDS

Sample : WG627474-02 50ug/L CCV

Inst : hpms9

Misc : 1,1 STD83378

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 28 14:31:32 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	635075	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	487062	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	260486	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.66	111	180430	50.7412	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	101.48%
43) 1,2-Dichloroethane-d4	10.30	65	210284	50.6280	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	101.26%
58) Toluene-d8	12.67	98	613648	51.1765	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	102.36%
79) p-Bromofluorobenzene	16.06	95	232903	50.4253	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	100.86%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.22	85	226716	48.7784	ug/L	99
3) Chloromethane	3.67	50	300057	47.0625	ug/L	98
4) Vinyl Chloride	3.88	62	210554	46.4563	ug/L	100
5) 1,3-Butadiene	3.93	54	83542	50.0669	ug/L	98
6) Bromomethane	4.77	94	117569	42.1881	ug/L	99
7) Chloroethane	4.93	64	137432	52.1647	ug/L	99
8) Trichlorofluoromethane	5.40	101	300950	51.5435	ug/L	99
9) Diethyl ether	5.93	59	365575	101.0995	ug/L	99
10) Isoprene	5.96	67	249427	52.4373	ug/L	100
11) Acrolein	6.16	56	35958	59.0473	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.17	101	167401	54.6017	ug/L	99
13) Acetone	6.27	43	83256	43.1410	ug/L	97
14) 1,1-Dichloroethene	6.48	61	281464	51.2544	ug/L	98
15) Tert-Butyl Alcohol	6.61	59	114112	171.3666	ug/L	99
16) Dimethyl Sulfide	6.74	62	215758	50.2208	ug/L	99
17) Iodomethane	7.00	142	190115	45.2408	ug/L	98
18) Methyl acetate	7.02	43	244580	49.3386	ug/L	100
19) Methylene Chloride	7.26	84	174708	48.6387	ug/L	99
20) Carbon Disulfide	7.30	76	450135	50.2467	ug/L	99
21) Acrylonitrile	7.45	53	115928	49.7326	ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	541603	48.1224	ug/L	99
23) trans-1,2-Dichloroethene	7.71	61	254788	49.9339	ug/L	100
24) n-Hexane	7.79	57	280068	58.2423	ug/L	100
25) Diisopropyl ether	8.13	45	1394492	101.0135	ug/L	100
26) Vinyl Acetate	8.29	43	361784	41.9096	ug/L	100
27) 1,1-Dichloroethane	8.33	63	342201	50.5038	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1281192	101.5492	ug/L	100
29) 2-Butanone	8.89	43	123415	42.9404	ug/L	99
30) Propionitrile	8.99	54	84818	87.6081	ug/L	99
31) 2,2-Dichloropropane	9.10	77	269120	54.5385	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	185719	51.0631	ug/L	99
33) Chloroform	9.37	83	304059	50.2666	ug/L	100
34) 1-Bromopropane	9.51	122	33897	49.5964	ug/L	97
35) Bromochloromethane	9.60	130	127702	48.9949	ug/L	99
36) Tetrahydrofuran	9.64	42	168697	94.2359	ug/L	100
38) 1,1,1-Trichloroethane	9.90	97	277502	50.0019	ug/L	100
39) Cyclohexane	9.93	56	346792	49.7661	ug/L	99
40) 1,1-Dichloropropene	10.10	75	222486	53.0361	ug/L	99
41) Tert-Amyl-Methyl ether	10.19	73	1066378	101.8705	ug/L	99
42) Carbon Tetrachloride	10.24	117	260035	51.8159	ug/L	100

(#) = qualifier out of range (m) = manual integration
 9M982214.D 8260C.M Mon Aug 28 14:31:33 2017

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Data File : C:\MSDchem\1\data\082817\9M982214.D

Vial: 1

Acq On : 28 Aug 2017 14:08

Operator: JDS

Sample : WG627474-02 50ug/L CCV

Inst : hpms9

Misc : 1,1 STD83378

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 28 14:31:32 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.42	62	283164	48.4746	ug/L	99
46) Benzene	10.46	78	671841	48.1421	ug/L	100
47) Trichloroethene	11.21	130	203249	54.8244	ug/L	99
48) Methylcyclohexane	11.28	83	292905	53.0493	ug/L	99
49) 1,2-Dichloropropane	11.42	63	194108	50.2160	ug/L	100
50) 1,4-Dioxane	11.71	88	11972	173.5880	ug/L	100
51) Bromodichloromethane	11.71	83	233362	50.2361	ug/L	98
52) Dibromomethane	11.81	174	129751	51.0364	ug/L	100
53) 2-Chloroethyl Vinyl Ether	12.01	63	143437	46.9015	ug/L	98
54) 4-Methyl-2-Pentanone	12.04	58	100300	43.4349	ug/L	99
55) cis-1,3-Dichloropropene	12.35	75	279253	53.8975	ug/L	100
56) Dimethyl Disulfide	12.61	79	160481	46.0050	ug/L	98
59) Toluene	12.77	91	716313	50.7634	ug/L	100
60) Ethyl Methacrylate	12.86	69	254447	44.5055	ug/L	100
61) trans-1,3-Dichloropropene	12.95	75	262713	55.5044	ug/L	100
62) 1,1,2-Trichloroethane	13.16	97	170732	49.2691	ug/L	100
63) 2-Hexanone	13.11	43	179100	40.0229	ug/L #	83
64) 1,3-Dichloropropane	13.47	76	278796	49.0689	ug/L	99
65) Tetrachloroethene	13.59	164	152121	53.2152	ug/L	99
66) Dibromochloromethane	13.86	129	212304	52.4861	ug/L	99
67) 1,2-Dibromoethane	14.11	107	185224	50.4268	ug/L	99
68) 1-Chlorohexane	14.19	91	222296	57.5379	ug/L	97
69) Chlorobenzene	14.61	112	502091	51.2950	ug/L	99
70) 1,1,1,2-Tetrachloroethane	14.64	131	193206	50.5966	ug/L	100
71) Ethylbenzene	14.64	106	274537	53.2170	ug/L	95
72) m-,p-Xylene	14.72	106	667282	109.3490	ug/L	98
73) o-Xylene	15.29	106	328003	51.9229	ug/L	100
74) Styrene	15.32	104	550464	46.7871	ug/L	100
75) Bromoform	15.82	173	157608	41.7402	ug/L	99
76) Isopropylbenzene	15.71	105	839048	52.9064	ug/L	99
78) 1,1,2,2-Tetrachloroethane	15.94	83	227669	42.8846	ug/L	100
80) 1,2,3-Trichloropropane	16.13	110	81780	45.8738	ug/L	94
81) trans-1,4-Dichloro-2-Butene	16.17	53	86184	43.7978	ug/L	86
82) n-Propylbenzene	16.22	91	948899	53.2171	ug/L	98
83) Bromobenzene	16.35	156	225714	50.0936	ug/L	97
84) 1,3,5-Trimethylbenzene	16.41	105	727394	52.6668	ug/L	100
85) 2-Chlorotoluene	16.49	91	610351	51.7731	ug/L	92
86) 4-Chlorotoluene	16.54	91	551835	52.6573	ug/L	90
87) a-Methylstyrene	16.81	118	393286	53.7074	ug/L	98
88) tert-Butylbenzene	16.86	134	153793	51.7403	ug/L	88
89) 1,2,4-Trimethylbenzene	16.92	105	747770	52.2178	ug/L	100
90) sec-Butylbenzene	17.14	105	919762	54.7104	ug/L	100
91) p-Isopropyltoluene	17.30	119	793812	56.6481	ug/L	100
92) 1,3-Dichlorobenzene	17.50	146	422450	53.0316	ug/L	99
93) 1,4-Dichlorobenzene	17.62	146	427142	51.7753	ug/L	99
94) n-Butylbenzene	17.82	91	677131	51.2405	ug/L	99
95) 1,2-Dichlorobenzene	18.12	146	432771	50.2056	ug/L	100
96) 1,2-Dibromo-3-Chloropropan	19.12	157	63245	39.2394	ug/L	98
97) 1,2,4-Trichlorobenzene	20.25	180	319458	49.8871	ug/L	99
98) Hexachlorobutadiene	20.40	225	148928	52.2285	ug/L	99
99) Naphthalene	20.62	128	999864	49.3830	ug/L	100
100) 1,2,3-Trichlorobenzene	20.94	180	324683	54.9500	ug/L	99

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

9M982214.D 8260C.M Mon Aug 28 14:31:33 2017

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Data File : C:\MSDCHEM\1\data\082817\9M982214.D

Vial: 1

Acq On : 28 Aug 2017 14:08

Operator: JDS

Sample : WG627474-02 50ug/L CCV

Inst : hpms9

Misc : 1,1 STD83378

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 28 14:31 2017

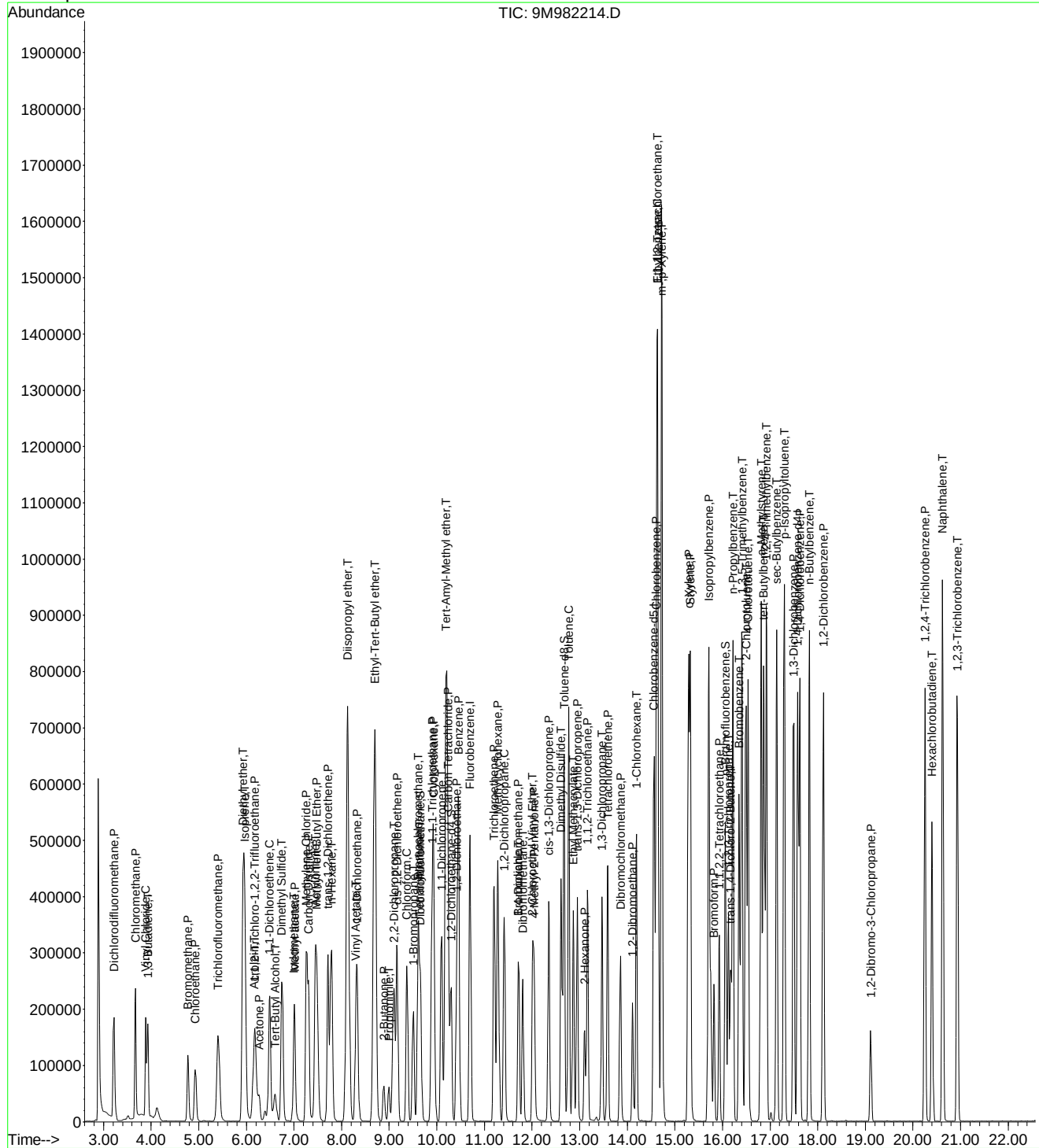
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\082817\9M982214.D

Vial: 1

Acq On : 28 Aug 2017 14:08

Operator: JDS

Sample : WG627474-02 50ug/L CCV

Inst : hpms9

Misc : 1,1 STD83378

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	1.0000	1.0000	0.0	136	0.00
2 P	Dichlorodifluoromethane	0.3659	0.3570	2.4	121	0.00
3 P	Chloromethane	0.5020	0.4725	5.9	125	0.00
4 C	Vinyl Chloride	0.3568	0.3315	7.1	114	0.00
5 T	1,3-Butadiene	0.1314	0.1316	-0.1	123	0.00
6 P	Bromomethane	0.2194	0.1851	15.6	119	0.00
7 P	Chloroethane	0.2074	0.2164	-4.3	127	0.00
8 P	Trichlorofluoromethane	0.4597	0.4739	-3.1	131	0.00
9 T	Diethyl ether	0.2847	0.2878	-1.1	136	0.00
10 T	Isoprene	0.3745	0.3927	-4.9	130	0.00
11 T	Acrolein	0.0479	0.0566	-18.1	153	0.00
12 P	1,1,2-Trichloro-1,2,2-Trifl	0.2414	0.2636	-9.2	140	0.00
13 P	Acetone	0.1519	0.1311	13.7	118	0.00
14 C	1,1-Dichloroethene	0.4324	0.4432	-2.5	132	0.00
15 T	Tert-Butyl Alcohol	0.0524	0.0449	14.3	116	0.00
16 T	Dimethyl Sulfide	0.3382	0.3397	-0.4	127	0.00
17 T	Iodomethane	0.3308	0.2994	9.5	114	0.00
18 P	Methyl acetate	0.3903	0.3851	1.3	130	0.00
19 P	Methylene Chloride	0.2828	0.2751	2.7	127	0.00
20 P	Carbon Disulfide	0.7053	0.7088	-0.5	127	0.00
21 T	Acrylonitrile	0.1835	0.1825	0.5	126	0.00
22 P	Methyl Tert Butyl Ether	0.8861	0.8528	3.8	126	0.00
23 P	trans-1,2-Dichloroethene	0.4017	0.4012	0.1	130	0.00
24 T	n-Hexane	0.3786	0.4410	-16.5	151	0.00
25 T	Diisopropyl ether	1.0869	1.0979	-1.0	133	0.00
26 T	Vinyl Acetate	0.6796	0.5697	16.2	111	0.00
27 P	1,1-Dichloroethane	0.5335	0.5388	-1.0	128	0.00
28 T	Ethyl-Tert-Butyl ether	0.9933	1.0087	-1.5	134	0.00
29 P	2-Butanone	0.2263	0.1943	14.1	115	0.00
30 T	Propionitrile	0.0679	0.0668	1.6	122	0.00
31 T	2,2-Dichloropropane	0.3885	0.4238	-9.1	144	0.00
32 P	cis-1,2-Dichloroethene	0.2863	0.2924	-2.1	128	0.00
33 C	Chloroform	0.4762	0.4788	-0.5	126	0.00
34 T	1-Bromopropane	0.0538	0.0534	0.8	125	0.00
35 T	Bromochloromethane	0.2052	0.2011	2.0	124	0.00
36 T	Tetrahydrofuran	0.1409	0.1328	5.8	124	0.00
37 S	Dibromofluoromethane	0.2800	0.2841	-1.5	135	0.00
38 P	1,1,1-Trichloroethane	0.4369	0.4370	-0.0	127	0.00
39 P	Cyclohexane	0.5486	0.5461	0.5	130	0.00
40 T	1,1-Dichloropropene	0.3303	0.3503	-6.1	132	0.00
41 T	Tert-Amyl-Methyl ether	0.8242	0.8396	-1.9	134	0.00
42 P	Carbon Tetrachloride	0.3951	0.4095	-3.6	130	0.00
43 S	1,2-Dichloroethane-d4	0.3270	0.3311	-1.3	138	0.00
44	Heptane	0.0000	0.0000	0.0	139	0.00
45 P	1,2-Dichloroethane	0.4599	0.4459	3.1	127	0.00
46 P	Benzene	1.0987	1.0579	3.7	127	0.00
47 P	Trichloroethene	0.2919	0.3200	-9.6	138	0.00
48 P	Methylcyclohexane	0.4347	0.4612	-6.1	139	0.00
49 C	1,2-Dichloropropane	0.3043	0.3056	-0.4	126	0.00
50 T	1,4-Dioxane	0.0050	0.0047	6.7	122	0.00
51 P	Bromodichloromethane	0.3657	0.3675	-0.5	126	0.00
52 T	Dibromomethane	0.2002	0.2043	-2.1	126	0.00
53 T	2-Chloroethyl Vinyl Ether	0.2408	0.2259	6.2	125	0.00
54 P	4-Methyl-2-Pentanone	0.1818	0.1579	13.1	116	0.00

(#) = Out of Range

9M982214.D 8260C.M

Mon Aug 28 15:05:24 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\082817\9M982214.D

Vial: 1

Acq On : 28 Aug 2017 14:08

Operator: JDS

Sample : WG627474-02 50ug/L CCV

Inst : hpms9

Misc : 1,1 STD83378

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55 P	cis-1,3-Dichloropropene	0.4079	0.4397	-7.8	129	0.00
56 T	Dimethyl Disulfide	0.2480	0.2527	-1.9	134	0.00
57 I	Chlorobenzene-d5	1.0000	1.0000	0.0	135	0.00
58 S	Toluene-d8	1.2309	1.2599	-2.4	137	0.00
59 C	Toluene	1.4486	1.4707	-1.5	128	0.00
60 T	Ethyl Methacrylate	0.5084	0.5224	-2.7	124	0.00
61 P	trans-1,3-Dichloropropene	0.4859	0.5394	-11.0	126	0.00
62 P	1,1,2-Trichloroethane	0.3557	0.3505	1.5	124	0.00
63 P	2-Hexanone	0.4196	0.3677	12.4	114	0.00
64 T	1,3-Dichloropropane	0.5833	0.5724	1.9	124	0.00
65 P	Tetrachloroethene	0.2934	0.3123	-6.4	134	0.00
66 P	Dibromochloromethane	0.4152	0.4359	-5.0	127	0.00
67 P	1,2-Dibromoethane	0.3771	0.3803	-0.9	121	0.00
68 T	1-Chlorohexane	0.3966	0.4564	-15.1	135	0.00
69 P	Chlorobenzene	1.0048	1.0309	-2.6	129	0.00
70 T	1,1,1,2-Tetrachloroethane	0.3920	0.3967	-1.2	125	0.00
71 C	Ethylbenzene	0.5296	0.5637	-6.4	131	0.00
72 P	m-,p-Xylene	0.6264	0.6850	-9.3	130	0.00
73 P	o-Xylene	0.6485	0.6734	-3.8	128	0.00
74 P	Styrene	0.9899	1.1302	-14.2	129	0.00
75 P	Bromoform	0.3249	0.3236	0.4	121	0.00
76 P	Isopropylbenzene	1.6280	1.7227	-5.8	129	0.00
77 I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	139	0.00
78 P	1,1,2,2-Tetrachloroethane	1.0190	0.8740	14.2	108	0.00
79 S	p-Bromofluorobenzene	0.8866	0.8941	-0.9	142	0.00
80 T	1,2,3-Trichloropropane	0.3422	0.3140	8.3	115	0.00
81 T	trans-1,4-Dichloro-2-Butene	0.3777	0.3309	12.4	117	0.00
82 T	n-Propylbenzene	3.4226	3.6428	-6.4	131	0.00
83 T	Bromobenzene	0.8649	0.8665	-0.2	130	0.00
84 T	1,3,5-Trimethylbenzene	2.6511	2.7925	-5.3	132	0.00
85 T	2-Chlorotoluene	2.2629	2.3431	-3.5	133	0.00
86 T	4-Chlorotoluene	2.0116	2.1185	-5.3	127	0.00
87 T	a-Methylstyrene	1.4056	1.5098	-7.4	130	0.00
88 T	tert-Butylbenzene	0.5706	0.5904	-3.5	132	0.00
89 T	1,2,4-Trimethylbenzene	2.7487	2.8707	-4.4	130	0.00
90 T	sec-Butylbenzene	3.2269	3.5309	-9.4	133	0.00
91 T	p-Isopropyltoluene	2.6898	3.0474	-13.3	135	0.00
92 P	1,3-Dichlorobenzene	1.5291	1.6218	-6.1	132	0.00
93 P	1,4-Dichlorobenzene	1.5836	1.6398	-3.6	135	0.00
94 T	n-Butylbenzene	2.1599	2.5995	-20.4	137	0.00
95 P	1,2-Dichlorobenzene	1.6546	1.6614	-0.4	127	0.00
96 P	1,2-Dibromo-3-Chloropropane	0.2656	0.2428	8.6	103	0.00
97 P	1,2,4-Trichlorobenzene	1.0382	1.2264	-18.1	133	0.00
98 T	Hexachlorobutadiene	0.4609	0.5717	-24.0	142	0.00
99 T	Naphthalene	3.5928	3.8385	-6.8	117	0.00
100 T	1,2,3-Trichlorobenzene	1.1342	1.2465	-9.9	125	0.00

(#) = Out of Range
 9M982214.D 8260C.M

SPCC's out = 0 CCC's out = 0
 Mon Aug 28 15:05:24 2017

Page 2

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\082817\9M982214.D

Vial: 1

Acq On : 28 Aug 2017 14:08

Operator: JDS

Sample : WG627474-02 50ug/L CCV

Inst : hpms9

Misc : 1,1 STD83378

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	50.0000	50.0000	0.0	136	0.00
2 P	Dichlorodifluoromethane	50.0000	48.7784	2.4	121	0.00
3 P	Chloromethane	50.0000	47.0625	5.9	125	0.00
4 C	Vinyl Chloride	50.0000	46.4563	7.1	114	0.00
5 T	1,3-Butadiene	50.0000	50.0669	-0.1	123	0.00
6 P	Bromomethane	50.0000	42.1881	15.6	119	0.00
7 P	Chloroethane	50.0000	52.1647	-4.3	127	0.00
8 P	Trichlorofluoromethane	50.0000	51.5435	-3.1	131	0.00
9 T	Diethyl ether	100.0000	101.0995	-1.1	136	0.00
10 T	Isoprene	50.0000	52.4373	-4.9	130	0.00
11 T	Acrolein	50.0000	59.0473	-18.1	153	0.00
12 P	1,1,2-Trichloro-1,2,2-Trifl	50.0000	54.6017	-9.2	140	0.00
13 P	Acetone	50.0000	43.1410	13.7	118	0.00
14 C	1,1-Dichloroethene	50.0000	51.2544	-2.5	132	0.00
15 T	Tert-Butyl Alcohol	200.0000	171.3666	14.3	116	0.00
16 T	Dimethyl Sulfide	50.0000	50.2208	-0.4	127	0.00
17 T	Iodomethane	50.0000	45.2408	9.5	114	0.00
18 P	Methyl acetate	50.0000	49.3386	1.3	130	0.00
19 P	Methylene Chloride	50.0000	48.6387	2.7	127	0.00
20 P	Carbon Disulfide	50.0000	50.2467	-0.5	127	0.00
21 T	Acrylonitrile	50.0000	49.7326	0.5	126	0.00
22 P	Methyl Tert Butyl Ether	50.0000	48.1224	3.8	126	0.00
23 P	trans-1,2-Dichloroethene	50.0000	49.9339	0.1	130	0.00
24 T	n-Hexane	50.0000	58.2422	-16.5	151	0.00
25 T	Diisopropyl ether	100.0000	101.0135	-1.0	133	0.00
26 T	Vinyl Acetate	50.0000	41.9096	16.2	111	0.00
27 P	1,1-Dichloroethane	50.0000	50.5038	-1.0	128	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	101.5492	-1.5	134	0.00
29 P	2-Butanone	50.0000	42.9404	14.1	115	0.00
30 T	Propionitrile	100.0000	87.6081	12.4	122	0.00
31 T	2,2-Dichloropropane	50.0000	54.5385	-9.1	144	0.00
32 P	cis-1,2-Dichloroethene	50.0000	51.0631	-2.1	128	0.00
33 C	Chloroform	50.0000	50.2666	-0.5	126	0.00
34 T	1-Bromopropane	50.0000	49.5964	0.8	125	0.00
35 T	Bromochloromethane	50.0000	48.9949	2.0	124	0.00
36 T	Tetrahydrofuran	100.0000	94.2359	5.8	124	0.00
37 S	Dibromofluoromethane	50.0000	50.7411	-1.5	135	0.00
38 P	1,1,1-Trichloroethane	50.0000	50.0019	-0.0	127	0.00
39 P	Cyclohexane	50.0000	49.7661	0.5	130	0.00
40 T	1,1-Dichloropropene	50.0000	53.0361	-6.1	132	0.00
41 T	Tert-Amyl-Methyl ether	100.0000	101.8705	-1.9	134	0.00
42 P	Carbon Tetrachloride	50.0000	51.8159	-3.6	130	0.00
43 S	1,2-Dichloroethane-d4	50.0000	50.6280	-1.3	138	0.00
44	Heptane	-1.0000	0.0000	0.0	139	0.00
45 P	1,2-Dichloroethane	50.0000	48.4746	3.1	127	0.00
46 P	Benzene	50.0000	48.1421	3.7	127	0.00
47 P	Trichloroethene	50.0000	54.8244	-9.6	138	0.00
48 P	Methylcyclohexane	50.0000	53.0493	-6.1	139	0.00
49 C	1,2-Dichloropropane	50.0000	50.2160	-0.4	126	0.00
50 T	1,4-Dioxane	200.0000	173.5880	13.2	122	0.00
51 P	Bromodichloromethane	50.0000	50.2362	-0.5	126	0.00
52 T	Dibromomethane	50.0000	51.0364	-2.1	126	0.00
53 T	2-Chloroethyl Vinyl Ether	50.0000	46.9016	6.2	125	0.00
54 P	4-Methyl-2-Pentanone	50.0000	43.4349	13.1	116	0.00

(#) = Out of Range

9M982214.D 8260C.M

Mon Aug 28 15:05:25 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\082817\9M982214.D

Vial: 1

Acq On : 28 Aug 2017 14:08

Operator: JDS

Sample : WG627474-02 50ug/L CCV

Inst : hpms9

Misc : 1,1 STD83378

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55 P	cis-1,3-Dichloropropene	50.0000	53.8975	-7.8	129	0.00
56 T	Dimethyl Disulfide	50.0000	46.0050	8.0	134	0.00
57 I	Chlorobenzene-d5	50.0000	50.0000	0.0	135	0.00
58 S	Toluene-d8	50.0000	51.1765	-2.4	137	0.00
59 C	Toluene	50.0000	50.7634	-1.5	128	0.00
60 T	Ethyl Methacrylate	50.0000	44.5055	11.0	124	0.00
61 P	trans-1,3-Dichloropropene	50.0000	55.5044	-11.0	126	0.00
62 P	1,1,2-Trichloroethane	50.0000	49.2691	1.5	124	0.00
63 P	2-Hexanone	50.0000	40.0229	20.0	114	0.00
64 T	1,3-Dichloropropane	50.0000	49.0689	1.9	124	0.00
65 P	Tetrachloroethene	50.0000	53.2152	-6.4	134	0.00
66 P	Dibromochloromethane	50.0000	52.4861	-5.0	127	0.00
67 P	1,2-Dibromoethane	50.0000	50.4268	-0.9	121	0.00
68 T	1-Chlorohexane	50.0000	57.5379	-15.1	135	0.00
69 P	Chlorobenzene	50.0000	51.2950	-2.6	129	0.00
70 T	1,1,1,2-Tetrachloroethane	50.0000	50.5966	-1.2	125	0.00
71 C	Ethylbenzene	50.0000	53.2170	-6.4	131	0.00
72 P	m-,p-Xylene	100.0000	109.3490	-9.3	130	0.00
73 P	o-Xylene	50.0000	51.9229	-3.8	128	0.00
74 P	Styrene	50.0000	46.7871	6.4	129	0.00
75 P	Bromoform	50.0000	41.7402	16.5	121	0.00
76 P	Isopropylbenzene	50.0000	52.9064	-5.8	129	0.00
77 I	1,4-Dichlorobenzene-d4	50.0000	50.0000	0.0	139	0.00
78 P	1,1,2,2-Tetrachloroethane	50.0000	42.8846	14.2	108	0.00
79 S	p-Bromofluorobenzene	50.0000	50.4253	-0.9	142	0.00
80 T	1,2,3-Trichloropropane	50.0000	45.8738	8.3	115	0.00
81 T	trans-1,4-Dichloro-2-Butene	50.0000	43.7978	12.4	117	0.00
82 T	n-Propylbenzene	50.0000	53.2171	-6.4	131	0.00
83 T	Bromobenzene	50.0000	50.0936	-0.2	130	0.00
84 T	1,3,5-Trimethylbenzene	50.0000	52.6668	-5.3	132	0.00
85 T	2-Chlorotoluene	50.0000	51.7731	-3.5	133	0.00
86 T	4-Chlorotoluene	50.0000	52.6573	-5.3	127	0.00
87 T	a-Methylstyrene	50.0000	53.7074	-7.4	130	0.00
88 T	tert-Butylbenzene	50.0000	51.7403	-3.5	132	0.00
89 T	1,2,4-Trimethylbenzene	50.0000	52.2178	-4.4	130	0.00
90 T	sec-Butylbenzene	50.0000	54.7104	-9.4	133	0.00
91 T	p-Isopropyltoluene	50.0000	56.6481	-13.3	135	0.00
92 P	1,3-Dichlorobenzene	50.0000	53.0316	-6.1	132	0.00
93 P	1,4-Dichlorobenzene	50.0000	51.7753	-3.6	135	0.00
94 T	n-Butylbenzene	50.0000	51.2405	-2.5	137	0.00
95 P	1,2-Dichlorobenzene	50.0000	50.2056	-0.4	127	0.00
96 P	1,2-Dibromo-3-Chloropropane	50.0000	39.2394	21.5	103	0.00
97 P	1,2,4-Trichlorobenzene	50.0000	49.8871	0.2	133	0.00
98 T	Hexachlorobutadiene	50.0000	52.2285	-4.5	142	0.00
99 T	Naphthalene	50.0000	49.3830	1.2	117	0.00
100 T	1,2,3-Trichlorobenzene	50.0000	54.9500	-9.9	125	0.00

(#) = Out of Range
 9M982214.D 8260C.M

SPCC's out = 0 CCC's out = 0
 Mon Aug 28 15:05:25 2017

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Data File : C:\MSDCHEM\1\data\090617\9M982367.D

Vial: 5

Acq On : 6 Sep 2017 13:15

Operator: JDS

Sample : WG628578-02 50ug/L CCV 8260C

Inst : hpms9

Misc : 1,1 STD83554

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 06 13:38:34 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	506086	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	387698	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	204442	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.67	111	144798	51.0993	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	102.20%
43) 1,2-Dichloroethane-d4	10.30	65	174382	52.6850	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	105.36%
58) Toluene-d8	12.67	98	503128	52.7133	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	105.42%
79) p-Bromofluorobenzene	16.06	95	190545	52.5636	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	105.12%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.23	85	183420	49.5214	ug/L	99
3) Chloromethane	3.68	50	222104	43.7148	ug/L	99
4) Vinyl Chloride	3.91	62	166476	46.0928	ug/L	100
5) 1,3-Butadiene	3.94	54	71455	53.7377	ug/L	98
6) Bromomethane	4.78	94	84230	37.9284	ug/L	100
7) Chloroethane	4.94	64	100899	48.0592	ug/L	99
8) Trichlorofluoromethane	5.41	101	230274	49.4909	ug/L	100
9) Diethyl ether	5.94	59	288438	100.0981	ug/L	99
10) Isoprene	5.97	67	189504	49.9937	ug/L	98
11) Acrolein	6.17	56	24196	49.8596	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	121778	49.8446	ug/L	100
13) Acetone	6.28	43	67577	43.9414	ug/L	97
14) 1,1-Dichloroethene	6.49	61	213152	48.7078	ug/L	97
15) Tert-Butyl Alcohol	6.61	59	99464	187.4396	ug/L	99
16) Dimethyl Sulfide	6.75	62	170364	49.7617	ug/L	99
17) Iodomethane	7.01	142	130025	38.8277	ug/L	99
18) Methyl acetate	7.02	43	182420	46.1784	ug/L	100
19) Methylene Chloride	7.27	84	136772	47.7823	ug/L	97
20) Carbon Disulfide	7.31	76	344974	48.3228	ug/L	99
21) Acrylonitrile	7.45	53	94435	50.8378	ug/L	99
22) Methyl Tert Butyl Ether	7.48	73	427477	47.6628	ug/L	99
23) trans-1,2-Dichloroethene	7.72	61	193650	47.6250	ug/L	100
24) n-Hexane	7.79	57	204480	53.3613	ug/L	99
25) Diisopropyl ether	8.13	45	1115994	101.4439	ug/L	99
26) Vinyl Acetate	8.31	43	366907	53.3361	ug/L	99
27) 1,1-Dichloroethane	8.33	63	267055	49.4589	ug/L	100
28) Ethyl-Tert-Butyl ether	8.70	59	1015278	100.9830	ug/L	99
29) 2-Butanone	8.89	43	100795	44.0086	ug/L	100
30) Propionitrile	9.00	54	70854	91.6691	ug/L	99
31) 2,2-Dichloropropane	9.10	77	199641	50.7701	ug/L	100
32) cis-1,2-Dichloroethene	9.17	96	142036	49.0060	ug/L	96
33) Chloroform	9.37	83	238798	49.5397	ug/L	99
35) Bromochloromethane	9.60	130	101615	48.9228	ug/L	97
36) Tetrahydrofuran	9.64	42	143906	100.8762	ug/L	96
38) 1,1,1-Trichloroethane	9.90	97	210117	47.5097	ug/L	99
39) Cyclohexane	9.93	56	263656	47.4791	ug/L	99
40) 1,1-Dichloropropene	10.10	75	165898	49.6261	ug/L	99
41) Tert-Amyl-Methyl ether	10.19	73	838596	100.5288	ug/L	99
42) Carbon Tetrachloride	10.25	117	199526	49.8921	ug/L	99
45) 1,2-Dichloroethane	10.42	62	228895	49.1714	ug/L	99

(#) = qualifier out of range (m) = manual integration
 9M982367.D 8260C.M Wed Sep 06 13:38:34 2017

Page 1

Data File : C:\MSDCHEM\1\data\090617\9M982367.D

Vial: 5

Acq On : 6 Sep 2017 13:15

Operator: JDS

Sample : WG628578-02 50ug/L CCV 8260C

Inst : hpms9

Misc : 1,1 STD83554

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 06 13:38:34 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.46	78	514964	46.3059	ug/L	99
47) Trichloroethene	11.21	130	154470	52.2866	ug/L	100
48) Methylcyclohexane	11.28	83	214981	48.8601	ug/L	98
49) 1,2-Dichloropropane	11.42	63	154279	50.0848	ug/L	99
50) 1,4-Dioxane	11.71	88	10233	183.8810	ug/L	97
51) Bromodichloromethane	11.71	83	188342	50.8785	ug/L	99
52) Dibromomethane	11.81	174	101866	50.2805	ug/L	98
53) 2-Chloroethyl Vinyl Ether	12.01	63	106792	43.8193	ug/L	100
54) 4-Methyl-2-Pentanone	12.04	58	82545	44.8570	ug/L	100
55) cis-1,3-Dichloropropene	12.35	75	215060	52.0873	ug/L	100
56) Dimethyl Disulfide	12.61	79	121751	43.9620	ug/L	100
59) Toluene	12.77	91	556205	49.5192	ug/L	99
60) Ethyl Methacrylate	12.86	69	205139	45.0586	ug/L	100
61) trans-1,3-Dichloropropene	12.95	75	206107	54.7053	ug/L	99
62) 1,1,2-Trichloroethane	13.16	97	138236	50.1155	ug/L	99
63) 2-Hexanone	13.11	43	152129	42.4785	ug/L #	84
64) 1,3-Dichloropropane	13.47	76	227621	50.3295	ug/L	99
65) Tetrachloroethene	13.59	164	113913	50.0623	ug/L	97
66) Dibromochloromethane	13.86	129	169576	52.6673	ug/L	99
67) 1,2-Dibromoethane	14.11	107	149128	51.0052	ug/L	98
68) 1-Chlorohexane	14.19	91	164486	53.4863	ug/L	99
69) Chlorobenzene	14.61	112	390871	50.1668	ug/L	99
70) 1,1,1,2-Tetrachloroethane	14.64	131	151862	49.9621	ug/L	99
71) Ethylbenzene	14.64	106	211347	51.4678	ug/L	98
72) m-, p-Xylene	14.72	106	513105	105.6337	ug/L	98
73) o-Xylene	15.29	106	252790	50.2727	ug/L	99
74) Styrene	15.32	104	421675	45.0548	ug/L	98
75) Bromoform	15.82	173	125213	41.6625	ug/L	99
76) Isopropylbenzene	15.71	105	653032	51.7305	ug/L	100
78) 1,1,2,2-Tetrachloroethane	15.94	83	190109	45.6262	ug/L	99
80) 1,2,3-Trichloropropane	16.13	110	69731	49.8377	ug/L	94
81) trans-1,4-Dichloro-2-Buten	16.17	53	69868	45.2395	ug/L	97
82) n-Propylbenzene	16.22	91	738296	52.7565	ug/L	100
83) Bromobenzene	16.35	156	173422	49.0391	ug/L	95
84) 1,3,5-Trimethylbenzene	16.40	105	558004	51.4777	ug/L	100
85) 2-Chlorotoluene	16.49	91	492203	53.1965	ug/L	90
86) 4-Chlorotoluene	16.54	91	415102	50.4682	ug/L	92
87) a-Methylstyrene	16.81	118	298137	51.8747	ug/L	97
88) tert-Butylbenzene	16.86	134	119091	51.0488	ug/L	100
89) 1,2,4-Trimethylbenzene	16.92	105	584902	52.0413	ug/L	100
90) sec-Butylbenzene	17.14	105	710321	53.8349	ug/L	100
91) p-Isopropyltoluene	17.30	119	601660	54.7058	ug/L	100
92) 1,3-Dichlorobenzene	17.50	146	324132	51.8437	ug/L	100
93) 1,4-Dichlorobenzene	17.62	146	329199	50.8421	ug/L	99
94) n-Butylbenzene	17.82	91	508565	49.0613	ug/L	99
95) 1,2-Dichlorobenzene	18.12	146	343747	50.8098	ug/L	99
96) 1,2-Dibromo-3-Chloropropan	19.11	157	52310	41.2820	ug/L	95
97) 1,2,4-Trichlorobenzene	20.25	180	243077	48.3850	ug/L	100
98) Hexachlorobutadiene	20.40	225	110514	49.4174	ug/L	99
99) Naphthalene	20.62	128	821883	51.7051	ug/L	100
100) 1,2,3-Trichlorobenzene	20.93	180	258308	55.7006	ug/L	99

 (#) = qualifier out of range (m) = manual integration
 9M982367.D 8260C.M Wed Sep 06 13:38:34 2017

Page 2

Data File : C:\MSDCHEM\1\data\090617\9M982367.D

Vial: 5

Acq On : 6 Sep 2017 13:15

Operator: JDS

Sample : WG628578-02 50ug/L CCV 8260C

Inst : hpms9

Misc : 1,1 STD83554

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 6 13:38 2017

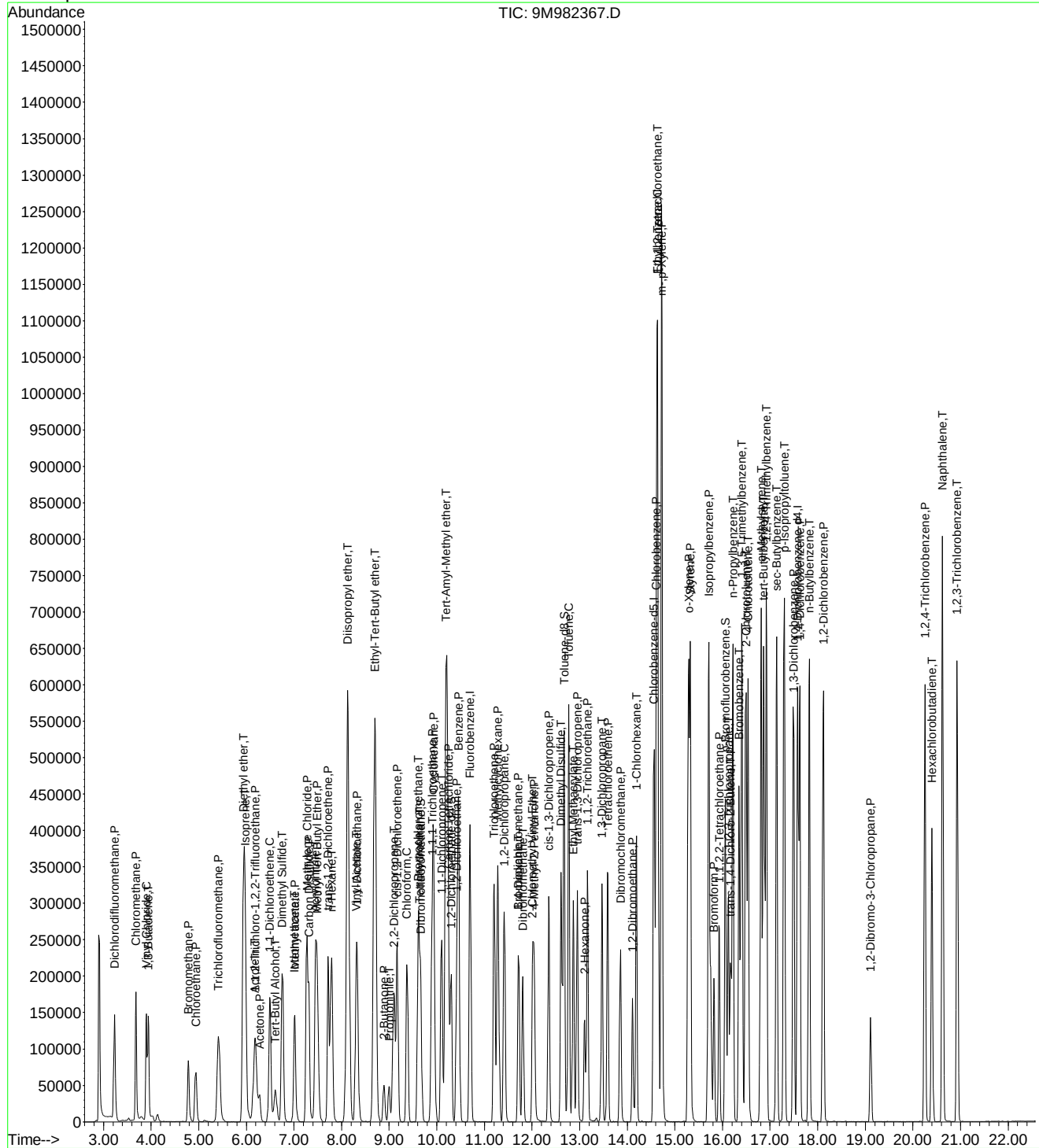
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\090617\9M982367.D

Vial: 5

Acq On : 6 Sep 2017 13:15

Operator: JDS

Sample : WG628578-02 50ug/L CCV 8260C

Inst : hpms9

Misc : 1,1 STD83554

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	1.0000	1.0000	0.0	108	0.00
2 P	Dichlorodifluoromethane	0.3659	0.3624	1.0	98	0.00
3 P	Chloromethane	0.5020	0.4389	12.6	92	0.00
4 C	Vinyl Chloride	0.3568	0.3290	7.8	91	0.01
5 T	1,3-Butadiene	0.1314	0.1412	-7.5	105	0.00
6 P	Bromomethane	0.2194	0.1664	24.1	85	0.00
7 P	Chloroethane	0.2074	0.1994	3.9	93	0.00
8 P	Trichlorofluoromethane	0.4597	0.4550	1.0	100	0.00
9 T	Diethyl ether	0.2847	0.2850	-0.1	107	0.00
10 T	Isoprene	0.3745	0.3745	0.0	99	0.00
11 T	Acrolein	0.0479	0.0478	0.3	103	0.00
12 P	1,1,2-Trichloro-1,2,2-Trifl	0.2414	0.2406	0.3	102	0.00
13 P	Acetone	0.1519	0.1335	12.1	95	0.00
14 C	1,1-Dichloroethene	0.4324	0.4212	2.6	100	0.00
15 T	Tert-Butyl Alcohol	0.0524	0.0491	6.3	101	0.00
16 T	Dimethyl Sulfide	0.3382	0.3366	0.5	100	0.00
17 T	Iodomethane	0.3308	0.2569	22.3	78	0.00
18 P	Methyl acetate	0.3903	0.3604	7.6	97	0.00
19 P	Methylene Chloride	0.2828	0.2702	4.4	99	0.00
20 P	Carbon Disulfide	0.7053	0.6816	3.4	98	0.00
21 T	Acrylonitrile	0.1835	0.1866	-1.7	103	0.00
22 P	Methyl Tert Butyl Ether	0.8861	0.8447	4.7	99	0.00
23 P	trans-1,2-Dichloroethene	0.4017	0.3826	4.7	98	0.00
24 T	n-Hexane	0.3786	0.4040	-6.7	110	0.00
25 T	Diisopropyl ether	1.0869	1.1026	-1.4	107	0.00
26 T	Vinyl Acetate	0.6796	0.7250	-6.7	113	0.00
27 P	1,1-Dichloroethane	0.5335	0.5277	1.1	100	0.00
28 T	Ethyl-Tert-Butyl ether	0.9933	1.0031	-1.0	106	0.00
29 P	2-Butanone	0.2263	0.1992	12.0	94	0.00
30 T	Propionitrile	0.0679	0.0700	-3.1	102	0.00
31 T	2,2-Dichloropropane	0.3885	0.3945	-1.5	107	0.00
32 P	cis-1,2-Dichloroethene	0.2863	0.2807	2.0	98	0.00
33 C	Chloroform	0.4762	0.4718	0.9	99	0.00
34 T	1-Bromopropane	0.0538	0.0000	100.0#	0#	-9.52#
35 T	Bromochloromethane	0.2052	0.2008	2.2	99	0.00
36 T	Tetrahydrofuran	0.1409	0.1422	-0.9	106	0.00
37 S	Dibromofluoromethane	0.2800	0.2861	-2.2	109	0.00
38 P	1,1,1-Trichloroethane	0.4369	0.4152	5.0	96	0.00
39 P	Cyclohexane	0.5486	0.5210	5.0	99	0.00
40 T	1,1-Dichloropropene	0.3303	0.3278	0.7	98	0.00
41 T	Tert-Amyl-Methyl ether	0.8242	0.8285	-0.5	106	0.00
42 P	Carbon Tetrachloride	0.3951	0.3942	0.2	100	0.00
43 S	1,2-Dichloroethane-d4	0.3270	0.3446	-5.4	114	0.00
44	Heptane	0.0000	0.0000	0.0	109	0.00
45 P	1,2-Dichloroethane	0.4599	0.4523	1.7	102	0.00
46 P	Benzene	1.0987	1.0175	7.4	97	0.00
47 P	Trichloroethene	0.2919	0.3052	-4.6	105	0.00
48 P	Methylcyclohexane	0.4347	0.4248	2.3	102	0.00
49 C	1,2-Dichloropropane	0.3043	0.3049	-0.2	100	0.00
50 T	1,4-Dioxane	0.0050	0.0050	0.0	104	0.00
51 P	Bromodichloromethane	0.3657	0.3721	-1.8	101	0.00
52 T	Dibromomethane	0.2002	0.2013	-0.6	99	0.00
53 T	2-Chloroethyl Vinyl Ether	0.2408	0.2110	12.4	93	0.00
54 P	4-Methyl-2-Pentanone	0.1818	0.1631	10.3	96	0.00

(#)= Out of Range

9M982367.D 8260C.M

Thu Sep 07 09:36:38 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\090617\9M982367.D

Vial: 5

Acq On : 6 Sep 2017 13:15

Operator: JDS

Sample : WG628578-02 50ug/L CCV 8260C

Inst : hpms9

Misc : 1,1 STD83554

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55 P	cis-1,3-Dichloropropene	0.4079	0.4249	-4.2	99	0.00
56 T	Dimethyl Disulfide	0.2480	0.2406	3.0	102	0.00
57 I	Chlorobenzene-d5	1.0000	1.0000	0.0	107	0.00
58 S	Toluene-d8	1.2309	1.2977	-5.4	112	0.00
59 C	Toluene	1.4486	1.4346	1.0	100	0.00
60 T	Ethyl Methacrylate	0.5084	0.5291	-4.1	100	0.00
61 P	trans-1,3-Dichloropropene	0.4859	0.5316	-9.4	99	0.00
62 P	1,1,2-Trichloroethane	0.3557	0.3566	-0.2	100	0.00
63 P	2-Hexanone	0.4196	0.3924	6.5	97	0.00
64 T	1,3-Dichloropropane	0.5833	0.5871	-0.7	101	0.00
65 P	Tetrachloroethene	0.2934	0.2938	-0.1	100	0.00
66 P	Dibromochloromethane	0.4152	0.4374	-5.3	101	0.00
67 P	1,2-Dibromoethane	0.3771	0.3846	-2.0	98	0.00
68 T	1-Chlorohexane	0.3966	0.4243	-7.0	100	0.00
69 P	Chlorobenzene	1.0048	1.0082	-0.3	100	0.00
70 T	1,1,1,2-Tetrachloroethane	0.3920	0.3917	0.1	98	0.00
71 C	Ethylbenzene	0.5296	0.5451	-2.9	101	0.00
72 P	m-,p-Xylene	0.6264	0.6617	-5.6	100	0.00
73 P	o-Xylene	0.6485	0.6520	-0.5	99	0.00
74 P	Styrene	0.9899	1.0876	-9.9	99	0.00
75 P	Bromoform	0.3249	0.3230	0.6	96	0.00
76 P	Isopropylbenzene	1.6280	1.6844	-3.5	100	0.00
77 I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	109	0.00
78 P	1,1,2,2-Tetrachloroethane	1.0190	0.9299	8.7	90	0.00
79 S	p-Bromofluorobenzene	0.8866	0.9320	-5.1	116	0.00
80 T	1,2,3-Trichloropropane	0.3422	0.3411	0.3	98	0.00
81 T	trans-1,4-Dichloro-2-Butene	0.3777	0.3418	9.5	95	0.00
82 T	n-Propylbenzene	3.4226	3.6113	-5.5	102	0.00
83 T	Bromobenzene	0.8649	0.8483	1.9	100	0.00
84 T	1,3,5-Trimethylbenzene	2.6511	2.7294	-3.0	101	0.00
85 T	2-Chlorotoluene	2.2629	2.4075	-6.4	108	0.00
86 T	4-Chlorotoluene	2.0116	2.0304	-0.9	95	0.00
87 T	a-Methylstyrene	1.4056	1.4583	-3.8	99	0.00
88 T	tert-Butylbenzene	0.5706	0.5825	-2.1	102	0.00
89 T	1,2,4-Trimethylbenzene	2.7487	2.8610	-4.1	101	0.00
90 T	sec-Butylbenzene	3.2269	3.4744	-7.7	103	0.00
91 T	p-Isopropyltoluene	2.6898	2.9429	-9.4	102	0.00
92 P	1,3-Dichlorobenzene	1.5291	1.5855	-3.7	102	0.00
93 P	1,4-Dichlorobenzene	1.5836	1.6102	-1.7	104	0.00
94 T	n-Butylbenzene	2.1599	2.4876	-15.2	103	0.00
95 P	1,2-Dichlorobenzene	1.6546	1.6814	-1.6	101	0.00
96 P	1,2-Dibromo-3-Chloropropane	0.2656	0.2559	3.7	85	0.00
97 P	1,2,4-Trichlorobenzene	1.0382	1.1890	-14.5	101	0.00
98 T	Hexachlorobutadiene	0.4609	0.5406	-17.3	106	0.00
99 T	Naphthalene	3.5928	4.0201	-11.9	96	0.00
100 T	1,2,3-Trichlorobenzene	1.1342	1.2635	-11.4	99	0.00

(#) = Out of Range
 9M982367.D 8260C.M

SPCC's out = 0 CCC's out = 0
 Thu Sep 07 09:36:38 2017

Page 2

Data File : C:\MSDCHEM\1\DATA\090617\9M982367.D

Vial: 5

Acq On : 6 Sep 2017 13:15

Operator: JDS

Sample : WG628578-02 50ug/L CCV 8260C

Inst : hpms9

Misc : 1,1 STD83554

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	50.0000	50.0000	0.0	108	0.00
2 P	Dichlorodifluoromethane	50.0000	49.5214	1.0	98	0.00
3 P	Chloromethane	50.0000	43.7148	12.6	92	0.00
4 C	Vinyl Chloride	50.0000	46.0928	7.8	91	0.01
5 T	1,3-Butadiene	50.0000	53.7377	-7.5	105	0.00
6 P	Bromomethane	50.0000	37.9284	24.1	85	0.00
7 P	Chloroethane	50.0000	48.0592	3.9	93	0.00
8 P	Trichlorofluoromethane	50.0000	49.4909	1.0	100	0.00
9 T	Diethyl ether	100.0000	100.0981	-0.1	107	0.00
10 T	Isoprene	50.0000	49.9937	0.0	99	0.00
11 T	Acrolein	50.0000	49.8596	0.3	103	0.00
12 P	1,1,2-Trichloro-1,2,2-Trifl	50.0000	49.8446	0.3	102	0.00
13 P	Acetone	50.0000	43.9414	12.1	95	0.00
14 C	1,1-Dichloroethene	50.0000	48.7078	2.6	100	0.00
15 T	Tert-Butyl Alcohol	200.0000	187.4396	6.3	101	0.00
16 T	Dimethyl Sulfide	50.0000	49.7617	0.5	100	0.00
17 T	Iodomethane	50.0000	38.8277	22.3	78	0.00
18 P	Methyl acetate	50.0000	46.1784	7.6	97	0.00
19 P	Methylene Chloride	50.0000	47.7823	4.4	99	0.00
20 P	Carbon Disulfide	50.0000	48.3228	3.4	98	0.00
21 T	Acrylonitrile	50.0000	50.8378	-1.7	103	0.00
22 P	Methyl Tert Butyl Ether	50.0000	47.6628	4.7	99	0.00
23 P	trans-1,2-Dichloroethene	50.0000	47.6250	4.8	98	0.00
24 T	n-Hexane	50.0000	53.3613	-6.7	110	0.00
25 T	Diisopropyl ether	100.0000	101.4439	-1.4	107	0.00
26 T	Vinyl Acetate	50.0000	53.3361	-6.7	113	0.00
27 P	1,1-Dichloroethane	50.0000	49.4589	1.1	100	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	100.9830	-1.0	106	0.00
29 P	2-Butanone	50.0000	44.0086	12.0	94	0.00
30 T	Propionitrile	100.0000	91.6691	8.3	102	0.00
31 T	2,2-Dichloropropane	50.0000	50.7701	-1.5	107	0.00
32 P	cis-1,2-Dichloroethene	50.0000	49.0060	2.0	98	0.00
33 C	Chloroform	50.0000	49.5397	0.9	99	0.00
34 T	1-Bromopropane	50.0000	0.0000	100.0#	0	-9.52#
35 T	Bromochloromethane	50.0000	48.9228	2.2	99	0.00
36 T	Tetrahydrofuran	100.0000	100.8762	-0.9	106	0.00
37 S	Dibromofluoromethane	50.0000	51.0993	-2.2	109	0.00
38 P	1,1,1-Trichloroethane	50.0000	47.5097	5.0	96	0.00
39 P	Cyclohexane	50.0000	47.4791	5.0	99	0.00
40 T	1,1-Dichloropropene	50.0000	49.6261	0.7	98	0.00
41 T	Tert-Amyl-Methyl ether	100.0000	100.5288	-0.5	106	0.00
42 P	Carbon Tetrachloride	50.0000	49.8921	0.2	100	0.00
43 S	1,2-Dichloroethane-d4	50.0000	52.6850	-5.4	114	0.00
44	Heptane	-1.0000	0.0000	0.0	109	0.00
45 P	1,2-Dichloroethane	50.0000	49.1714	1.7	102	0.00
46 P	Benzene	50.0000	46.3059	7.4	97	0.00
47 P	Trichloroethene	50.0000	52.2866	-4.6	105	0.00
48 P	Methylcyclohexane	50.0000	48.8601	2.3	102	0.00
49 C	1,2-Dichloropropane	50.0000	50.0848	-0.2	100	0.00
50 T	1,4-Dioxane	200.0000	183.8810	8.1	104	0.00
51 P	Bromodichloromethane	50.0000	50.8785	-1.8	101	0.00
52 T	Dibromomethane	50.0000	50.2805	-0.6	99	0.00
53 T	2-Chloroethyl Vinyl Ether	50.0000	43.8193	12.4	93	0.00
54 P	4-Methyl-2-Pentanone	50.0000	44.8569	10.3	96	0.00

(#)= Out of Range

9M982367.D 8260C.M

Thu Sep 07 09:36:40 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\090617\9M982367.D

Vial: 5

Acq On : 6 Sep 2017 13:15

Operator: JDS

Sample : WG628578-02 50ug/L CCV 8260C

Inst : hpms9

Misc : 1,1 STD83554

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55 P	cis-1,3-Dichloropropene	50.0000	52.0872	-4.2	99	0.00
56 T	Dimethyl Disulfide	50.0000	43.9620	12.1	102	0.00
57 I	Chlorobenzene-d5	50.0000	50.0000	0.0	107	0.00
58 S	Toluene-d8	50.0000	52.7133	-5.4	112	0.00
59 C	Toluene	50.0000	49.5192	1.0	100	0.00
60 T	Ethyl Methacrylate	50.0000	45.0586	9.9	100	0.00
61 P	trans-1,3-Dichloropropene	50.0000	54.7053	-9.4	99	0.00
62 P	1,1,2-Trichloroethane	50.0000	50.1155	-0.2	100	0.00
63 P	2-Hexanone	50.0000	42.4785	15.0	97	0.00
64 T	1,3-Dichloropropane	50.0000	50.3295	-0.7	101	0.00
65 P	Tetrachloroethene	50.0000	50.0623	-0.1	100	0.00
66 P	Dibromochloromethane	50.0000	52.6673	-5.3	101	0.00
67 P	1,2-Dibromoethane	50.0000	51.0052	-2.0	98	0.00
68 T	1-Chlorohexane	50.0000	53.4863	-7.0	100	0.00
69 P	Chlorobenzene	50.0000	50.1668	-0.3	100	0.00
70 T	1,1,1,2-Tetrachloroethane	50.0000	49.9621	0.1	98	0.00
71 C	Ethylbenzene	50.0000	51.4678	-2.9	101	0.00
72 P	m-,p-Xylene	100.0000	105.6337	-5.6	100	0.00
73 P	o-Xylene	50.0000	50.2727	-0.5	99	0.00
74 P	Styrene	50.0000	45.0548	9.9	99	0.00
75 P	Bromoform	50.0000	41.6625	16.7	96	0.00
76 P	Isopropylbenzene	50.0000	51.7305	-3.5	100	0.00
77 I	1,4-Dichlorobenzene-d4	50.0000	50.0000	0.0	109	0.00
78 P	1,1,2,2-Tetrachloroethane	50.0000	45.6262	8.7	90	0.00
79 S	p-Bromofluorobenzene	50.0000	52.5636	-5.1	116	0.00
80 T	1,2,3-Trichloropropane	50.0000	49.8377	0.3	98	0.00
81 T	trans-1,4-Dichloro-2-Butene	50.0000	45.2395	9.5	95	0.00
82 T	n-Propylbenzene	50.0000	52.7565	-5.5	102	0.00
83 T	Bromobenzene	50.0000	49.0391	1.9	100	0.00
84 T	1,3,5-Trimethylbenzene	50.0000	51.4777	-3.0	101	0.00
85 T	2-Chlorotoluene	50.0000	53.1965	-6.4	108	0.00
86 T	4-Chlorotoluene	50.0000	50.4682	-0.9	95	0.00
87 T	a-Methylstyrene	50.0000	51.8747	-3.7	99	0.00
88 T	tert-Butylbenzene	50.0000	51.0488	-2.1	102	0.00
89 T	1,2,4-Trimethylbenzene	50.0000	52.0413	-4.1	101	0.00
90 T	sec-Butylbenzene	50.0000	53.8349	-7.7	103	0.00
91 T	p-Isopropyltoluene	50.0000	54.7058	-9.4	102	0.00
92 P	1,3-Dichlorobenzene	50.0000	51.8437	-3.7	102	0.00
93 P	1,4-Dichlorobenzene	50.0000	50.8421	-1.7	104	0.00
94 T	n-Butylbenzene	50.0000	49.0613	1.9	103	0.00
95 P	1,2-Dichlorobenzene	50.0000	50.8098	-1.6	101	0.00
96 P	1,2-Dibromo-3-Chloropropane	50.0000	41.2820	17.4	85	0.00
97 P	1,2,4-Trichlorobenzene	50.0000	48.3850	3.2	101	0.00
98 T	Hexachlorobutadiene	50.0000	49.4174	1.2	106	0.00
99 T	Naphthalene	50.0000	51.7051	-3.4	96	0.00
100 T	1,2,3-Trichlorobenzene	50.0000	55.7006	-11.4	99	0.00

(#) = Out of Range
 9M982367.D 8260C.M

SPCC's out = 0 CCC's out = 0
 Thu Sep 07 09:36:40 2017

Page 2

2.1.1.5 Raw QC Data

Data File : C:\MSDCHEM\1\DATA\081417\9M981988.D

Vial: 1

Acq On : 14 Aug 2017 8:49

Operator: ADC

Sample : WG625140-01 50ng BFB 8260

Inst : hpms9

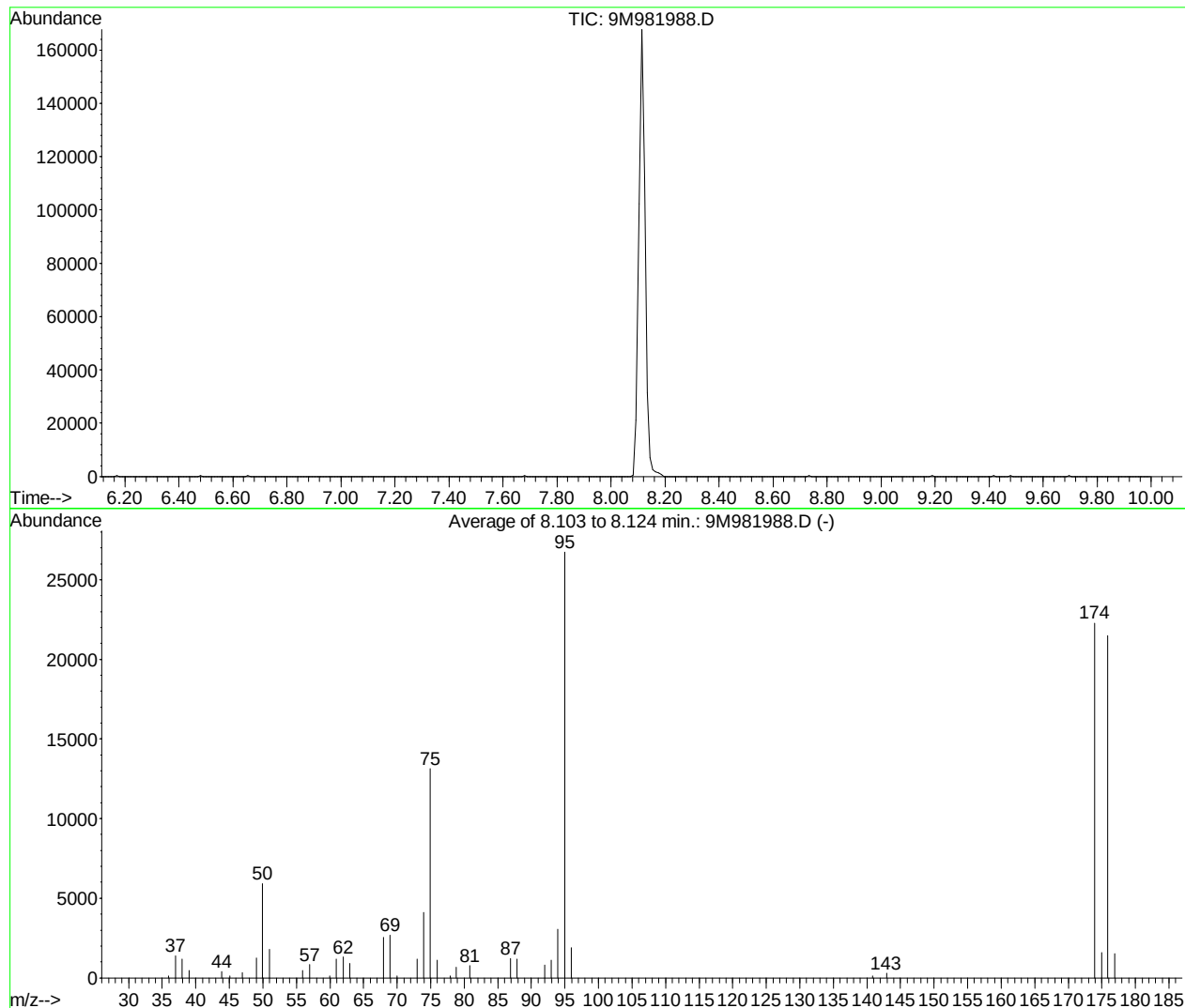
Misc : 1,1 STD83010

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9



AutoFind: Scans 292, 293, 294; Background Corrected with Scan 287

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.1	5904	PASS
75	95	30	60	49.1	13134	PASS
95	95	100	100	100.0	26746	PASS
96	95	5	9	7.1	1901	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	83.3	22290	PASS
175	174	5	9	7.2	1601	PASS
176	174	95	101	96.5	21505	PASS
177	176	5	9	7.0	1507	PASS

9M981988.D 8260C.M Tue Aug 15 09:52:10 2017

Data File : C:\MSDCHEM\1\DATA\082817\9M982213.D

Vial: 1

Acq On : 28 Aug 2017 13:44

Operator: JDS

Sample : WG627474-01 50ng BFB 8260

Inst : hpms9

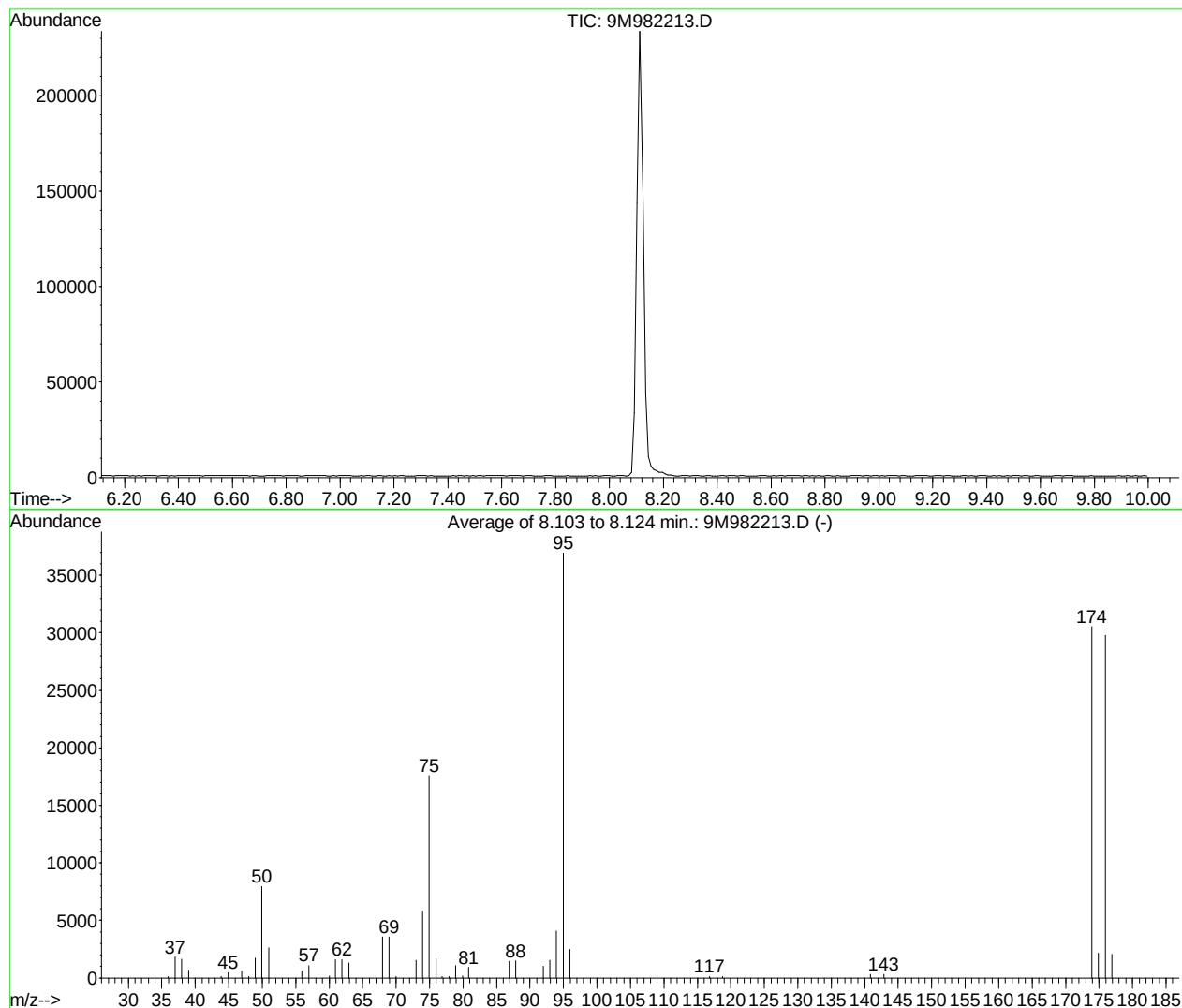
Misc : 1,1 STD83478

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

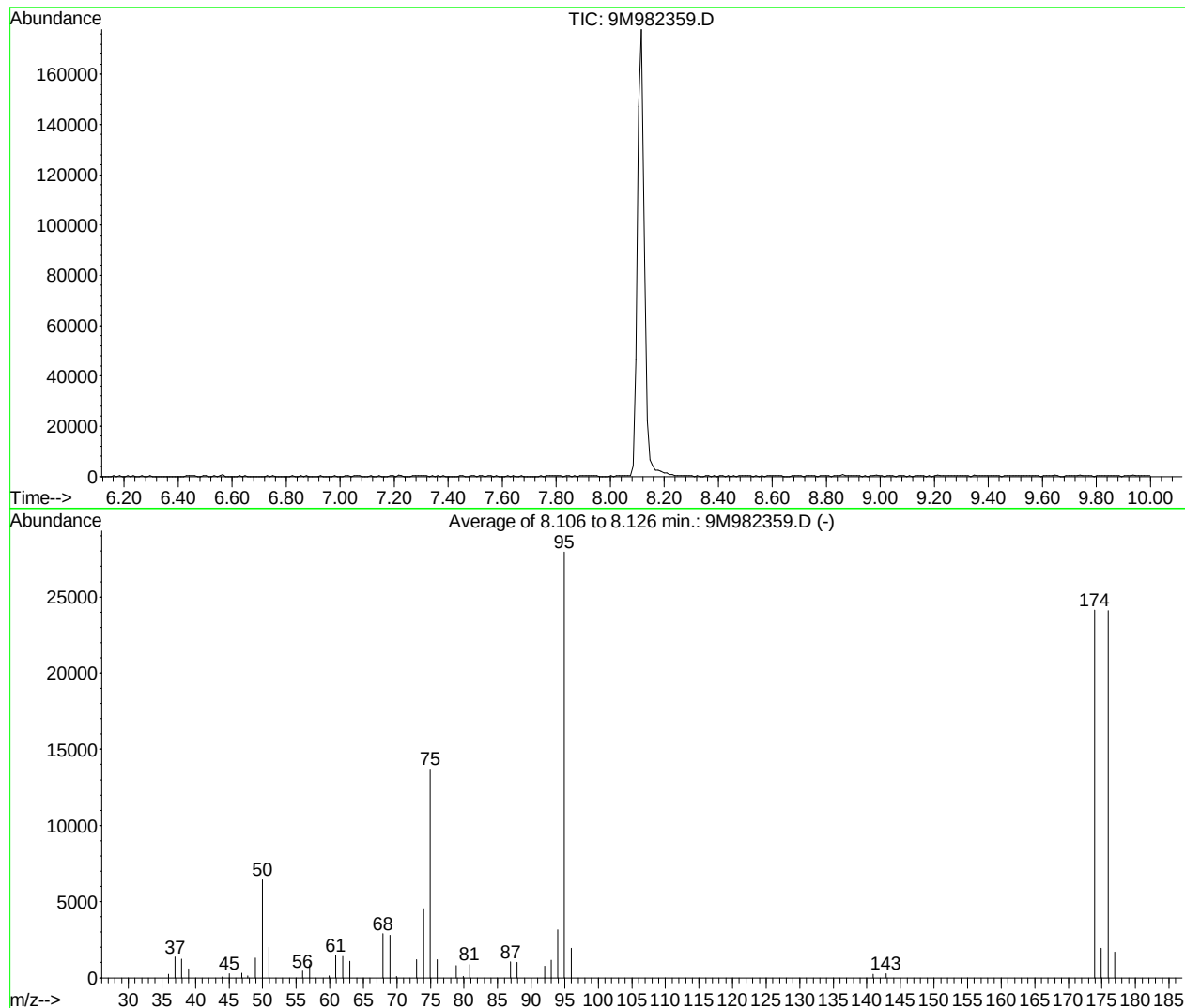


AutoFind: Scans 292, 293, 294; Background Corrected with Scan 287

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.5	7933	PASS
75	95	30	60	47.6	17593	PASS
95	95	100	100	100.0	36952	PASS
96	95	5	9	6.7	2465	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	82.6	30517	PASS
175	174	5	9	7.1	2160	PASS
176	174	95	101	97.5	29765	PASS
177	176	5	9	6.8	2028	PASS

9M982213.D 8260C.M Mon Aug 28 15:05:17 2017

Data File : C:\MSDCHEM\1\DATA\090617\9M982359.D Vial: 1
Acq On : 6 Sep 2017 9:37 Operator: JDS
Sample : WG628528-01 50ng BFB 8260 Inst : hpms9
Misc : 1,1 STD83478 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\MSDCHEM\1\METHODS\8260_S.M (RTE Integrator)
Title : 8260(B) SOP: OVL MSV01 SOIL 071117 HPMS9



AutoFind: Scans 292, 293, 294; Background Corrected with Scan 287

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.9	6413	PASS
75	95	30	60	49.0	13703	PASS
95	95	100	100	100.0	27950	PASS
96	95	5	9	6.9	1925	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	86.3	24117	PASS
175	174	5	9	8.1	1945	PASS
176	174	95	101	99.9	24082	PASS
177	176	5	9	7.0	1681	PASS

9M982359.D 8260_S.M Wed Sep 06 11:20:54 2017

Data File : C:\MSDCHEM\1\DATA\082817\9M982216.D Vial: 3
 Acq On : 28 Aug 2017 15:08 Operator: JDS
 Sample : WG627475-01 BLANK Inst : hpms9
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 29 09:33:37 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	555386	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	415459	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	193852	50.00	ug/L	0.00

System Monitoring Compounds						
37) Dibromofluoromethane	9.66	111	156518	50.3322	ug/L	0.00
Spiked Amount	50.000	Range 86 - 118	Recovery	=	100.66%	
43) 1,2-Dichloroethane-d4	10.30	65	188137	51.7951	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	103.60%	
58) Toluene-d8	12.67	98	542955	53.0849	ug/L	0.00
Spiked Amount	50.000	Range 88 - 110	Recovery	=	106.16%	
79) p-Bromofluorobenzene	16.06	95	194413	56.5604	ug/L	0.00
Spiked Amount	50.000	Range 86 - 115	Recovery	=	113.12%	

Target Compounds	Qvalue

 (#) = qualifier out of range (m) = manual integration
 9M982216.D 8260C.M Tue Aug 29 09:33:37 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\082817\9M982216.D

Vial: 3

Acq On : 28 Aug 2017 15:08

Operator: JDS

Sample : WG627475-01 BLANK

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 9:33 2017

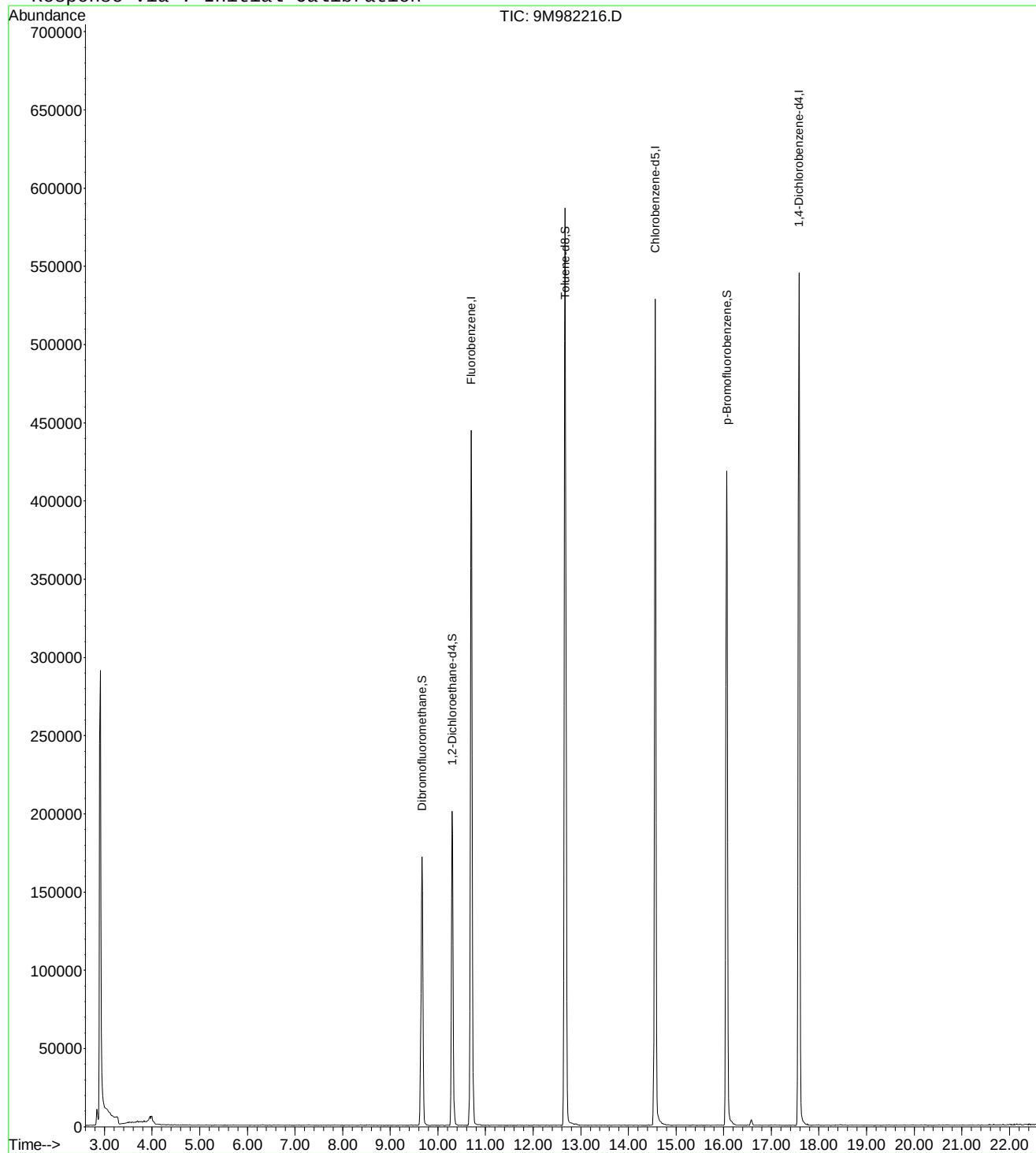
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration



9M982216.D 8260C.M

Tue Aug 29 09:33:38 2017

Page 2

Data File : C:\MSDCHEM\1\DATA\082817\9M982216.D

Vial: 3

Acq On : 28 Aug 2017 15:08

Operator: JDS

Sample : WG627475-01 BLANK

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Smoothing : ON

Filtering: 5

Sampling : 1

Min Area: 100 Area counts

Start Thrs: 0.2

Max Peaks: 100

Stop Thrs : 0

Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >

Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.344	70	72	74	rBV	353	676	0.05%	0.010%
2	3.523	79	89	93	rVV2	1139	5578	0.39%	0.080%
3	3.692	102	105	107	rVB	672	1277	0.09%	0.018%
4	3.956	123	130	131	rBV2	3598	8963	0.62%	0.128%
5	4.452	175	177	181	rBV	283	720	0.05%	0.010%
6	4.600	188	191	193	rBV	263	614	0.04%	0.009%
7	5.138	238	242	244	rVV	315	768	0.05%	0.011%
8	5.233	248	251	253	rVB	285	531	0.04%	0.008%
9	5.317	257	259	262	rBV	415	835	0.06%	0.012%
10	5.433	268	270	275	rVB	372	848	0.06%	0.012%
11	5.518	275	278	283	rBV	394	884	0.06%	0.013%
12	5.592	283	285	288	rBV	312	728	0.05%	0.010%
13	6.088	329	332	338	rVB	201	837	0.06%	0.012%
14	6.183	338	341	343	rBV	319	627	0.04%	0.009%
15	6.330	351	355	356	rBV	320	634	0.04%	0.009%
16	6.467	364	368	371	rVB	308	568	0.04%	0.008%
17	6.562	376	377	384	rVB	267	663	0.05%	0.009%
18	7.006	417	419	422	rBV	263	638	0.04%	0.009%
19	7.058	422	424	431	rVB	316	890	0.06%	0.013%
20	7.185	431	436	438	rBV	289	572	0.04%	0.008%
21	7.934	505	507	514	rVB	308	997	0.07%	0.014%
22	8.071	514	520	524	rBV	283	1136	0.08%	0.016%
23	8.166	526	529	533	rVV	302	846	0.06%	0.012%
24	8.377	545	549	550	rVV	411	621	0.04%	0.009%
25	8.409	551	552	556	rVV	331	583	0.04%	0.008%
26	8.504	560	561	563	rBV	443	554	0.04%	0.008%
27	8.557	563	566	568	rVV	427	667	0.05%	0.010%
28	8.631	570	573	575	rVV	320	557	0.04%	0.008%
29	8.684	575	578	582	rVV	216	662	0.05%	0.009%
30	8.757	582	585	590	rVV	289	791	0.05%	0.011%
31	8.926	598	601	604	rBV	291	608	0.04%	0.009%
32	8.979	604	606	609	rVB	336	610	0.04%	0.009%
33	9.063	609	614	615	rBV	342	710	0.05%	0.010%
34	9.285	633	635	639	rBV	267	672	0.05%	0.010%
35	9.517	653	657	661	rVB	328	1050	0.07%	0.015%
36	9.665	663	671	686	rVV	171708	475473	33.05%	6.778%
37	9.929	693	696	698	rVB	287	529	0.04%	0.008%
38	10.055	706	708	717	rVB	307	1052	0.07%	0.015%
39	10.298	725	731	744	rVB	200829	514416	35.76%	7.333%
40	10.699	761	769	782	rBV	444463	1181197	82.11%	16.837%
41	11.037	796	801	806	rBV	281	1029	0.07%	0.015%
42	11.142	806	811	812	rBV	278	581	0.04%	0.008%

43	11.374	828	833	835	rBV	293	850	0.06%	0.012%
44	11.765	869	870	873	rBV	352	531	0.04%	0.008%
45	11.870	878	880	883	rVB	277	579	0.04%	0.008%
46	11.955	885	888	891	rVB	268	551	0.04%	0.008%
47	12.018	891	894	896	rBV	427	820	0.06%	0.012%
48	12.324	917	923	925	rVB	317	840	0.06%	0.012%
49	12.672	948	956	974	rBV	586626	1438591	100.00%	20.506%
50	12.884	974	976	985	rVB	979	4111	0.29%	0.059%
51	13.601	1041	1044	1048	rBV	358	1108	0.08%	0.016%
52	13.886	1068	1071	1074	rVV	278	758	0.05%	0.011%
53	13.981	1077	1080	1083	rVV	278	551	0.04%	0.008%
54	14.065	1083	1088	1090	rVV	296	709	0.05%	0.010%
55	14.160	1092	1097	1102	rVB	307	1179	0.08%	0.017%
56	14.561	1128	1135	1159	rVV	528250	1224915	85.15%	17.460%
57	14.825	1159	1160	1167	rVB	558	1576	0.11%	0.022%
58	14.931	1169	1170	1174	rVV	276	563	0.04%	0.008%
59	15.152	1186	1191	1193	rVV	298	888	0.06%	0.013%
60	15.216	1194	1197	1200	rVV	227	562	0.04%	0.008%
61	15.353	1206	1210	1213	rBV	378	709	0.05%	0.010%
62	15.754	1246	1248	1254	rBV	311	880	0.06%	0.013%
63	15.870	1255	1259	1261	rVV	414	807	0.06%	0.012%
64	15.923	1261	1264	1267	rVV	302	589	0.04%	0.008%
65	16.060	1271	1277	1297	rBV	418389	935013	65.00%	13.328%
66	16.503	1316	1319	1322	rBV	303	757	0.05%	0.011%
67	16.577	1322	1326	1332	rVV2	3668	8748	0.61%	0.125%
68	16.778	1342	1345	1348	rVB	289	633	0.04%	0.009%
69	16.915	1353	1358	1361	rVB	205	648	0.05%	0.009%
70	16.999	1361	1366	1368	rBV	345	526	0.04%	0.007%
71	17.073	1370	1373	1375	rBV	327	552	0.04%	0.008%
72	17.474	1406	1411	1414	rVB	273	869	0.06%	0.012%
73	17.580	1414	1421	1437	rBV	545184	1148056	79.80%	16.365%
74	17.949	1453	1456	1459	rBV	327	615	0.04%	0.009%
75	18.477	1499	1506	1509	rVV	430	1289	0.09%	0.018%
76	18.677	1518	1525	1526	rBV	321	1042	0.07%	0.015%
77	18.899	1538	1546	1550	rVB	272	1140	0.08%	0.016%
78	18.973	1550	1553	1556	rBV	305	807	0.06%	0.012%
79	19.363	1586	1590	1597	rBV	230	914	0.06%	0.013%
80	19.468	1597	1600	1605	rBV	366	698	0.05%	0.010%
81	19.542	1605	1607	1611	rVB	418	1083	0.08%	0.015%
82	19.627	1611	1615	1616	rBV	389	771	0.05%	0.011%
83	19.785	1626	1630	1635	rBV	268	672	0.05%	0.010%
84	20.239	1672	1673	1679	rVB	395	669	0.05%	0.010%
85	20.344	1679	1683	1685	rVB	292	586	0.04%	0.008%
86	20.608	1702	1708	1711	rBV	253	755	0.05%	0.011%
87	20.840	1726	1730	1732	rVB	239	602	0.04%	0.009%
88	21.020	1745	1747	1750	rBV	278	531	0.04%	0.008%
89	21.347	1773	1778	1782	rVB	430	1084	0.08%	0.015%
90	21.421	1782	1785	1791	rBV	579	1283	0.09%	0.018%
91	21.579	1796	1800	1802	rBV	575	909	0.06%	0.013%
92	21.663	1805	1808	1813	rVB	601	802	0.06%	0.011%
93	21.790	1819	1820	1824	rBV	373	570	0.04%	0.008%
94	21.864	1824	1827	1832	rVB	573	1153	0.08%	0.016%
95	21.948	1832	1835	1837	rBV	434	558	0.04%	0.008%
96	22.012	1837	1841	1843	rBV2	667	1342	0.09%	0.019%
97	22.096	1847	1849	1850	rVB2	787	545	0.04%	0.008%
98	22.159	1851	1855	1857	rBV2	586	938	0.07%	0.013%
99	22.328	1867	1871	1872	rBV2	493	1014	0.07%	0.014%
100	22.402	1877	1878	1882	rVB	784	1342	0.09%	0.019%

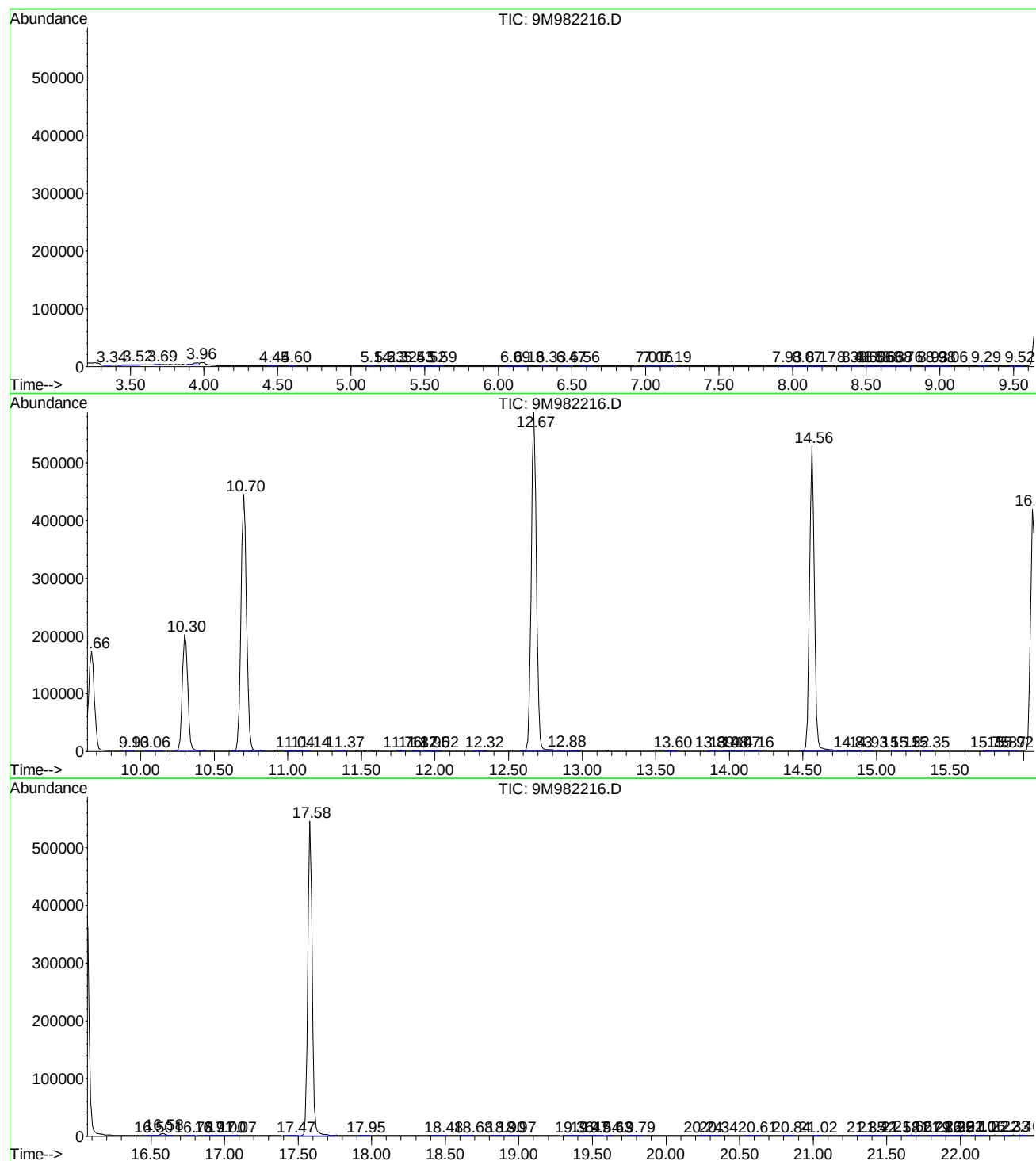
Sum of corrected areas: 7015375

9M982216.D 8260C.M

Tue Aug 29 09:48:52 2017

Page 2

File : C:\MSDCHEM\1\DATA\082817\9M982216.D
Operator : JDS
Acquired : 28 Aug 2017 15:08 using AcqMethod 8260C
Instrument : hpms9
Sample Name: WG627475-01 BLANK
Misc Info : 1,1
Vial Number: 3
Quant File :8260C.RES (RTE Integrator)



Tentatively Identified Compound (LSC) summary

Operator ID: JDS Date Acquired: 28 Aug 2017 15:08
 Data File: C:\MSDCHEM\1\DATA\082817\9M982216.D
 Name: WG627475-01 BLANK
 Misc: 1,1
 Method: C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title: 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Library Searched: C:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--
				#	RT Resp Conc

Data File : C:\MSDCHEM\1\DATA\090617\9M982369.D Vial: 7
 Acq On : 6 Sep 2017 14:16 Operator: JDS
 Sample : WG628579-01 BLANK 8260C Inst : hpms9
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 07 09:46:17 2017 Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Last Update : Mon Aug 14 14:47:27 2017
 Response via : Initial Calibration
 DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	493444	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	371235	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	169772	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.66	111	138628	50.1753	ug/L	0.00
Spiked Amount	50.000	Range 86 - 118	Recovery	=	100.36%	
43) 1,2-Dichloroethane-d4	10.30	65	169948	52.6608	ug/L	0.00
Spiked Amount	50.000	Range 80 - 120	Recovery	=	105.32%	
58) Toluene-d8	12.67	98	468538	51.2662	ug/L	0.00
Spiked Amount	50.000	Range 88 - 110	Recovery	=	102.54%	
79) p-Bromofluorobenzene	16.06	95	167310	55.5794	ug/L	0.00
Spiked Amount	50.000	Range 86 - 115	Recovery	=	111.16%	

Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration
 9M982369.D 8260C.M Thu Sep 07 09:46:17 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\090617\9M982369.D

Vial: 7

Acq On : 6 Sep 2017 14:16

Operator: JDS

Sample : WG628579-01 BLANK 8260C

Inst : hpms9

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 7 9:46 2017

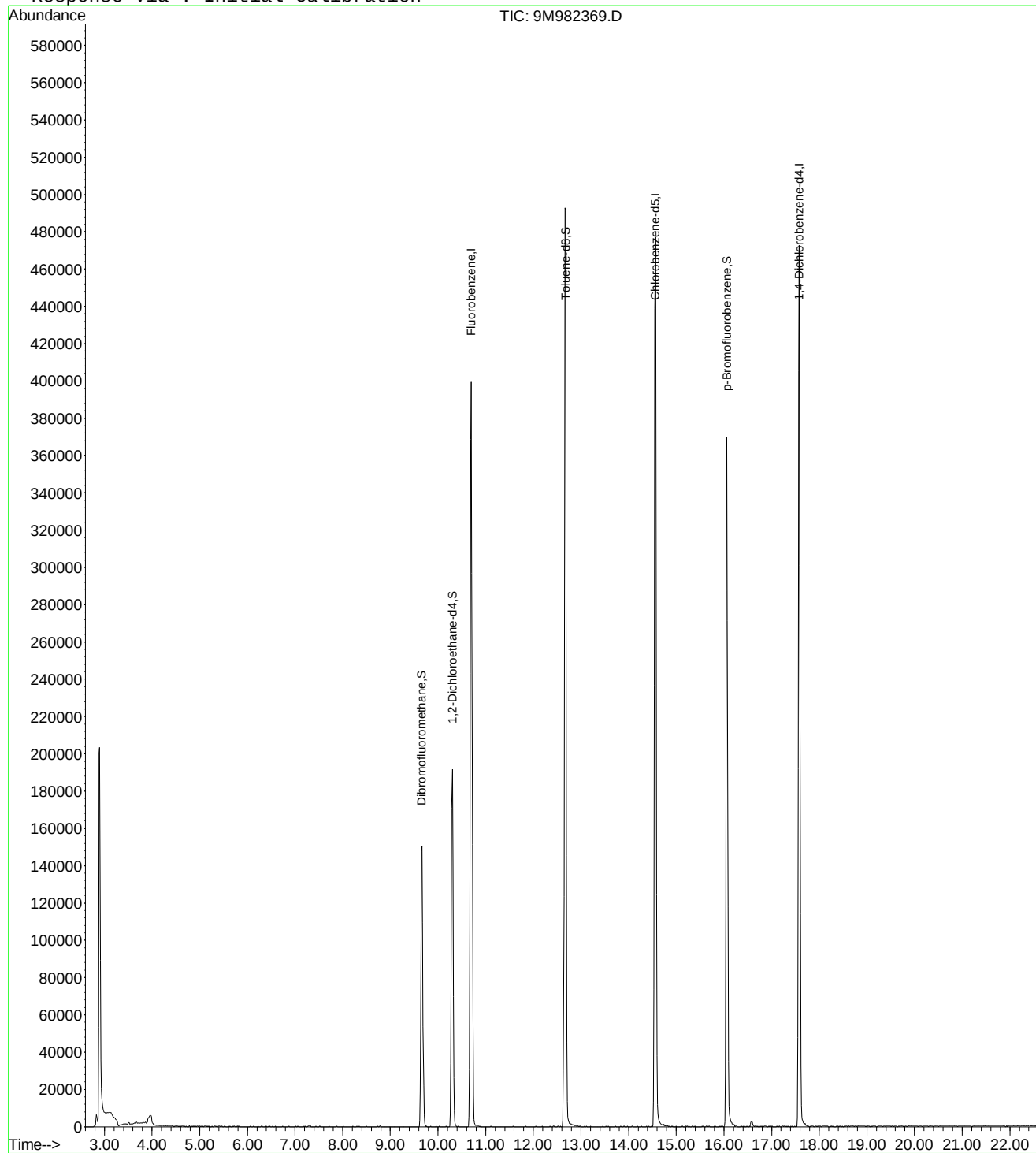
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration



9M982369.D 8260C.M

Thu Sep 07 09:46:17 2017

Page 2

Data File : C:\MSDCHEM\1\DATA\090617\9M982369.D
 Acq On : 6 Sep 2017 14:16
 Sample : WG628579-01 BLANK 8260C
 Misc : 1,1
 MS Integration Params: RTEINT.P

Vial: 7
 Operator: JDS
 Inst : hpms9
 Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Smoothing : ON Filtering: 5
 Sampling : 1 Min Area: 100 Area counts
 Start Thrs: 0.2 Max Peaks: 100
 Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
 Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.409	68	78	79	rBV2	1194	4765	0.38%	0.076%
2	3.514	85	88	92	rBV2	1078	2231	0.18%	0.035%
3	3.662	100	102	106	rBV2	909	1646	0.13%	0.026%
4	3.958	123	130	138	rVB5	5600	29457	2.32%	0.467%
5	4.221	153	155	160	rBV	402	564	0.04%	0.009%
6	4.432	173	175	177	rVB	728	915	0.07%	0.015%
7	4.496	178	181	182	rBB	445	722	0.06%	0.011%
8	4.517	182	183	186	rBB	427	756	0.06%	0.012%
9	4.580	186	189	192	rBB	407	858	0.07%	0.014%
10	4.654	192	196	198	rBB	368	838	0.07%	0.013%
11	4.781	206	208	211	rBB	637	605	0.05%	0.010%
12	4.865	212	216	217	rBB	380	664	0.05%	0.011%
13	4.886	217	218	222	rBB	346	815	0.06%	0.013%
14	4.950	222	224	226	rBB	397	642	0.05%	0.010%
15	5.013	226	230	231	rBB	376	878	0.07%	0.014%
16	5.034	231	232	234	rBB	391	454	0.04%	0.007%
17	5.118	237	240	243	rBB	388	1093	0.09%	0.017%
18	5.329	256	260	261	rBB	432	712	0.06%	0.011%
19	5.393	265	266	270	rBB	385	845	0.07%	0.013%
20	5.720	293	297	300	rBB	314	586	0.05%	0.009%
21	5.783	301	303	305	rBB	326	412	0.03%	0.007%
22	5.825	305	307	309	rBB	345	418	0.03%	0.007%
23	6.290	349	351	355	rBB	340	634	0.05%	0.010%
24	6.395	357	361	363	rBB	346	436	0.03%	0.007%
25	6.448	364	366	370	rBB	351	412	0.03%	0.007%
26	7.303	442	447	451	rBB	833	1996	0.16%	0.032%
27	9.667	664	671	682	rBB	150560	426534	33.60%	6.769%
28	10.300	724	731	741	rBB	191723	474902	37.41%	7.537%
29	10.701	761	769	788	rBB	399483	1070785	84.36%	16.993%
30	12.664	949	955	975	rBV	492862	1269327	100.00%	20.144%
31	12.906	975	978	981	rVV	812	1850	0.15%	0.029%
32	12.980	982	985	988	rBB	368	655	0.05%	0.010%
33	13.909	1070	1073	1075	rBB	350	421	0.03%	0.007%
34	14.067	1086	1088	1091	rBB	370	458	0.04%	0.007%
35	14.563	1125	1135	1154	rBV	477102	1111194	87.54%	17.635%
36	14.827	1158	1160	1162	rVB	709	646	0.05%	0.010%
37	14.922	1166	1169	1171	rBB	350	434	0.03%	0.007%
38	15.122	1186	1188	1191	rBB	348	420	0.03%	0.007%
39	15.207	1193	1196	1197	rBB	374	460	0.04%	0.007%
40	15.239	1197	1199	1201	rBB	361	437	0.03%	0.007%
41	15.355	1206	1210	1212	rBB	336	603	0.05%	0.010%
42	15.566	1226	1230	1232	rBB	356	436	0.03%	0.007%

43	15.692	1238	1242	1244	rBB	382	651	0.05%	0.010%
44	16.062	1271	1277	1295	rBV	370028	808247	63.68%	12.827%
45	16.273	1295	1297	1299	rVB	343	417	0.03%	0.007%
46	16.357	1303	1305	1309	rBB	346	410	0.03%	0.007%
47	16.579	1320	1326	1332	rBB	2912	7975	0.63%	0.127%
48	16.705	1332	1338	1340	rBB	398	1107	0.09%	0.018%
49	16.853	1350	1352	1357	rBB	407	1099	0.09%	0.017%
50	16.938	1358	1360	1364	rBB	329	618	0.05%	0.010%
51	17.222	1385	1387	1390	rBB	411	878	0.07%	0.014%
52	17.265	1390	1391	1397	rBB	361	876	0.07%	0.014%
53	17.360	1397	1400	1402	rBB	369	445	0.04%	0.007%
54	17.434	1406	1407	1410	rBB	396	486	0.04%	0.008%
55	17.581	1414	1421	1438	rBB	472842	1016474	80.08%	16.132%
56	17.835	1442	1445	1450	rBB	393	1284	0.10%	0.020%
57	17.908	1451	1452	1455	rBB	389	700	0.06%	0.011%
58	17.972	1455	1458	1460	rBB	450	690	0.05%	0.011%
59	18.024	1460	1463	1464	rBB	328	604	0.05%	0.010%
60	18.119	1465	1472	1474	rBB	401	1813	0.14%	0.029%
61	18.162	1474	1476	1480	rBB	365	911	0.07%	0.014%
62	18.288	1484	1488	1490	rBB	360	663	0.05%	0.011%
63	18.383	1493	1497	1499	rBB	373	832	0.07%	0.013%
64	18.436	1499	1502	1506	rBB	375	869	0.07%	0.014%
65	18.531	1509	1511	1512	rBB	414	493	0.04%	0.008%
66	18.552	1512	1513	1517	rBB	325	802	0.06%	0.013%
67	18.605	1517	1518	1521	rBB	364	617	0.05%	0.010%
68	18.679	1521	1525	1530	rBB	363	1657	0.13%	0.026%
69	18.753	1530	1532	1536	rBB	379	1053	0.08%	0.017%
70	18.816	1536	1538	1542	rBV	454	1396	0.11%	0.022%
71	18.964	1543	1552	1555	rVB	424	2296	0.18%	0.036%
72	19.048	1556	1560	1561	rBB	489	1051	0.08%	0.017%
73	19.090	1562	1564	1566	rBB	450	745	0.06%	0.012%
74	19.175	1566	1572	1575	rBB	398	1580	0.12%	0.025%
75	19.259	1576	1580	1584	rBV	400	1779	0.14%	0.028%
76	19.365	1587	1590	1593	rBB	429	1117	0.09%	0.018%
77	19.439	1593	1597	1604	rBB	511	2464	0.19%	0.039%
78	19.534	1604	1606	1609	rBB	436	944	0.07%	0.015%
79	19.576	1609	1610	1616	rBB	453	1159	0.09%	0.018%
80	19.660	1617	1618	1621	rBB	376	650	0.05%	0.010%
81	19.702	1621	1622	1624	rBV	413	726	0.06%	0.012%
82	19.776	1628	1629	1631	rBB	438	489	0.04%	0.008%
83	19.808	1631	1632	1635	rBB	398	690	0.05%	0.011%
84	19.850	1635	1636	1638	rBV	440	784	0.06%	0.012%
85	20.114	1657	1661	1665	rBB	429	1655	0.13%	0.026%
86	20.198	1665	1669	1673	rBV	487	1992	0.16%	0.032%
87	20.336	1678	1682	1687	rBB	433	1913	0.15%	0.030%
88	20.409	1687	1689	1691	rBV	383	869	0.07%	0.014%
89	20.515	1698	1699	1703	rBV	437	1263	0.10%	0.020%
90	20.948	1736	1740	1741	rBV	426	1288	0.10%	0.020%
91	21.233	1765	1767	1770	rBV	435	1239	0.10%	0.020%
92	21.475	1787	1790	1794	rVB	225	451	0.04%	0.007%
93	21.876	1826	1828	1831	rVB	748	1299	0.10%	0.021%
94	21.940	1832	1834	1835	rBB	599	587	0.05%	0.009%
95	21.961	1835	1836	1838	rBV	519	812	0.06%	0.013%
96	22.077	1844	1847	1850	rVB	402	516	0.04%	0.008%
97	22.161	1854	1855	1860	rBV	398	961	0.08%	0.015%
98	22.256	1862	1864	1867	rVB	408	477	0.04%	0.008%
99	22.372	1870	1875	1876	rBV2	307	630	0.05%	0.010%
100	22.414	1876	1879	1881	rBV	381	755	0.06%	0.012%

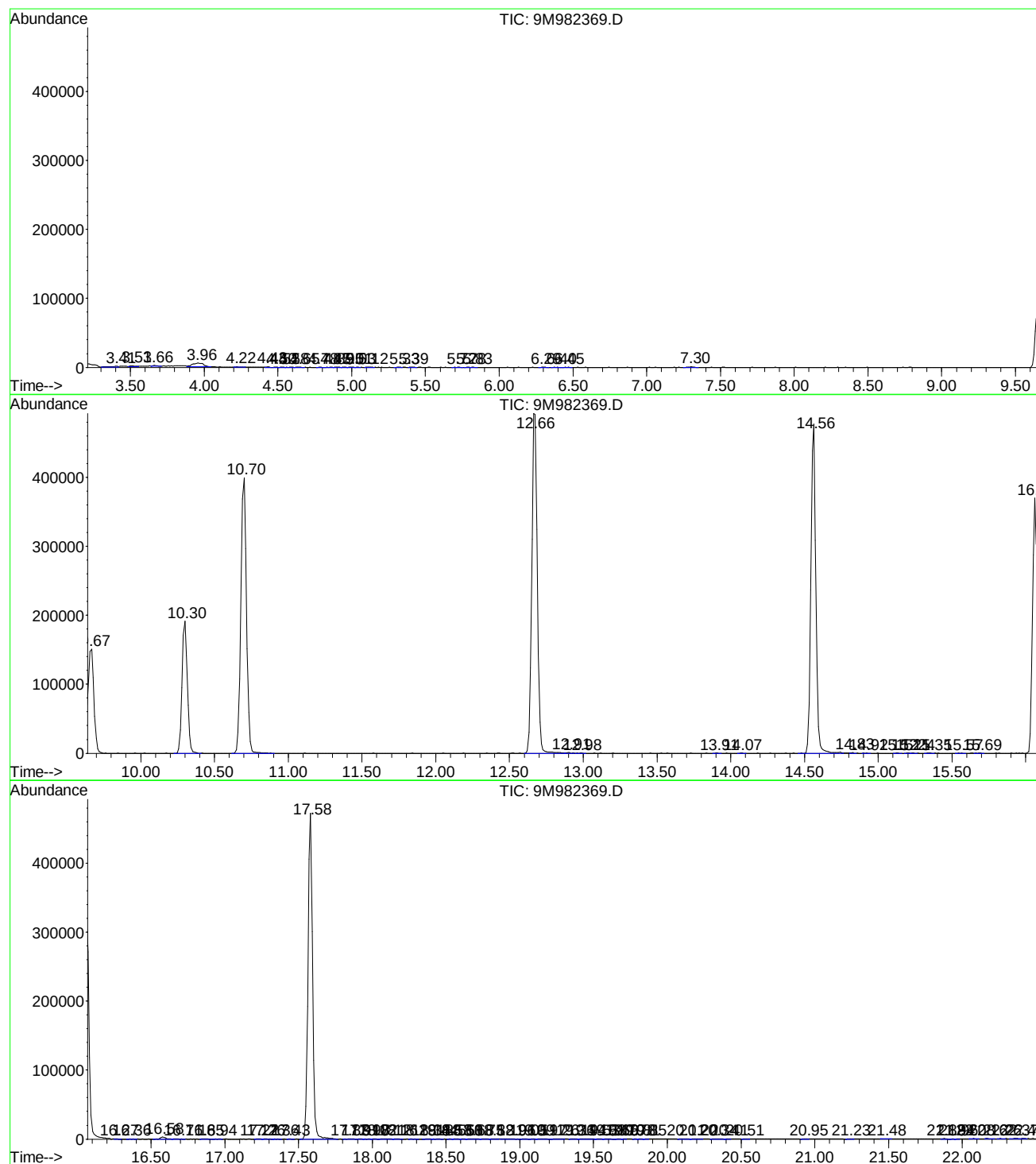
Sum of corrected areas: 6301164

9M982369.D 8260C.M

Thu Sep 07 13:40:14 2017

Page 2

File : C:\MSDCHEM\1\DATA\090617\9M982369.D
Operator : JDS
Acquired : 6 Sep 2017 14:16 using AcqMethod 8260C
Instrument : hpms9
Sample Name: WG628579-01 BLANK 8260C
Misc Info : 1,1
Vial Number: 7
Quant File :8260C.RES (RTE Integrator)



Tentatively Identified Compound (LSC) summary

Operator ID: JDS Date Acquired: 6 Sep 2017 14:16
 Data File: C:\MSDCHEM\1\DATA\090617\9M982369.D
 Name: WG628579-01 BLANK 8260C
 Misc: 1,1
 Method: C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
 Title: 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
 Library Searched: C:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	---Internal Standard---
				#	RT Resp Conc

Data File : C:\MSDchem\1\data\082817\9M982217.D

Vial: 4

Acq On : 28 Aug 2017 15:39

Operator: JDS

Sample : WG627475-02 20ug/L LCS 8260

Inst : hpms9

Misc : 1,1 STD83584

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 28 16:01:50 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	550237	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	416822	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	215958	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.67	111	158088	51.3128	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	102.62%
43) 1,2-Dichloroethane-d4	10.30	65	184581	51.2917	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	102.58%
58) Toluene-d8	12.67	98	536553	52.2874	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	104.58%
79) p-Bromofluorobenzene	16.06	95	204108	53.3026	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	106.60%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.23	85	84716	21.0371	ug/L	99
3) Chloromethane	3.68	50	111272	20.1434	ug/L	99
4) Vinyl Chloride	3.90	62	67934	17.2999	ug/L	98
5) 1,3-Butadiene	3.94	54	31076	21.4954	ug/L	95
6) Bromomethane	4.78	94	42717	17.6919	ug/L	100
7) Chloroethane	4.93	64	48369	21.1900	ug/L	98
8) Trichlorofluoromethane	5.41	101	98342	19.4399	ug/L	100
9) Diethyl ether	5.94	59	308038	98.3223	ug/L	99
10) Isoprene	5.97	67	86020	20.8723	ug/L	99
11) Acrolein	6.18	56	73879	140.0234	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	56437	21.2465	ug/L	99
13) Acetone	6.29	43	33253	19.8875	ug/L	97
14) 1,1-Dichloroethene	6.49	61	82907	17.4251	ug/L	99
15) Tert-Butyl Alcohol	6.63	59	118444	205.2972	ug/L	98
16) Dimethyl Sulfide	6.75	62	58847	15.8094	ug/L	99
17) Iodomethane	7.01	142	65568	18.0086	ug/L	98
18) Methyl acetate	7.03	43	81072	18.8761	ug/L	99
19) Methylene Chloride	7.27	84	58735	18.8730	ug/L	98
20) Carbon Disulfide	7.31	76	133319	17.1764	ug/L	100
21) Acrylonitrile	7.46	53	41643	20.6191	ug/L	97
22) Methyl Tert Butyl Ether	7.48	73	189953	19.4799	ug/L	98
23) trans-1,2-Dichloroethene	7.71	61	79795	18.0496	ug/L	99
24) n-Hexane	7.79	57	72287	17.3504	ug/L	100
25) Diisopropyl ether	8.14	45	1188297	99.3490	ug/L	100
26) Vinyl Acetate	8.31	43	145643	19.4728	ug/L	99
27) 1,1-Dichloroethane	8.34	63	110093	18.7533	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1103441	100.9455	ug/L	100
29) 2-Butanone	8.90	43	46449	18.6530	ug/L	98
30) Propionitrile	9.00	54	77476	92.1735	ug/L	99
31) 2,2-Dichloropropane	9.11	77	83888	19.6215	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	61685	19.5752	ug/L	100
33) Chloroform	9.38	83	105947	20.2156	ug/L	99
34) 1-Bromopropane	9.51	122	14362	24.2538	ug/L	99
35) Bromochloromethane	9.61	130	43370	19.2051	ug/L	99
36) Tetrahydrofuran	9.63	42	152339	98.2190	ug/L	99
38) 1,1,1-Trichloroethane	9.90	97	93252	19.3934	ug/L	99
39) Cyclohexane	9.93	56	111536	18.4737	ug/L	98
40) 1,1-Dichloropropene	10.10	75	70183	19.3097	ug/L	100
41) Tert-Amyl-Methyl ether	10.20	73	923428	101.8159	ug/L	99
42) Carbon Tetrachloride	10.25	117	84696	19.4791	ug/L	100

(#) = qualifier out of range (m) = manual integration
 9M982217.D 8260C.M Mon Aug 28 16:01:50 2017

Page 1

Data File : C:\MSDchem\1\data\082817\9M982217.D

Vial: 4

Acq On : 28 Aug 2017 15:39

Operator: JDS

Sample : WG627475-02 20ug/L LCS 8260

Inst : hpms9

Misc : 1,1 STD83584

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 28 16:01:50 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.42	62	98287	19.4199	ug/L	99
46) Benzene	10.46	78	227851	18.8445	ug/L	100
47) Trichloroethene	11.21	130	68172	21.2240	ug/L	99
48) Methylcyclohexane	11.28	83	90155	18.8460	ug/L	100
49) 1,2-Dichloropropane	11.42	63	66644	19.8992	ug/L	100
50) 1,4-Dioxane	11.71	88	11296	186.2084	ug/L	97
51) Bromodichloromethane	11.72	83	78610	19.5317	ug/L	99
52) Dibromomethane	11.81	174	44506	20.2052	ug/L	99
53) 2-Chloroethyl Vinyl Ether	12.02	63	48109	18.1563	ug/L	98
54) 4-Methyl-2-Pentanone	12.05	58	36055	18.0210	ug/L	100
55) cis-1,3-Dichloropropene	12.35	75	96833	21.5710	ug/L	100
56) Dimethyl Disulfide	12.61	79	47141	17.8567	ug/L	89
59) Toluene	12.77	91	249421	20.6545	ug/L	99
60) Ethyl Methacrylate	12.86	69	86348	18.5142	ug/L	99
61) trans-1,3-Dichloropropene	12.95	75	86459	21.3447	ug/L	99
62) 1,1,2-Trichloroethane	13.17	97	62516	21.0807	ug/L	98
63) 2-Hexanone	13.11	43	58473	17.3902	ug/L #	78
64) 1,3-Dichloropropane	13.47	76	106971	21.9998	ug/L	100
65) Tetrachloroethene	13.59	164	49784	20.3503	ug/L	100
66) Dibromochloromethane	13.86	129	71146	20.5528	ug/L	99
67) 1,2-Dibromoethane	14.11	107	64002	20.3606	ug/L	99
68) 1-Chlorohexane	14.19	91	65583	19.8357	ug/L	97
69) Chlorobenzene	14.62	112	177589	21.2003	ug/L	98
70) 1,1,1,2-Tetrachloroethane	14.64	131	67611	20.6896	ug/L	99
71) Ethylbenzene	14.64	106	93384	21.1522	ug/L	98
72) m-,p-Xylene	14.72	106	230814	44.1979	ug/L	97
73) o-Xylene	15.29	106	117636	21.7598	ug/L	100
74) Styrene	15.32	104	187339	19.0639	ug/L	99
75) Bromoform	15.82	173	50486	16.5374	ug/L	99
76) Isopropylbenzene	15.71	105	284534	20.9647	ug/L	98
78) 1,1,2,2-Tetrachloroethane	15.93	83	86788	19.7184	ug/L	99
80) 1,2,3-Trichloropropane	16.12	110	33362	22.5728	ug/L #	31
81) trans-1,4-Dichloro-2-Butene	16.17	53	25614	15.7007	ug/L #	1
82) n-Propylbenzene	16.22	91	325651	22.0292	ug/L	99
83) Bromobenzene	16.36	156	78642	21.0520	ug/L	95
84) 1,3,5-Trimethylbenzene	16.41	105	250665	21.8915	ug/L	98
85) 2-Chlorotoluene	16.49	91	216449	22.1460	ug/L	90
86) 4-Chlorotoluene	16.54	91	192984	22.2119	ug/L	91
87) a-Methylstyrene	16.81	118	124189	20.4562	ug/L	96
88) tert-Butylbenzene	16.86	134	54989	22.3143	ug/L	98
89) 1,2,4-Trimethylbenzene	16.92	105	265329	22.3486	ug/L	99
90) sec-Butylbenzene	17.14	105	310911	22.3072	ug/L	99
91) p-Isopropyltoluene	17.30	119	257595	22.1728	ug/L	100
92) 1,3-Dichlorobenzene	17.50	146	142644	21.5987	ug/L	100
93) 1,4-Dichlorobenzene	17.62	146	149181	21.8112	ug/L	100
94) n-Butylbenzene	17.82	91	200981	18.7446	ug/L	99
95) 1,2-Dichlorobenzene	18.12	146	159629	22.3368	ug/L	99
96) 1,2-Dibromo-3-Chloropropane	19.12	157	24495	19.0227	ug/L	100
97) 1,2,4-Trichlorobenzene	20.25	180	101276	19.4794	ug/L	99
98) Hexachlorobutadiene	20.40	225	45551	19.6854	ug/L	99
99) Naphthalene	20.62	128	375941	22.5708	ug/L	100
100) 1,2,3-Trichlorobenzene	20.94	180	112080	22.8797	ug/L	98

(#) = qualifier out of range (m) = manual integration
 9M982217.D 8260C.M Mon Aug 28 16:01:50 2017

Page 2

Data File : C:\MSDCHEM\1\data\090617\9M982370.D

Vial: 8

Acq On : 6 Sep 2017 14:46

Operator: JDS

Sample : WG628579-02 20ug/L LCS 8260C

Inst : hpms9

Misc : 1,1 STD83659

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 06 15:09:07 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.70	96	491864	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	372839	50.00	ug/L	0.00
77) 1,4-Dichlorobenzene-d4	17.58	152	195286	50.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.66	111	139912	50.8027	ug/L	0.00
Spiked Amount	50.000	Range	86 - 118	Recovery	=	101.60%
43) 1,2-Dichloroethane-d4	10.30	65	170462	52.9898	ug/L	0.00
Spiked Amount	50.000	Range	80 - 120	Recovery	=	105.98%
58) Toluene-d8	12.67	98	483337	52.6580	ug/L	0.00
Spiked Amount	50.000	Range	88 - 110	Recovery	=	105.32%
79) p-Bromofluorobenzene	16.06	95	177392	51.2296	ug/L	0.00
Spiked Amount	50.000	Range	86 - 115	Recovery	=	102.46%

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.23	85	66955	18.5998	ug/L	97
3) Chloromethane	3.68	50	94738	19.1856	ug/L	99
4) Vinyl Chloride	3.89	62	72115	20.5441	ug/L	99
5) 1,3-Butadiene	3.93	54	29470	22.8037	ug/L	97
6) Bromomethane	4.77	94	37429	17.3415	ug/L	100
7) Chloroethane	4.93	64	40687	19.9400	ug/L	99
8) Trichlorofluoromethane	5.40	101	86849	19.2054	ug/L	99
9) Diethyl ether	5.94	59	282010	100.6972	ug/L	99
10) Isoprene	5.97	67	76149	20.6700	ug/L	97
11) Acrolein	6.17	56	85268	180.7883	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	49799	20.9724	ug/L	99
13) Acetone	6.29	43	29540	19.7636	ug/L	97
14) 1,1-Dichloroethene	6.49	61	80454	18.9163	ug/L	96
15) Tert-Butyl Alcohol	6.62	59	109678	212.6642	ug/L	99
16) Dimethyl Sulfide	6.75	62	51939	15.6095	ug/L	95
17) Iodomethane	7.01	142	47563	14.6138	ug/L	98
18) Methyl acetate	7.02	43	74106	19.3019	ug/L	100
19) Methylene Chloride	7.27	84	54189	19.4787	ug/L	97
20) Carbon Disulfide	7.31	76	118933	17.1414	ug/L	98
21) Acrylonitrile	7.45	53	36949	20.4661	ug/L	100
22) Methyl Tert Butyl Ether	7.48	73	168256	19.3027	ug/L	100
23) trans-1,2-Dichloroethene	7.71	61	75988	19.2283	ug/L	97
24) n-Hexane	7.79	57	64154	17.2258	ug/L	99
25) Diisopropyl ether	8.13	45	1116266	104.4025	ug/L	99
26) Vinyl Acetate	8.30	43	140008	20.9410	ug/L	98
27) 1,1-Dichloroethane	8.34	63	104595	19.9312	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1014591	103.8325	ug/L	99
29) 2-Butanone	8.89	43	43635	19.6026	ug/L	97
30) Propionitrile	9.00	54	73068	97.0536	ug/L	100
31) 2,2-Dichloropropane	9.11	77	76682	20.0646	ug/L	99
32) cis-1,2-Dichloroethene	9.17	96	55945	19.8606	ug/L	95
33) Chloroform	9.38	83	96970	20.6985	ug/L	100
34) 1-Bromopropane	9.51	122	13744	25.9646	ug/L	95
35) Bromochloromethane	9.61	130	39182	19.4097	ug/L	96
36) Tetrahydrofuran	9.63	42	141401	101.9862	ug/L	98
38) 1,1,1-Trichloroethane	9.90	97	85008	19.7770	ug/L	97
39) Cyclohexane	9.93	56	100660	18.6510	ug/L	100
40) 1,1-Dichloropropene	10.10	75	65269	20.0889	ug/L	99
41) Tert-Amyl-Methyl ether	10.20	73	826335	101.9233	ug/L	99
42) Carbon Tetrachloride	10.25	117	76870	19.7774	ug/L	99

(#) = qualifier out of range (m) = manual integration
 9M982370.D 8260C.M Wed Sep 06 15:09:07 2017

Page 1

Data File : C:\MSDCHEM\1\data\090617\9M982370.D

Vial: 8

Acq On : 6 Sep 2017 14:46

Operator: JDS

Sample : WG628579-02 20ug/L LCS 8260C

Inst : hpms9

Misc : 1,1 STD83659

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 06 15:09:07 2017

Quant Results File: 8260C.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration

DataAcq Meth : 8260C

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) 1,2-Dichloroethane	10.41	62	91292	20.1785	ug/L	99
46) Benzene	10.46	78	211245	19.5445	ug/L	99
47) Trichloroethene	11.21	130	62154	21.6468	ug/L	97
48) Methylcyclohexane	11.28	83	78590	18.3781	ug/L	97
49) 1,2-Dichloropropane	11.42	63	61323	20.4834	ug/L	99
50) 1,4-Dioxane	11.71	88	10052	185.5106	ug/L	96
51) Bromodichloromethane	11.72	83	69000	19.1785	ug/L	100
52) Dibromomethane	11.81	174	40111	20.3710	ug/L	99
53) 2-Chloroethyl Vinyl Ether	12.02	63	38242	16.1453	ug/L	99
54) 4-Methyl-2-Pentanone	12.05	58	31347	17.5273	ug/L	99
55) cis-1,3-Dichloropropene	12.36	75	84878	21.1517	ug/L	98
56) Dimethyl Disulfide	12.61	79	40074	17.1488	ug/L	84
59) Toluene	12.77	91	223424	20.6843	ug/L	98
60) Ethyl Methacrylate	12.86	69	74321	17.8695	ug/L	100
61) trans-1,3-Dichloropropene	12.95	75	75120	20.7331	ug/L	100
62) 1,1,2-Trichloroethane	13.16	97	54268	20.4582	ug/L	97
63) 2-Hexanone	13.11	43	55434	18.2260	ug/L #	80
64) 1,3-Dichloropropane	13.46	76	93536	21.5061	ug/L	96
65) Tetrachloroethene	13.59	164	43544	19.8993	ug/L	99
66) Dibromochloromethane	13.85	129	61914	19.9957	ug/L	98
67) 1,2-Dibromoethane	14.11	107	55630	19.7850	ug/L	98
68) 1-Chlorohexane	14.19	91	56903	19.2407	ug/L	99
69) Chlorobenzene	14.61	112	155533	20.7576	ug/L	97
70) 1,1,1,2-Tetrachloroethane	14.64	131	57697	19.7386	ug/L	100
71) Ethylbenzene	14.64	106	81554	20.6518	ug/L	99
72) m-,p-Xylene	14.72	106	201771	43.1944	ug/L	96
73) o-Xylene	15.29	106	101042	20.8952	ug/L	99
74) Styrene	15.32	104	158337	18.0552	ug/L	98
75) Bromoform	15.83	173	43469	15.9733	ug/L	97
76) Isopropylbenzene	15.71	105	242391	19.9665	ug/L	100
78) 1,1,2,2-Tetrachloroethane	15.93	83	71751	18.0276	ug/L	99
80) 1,2,3-Trichloropropane	16.12	110	28815	21.5601	ug/L #	29
81) trans-1,4-Dichloro-2-Butene	16.18	53	21829	14.7970	ug/L #	1
82) n-Propylbenzene	16.22	91	283682	21.2215	ug/L	100
83) Bromobenzene	16.36	156	67075	19.8563	ug/L	94
84) 1,3,5-Trimethylbenzene	16.41	105	216202	20.8805	ug/L	99
85) 2-Chlorotoluene	16.49	91	184692	20.8971	ug/L	91
86) 4-Chlorotoluene	16.53	91	168938	21.5025	ug/L	92
87) a-Methylstyrene	16.81	118	110539	20.1351	ug/L	99
88) tert-Butylbenzene	16.86	134	47383	21.2632	ug/L	99
89) 1,2,4-Trimethylbenzene	16.93	105	229727	21.3981	ug/L	99
90) sec-Butylbenzene	17.14	105	268107	21.2724	ug/L	99
91) p-Isopropyltoluene	17.29	119	220196	20.9600	ug/L	99
92) 1,3-Dichlorobenzene	17.50	146	121419	20.3310	ug/L	100
93) 1,4-Dichlorobenzene	17.62	146	126370	20.4319	ug/L	97
94) n-Butylbenzene	17.82	91	172553	17.8283	ug/L	98
95) 1,2-Dichlorobenzene	18.12	146	137584	21.2900	ug/L	99
96) 1,2-Dibromo-3-Chloropropane	19.12	157	19894	17.2172	ug/L	95
97) 1,2,4-Trichlorobenzene	20.25	180	82050	17.5199	ug/L	99
98) Hexachlorobutadiene	20.40	225	36650	17.5882	ug/L	99
99) Naphthalene	20.62	128	303774	20.2026	ug/L	99
100) 1,2,3-Trichlorobenzene	20.94	180	93411	21.0872	ug/L	97

(#) = qualifier out of range (m) = manual integration
 9M982370.D 8260C.M Wed Sep 06 15:09:07 2017

Page 2

Data File : C:\MSDchem\1\data\090617\9M982370.D

Vial: 8

Acq On : 6 Sep 2017 14:46

Operator: JDS

Sample : WG628579-02 20ug/L LCS 8260C

Inst : hpms9

Misc : 1,1 STD83659

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 6 15:09 2017

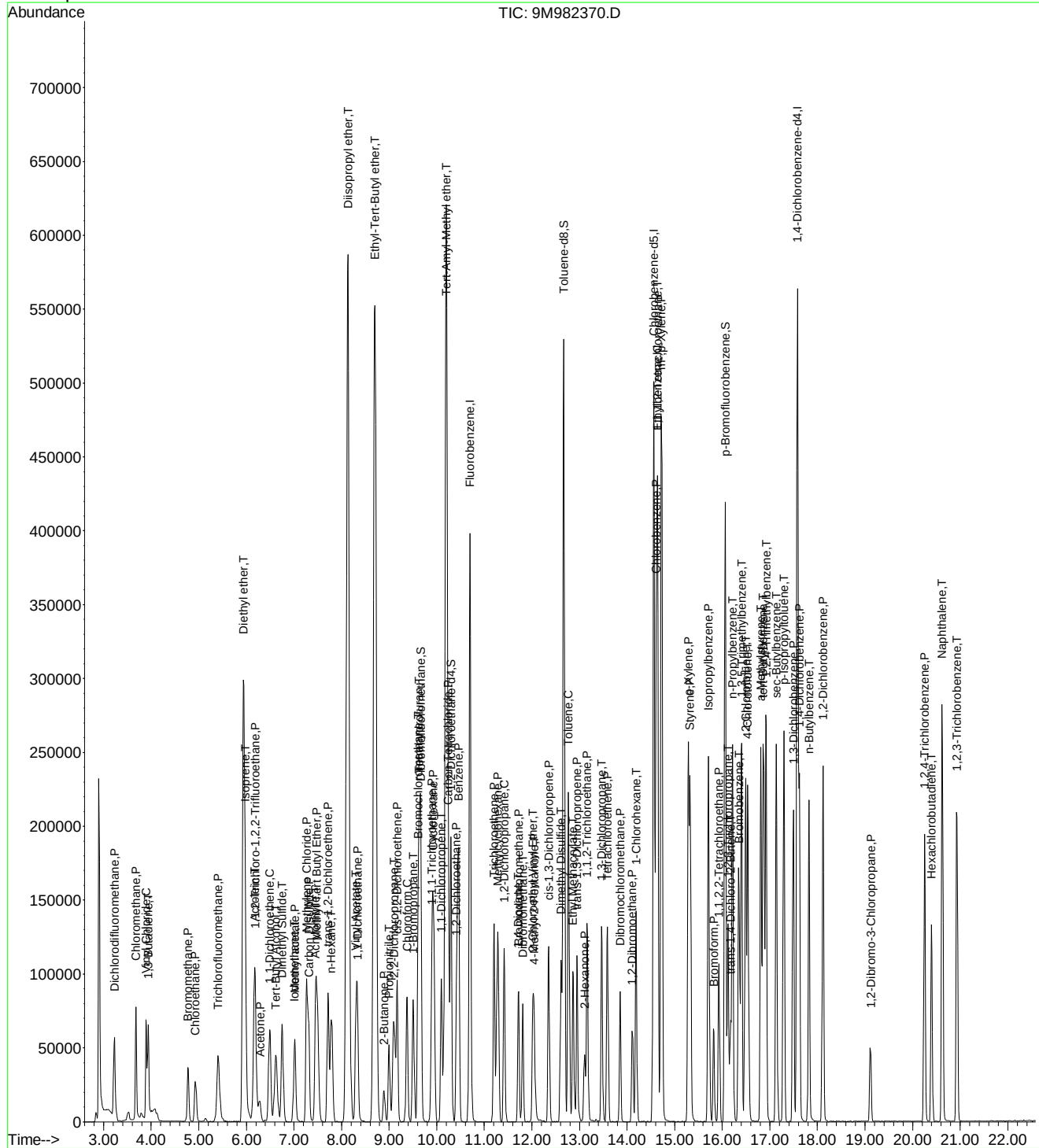
Quant Results File: 8260C.RES

Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)

Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9

Last Update : Mon Aug 14 14:47:27 2017

Response via : Initial Calibration



2.2 Semivolatiles Data

2.2.1 Semivolatiles GC/MS Data (8270)

2.2.1.1 Summary Data



Login Number: L17081366
Department: Semivolatiles
Analyst: Sarah Bogolin

METHOD

Preparation 3510C

Analysis SW-846 8270C

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: The percent difference was out of range for the following analyte: Benzoic Acid. Please see the applicable QC report for a detailed presentation of the failure.

Continuing Calibration and Tune: Recoveries out of range were observed for the following analyte: Benzoic Acid. Please see the applicable QC report for a detailed presentation of the failure.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: 1,4-Dioxane failed low in the LCS/LCSD, 2,4-Dinitrophenol and Benzoic Acid exceeded % RPD criteria only, Dimethylphthalate and Isophorone failed high in the LCSD but were acceptable in the LCS and non-detect in the associated samples. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type

WG627291-02	1,4-Dioxane	2017-08-29 11:25:00	43.0	50	150	Recovery
WG627291-03	1,4-Dioxane	2017-08-29 11:57:00	47.0	50	150	Recovery
WG627291-03	2,4-Dinitrophenol	2017-08-29 11:57:00	52.3		30	RPD
WG627291-03	Benzoic Acid	2017-08-29 11:57:00	49.8		30	RPD
WG627291-03	Dimethylphthalate	2017-08-29 11:57:00	114	25	112	Recovery
WG627291-03	Isophorone	2017-08-29 11:57:00	116	30	110	Recovery

Matrix Spikes: There were no MS/MSD results associated with this sample delivery group, due to insufficient volume of sample. The laboratory included an LCS and LCS duplicate in the preparation batch in lieu of the NELAC prescribed MS/MSD. Microbac recommends site specific MS/MSD samples to avoid possible data qualification.

SAMPLES

Samples: All acceptance criteria were met. The extracts were library searched using the NIST library and the top twenty TICs found were reported. Requested acid compounds listed as TICs in the Waterloo QAPP may not have been detected due to unknown extraction efficiency and chromatographic performance.

Internal Standards: All acceptance criteria were met.

Surrogates: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low areacounts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data

contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 128921

Approved By: Mary Schilling

A handwritten signature in cursive script, appearing to read "Mary Schilling".

Certificate of Analysis

Sample #: L17081366-17	PrePrep Method: N/A	Instrument: HPMS12
Client ID: MW05I-082417	Prep Method: 3510C	Prep Date: 08/28/2017 11:00
Matrix: Water	Analytical Method: 8270D	Cal Date: 08/03/2017 13:41
Workgroup #: WG627524	Analyst: SCB	Run Date: 08/29/2017 15:43
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: 12M64132
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
n-Hexadecanoic acid		7.84		0.000	0.000
Octadecanoic acid		5.67		0.000	0.000
Triacontane		8.32		0.000	0.000
Tetratriacontane		13.8		0.000	0.000
Eicosane		22.0		0.000	0.000
Eicosane		24.3		0.000	0.000
Eicosane		19.3		0.000	0.000
Eicosane		10.9		0.000	0.000

Sample #: L17081366-17	PrePrep Method: N/A	Instrument: HPMS12
Client ID: MW05I-082417	Prep Method: 3510C	Prep Date: 08/28/2017 11:00
Matrix: Water	Analytical Method: 8270D	Cal Date: 08/03/2017 13:41
Workgroup #: WG627524	Analyst: SCB	Run Date: 08/29/2017 15:43
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: 12M64132
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
1,1'-Biphenyl	92-52-4		U	20.0	2.50
1,3,5-Trinitrobenzene	99-35-4		U	5.00	2.50
1,3-Dinitrobenzene	99-65-0		U	5.00	2.50
1,4-Dioxane	123-91-1		U	10.0	5.00
2,4,5-Trichlorophenol	95-95-4		U	5.00	2.50
2,4,6-Trichlorophenol	88-06-2		U	5.00	2.50
2,4-Dichlorophenol	120-83-2		U	5.00	2.50
2,4-Dimethylphenol	105-67-9		U	5.00	2.50
2,4-Dinitrophenol	51-28-5		U	25.0	12.5
2,4-Dinitrotoluene	121-14-2		U	5.00	2.50
2,6-Dinitrotoluene	606-20-2		U	5.00	2.50
2-Chloronaphthalene	91-58-7		U	5.00	2.50
2-Chlorophenol	95-57-8		U	5.00	2.50
2-Methylnaphthalene	91-57-6		U	5.00	2.50
2-Methylphenol	95-48-7		U	5.00	2.50
2-Nitroaniline	88-74-4		U	25.0	12.5

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
2-Nitrophenol	88-75-5		U	5.00	2.50
3-Nitroaniline	99-09-2		U	25.0	12.5
3,3'-Dichlorobenzidine	91-94-1		U	5.00	2.50
3-,4-Methylphenol	65794-96-9		U	5.00	2.50
4-Bromophenyl-phenylether	101-55-3		U	5.00	2.50
4-Chloroaniline	106-47-8		U	5.00	2.50
4-Nitrophenol	100-02-7		U	25.0	12.5
Acenaphthene	83-32-9		U	5.00	2.50
Acenaphthylene	208-96-8		U	5.00	2.50
Anthracene	120-12-7		U	5.00	2.50
Benzo(a)anthracene	56-55-3		U	5.00	2.50
Benzo(a)pyrene	50-32-8		U	5.00	2.50
Benzo(b)fluoranthene	205-99-2		U	5.00	2.50
Benzo(g,h,i)Perylene	191-24-2		U	5.00	2.50
Benzo(k)fluoranthene	207-08-9		U	5.00	2.50
Benzoic acid	65-85-0		U	20.0	10.0
Benzyl alcohol	100-51-6		U	5.00	2.50
Bis(2-Chloroethyl)ether	111-44-4		U	5.00	2.50
Bis(2-Chloroethoxy)Methane	111-91-1		U	5.00	2.50
bis(2-Ethylhexyl)phthalate	117-81-7		U	5.00	2.50
Butylbenzylphthalate	85-68-7		U	5.00	2.50
Carbazole	86-74-8		U	20.0	2.50
Chrysene	218-01-9		U	5.00	2.50
Di-N-Butylphthalate	84-74-2		U	5.00	2.50
Di-n-octylphthalate	117-84-0		U	5.00	2.50
Dibenzo(a,h)Anthracene	53-70-3		U	5.00	2.50
Dibenzofuran	132-64-9		U	5.00	2.50
Diethylphthalate	84-66-2		U	5.00	2.50
Dimethylphthalate	131-11-3		U	5.00	2.50
Fluoranthene	206-44-0		U	5.00	2.50
Fluorene	86-73-7		U	5.00	2.50
Hexachlorobenzene	118-74-1		U	5.00	2.50
Hexachlorobutadiene	87-68-3		U	5.00	2.50
Hexachlorocyclopentadiene	77-47-4		U	5.00	2.50
Hexachloroethane	67-72-1		U	5.00	2.50
Indeno(1,2,3-cd)pyrene	193-39-5		U	5.00	2.50
Isophorone	78-59-1		U	5.00	2.50
Diphenylamine/n-Nitrosodiphenylamine	86-30-6		U	5.00	2.50
Naphthalene	91-20-3		U	5.00	2.50

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Nitrobenzene	98-95-3		U	5.00	2.50
Pentachlorophenol	87-86-5		U	25.0	12.5
Phenanthrene	85-01-8		U	5.00	2.50
Phenol	108-95-2		U	5.00	2.50
Pyrene	129-00-0		U	5.00	2.50
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2,4,6-Tribromophenol	104	10	123		
2-Fluorobiphenyl	75.4	43	116		
2-Fluorophenol	37.4	21	100		
Nitrobenzene-d5	63.7	35	114		
p-Terphenyl-d14	89.1	33	141		
Phenol-d5	25.9	10	94		
U	Not detected at or above adjusted sample detection limit.				

2.2.1.2 QC Summary Data

Example 8270 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

$$RF = [(Ax) (Cis)] / [(Ais) (Cx)]$$

where:

Ax = Area of the characteristic ion for the compound being measured:	1261197
Cis = Concentration of the specific internal standard (ug/mL)	40
Ais = Area of the characteristic ion of the specific internal standard	608044
Cx = Concentration of the compound in the standard being measured (ug/mL)	50
RF = Calculated Response Factor	1.65935

Example

2.0 Calculating the concentration (C) of a compound in water using the data from the prep log and quantitation report: *

$$Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Vi)]$$

where:

Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Vi = Initial volume of sample extracted from prep log (mL)	1021
Cx = Concentration of the compound in the sample being measured (ug/mL)	0.016947
Cx = Concentration of the compound in the sample being measured (ug/L)	16.947

Example

3.0 Calculating the concentration (C) of a compound in soil using the data from the prep log and quantitation report: *

$$Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Wi)]$$

where:

Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Wi = Initial weight of sample extracted (g) from prep log	30
Cx = Concentration of the compound in the sample being measured (ug/g)	0.576763
Cx = Concentration of the compound in the sample being measured (ug/kg)	576.7627

Example

Dry weight correction:

Percent solids (PCT_S)	50
Cd = (Cx) (100)/PCT_S	1153.525 ug/kg

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, $y = mx + b$

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve plot

b = intercept from curve plot

Step 2: Calculate y from Quantitation Report

y = 16790/784838 = 0.02139

Step 3: Solve for x

$$x = (y - b)/m = [(0.02139 - (-0.0435))/0.0783] = 0.829$$

Step 4: Solve for analyte concentration Cx

$$Cx = Cis (x) = (25.0)(0.829) = 20.72 \text{ ug/L}$$

Example Spreadsheet Calculation:

Slope from curve, m:	0.0783
Intercept from curve, b:	-0.0435
Area of analyte, Ax:	16790
Area of Internal Standard, Ais:	784484
Concentration of IS, Cis	25.00 ug/L
Response Ratio (y) :	0.021403
Amount Ratio:	0.828897
Concentration (Cx):	20.72241 ug/L

5.0 Concentration from Quadratic Regression**Step 1 - Retrieve Curve Data from Plot, $y = Ax^2 + Bx + C$**

Where:

$$Ax^2 + Bx + (C - y) = 0$$

A, B, C = constants from the ICAL quadratic regression

y = Response ratio = Area of analyte/Area of internal standard (IS)

x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

$$y = Ax/Ais$$

Step 3: Solve for x using the quadratic formula

$$Ax^2 + Bx + C - y = 0$$

$$x = \frac{b \pm \sqrt{b^2 - 4a(c - y)}}{2a} \quad (\text{Two possible solutions})$$

Step 4: Solve for analyte concentration Cx

$$Cx = (Cis)(\text{Amount ratio})$$

Example Spreadsheet Calculation:

Value of A from plot:	0.0259
Value of B from plot:	0.0596
Value of C from plot:	-0.0165
Area of analyte from quantitation report:	203233
Area of IS from quantitation report:	1425653
Response ratio, y:	0.142554
C - y:	-0.15905
Root 1 - Computed amount ratio, X1:	-3.88278
Root 2 - Computed amount ratio, X2:	1.581623 use this solution
Concentration of IS, Cis:	40.00
Concentration of analyte, Cx:	63.26 ug/L

Microbac Laboratories Inc.
Sample Extract Log

Workgroup: WG627291
Analyst: JDH
Spike Analyst: JDH
Method: 3510C
Run Date: 08/28/2017 11:00
SOP: EXB08 Revision 16
Spike Witness: JLD
Surr Solution: STD82960

METHYLENE CHLORIDE Lot #: COA19844
Na2SO4, Anhydrous, Granular Lot #: COA19759
1:1 H2SO4 Lot #: RGT40290
10N NaOH Lot #: RGT40456

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L17081305-14	SAMP		<2>12	27-SPE-DIO	910 mL	.5 mL			1 mL	Transparent
2	L17081305-16	SAMP		<2>12	27-SPE-DIO	900 mL	.5 mL			1 mL	Transparent
3	L17081305-19	SAMP		<2>12	27-SPE-DIO	1000 mL	.5 mL			1 mL	Transparent
4	L17081366-17	SAMP		<2>12	27-SPE-DIO	1000 mL	.5 mL			1 mL	Transparent
5	L17081376-01	SAMP		<2>12	625-SPE	1000 mL	.5 mL			1 mL	Colored
6	WG627291-01	BLANK		<2>12	625-SPE	1000 mL	.5 mL			1 mL	Transparent
7	WG627291-02	LCS		<2>12	625-SPE	1000 mL	.5 mL	1 mL	STD82681	1 mL	Colored
8	WG627291-03	LCS2		<2>12	625-SPE	1000 mL	.5 mL	1 mL	STD82681	1 mL	Colored

Due to insufficient sample volume, this preparation batch failed to include the method prescribed MS and MSD.
pH 0-3 Lot#230515
pH 10-12 Lot#213515
TV4P5,6

Analyst: _____

Reviewer: _____

Microbac Laboratories Inc. Instrument Run Log

Instrument: <u>HPMS12</u>	Dataset: <u>071417</u>	
Analyst1: <u>SCB</u>	Analyst2: <u>NA</u>	
Method: <u>8270C/D</u>	SOP: <u>MSS01</u>	Rev: <u>28</u>
Method: <u>OVAP</u>	SOP: <u>MSS01</u>	Rev: <u>0</u>

Maintenance Log ID: _____ Syringe Filter Lot#: _____

Eluent ID#: _____

Workgroups: Column 1 ID: RXI-5MS Column 2 ID: NA
WG621882, WG621894

Internal STD: COA19796 Surrogate STD: NA Calibration STD: _____
 CCV STD: STD81744, 81291 LCS STD: _____ MS/MSD STD: _____

Comments: p-phenylenediamine for 625 only, not for 8270

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	12M63379	RINSE W/IS	1	1		07/14/17 13:48
2	12M63380	RINSE W/IS	1	1		07/14/17 14:21
3	12M63381	RINSE W/IS	1	1		07/14/17 14:54
4	12M63382	RINSE W/IS	1	1		07/14/17 15:34
5	12M63383	WG621882-01 50PPM DFTPP STD	1	1	STD80383	07/14/17 16:06
6	12M63384	WG621882-02 50PPM 8270 STD	1	1	STD81744	07/14/17 16:30
7	12M63385	WG621882-03 1PPM 8270 STD	1	1	STD81744	07/14/17 17:03
8	12M63386	WG621882-04 3PPM 8270 STD	1	1	STD81744	07/14/17 17:36
9	12M63387	WG621882-05 10PPM 8270 STD	1	1	STD81744	07/14/17 18:09
10	12M63388	WG621882-06 15PPM 8270 STD	1	1	STD81744	07/14/17 18:42
11	12M63389	WG621882-07 25PPM 8270 STD	1	1	STD81744	07/14/17 19:15
12	12M63390	WG621882-08 80PPM 8270 STD	1	1	STD81744	07/14/17 19:48
13	12M63391	WG621882-09 100PPM 8270 STD	1	1	STD81744	07/14/17 20:21
14	12M63392	WG621882-10 120PPM 8270 STD	1	1	STD81744	07/14/17 20:54
15	12M63393	WG621882-11 50PPM 8270 ALT SRC	1	1	STD81294	07/14/17 21:27
16	12M63394	WG621882-12 50PPM MP,A9,BENZ ALT SRC	1	1	STD82728	07/14/17 22:00
17	12M63395	WG621882-13 50PPM 1,4-DIOX ALT SRC	1	1	STD81996	07/14/17 22:33
18	12M63396	WG621894-01 50PPM TCL/A-TERP STD	1	1	STD81291	07/14/17 23:06
19	12M63397	WG621894-02 3PPM TCL/A-TERP STD	1	1	STD81291	07/14/17 23:39
20	12M63398	WG621894-03 10PPM TCL/A-TERP STD	1	1	STD81291	07/15/17 00:12
21	12M63399	WG621894-04 25PPM TCL/A-TERP STD	1	1	STD81291	07/15/17 00:45
22	12M63400	WG621894-05 80PPM TCL/A-TERP STD	1	1	STD81291	07/15/17 01:18
23	12M63401	WG621894-06 100PPM TCL/A-TERP STD	1	1	STD81291	07/15/17 01:51
24	12M63402	WG621894-07 120PPM TCL/A-TERP STD	1	1	STD81291	07/15/17 02:23
25	12M63403	WG621894-08 50PPM TCL/A-TERP ALT SRC	1	1	STD81289	07/15/17 02:56
26	12M63404	BAKE OUT	1	1		07/15/17 03:29
27	12M63405	BAKE OUT	1	1		07/15/17 04:01

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 1

Approved: 17-JUL-17

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Microbac Laboratories Inc. Instrument Run Log

Instrument: HPMS12	Dataset: 080317	
Analyst1: MES	Analyst2: NA	
Method: 8270C/D	SOP: MSS01	Rev: 28
Method: OVAP	SOP: MSS01	Rev: 0

Maintenance Log ID: _____ Syringe Filter Lot#: _____

Eluent ID#: _____

Workgroups: _____ Column 1 ID: RXI-5MS Column 2 ID: NA

WG624321

Internal STD: COA19796 Surrogate STD: NA Calibration STD: _____

CCV STD: STD81744,STD81126 LCS STD: STD81294,STD81996,ST MS/MSD STD: _____

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	12M63784	WG624321-01 50PPM DFTPP STD	1	1	STD80383	08/03/17 09:00
2	12M63785	WG624321-02 50PPM 8270 STD	1	1	STD81744	08/03/17 09:18
3	12M63786	WG624321-03 1 PPM 8270 STD	1	1	STD81744	08/03/17 09:51
4	12M63787	WG624321-04 3 PPM 8270 STD	1	1	STD81744	08/03/17 10:24
5	12M63788	WG624321-05 10 PPM 8270 STD	1	1	STD81744	08/03/17 10:57
6	12M63789	WG624321-06 15 PPM 8270 STD	1	1	STD81744	08/03/17 11:29
7	12M63790	WG624321-07 25 PPM 8270 STD	1	1	STD81744	08/03/17 12:02
8	12M63791	WG624321-08 80 PPM 8270 STD	1	1	STD81744	08/03/17 12:35
9	12M63792	WG624321-09 100 PPM 8270 STD	1	1	STD81744	08/03/17 13:08
10	12M63793	WG624321-10 120 PPM 8270 STD	1	1	STD81744	08/03/17 13:41
11	12M63794	WG624321-11 50PPM 8270 ALT SOURCE	1	1	STD81294	08/03/17 14:13
12	12M63795	WG624321-12 50PPM 1,4-DIOXANE ALT SOURC	1	1	STD81996	08/03/17 14:58
13	12M63796	WG624321-11 50PPM MM ALT SOURCE	1	1	STD81294	08/03/17 15:28
14	12M63797	WG624321-13 50PPM APPIX/MP/BENZIDINE ALT	1	1	STD82728	08/03/17 16:00
15	12M63798	500PPM KEPONE STD	1	1	STD81126	08/03/17 16:30
16	12M63799	WG623878-01 BLANK 8/1	1	1		08/03/17 17:03
17	12M63800	WG623878-02 LCS 8/1	1	1		08/03/17 17:36
18	12M63801	WG623878-03 LCSDUP 8/1	1	1		08/03/17 18:08
19	12M63802	L17071382-01	1	1		08/03/17 18:41
20	12M63803	L17071382-06	1	1		08/03/17 19:14
21	12M63804	L17071382-11	1	1		08/03/17 19:47
22	12M63805	L17071382-16	1	1		08/03/17 20:20
23	12M63806	L17071382-56	1	1		08/03/17 20:53
24	12M63807	L17071382-61	1	1		08/03/17 21:26
25	12M63808	BAKEOUT	1	1		08/03/17 21:59
26	12M63809	BAKEOUT	1	1		08/03/17 22:31
27	12M63810	BAKEOUT	1	1		08/03/17 23:04

Comments

Seq.	Rerun	Dil.	Reason	Analytes
11				
			WG624321-11 50PPM 8270 ALT SOURCE DNR-remix and rerun.	
24	X	1	Missed Tune	

Page: 1

Approved: 07-AUG-17

Eiv C. Zuma



Microbac Laboratories Inc.
Instrument Run Log

Instrument:	HPMS12	Dataset:	080317	
Analyst1:	MES	Analyst2:	NA	
Method:	8270C/D	SOP:	MSS01	Rev: 28
Method:	OVAP	SOP:	MSS01	Rev: 0

Maintenance Log ID: _____ Syringe Filter Lot#: _____
Eluent ID#: _____

Workgroups:	Column 1 ID: <u>RXI-5MS</u>	Column 2 ID: <u>NA</u>
Internal STD:	<u>WG624321</u>	
CCV STD:	<u>COA19796</u>	Surrogate STD: <u>NA</u>
	<u>STD81744,STD81126</u>	LCS STD: <u>STD81294,STD81996,ST</u>

Comments

Seq.	Rerun	Dil.	Reason	Analytes
L17071382-61				

Microbac Laboratories Inc. Instrument Run Log

Instrument: <u>HPMS12</u>	Dataset: <u>082917</u>	
Analyst1: <u>SCB</u>	Analyst2: <u>NA</u>	
Method: <u>8270C/D</u>	SOP: <u>MSS01</u>	Rev: <u>28</u>
Method: <u>OVAP</u>	SOP: <u>MSS01</u>	Rev: <u>0</u>

Maintenance Log ID: _____ Syringe Filter Lot#: _____
Eluent ID#: _____

Workgroups: Column 1 ID: RXI-5MS Column 2 ID: NA
WG627524, WG627708, WG627581
Internal STD: COA19896 Surrogate STD: NA Calibration STD: _____
CCV STD: STD81744 LCS STD: _____ MS/MSD STD: _____

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	12M64120	WG627594-01 50PPM DFTPP STD	1	1	STD83235	08/29/17 09:29
2	12M64121	WG627594-02 50PPM 8270 STD	1	1	STD81744	08/29/17 09:47
3	12M64122	WG627620-01 50PPM TCL/A-TERP STD	1	1	STD81291	08/29/17 10:20
4	12M64123	WG627291-01 BLANK 8/28	1	1		08/29/17 10:52
5	12M64124	WG627291-02 LCS 8/28	1	1		08/29/17 11:25
6	12M64125	WG627291-03 LCS2 8/28	1	1		08/29/17 11:57
7	12M64126	WG627294-01 BLANK 8/28	11	1		08/29/17 12:30
8	12M64127	WG627294-02 LCS 8/28	11	1		08/29/17 13:03
9	12M64128	WG627294-03 LCS2 8/28	11	1		08/29/17 13:35
10	12M64129	L17081305-14	1	1		08/29/17 14:08
11	12M64130	L17081305-16	1	1		08/29/17 14:40
12	12M64131	L17081305-19	1	1		08/29/17 15:12
13	12M64132	L17081366-17	1	1		08/29/17 15:43
14	12M64133	L17081164-02 10X	11	10		08/29/17 16:16
15	12M64134	L17081376-01	2	1		08/29/17 16:48
16	12M64135	BAKE OUT	1	1		08/29/17 17:21
17	12M64136	WG627674-01 BLANK 8/29	7	1	SOIL	08/29/17 17:53
18	12M64137	WG627674-02 LCS 8/29	7	1	SOIL	08/29/17 18:26
19	12M64138	WG627674-03 LCS2 8/29	7	1	SOIL	08/29/17 18:58
20	12M64139	L17081486-01 5X	7	5	SOIL	08/29/17 19:30
21	12M64140	BAKE OUT	1	1		08/29/17 20:02
22	12M64141	BAKE OUT	1	1		08/29/17 20:35
23	12M64142	BAKE OUT	1	1		08/29/17 21:07

Comments

Seq.	Rerun	Dil.	Reason	Analytes
5				
			WG627291-02 LCS 8/28 has one low %REC for samples L17081305-14, -16, -19 and L17081366-17	
6				
			WG627291-03 LCS2 8/28 has one low and two high %REC for samples L17081305-14, -16, -19 and L17081366-17, the high outliers are non-detect in the samples	
14				
			L17081164-02 10X ran at a dilution due to sample matrix	

Page: 1

Approved: 30-AUG-17

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: <u>HPMS12</u>	Dataset: <u>082917</u>	
Analyst1: <u>SCB</u>	Analyst2: <u>NA</u>	
Method: <u>8270C/D</u>	SOP: <u>MSS01</u>	Rev: <u>28</u>
Method: <u>OVAP</u>	SOP: <u>MSS01</u>	Rev: <u>0</u>

Maintenance Log ID: _____ Syringe Filter Lot#: _____
Eluent ID#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA
Workgroups: WG627524, WG627708, WG627581
Internal STD: COA19896 Surrogate STD: NA
CCV STD: STD81744 LCS STD: _____

Comments

Seq.	Rerun	Dil.	Reason	Analytes
20				
			L17081486-01 5X ran at a dilution due to a dark, viscous sample matix	

Page: 2

Approved: 30-AUG-17




Microbac Laboratories Inc.

Data Checklist

Date: 14-JUL-2017

Analyst: SCB

Analyst: NA

Method: 8270

Instrument: HPMS12

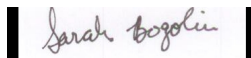
Curve Workgroup: NA

Runlog ID: 83397

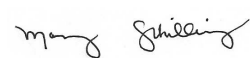
Analytical Workgroups: WG621882, WG621894

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	X
Pentachlorophenol/benzidine tailing (MS)	X
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	X
Blanks	NA
TCL hits	NA
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	NA
TCL hits	NA
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	SCB
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MES

Primary Reviewer:
17-JUL-2017



Secondary Reviewer:
17-JUL-2017



CHECKLIST1 - Modified 03/05/2008

Generated: JUL-17-2017 12:05:22



Microbac Laboratories Inc.

Data Checklist

Date: 03-AUG-2017

Analyst: MES

Analyst: NA

Method: 8270/625

Instrument: HPMS12

Curve Workgroup: NA

Runlog ID: 83764

Analytical Workgroups: L17071382

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	X
Pentachlorophenol/benzidine tailing (MS)	X
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	NA
% D/% Drift	NA
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	X
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	MES
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
04-AUG-2017

Mary Schilling

Secondary Reviewer:
07-AUG-2017

Eric C. Zimm

CHECKLIST1 - Modified 03/05/2008

Generated: AUG-07-2017 16:36:24



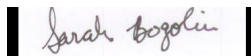
Microbac Laboratories Inc.

Data Checklist

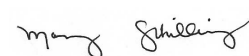
Date: 29-AUG-2017
 Analyst: SCB
 Analyst: NA
 Method: 8270
 Instrument: HPMS12
 Curve Workgroup: NA
 Runlog ID: 84285
 Analytical Workgroups: L17081305, L17081366, L17081164, L17081376, L17081486

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	X
Pentachlorophenol/benzidine tailing (MS)	X
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	X
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	X
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	SCB
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MES

Primary Reviewer:
30-AUG-2017



Secondary Reviewer:
30-AUG-2017



CHECKLIST1 - Modified 03/05/2008

Generated: AUG-30-2017 15:11:07



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8270D
Login Number: L17081366

AAB#: WG627524

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW05I-082417	17	08/24/17					08/28/2017	3.8	7		08/29/17	1.2	40	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5455298
Report generated 09/01/2017 08:55



**Microbac Laboratories Inc.
SURROGATE STANDARDS**

Login Number: L17081366
Instrument Id: HPMS12
Workgroup (AAB#): WG627524

Method: 8270
CAL ID: HPMS12 - 03-AUG-17
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4	5	6
L17081366-17	1.00	01	104	75.4	37.4	63.7	89.1	25.9
WG627291-01	1.00	01	94.6	66.7	40.9	58.5	115	28.3
WG627291-02	1.00	01	115	96.8	56.9	90.3	126	39.8
WG627291-03	1.00	01	122	101	64.0	100	124	43.5

Surrogates	Surrogate Limits		
1 - 2,4,6-Tribromophenol	10	-	123
2 - 2-Fluorobiphenyl	43	-	116
3 - 2-Fluorophenol	21	-	100
4 - Nitrobenzene-d5	35	-	114
5 - p-Terphenyl-d14	33	-	141
6 - Phenol-d5	10	-	94

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 5455371
Report generated: 09/01/2017 08:57



METHOD BLANK SUMMARY

Login Number: <u>L17081366</u>	Work Group: <u>WG627524</u>
Blank File ID: <u>12M64123</u>	Blank Sample ID: <u>WG627291-01</u>
Prep Date: <u>08/28/17 11:00</u>	Instrument ID: <u>HPMS12</u>
Analyzed Date: <u>08/29/17 10:52</u>	Method: <u>8270D</u>
Analyst: <u>SCB</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG627291-02	12M64124	08/29/17 11:25	01
LCS2	WG627291-03	12M64125	08/29/17 11:57	01
MW05I-082417	L17081366-17	12M64132	08/29/17 15:43	01

Report Name: BLANK_SUMMARY
PDF File ID: 5455299
Report generated 09/01/2017 08:55



METHOD BLANK REPORT

Login Number: L17081366 Prep Date: 08/28/17 11:00 Sample ID: WG627291-01
 Instrument ID: HPMS12 Run Date: 08/29/17 10:52 Prep Method: 3510C
 File ID: 12M64123 Analyst: SCB Method: 8270D
 Workgroup (AAB#): WG627524 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS12 - 03-AUG-17

Analytes	MDL	RL	Concentration	Dilution	Qualifier
1,1'-Biphenyl	2.50	20.0	2.50	1	U
1,3,5-Trinitrobenzene	2.50	5.00	2.50	1	U
1,3-Dinitrobenzene	2.50	5.00	2.50	1	U
1,4-Dioxane	5.00	10.0	5.00	1	U
2,4,5-Trichlorophenol	2.50	5.00	2.50	1	U
2,4,6-Trichlorophenol	2.50	5.00	2.50	1	U
2,4-Dichlorophenol	2.50	5.00	2.50	1	U
2,4-Dimethylphenol	2.50	5.00	2.50	1	U
2,4-Dinitrophenol	12.5	25.0	12.5	1	U
2,4-Dinitrotoluene	2.50	5.00	2.50	1	U
2,6-Dinitrotoluene	2.50	5.00	2.50	1	U
2-Chloronaphthalene	2.50	5.00	2.50	1	U
2-Chlorophenol	2.50	5.00	2.50	1	U
2-Methylnaphthalene	2.50	5.00	2.50	1	U
2-Methylphenol	2.50	5.00	2.50	1	U
2-Nitroaniline	12.5	25.0	12.5	1	U
2-Nitrophenol	2.50	5.00	2.50	1	U
3-Nitroaniline	12.5	25.0	12.5	1	U
3,3'-Dichlorobenzidine	2.50	5.00	2.50	1	U
3-,4-Methylphenol	2.50	5.00	2.50	1	U
4-Bromophenyl-phenylether	2.50	5.00	2.50	1	U
4-Chloroaniline	2.50	5.00	2.50	1	U
4-Nitrophenol	12.5	25.0	12.5	1	U
Acenaphthene	2.50	5.00	2.50	1	U
Acenaphthylene	2.50	5.00	2.50	1	U
Anthracene	2.50	5.00	2.50	1	U
Benzo(a)anthracene	2.50	5.00	2.50	1	U
Benzo(a)pyrene	2.50	5.00	2.50	1	U
Benzo(b)fluoranthene	2.50	5.00	2.50	1	U
Benzo(g,h,i)Perylene	2.50	5.00	2.50	1	U
Benzo(k)fluoranthene	2.50	5.00	2.50	1	U
Benzoic acid	10.0	20.0	10.0	1	U
Benzyl alcohol	2.50	5.00	2.50	1	U
Bis(2-Chloroethyl)ether	2.50	5.00	2.50	1	U
Bis(2-Chloroethoxy)Methane	2.50	5.00	2.50	1	U
bis(2-Ethylhexyl)phthalate	2.50	5.00	2.50	1	U
Butylbenzylphthalate	2.50	5.00	2.50	1	U
Carbazole	2.50	20.0	2.50	1	U
Chrysene	2.50	5.00	2.50	1	U
Di-N-Butylphthalate	2.50	5.00	2.50	1	U
Di-n-octylphthalate	2.50	5.00	2.50	1	U
Dibenzo(a,h)Anthracene	2.50	5.00	2.50	1	U

Report Name: BLANK

PDF ID: 5455300

01-SEP-2017 08:55



METHOD BLANK REPORT

Login Number: **L17081366** Prep Date: **08/28/17 11:00** Sample ID: **WG627291-01**
 Instrument ID: **HPMS12** Run Date: **08/29/17 10:52** Prep Method: **3510C**
 File ID: **12M64123** Analyst: **SCB** Method: **8270D**
 Workgroup (AAB#): **WG627524** Matrix: **Water** Units: **ug/L**
 Contract #: _____ Cal ID: **HPMS12 - 03-AUG-17**

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Dibenzofuran	2.50	5.00	2.50	1	U
Diethylphthalate	2.50	5.00	2.50	1	U
Dimethylphthalate	2.50	5.00	2.50	1	U
Fluoranthene	2.50	5.00	2.50	1	U
Fluorene	2.50	5.00	2.50	1	U
Hexachlorobenzene	2.50	5.00	2.50	1	U
Hexachlorobutadiene	2.50	5.00	2.50	1	U
Hexachlorocyclopentadiene	2.50	5.00	2.50	1	U
Hexachloroethane	2.50	5.00	2.50	1	U
Indeno(1,2,3-cd)pyrene	2.50	5.00	2.50	1	U
Isophorone	2.50	5.00	2.50	1	U
Diphenylamine/n-Nitrosodiphenylamine	2.50	5.00	2.50	1	U
Naphthalene	2.50	5.00	2.50	1	U
Nitrobenzene	2.50	5.00	2.50	1	U
Pentachlorophenol	12.5	25.0	12.5	1	U
Phenanthrene	2.50	5.00	2.50	1	U
Phenol	2.50	5.00	2.50	1	U
Pyrene	2.50	5.00	2.50	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2,4,6-Tribromophenol	94.6	10 - 123	PASS
2-Fluorobiphenyl	66.7	43 - 116	PASS
2-Fluorophenol	40.9	21 - 100	PASS
Nitrobenzene-d5	58.5	35 - 114	PASS
p-Terphenyl-d14	115	33 - 141	PASS
Phenol-d5	28.3	10 - 94	PASS

MDL Method Detection Limit

RL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 5455300

01-SEP-2017 08:55



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17081366 Analyst: SCB Prep Method: 3510C
Instrument ID: HPMS12 Matrix: Water Method: 8270D
Workgroup (AAB#): WG627524 Units: ug/L
QC Key: WATERLOO Lot #: STD82681

Sample ID: WG627291-02 LCS File ID: 12M64124 Run Date: 08/29/2017 11:25
Sample ID: WG627291-03 LCS2 File ID: 12M64125 Run Date: 08/29/2017 11:57

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1'-Biphenyl	50.0	44.0	87.9	50.0	46.8	93.5	6.12	40 - 140	30	
1,3-Dinitrobenzene	50.0	46.8	93.5	50.0	50.1	100	6.82	30 - 130	30	
1,4-Dioxane	50.0	21.3	42.5	50.0	23.4	46.9	9.76	50 - 150	30	*
2,4,5-Trichlorophenol	50.0	47.8	95.7	50.0	50.5	101	5.33	35 - 120	30	
2,4,6-Trichlorophenol	50.0	46.5	93.0	50.0	49.0	98.0	5.30	30 - 120	30	
2,4-Dichlorophenol	50.0	45.0	90.1	50.0	48.3	96.6	6.94	20 - 110	30	
2,4-Dimethylphenol	50.0	44.0	87.9	50.0	49.2	98.5	11.4	20 - 120	30	
2,4-Dinitrophenol	50.0	50.3	101	50.0	29.4	58.9	52.3	20 - 140	30	#
2,4-Dinitrotoluene	50.0	49.6	99.2	50.0	55.3	111	10.9	50 - 139	30	
2,6-Dinitrotoluene	50.0	48.8	97.5	50.0	52.3	105	6.97	50 - 120	30	
2-Chloronaphthalene	50.0	44.6	89.1	50.0	47.3	94.7	6.03	25 - 120	30	
2-Chlorophenol	50.0	37.0	73.9	50.0	40.2	80.5	8.47	25 - 110	30	
2-Methylnaphthalene	50.0	35.5	71.1	50.0	37.1	74.3	4.40	25 - 120	30	
2-Methylphenol	50.0	38.6	77.3	50.0	43.4	86.8	11.6	20 - 110	30	
2-Nitroaniline	50.0	49.0	98.0	50.0	55.4	111	12.2	45 - 115	30	
2-Nitrophenol	50.0	41.8	83.6	50.0	43.6	87.1	4.12	20 - 115	30	
3,3'-Dichlorobenzidine	50.0	53.2	106	50.0	62.1	124	15.5	30 - 140	30	
3-,4-Methylphenol	50.0	40.7	81.3	50.0	45.4	90.7	10.9	20 - 110	30	
3-Nitroaniline	50.0	45.9	91.8	50.0	49.7	99.5	8.03	40 - 120	30	
4-Bromophenyl-phenylether	50.0	47.3	94.7	50.0	51.8	104	8.96	40 - 115	30	
4-Chloroaniline	50.0	44.2	88.4	50.0	51.9	104	16.1	25 - 120	30	
4-Nitrophenol	50.0	27.3	54.6	50.0	29.4	58.9	7.46	10 - 132	30	
Acenaphthene	50.0	46.8	93.6	50.0	48.7	97.4	4.05	30 - 120	30	
Acenaphthylene	50.0	43.5	86.9	50.0	46.8	93.7	7.50	30 - 120	30	
Anthracene	50.0	46.2	92.4	50.0	50.2	100	8.38	55 - 130	30	
Benzoic acid	50.0	19.7	39.4	50.0	11.8	23.7	49.8	10 - 100	30	#
Benzo(a)anthracene	50.0	52.3	105	50.0	55.4	111	5.78	60 - 130	30	
Benzo(a)pyrene	50.0	51.5	103	50.0	55.7	111	8.00	55 - 135	30	
Benzo(b)fluoranthene	50.0	53.4	107	50.0	57.8	116	7.83	45 - 125	30	
Benzo(g,h,i)Perylene	50.0	53.2	106	50.0	56.7	113	6.40	45 - 140	30	
Benzo(k)fluoranthene	50.0	51.5	103	50.0	56.2	112	8.61	55 - 140	30	
Benzyl alcohol	50.0	40.8	81.6	50.0	45.1	90.2	10.0	20 - 110	30	
Bis(2-Chloroethoxy)Methane	50.0	31.4	62.8	50.0	34.7	69.4	9.91	20 - 105	30	
Bis(2-Chloroethyl)ether	50.0	37.3	74.5	50.0	44.5	88.9	17.6	25 - 110	30	
bis(2-Ethylhexyl)phthalate	50.0	56.2	112	50.0	56.3	113	0.182	50 - 150	30	
Butylbenzylphthalate	50.0	50.8	102	50.0	52.0	104	2.42	55 - 150	30	
Carbazole	50.0	50.5	101	50.0	54.1	108	6.90	50 - 130	30	
Chrysene	50.0	55.4	111	50.0	59.0	118	6.30	55 - 130	30	
Di-N-Butylphthalate	50.0	52.8	106	50.0	55.1	110	4.29	55 - 118	30	
Di-n-octylphthalate	50.0	50.4	101	50.0	52.7	105	4.53	40 - 146	30	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5455301
Report generated: 09/01/2017 08:55



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17081366 Analyst: SCB Prep Method: 3510C
Instrument ID: HPMS12 Matrix: Water Method: 8270D
Workgroup (AAB#): WG627524 Units: ug/L
QC Key: WATERLOO Lot #: STD82681

Sample ID: WG627291-02 LCS File ID: 12M64124 Run Date: 08/29/2017 11:25
Sample ID: WG627291-03 LCS2 File ID: 12M64125 Run Date: 08/29/2017 11:57

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Dibenzofuran	50.0	45.0	90.0	50.0	49.1	98.2	8.72	35 - 115	30	
Dibenzo(a,h)Anthracene	50.0	54.0	108	50.0	58.3	117	7.56	45 - 125	30	
Diethylphthalate	50.0	50.5	101	50.0	54.6	109	7.83	45 - 120	30	
Dimethylphthalate	50.0	52.4	105	50.0	57.2	114	8.73	25 - 112	30	*
Fluoranthene	50.0	48.5	97.0	50.0	52.9	106	8.71	50 - 137	30	
Fluorene	50.0	48.4	96.7	50.0	51.4	103	6.04	40 - 120	30	
Hexachlorobenzene	50.0	49.8	99.6	50.0	56.3	113	12.2	50 - 130	30	
Hexachlorobutadiene	50.0	27.5	55.1	50.0	28.1	56.1	1.86	24 - 105	30	
Hexachlorocyclopentadiene	50.0	24.5	49.0	50.0	25.6	51.1	4.25	20 - 143	30	
Hexachloroethane	50.0	20.9	41.8	50.0	22.6	45.3	7.81	25 - 95	30	
Indeno(1,2,3-cd)pyrene	50.0	55.3	111	50.0	59.7	119	7.63	50 - 135	30	
Isophorone	50.0	51.6	103	50.0	58.0	116	11.7	30 - 110	30	*
Diphenylamine/n-Nitrosodiphenylamine	100	97.0	97.0	100	107	107	10.1	40 - 110	30	
Naphthalene	50.0	34.2	68.4	50.0	35.6	71.1	3.88	25 - 110	30	
Nitrobenzene	50.0	42.5	85.0	50.0	47.5	95.1	11.2	30 - 110	30	
Pentachlorophenol	50.0	54.6	109	50.0	48.1	96.2	12.8	40 - 140	30	
Phenanthrene	50.0	48.0	95.9	50.0	51.6	103	7.34	55 - 120	30	
Phenol	50.0	19.3	38.7	50.0	21.9	43.9	12.5	10 - 120	30	
Pyrene	50.0	50.0	99.9	50.0	52.8	106	5.59	55 - 130	30	
1,3,5-Trinitrobenzene	50.0	36.4	72.7	50.0	35.8	71.7	1.48	10 - 120	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
2,4,6-Tribromophenol	115	122	10 - 123	PASS
2-Fluorobiphenyl	96.8	101	43 - 116	PASS
2-Fluorophenol	56.9	64.0	21 - 100	PASS
Nitrobenzene-d5	90.3	100	35 - 114	PASS
p-Terphenyl-d14	126	124	33 - 141	PASS
Phenol-d5	39.8	43.5	10 - 94	PASS

* EXCEEDS %REC LIMIT

EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5455301
Report generated: 09/01/2017 08:55



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081366

Instrument: HPMS12

Analyst: SCB

Workgroup: WG621882

Tune ID: WG621882-01

Run Date: 07/14/2017

Run Time: 16:06

File ID: 12M63383

Cal ID: HPMS12 - 14-JUL-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	37.3	33025	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	44.8	39589	PASS
70.0	69.0	0	2.00	0.384	152	PASS
127	198	40.0	60.0	53.6	47445	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	88442	PASS
199	198	5.00	9.00	6.83	6044	PASS
275	198	10.0	30.0	26.7	23635	PASS
365	198	1.00	100	3.62	3201	PASS
441	443	0.0100	100	74.5	10879	PASS
442	198	40.0	100	84.7	74920	PASS
443	442	17.0	23.0	19.5	14603	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG621894-01	STD-CCV	01	07/14/2017 23:06	
WG621894-02	STD	01	07/14/2017 23:39	
WG621894-03	STD	01	07/15/2017 00:12	
WG621894-04	STD	01	07/15/2017 00:45	
WG621894-05	STD	01	07/15/2017 01:18	
WG621894-06	STD	01	07/15/2017 01:51	
WG621894-07	STD	01	07/15/2017 02:23	
WG621894-08	SSCV	01	07/15/2017 02:56	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5455336
Report generated 09/01/2017 08:56



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081366
Instrument: HPMS12
Analyst: MES
Workgroup: WG624321

Tune ID: WG624321-01
Run Date: 08/03/2017
Run Time: 09:00
File ID: 12M63784
Cal ID: HPMS12 - 03-AUG-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	41.7	34533	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	50.4	41696	PASS
70.0	69.0	0	2.00	0.525	219	PASS
127	198	40.0	60.0	56.8	47008	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	82792	PASS
199	198	5.00	9.00	6.83	5652	PASS
275	198	10.0	30.0	24.4	20210	PASS
365	198	1.00	100	2.72	2252	PASS
441	443	0.0100	100	72.7	8540	PASS
442	198	40.0	100	71.3	59042	PASS
443	442	17.0	23.0	19.9	11743	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG624321-02	STD-CCV	01	08/03/2017 09:18	
WG624321-03	STD	01	08/03/2017 09:51	
WG624321-04	STD	01	08/03/2017 10:24	
WG624321-05	STD	01	08/03/2017 10:57	
WG624321-06	STD	01	08/03/2017 11:29	
WG624321-07	STD	01	08/03/2017 12:02	
WG624321-08	STD	01	08/03/2017 12:35	
WG624321-09	STD	01	08/03/2017 13:08	
WG624321-10	STD	01	08/03/2017 13:41	
WG624321-12	SSCV	01	08/03/2017 14:58	
WG624321-11	SSCV	01	08/03/2017 15:28	
WG624321-13	SSCV	01	08/03/2017 16:00	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5455336
Report generated 09/01/2017 08:56



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081366

Instrument: HPMS12

Analyst: SCB

Workgroup: WG627594

Tune ID: WG627594-01

Run Date: 08/29/2017

Run Time: 09:29

File ID: 12M64120

Cal ID: HPMS12 - 03-AUG-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	44.0	34301	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	52.5	40898	PASS
70.0	69.0	0	2.00	0.709	290	PASS
127	198	40.0	60.0	55.9	43610	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	77960	PASS
199	198	5.00	9.00	6.91	5385	PASS
275	198	10.0	30.0	25.5	19902	PASS
365	198	1.00	100	2.83	2204	PASS
441	443	0.0100	100	74.0	6514	PASS
442	198	40.0	100	53.5	41683	PASS
443	442	17.0	23.0	21.1	8803	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG627594-02	CCV	01	08/29/2017 09:47	
WG627620-01	CCV	01	08/29/2017 10:20	
WG627291-01	BLANK	01	08/29/2017 10:52	
WG627291-01	BLANK	01	08/29/2017 10:52	
WG627291-02	LCS	01	08/29/2017 11:25	
WG627291-03	LCS2	01	08/29/2017 11:57	
L17081366-17	MW05I-082417	01	08/29/2017 15:43	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5455336
Report generated 09/01/2017 08:56



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L17081366
Analytical Method: 8270D
ICAL Workgroup: WG621894

Instrument ID: HPMS12
Initial Calibration Date: 15-JUL-17 02:23
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
1,1'-Biphenyl		1.619	9.27		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 5455302
Report generated 09/01/2017 08:55



Login Number: L17081366
Analytical Method: 8270D
ICAL Workgroup: WG624321

Instrument ID: HPMS12
Initial Calibration Date: 03-AUG-17 13:41
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
2,4,6-Trichlorophenol	CCC	0.4172	8.82		
2,4-Dichlorophenol	CCC	0.2839	8.67		
2-Nitrophenol	CCC	0.1875	7.10		
Acenaphthene	CCC	1.283	9.50		
Benzo[a]pyrene	CCC	1.102	9.30		
Di-n-Octyl Phthalate	CCC	1.493	7.91		
Fluoranthene	CCC	1.219	8.24		
Hexachlorobutadiene	CCC	0.1901	3.79		
Pentachlorophenol	CCC	0.1314	19.0		1.00000
Phenol	CCC	1.583	4.24		
2,4-Dinitrophenol	SPCC	0.1923	34.6		1.00000
4-Nitrophenol	SPCC	0.3196	4.78		
Hexachlorocyclopentadiene	SPCC	0.2834	23.5		1.00000
n-Nitrosodipropylamine	SPCC	0.9885	3.86		
1,3-Dinitrobenzene		0.2517	8.64		
1,4-Dioxane		0.5234	8.84		
2,4,5-Trichlorophenol		0.4363	8.18		
2,4-Dimethylphenol		0.3123	6.63		
2,4-Dinitrotoluene		0.4723	10.3		
2,6-Dinitrotoluene		0.3437	6.86		
2-Chloronaphthalene		1.271	6.04		
2-Chlorophenol		1.330	4.89		
2-Methylnaphthalene		0.7212	7.99		
2-Methylphenol		1.137	5.45		
2-Nitroaniline		0.4106	2.47		
3,3'-Dichlorobenzidine		0.4066	7.01		
3-Nitroaniline		0.3526	6.01		
4-Bromophenyl Phenyl Ether		0.2097	9.62		
4-Chloroaniline		0.1468	5.86		
Acenaphthylene		2.010	7.40		
Anthracene		1.149	7.22		
Benzo[a]anthracene		1.184	6.72		
Benzo[b]fluoranthene		1.333	9.26		
Benzo[ghi]perylene		0.9589	10.2		
Benzo[k]fluoranthene		1.119	7.86		
Benzoic Acid		0.1555	51.9		0.99700
Benzyl Alcohol		0.8471	6.79		
Butyl Benzyl Phthalate		0.6277	4.25		
Carbazole		0.9903	8.57		
Chrysene		1.074	7.47		
Di-n-Butyl Phthalate		1.311	5.49		
Dibenz[ah]anthracene		1.030	14.1		
Dibenzofuran		1.807	6.31		
Diethylphthalate		1.524	2.87		
Dimethylphthalate		1.479	4.73		

INT_CAL - Modified 03/06/2008
PDF File ID: 5455302
Report generated 09/01/2017 08:55



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L17081366
Analytical Method: 8270D
ICAL Workgroup: WG624321

Instrument ID: HPMS12
Initial Calibration Date: 03-AUG-17 13:41
Column ID: F

Analyte	AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Fluorene	1.534	8.70		
Hexachlorobenzene	0.2178	8.58		
Hexachloroethane	0.6222	4.03		
Indeno[1,2,3-cd]pyrene	1.208	12.1		
Isophorone	0.6860	3.02		
Naphthalene	1.062	5.21		
Nitrobenzene	0.3953	2.12		
Phenanthrene	1.104	6.44		
Pyrene	1.251	6.96		
Sym-Trinitrobenzene	0.2383	15.6	1.00000	
bis(2-Chloroethoxy)methane	0.5399	3.66		
bis(2-Chloroethyl)ether	0.9310	2.94		
bis(2-Ethylhexyl)phthalate	0.8057	8.93		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 5455302
Report generated 09/01/2017 08:55



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L17081366
Analytical Method: 8270D

Instrument ID: HPMS12
Initial Calibration Date: 15-JUL-17 02:23
Column ID: F

Analyte	WG621894-01			WG621894-02			WG621894-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1'-Biphenyl	50.0	857851.000	1.648	3.00	36040.0000	1.348	10.0	135309.000	1.544

INT_CAL - Modified 03/06/2008
PDF File ID: 5455302
Report generated 09/01/2017 08:55



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L17081366
Analytical Method: 8270D

Instrument ID: HPMS12
Initial Calibration Date: 15-JUL-17 02:23
Column ID: F

Analyte	WG621894-04			WG621894-05			WG621894-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
1,1'-Biphenyl	25.0	350812.000	1.554	80.0	1231389.00	1.716	100	1642731.00	1.756

INT_CAL - Modified 03/06/2008
PDF File ID: 5455302
Report generated 09/01/2017 08:55



Login Number: L17081366
Analytical Method: 8270D

Instrument ID: HPMS12
Initial Calibration Date: 15-JUL-17 02:23
Column ID: F

Analyte	WG621894-07		
	CONC	RESP	RF
1,1'-Biphenyl	120	1846850.00	1.770

INT_CAL - Modified 03/06/2008
PDF File ID: 5455302
Report generated 09/01/2017 08:55



Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L17081366
Analytical Method: 8270D

Instrument ID: HPMS12
Initial Calibration Date: 03-AUG-17 13:41
Column ID: F

Analyte	WG624321-02			WG624321-03			WG624321-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
2,4,6-Trichlorophenol	50.0	143362.000	0.4249	NA	NA	NA	3.00	7106.00000	0.3620
2,4-Dichlorophenol	50.0	185798.000	0.2957	NA	NA	NA	3.00	9188.00000	0.2485
2-Nitrophenol	50.0	120740.000	0.1921	NA	NA	NA	3.00	6334.00000	0.1713
Acenaphthene	50.0	450451.000	1.335	NA	NA	NA	3.00	21850.0000	1.113
Benzo[a]pyrene	50.0	706002.000	1.132	NA	NA	NA	3.00	33109.0000	0.9498
Di-n-Octyl Phthalate	50.0	988911.000	1.586	NA	NA	NA	3.00	44091.0000	1.265
Fluoranthene	50.0	836164.000	1.261	NA	NA	NA	3.00	40884.0000	1.077
Hexachlorobutadiene	50.0	115415.000	0.1837	NA	NA	NA	3.00	6950.00000	0.1880
Pentachlorophenol	50.0	91214.0000	0.1376	NA	NA	NA	NA	NA	NA
Phenol	50.0	274165.000	1.654	NA	NA	NA	3.00	14334.0000	1.486
2,4-Dinitrophenol	50.0	71697.0000	0.2125	NA	NA	NA	NA	NA	NA
4-Nitrophenol	50.0	114976.000	0.3408	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	50.0	104360.000	0.3093	NA	NA	NA	3.00	2935.00000	0.1495
n-Nitrosodipropylamine	50.0	173365.000	1.046	NA	NA	NA	3.00	9633.00000	0.9984
1,3-Dinitrobenzene	50.0	87699.0000	0.2599	NA	NA	NA	3.00	4204.00000	0.2141
1,4-Dioxane	50.0	95861.0000	0.5782	NA	NA	NA	3.00	4188.00000	0.4341
2,4,5-Trichlorophenol	50.0	147452.000	0.4370	NA	NA	NA	3.00	7658.00000	0.3901
2,4-Dimethylphenol	50.0	204813.000	0.3259	NA	NA	NA	3.00	10270.0000	0.2777
2,4-Dinitrotoluene	50.0	164431.000	0.4873	NA	NA	NA	3.00	7615.00000	0.3879
2,6-Dinitrotoluene	50.0	118527.000	0.3513	NA	NA	NA	3.00	5860.00000	0.2985
2-Chloronaphthalene	50.0	432364.000	1.281	NA	NA	NA	3.00	23264.0000	1.185
2-Chlorophenol	50.0	226794.000	1.368	NA	NA	NA	3.00	11995.0000	1.243
2-Methylnaphthalene	50.0	465425.000	0.7407	NA	NA	NA	3.00	23619.0000	0.6388
2-Methylphenol	50.0	197075.000	1.189	NA	NA	NA	3.00	9985.00000	1.035
2-Nitroaniline	50.0	144557.000	0.4284	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	50.0	278281.000	0.4183	NA	NA	NA	3.00	13554.0000	0.3617
3-Nitroaniline	50.0	122315.000	0.3625	NA	NA	NA	NA	NA	NA
4-Bromophenyl Phenyl Ether	50.0	140966.000	0.2126	NA	NA	NA	3.00	6944.00000	0.1829
4-Chloroaniline	50.0	98301.0000	0.1564	NA	NA	NA	3.00	4835.00000	0.1308
Acenaphthylene	50.0	696228.000	2.063	NA	NA	NA	3.00	35404.0000	1.803
Anthracene	50.0	786414.000	1.186	NA	NA	NA	3.00	40202.0000	1.059
Benzo[a]anthracene	50.0	809384.000	1.217	NA	NA	NA	3.00	40820.0000	1.089
Benzo[b]fluoranthene	50.0	827461.000	1.327	NA	NA	NA	3.00	41814.0000	1.200
Benzo[ghi]perylene	50.0	635912.000	1.020	NA	NA	NA	3.00	26929.0000	0.7725
Benzo[k]fluoranthene	50.0	683287.000	1.096	NA	NA	NA	3.00	34997.0000	1.004
Benzoic Acid	50.0	92829.0000	0.1477	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	50.0	147176.000	0.8876	NA	NA	NA	3.00	7277.00000	0.7542
Butyl Benzyl Phthalate	50.0	439238.000	0.6603	NA	NA	NA	3.00	21823.0000	0.5824
Carbazole	50.0	685230.000	1.033	NA	NA	NA	3.00	33531.0000	0.8832
Chrysene	50.0	728585.000	1.095	NA	NA	NA	3.00	36733.0000	0.9803
Di-n-Butyl Phthalate	50.0	912081.000	1.376	NA	NA	NA	3.00	45580.0000	1.201
Dibenz[ah]anthracene	50.0	683858.000	1.097	NA	NA	NA	3.00	27231.0000	0.7812

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Login Number: L17081366
Analytical Method: 8270D

Instrument ID: HPMS12
Initial Calibration Date: 03-AUG-17 13:41
Column ID: F

Analyte	WG624321-02			WG624321-03			WG624321-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Dibenzofuran	50.0	615103.000	1.823	NA	NA	NA	3.00	33190.0000	1.691
Diethylphthalate	50.0	522449.000	1.548	NA	NA	NA	3.00	28759.0000	1.465
Dimethylphthalate	50.0	500833.000	1.484	NA	NA	NA	3.00	26896.0000	1.370
Fluorene	50.0	537376.000	1.593	NA	NA	NA	3.00	25928.0000	1.321
Hexachlorobenzene	50.0	144458.000	0.2179	NA	NA	NA	3.00	7540.00000	0.1986
Hexachloroethane	50.0	106041.000	0.6395	NA	NA	NA	3.00	5656.00000	0.5862
Indeno[1,2,3-cd]pyrene	50.0	796452.000	1.277	NA	NA	NA	3.00	33233.0000	0.9534
Isophorone	50.0	452788.000	0.7206	NA	NA	NA	3.00	24521.0000	0.6632
Naphthalene	50.0	679118.000	1.081	NA	NA	NA	3.00	37572.0000	1.016
Nitrobenzene	50.0	254658.000	0.4053	NA	NA	NA	3.00	14824.0000	0.4009
Phenanthrene	50.0	747434.000	1.127	NA	NA	NA	3.00	39545.0000	1.042
Pyrene	50.0	861752.000	1.296	NA	NA	NA	3.00	42259.0000	1.128
Sym-Trinitrobenzene	50.0	175200.000	0.2642	NA	NA	NA	3.00	5937.00000	0.1564
bis(2-Chloroethoxy)methane	50.0	358779.000	0.5710	NA	NA	NA	3.00	19033.0000	0.5147
bis(2-Chloroethyl)ether	50.0	162035.000	0.9773	NA	NA	NA	3.00	8721.00000	0.9039
bis(2-Ethylhexyl)phthalate	50.0	580634.000	0.8729	1.00	8339.00000	0.6797	3.00	26984.0000	0.7201

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Analyte	WG624321-05			WG624321-06			WG624321-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
2,4,6-Trichlorophenol	10.0	24942.0000	0.3759	15.0	39627.0000	0.4097	25.0	65340.0000	0.4033
2,4-Dichlorophenol	10.0	32496.0000	0.2564	15.0	49007.0000	0.2686	25.0	83977.0000	0.2777
2-Nitrophenol	10.0	21094.0000	0.1664	15.0	33472.0000	0.1834	25.0	56431.0000	0.1866
Acenaphthene	10.0	76074.0000	1.147	15.0	116647.000	1.206	25.0	201889.000	1.246
Benzo[a]pyrene	10.0	120278.000	0.9993	15.0	184441.000	1.041	25.0	321504.000	1.077
Di-n-Octyl Phthalate	10.0	166658.000	1.385	15.0	257918.000	1.455	25.0	450729.000	1.509
Fluoranthene	10.0	144887.000	1.100	15.0	222326.000	1.163	25.0	382018.000	1.196
Hexachlorobutadiene	10.0	22667.0000	0.1788	15.0	34509.0000	0.1891	25.0	57361.0000	0.1897
Pentachlorophenol	10.0	12346.0000	0.09370	15.0	20576.0000	0.1076	25.0	38379.0000	0.1201
Phenol	10.0	50320.0000	1.492	15.0	75803.0000	1.546	25.0	126901.000	1.604
2,4-Dinitrophenol	10.0	6281.00000	0.09470	15.0	12208.0000	0.1262	25.0	25403.0000	0.1568
4-Nitrophenol	10.0	19664.0000	0.2964	15.0	29343.0000	0.3033	25.0	52970.0000	0.3269
Hexachlorocyclopentadiene	10.0	15349.0000	0.2313	15.0	25858.0000	0.2673	25.0	47267.0000	0.2917
n-Nitrosodipropylamine	10.0	32730.0000	0.9707	15.0	49607.0000	1.012	25.0	81207.0000	1.026
1,3-Dinitrobenzene	10.0	15336.0000	0.2311	15.0	23201.0000	0.2399	25.0	40979.0000	0.2529
1,4-Dioxane	10.0	16774.0000	0.4975	15.0	24661.0000	0.5029	25.0	40699.0000	0.5144
2,4,5-Trichlorophenol	10.0	26581.0000	0.4006	15.0	40246.0000	0.4161	25.0	68652.0000	0.4237
2,4-Dimethylphenol	10.0	36775.0000	0.2901	15.0	56143.0000	0.3077	25.0	92342.0000	0.3054
2,4-Dinitrotoluene	10.0	28735.0000	0.4331	15.0	43591.0000	0.4506	25.0	75016.0000	0.4630
2,6-Dinitrotoluene	10.0	22035.0000	0.3321	15.0	32109.0000	0.3319	25.0	55193.0000	0.3406
2-Chloronaphthalene	10.0	78479.0000	1.183	15.0	119334.000	1.234	25.0	198280.000	1.224
2-Chlorophenol	10.0	41658.0000	1.235	15.0	63932.0000	1.304	25.0	105067.000	1.328
2-Methylnaphthalene	10.0	83107.0000	0.6557	15.0	125995.000	0.6905	25.0	213585.000	0.7064
2-Methylphenol	10.0	36290.0000	1.076	15.0	53599.0000	1.093	25.0	90392.0000	1.142
2-Nitroaniline	10.0	26193.0000	0.3948	15.0	39922.0000	0.4127	25.0	66562.0000	0.4108
3,3'-Dichlorobenzidine	10.0	48154.0000	0.3701	15.0	75253.0000	0.3971	25.0	131621.000	0.4103
3-Nitroaniline	10.0	21227.0000	0.3199	15.0	32030.0000	0.3311	25.0	56152.0000	0.3466
4-Bromophenyl Phenyl Ether	10.0	24786.0000	0.1881	15.0	37714.0000	0.1972	25.0	65494.0000	0.2050
4-Chloroaniline	10.0	17682.0000	0.1395	15.0	28345.0000	0.1553	25.0	46240.0000	0.1529
Acenaphthylene	10.0	122252.000	1.843	15.0	187076.000	1.934	25.0	316294.000	1.952
Anthracene	10.0	136818.000	1.038	15.0	208660.000	1.091	25.0	357363.000	1.119
Benzo[a]anthracene	10.0	140851.000	1.083	15.0	214524.000	1.132	25.0	370948.000	1.156
Benzo[b]fluoranthene	10.0	143249.000	1.190	15.0	217959.000	1.230	25.0	392919.000	1.316
Benzo[ghi]perylene	10.0	105513.000	0.8766	15.0	164207.000	0.9265	25.0	285468.000	0.9559
Benzo[k]fluoranthene	10.0	124540.000	1.035	15.0	192193.000	1.084	25.0	323520.000	1.083
Benzoic Acid	10.0	5734.00000	0.04520	15.0	13981.0000	0.07660	25.0	35220.0000	0.1165
Benzyl Alcohol	10.0	26096.0000	0.7739	15.0	40276.0000	0.8214	25.0	68050.0000	0.8600
Butyl Benzyl Phthalate	10.0	78452.0000	0.6030	15.0	117224.000	0.6185	25.0	205889.000	0.6418
Carbazole	10.0	116254.000	0.8824	15.0	178792.000	0.9351	25.0	309150.000	0.9678
Chrysene	10.0	126579.000	0.9728	15.0	193906.000	1.023	25.0	336236.000	1.048
Di-n-Butyl Phthalate	10.0	160503.000	1.218	15.0	243872.000	1.276	25.0	420683.000	1.317
Dibenz[ah]anthracene	10.0	107894.000	0.8964	15.0	169641.000	0.9571	25.0	303148.000	1.015

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Login Number:L17081366
Analytical Method:8270D

Instrument ID:HPMS12
Initial Calibration Date:03-AUG-17 13:41
Column ID:F

Analyte	WG624321-05			WG624321-06			WG624321-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Dibenzofuran	10.0	110919.000	1.672	15.0	167457.000	1.731	25.0	283516.000	1.750
Diethylphthalate	10.0	97099.0000	1.463	15.0	145730.000	1.507	25.0	244914.000	1.512
Dimethylphthalate	10.0	93063.0000	1.403	15.0	140820.000	1.456	25.0	237766.000	1.468
Fluorene	10.0	92662.0000	1.397	15.0	141214.000	1.460	25.0	244912.000	1.512
Hexachlorobenzene	10.0	26254.0000	0.1993	15.0	39198.0000	0.2050	25.0	65837.0000	0.2061
Hexachloroethane	10.0	19853.0000	0.5888	15.0	29642.0000	0.6045	25.0	51006.0000	0.6446
Indeno[1,2,3-cd]pyrene	10.0	129211.000	1.074	15.0	201995.000	1.140	25.0	355359.000	1.190
Isophorone	10.0	82831.0000	0.6535	15.0	125651.000	0.6886	25.0	210355.000	0.6957
Naphthalene	10.0	123398.000	0.9736	15.0	188456.000	1.033	25.0	315192.000	1.042
Nitrobenzene	10.0	48730.0000	0.3845	15.0	73203.0000	0.4012	25.0	121949.000	0.4033
Phenanthrene	10.0	133409.000	1.013	15.0	200128.000	1.047	25.0	341207.000	1.068
Pyrene	10.0	150104.000	1.154	15.0	226877.000	1.197	25.0	392433.000	1.223
Sym-Trinitrobenzene	10.0	28147.0000	0.2136	15.0	45475.0000	0.2378	25.0	81015.0000	0.2536
bis(2-Chloroethoxy)methane	10.0	64797.0000	0.5112	15.0	97594.0000	0.5349	25.0	164694.000	0.5447
bis(2-Chloroethyl)ether	10.0	30688.0000	0.9101	15.0	46577.0000	0.9499	25.0	75738.0000	0.9572
bis(2-Ethylhexyl)phthalate	10.0	97614.0000	0.7502	15.0	154290.000	0.8141	25.0	264664.000	0.8250

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Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L17081366
Analytical Method: 8270D

Instrument ID: HPMS12
Initial Calibration Date: 03-AUG-17 13:41
Column ID: F

Analyte	WG624321-08			WG624321-09			WG624321-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
2,4,6-Trichlorophenol	80.0	233221.000	0.4395	100	307049.000	0.4576	120	371944.000	0.4649
2,4-Dichlorophenol	80.0	298122.000	0.3027	100	381144.000	0.3086	120	470852.000	0.3131
2-Nitrophenol	80.0	192421.000	0.1954	100	249412.000	0.2019	120	304533.000	0.2025
Acenaphthene	80.0	736001.000	1.387	100	948706.000	1.414	120	1135339.00	1.419
Benzo[a]pyrene	80.0	1184971.00	1.171	100	1525044.00	1.218	120	1889093.00	1.230
Di-n-Octyl Phthalate	80.0	1588303.00	1.569	100	2002193.00	1.598	120	2418483.00	1.575
Fluoranthene	80.0	1373799.00	1.287	100	1756636.00	1.332	120	2133959.00	1.335
Hexachlorobutadiene	80.0	189889.000	0.1928	100	248272.000	0.2010	120	297796.000	0.1980
Pentachlorophenol	80.0	154762.000	0.1450	100	205896.000	0.1561	120	255209.000	0.1596
Phenol	80.0	416281.000	1.601	100	535436.000	1.646	120	646442.000	1.635
2,4-Dinitrophenol	80.0	126383.000	0.2382	100	170019.000	0.2534	120	211589.000	0.2645
4-Nitrophenol	80.0	174395.000	0.3287	100	216670.000	0.3229	120	254402.000	0.3180
Hexachlorocyclopentadiene	80.0	176615.000	0.3329	100	229066.000	0.3414	120	275259.000	0.3441
n-Nitrosodipropylamine	80.0	250291.000	0.9626	100	312128.000	0.9596	120	368997.000	0.9335
1,3-Dinitrobenzene	80.0	142084.000	0.2678	100	181728.000	0.2708	120	221705.000	0.2771
1,4-Dioxane	80.0	141291.000	0.5434	100	182600.000	0.5614	120	219380.000	0.5550
2,4,5-Trichlorophenol	80.0	241798.000	0.4557	100	321114.000	0.4785	120	391150.000	0.4889
2,4-Dimethylphenol	80.0	319871.000	0.3248	100	412040.000	0.3336	120	501537.000	0.3335
2,4-Dinitrotoluene	80.0	266953.000	0.5031	100	347832.000	0.5184	120	428141.000	0.5352
2,6-Dinitrotoluene	80.0	189731.000	0.3576	100	244214.000	0.3639	120	299118.000	0.3739
2-Chloronaphthalene	80.0	698700.000	1.317	100	913688.000	1.362	120	1104447.00	1.381
2-Chlorophenol	80.0	354351.000	1.363	100	457587.000	1.407	120	550916.000	1.394
2-Methylnaphthalene	80.0	748466.000	0.7601	100	972575.000	0.7875	120	1187531.00	0.7897
2-Methylphenol	80.0	303953.000	1.169	100	390919.000	1.202	120	470883.000	1.191
2-Nitroaniline	80.0	219696.000	0.4141	100	273517.000	0.4076	120	324591.000	0.4057
3,3'-Dichlorobenzidine	80.0	456724.000	0.4200	100	590051.000	0.4387	120	724680.000	0.4365
3-Nitroaniline	80.0	190533.000	0.3591	100	249145.000	0.3713	120	302266.000	0.3778
4-Bromophenyl Phenyl Ether	80.0	235008.000	0.2202	100	308599.000	0.2340	120	380006.000	0.2377
4-Chloroaniline	80.0	144666.000	0.1469	100	182232.000	0.1475	120	217884.000	0.1449
Acenaphthylene	80.0	1127859.00	2.126	100	1443464.00	2.151	120	1765239.00	2.207
Anthracene	80.0	1284765.00	1.204	100	1646526.00	1.248	120	1992241.00	1.246
Benzo[a]anthracene	80.0	1345971.00	1.238	100	1725881.00	1.283	120	2112698.00	1.272
Benzo[b]fluoranthene	80.0	1450579.00	1.433	100	1878686.00	1.500	120	2261901.00	1.473
Benzo[ghi]perylene	80.0	1036703.00	1.024	100	1313171.00	1.048	120	1608025.00	1.047
Benzo[k]fluoranthene	80.0	1194591.00	1.180	100	1527748.00	1.220	120	1917662.00	1.249
Benzoic Acid	80.0	213353.000	0.2167	100	294992.000	0.2388	120	371653.000	0.2471
Benzyl Alcohol	80.0	228348.000	0.8782	100	293984.000	0.9039	120	354665.000	0.8972
Butyl Benzyl Phthalate	80.0	704392.000	0.6477	100	873713.000	0.6496	120	1026870.00	0.6185
Carbazole	80.0	1117866.00	1.047	100	1435053.00	1.088	120	1735866.00	1.086
Chrysene	80.0	1226809.00	1.128	100	1582651.00	1.177	120	1939193.00	1.168
Di-n-Butyl Phthalate	80.0	1443127.00	1.352	100	1824819.00	1.383	120	2185028.00	1.367
Dibenz[ah]anthracene	80.0	1144648.00	1.131	100	1478809.00	1.181	120	1821329.00	1.186

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Instrument ID: HPMS12
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Column ID: F

Analyte	WG624321-08			WG624321-09			WG624321-10		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Dibenzofuran	80.0	1004223.00	1.893	100	1290423.00	1.923	120	1582379.00	1.978
Diethylphthalate	80.0	824061.000	1.553	100	1052518.00	1.569	120	1257685.00	1.572
Dimethylphthalate	80.0	809883.000	1.526	100	1044551.00	1.557	120	1252629.00	1.566
Fluorene	80.0	876167.000	1.651	100	1116917.00	1.665	120	1340305.00	1.675
Hexachlorobenzene	80.0	244656.000	0.2292	100	317630.000	0.2408	120	392652.000	0.2456
Hexachloroethane	80.0	164882.000	0.6341	100	210355.000	0.6467	120	250408.000	0.6335
Indeno[1,2,3-cd]pyrene	80.0	1324916.00	1.309	100	1704851.00	1.361	120	2089990.00	1.361
Isophorone	80.0	676136.000	0.6866	100	860450.000	0.6967	120	1027349.00	0.6832
Naphthalene	80.0	1079380.00	1.096	100	1398291.00	1.132	120	1690525.00	1.124
Nitrobenzene	80.0	381673.000	0.3876	100	485640.000	0.3932	120	580807.000	0.3862
Phenanthrene	80.0	1228478.00	1.151	100	1562504.00	1.185	120	1919512.00	1.201
Pyrene	80.0	1422928.00	1.308	100	1825441.00	1.357	120	2227242.00	1.341
Sym-Trinitrobenzene	80.0	273650.000	0.2564	100	347629.000	0.2635	120	417417.000	0.2611
bis(2-Chloroethoxy)methane	80.0	540595.000	0.5490	100	683354.000	0.5533	120	812727.000	0.5405
bis(2-Chloroethyl)ether	80.0	235911.000	0.9073	100	302382.000	0.9297	120	360745.000	0.9126
bis(2-Ethylhexyl)phthalate	80.0	932962.000	0.8579	100	1178977.00	0.8766	120	1419936.00	0.8552

INT_CAL - Modified 03/06/2008
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Calibration Table Report
Method: TCL.M
Title: OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
Last Calibration: Mon Jul 17 10:36:52 2017
Curve: WG621894
Calibration Files

	3	10	25	50	80	100	120		
	12M63397.D	12M63398.D	12M63399.D	12M63396.D	12M63400.D	12M63401.D	12M63402.D		
Compound	Avg							%RSD	
1,4-Dichlorobenzene-d4	ISTD								
Benzaldehyde	0.852	0.983	0.983	1.011	1.055	1.060	1.079	1.003	7.652
Naphthalene-d8	ISTD								
Alpha-Terpineol	0.213	0.239	0.236	0.241	0.243	0.243	0.248	0.238	4.848
Caprolactam	0.090	0.109	0.111	0.114	0.117	0.117	0.121	0.111	9.083
Acenaphthene-d10	ISTD								
1,1'-Biphenyl	1.348	1.544	1.554	1.648	1.716	1.756	1.770	1.619	9.265
Phenanthrene-d10	ISTD								
Atrazine	0.181	0.216	0.223	0.235	0.244	0.249	0.255	0.229	10.982

Mon Jul 17 10:38:37 2017

Calibration Table Report
Method: MEGAMIX.M
Title: OVD MSS01 8270/625 ICAL 08/3/17
Last Calibration: Fri Aug 04 07:07:19 2017
Curve:WG624321
Calibration Files

	3	10	15	25	50	80	100	120	1			
	12M63787.D	12M63788.D	12M63789.D	12M63790.D	12M63795.D	12M63791.D	12M63792.D	12M63793.D	12M63786.D			
Compound										Avg	%RSD	Linear Quadratic
1,4-Dichlorobenzene-d4	ISTD											
1,4-Dioxane	0.434	0.497	0.503	0.514	0.578	0.543	0.561	0.555		0.523	8.844	
n-Nitrosodimethylamine	0.636	0.676	0.712	0.743	0.775	0.739	0.763	0.756		0.725	6.559	
Pyridine	1.158	1.259	1.335	1.367	1.429	1.333	1.364	1.356		1.325	6.207	
2-Picoline	1.345	1.346	1.433	1.470	1.503	1.432	1.482	1.453		1.433	4.114	
n-Nitrosomethylethylamine	0.538	0.532	0.566	0.595	0.622	0.577	0.595	0.593		0.577	5.315	
Methyl Methanesulfonate	0.916	0.886	0.907	0.953	0.967	0.918	0.936	0.915		0.925	2.812	
2-Fluorophenol	1.127	1.134	1.204	1.232	1.280	1.227	1.279	1.262		1.218	4.953	
n-Nitrosodiethylamine	0.555	0.565	0.587	0.626	0.644	0.621	0.644	0.635		0.610	5.847	
Ethyl Methanesulfonate	0.912	0.903	0.956	1.001	1.025	0.964	0.990	0.974		0.966	4.353	
Aniline	0.755	0.765	0.808	0.845	0.867	0.810	0.825	0.809		0.811	4.593	
Phenol-d5	1.456	1.424	1.523	1.572	1.629	1.600	1.629	1.628		1.557	5.226	
Phenol	1.486	1.492	1.546	1.604	1.654	1.601	1.646	1.635		1.583	4.241	
bis(2-Chloroethyl)ether	0.904	0.910	0.950	0.957	0.977	0.907	0.930	0.913		0.931	2.943	
Pentachloroethane	0.505	0.520	0.506	0.540	0.534	0.531	0.550	0.540		0.528	3.118	
2-Chlorophenol	1.243	1.235	1.304	1.328	1.368	1.363	1.407	1.394		1.330	4.892	
1,3-Dichlorobenzene	1.399	1.346	1.388	1.471	1.477	1.483	1.550	1.537		1.456	4.964	
1,4-Dichlorobenzene	1.427	1.373	1.452	1.468	1.484	1.515	1.559	1.567		1.481	4.451	
Benzyl Alcohol	0.754	0.774	0.821	0.860	0.888	0.878	0.904	0.897		0.847	6.790	
1,2-Dichlorobenzene	1.296	1.274	1.341	1.397	1.443	1.465	1.526	1.519		1.408	6.898	
2-Methylphenol	1.035	1.076	1.093	1.142	1.189	1.169	1.202	1.191		1.137	5.453	
bis(2-Chloroisopropyl)ether	1.152	1.091	1.129	1.141	1.185	1.103	1.115	1.102		1.127	2.762	
3-,4-Methylphenol	1.354	1.332	1.387	1.451	1.496	1.457	1.526	1.499		1.438	5.000	
n-Nitrosopyrrolidine	0.551	0.571	0.592	0.616	0.659	0.649	0.662	0.637		0.617	6.778	
n-Nitrosodipropylamine	0.998	0.971	1.012	1.026	1.046	0.963	0.960	0.933		0.989	3.936	
Acetophenone	1.956	1.851	1.902	1.978	2.031	1.959	1.984	1.927		1.949	2.827	
n-Nitrosomorpholine	0.791	0.766	0.791	0.804	0.797	0.739	0.735	0.702		0.766	4.773	
o-Toluidine	2.055	2.012	2.075	2.146	2.221	2.148	2.215	2.168		2.130	3.559	
Hexachloroethane	0.586	0.589	0.604	0.645	0.640	0.634	0.647	0.633		0.622	4.030	
Naphthalene-d8	ISTD											
Nitrobenzene-d5	0.381	0.389	0.405	0.406	0.416	0.398	0.402	0.396		0.399	2.723	
Nitrobenzene	0.401	0.384	0.401	0.403	0.405	0.388	0.393	0.386		0.395	2.123	
n-Nitrosopiperidine	0.164	0.160	0.165	0.166	0.178	0.175	0.180	0.179		0.171	4.628	
Isophorone	0.663	0.654	0.689	0.696	0.721	0.687	0.697	0.683		0.686	3.016	
2-Nitrophenol	0.171	0.166	0.183	0.187	0.192	0.195	0.202	0.203		0.187	7.104	
2,4-Dimethylphenol	0.278	0.290	0.308	0.305	0.326	0.325	0.334	0.334		0.312	6.629	
0,0,0-Triethyl Phosphorothioate	0.165	0.167	0.177	0.180	0.185	0.194	0.200	0.198		0.183	7.318	
bis(2-Chloroethoxy)methane	0.515	0.511	0.535	0.545	0.571	0.549	0.553	0.540		0.540	3.658	
Benzoic Acid		0.045	0.077	0.116	0.148	0.217	0.239	0.247		0.156	51.669	0.997
2,4-Dichlorophenol	0.248	0.256	0.269	0.278	0.296	0.303	0.309	0.313		0.284	8.670	
a,a-Dimethylphenethylamine	0.554	0.612	0.661	0.679	0.718	0.693	0.709	0.703		0.666	8.495	
1,2,4-Trichlorobenzene	0.311	0.3	0.322	0.322	0.327	0.338	0.354	0.353		0.32834	5.75818	
Naphthalene	1.016	0.974	1.033	1.042	1.081	1.096	1.132	1.124		1.06227	5.21269	
4-Chloroaniline	0.131	0.14	0.155	0.153	0.156	0.147	0.148	0.145		0.14679	5.86089	
2,6-Dichlorophenol	0.246	0.241	0.251	0.26	0.265	0.27	0.278	0.278		0.26125	5.40404	
Hexachloropropene	0.22	0.226	0.239	0.245	0.243	0.253	0.259	0.258		0.24307	5.89328	
Hexachlorobutadiene	0.188	0.179	0.189	0.19	0.184	0.193	0.201	0.198		0.19015	3.78951	
n-Nitrosodi-n-Butylamine	0.306	0.31	0.328	0.331	0.346	0.334	0.336	0.275		0.32104	7.12234	
p-Phenylenediamine		0.227	0.247	0.264	0.247	0.236	0.232	0.223		0.23932	5.9242	
4-Chloro-3-Methylphenol	0.326	0.334	0.35	0.358	0.373	0.362	0.368	0.363		0.35423	4.6635	
Safrrole	0.248	0.249	0.261	0.27	0.28	0.288	0.298	0.298		0.27382	7.43586	
2-Methylnaphthalene	0.639	0.656	0.691	0.706	0.741	0.76	0.787	0.79		0.72116	7.98682	
1-Methylnaphthalene	0.607	0.59	0.632	0.643	0.676	0.694	0.719	0.715		0.65961	7.43146	
Acenaphthene-d10	ISTD											
1,2,4,5-Tetrachlorobenzene	0.583	0.569	0.604	0.618	0.64	0.673	0.696	0.708		0.63639	8.1409	
Hexachlorocyclopentadiene	0.15	0.231	0.267	0.292	0.309	0.333	0.341	0.344		0.28343	23.5263	1.000
2,4,6-Trichlorophenol	0.362	0.376	0.41	0.403	0.425	0.44	0.458	0.465		0.41722	8.81701	
2,4,5-Trichlorophenol	0.39	0.401	0.416	0.424	0.437	0.456	0.479	0.489		0.43633	8.176	
2-Fluorobiphenyl	1.32	1.286	1.337	1.348	1.389	1.441	1.48	1.508		1.38873	5.76593	
Isosafrole	0.465	0.467	0.493	0.501	0.507	0.523	0.535	0.545		0.50466	5.79725	
2-Chloronaphthalene	1.185	1.183	1.234	1.224	1.281	1.317	1.362	1.381		1.27071	6.03856	
1-Chloronaphthalene	1.137	1.119	1.16	1.196	1.236	1.286	1.301	1.324		1.21965	6.4382	
2-Nitroaniline		0.395	0.413	0.411	0.428	0.414	0.408	0.406		0.41059	2.47073	
1,4-Naphthoquinone	0.327	0.38	0.402	0.398	0.358	0.32	0.294	0.283		0.34549	13.3187	
Dimethylphthalate	1.37	1.403	1.456	1.467	1.484	1.526	1.557	1.566		1.47862	4.72789	
1,3-Dinitrobenzene	0.214	0.231	0.24	0.253	0.26	0.268	0.271	0.277		0.25171	8.64344	
2,6-Dinitrotoluene	0.298	0.332	0.332	0.341	0.351	0.358	0.364	0.374		0.34374	6.86411	
Acenaphthylene	1.803	1.843	1.934	1.952	2.063	2.126	2.151	2.206		2.00985	7.3946	
3-Nitroaniline		0.32	0.331	0.347	0.363	0.359	0.371	0.378		0.35262	6.00611	
2,4-Dinitrophenol		0.095	0.126	0.157	0.212	0.238	0.253	0.264		0.19231	34.6328	1.000
Acenaphthene	1.113	1.147	1.206	1.246	1.335	1.387	1.414	1.419		1.28332	9.49923	
4-Nitrophenol		0.296	0.303	0.327	0.341	0.329	0.323	0.318		0.31957	4.78173	
2,4-Dinitrotoluene	0.388	0.433	0.451	0.463	0.487	0.503	0.518	0.535		0.47232	10.269	
Pentachlorobenzene	0.462	0.472	0.487	0.501	0.502	0.541	0.56	0.581		0.5133	8.34677	
Dibenzofuran	1.691	1.672	1.731	1.75	1.823	1.893	1.923	1.978		1.8075	6.31277	
2,3,4,6-Tetrachlorophenol	0.293	0.326	0.341	0.36	0.387	0.423	0.434	0.441		0.37567	14.4786	
1-Naphthylamine	1.121	1.154	1.194	1.228	1.303	1.352	1.375	1.403		1.2663	8.40991	
2-Naphthylamine	1.228	1.13	1.144	1.211	1.333	1.429	1.456	1.459		1.29885	10.6456	
Diethylphthalate	1.465	1.463	1.507	1.512	1.548	1.553	1.569	1.572		1.52357	2.86636	
Thionazin	0.229	0.228	0.244	0.244	0.264	0.258	0.262	0.263		0.24911	5.89687	

Fluorene	1.321	1.397	1.46	1.512	1.593	1.651	1.665	1.675	1.53406	8.6963	
4-Chlorophenyl Phenyl Ether	0.7	0.696	0.726	0.744	0.758	0.803	0.814	0.84	0.76017	7.06974	
4-Nitroaniline		0.343	0.368	0.38	0.408	0.414	0.414	0.419	0.39248	7.45493	
5-Nitro-o-Toluidine	0.363	0.384	0.416	0.439	0.465	0.49	0.494	0.5	0.44363	11.774	
1,2-Diphenylhydrazine	1.525	1.549	1.599	1.601	1.637	1.577	1.552	1.539	1.57213	2.41328	
2,4,6-Tribromophenol	0.167	0.188	0.193	0.202	0.212	0.231	0.241	0.251	0.21068	13.5748	
Phenanthrene-d10	ISTD										
4,6-Dinitro-2-Methylphenol		0.101	0.12	0.131	0.153	0.158	0.169	0.174	0.14349	18.8742	0.998
Diphenylamine/n-Nitrosodiphenylar	0.603	0.61	0.63	0.652	0.687	0.698	0.736	0.734	0.66873	7.89807	
Sulfotepp	0.114	0.117	0.121	0.126	0.133	0.141	0.151	0.152	0.13195	11.3261	
Sym-Trinitrobenzene	0.156	0.214	0.238	0.254	0.264	0.256	0.264	0.261	0.23833	15.6245	1.000
Diallate	0.267	0.274	0.286	0.287	0.301	0.283	0.285	0.279	0.28282	3.56706	
Phenacetin	0.36	0.401	0.419	0.429	0.446	0.432	0.439	0.428	0.41926	6.58857	
Phorate	0.431	0.434	0.463	0.462	0.478	0.442	0.442	0.433	0.44814	3.86058	
4-Bromophenyl Phenyl Ether	0.183	0.188	0.197	0.205	0.213	0.22	0.234	0.238	0.20971	9.61861	
Hexachlorobenzene	0.199	0.199	0.205	0.206	0.218	0.229	0.241	0.246	0.2178	8.57662	
Dimethoate	0.271	0.287	0.292	0.293	0.289	0.248	0.234	0.22	0.26669	10.8624	
4-Aminobiphenyl	0.708	0.698	0.749	0.777	0.825	0.84	0.858	0.86	0.78929	8.32435	
Pentachlorophenol		0.094	0.108	0.12	0.138	0.145	0.156	0.16	0.13139	19.0062	1.000
Pronamide	0.306	0.32	0.334	0.345	0.356	0.357	0.372	0.365	0.34439	6.65559	
Pentachloronitrobenzene	0.087	0.091	0.097	0.105	0.102	0.103	0.108	0.107	0.10001	7.53889	
Disulfoton	0.34	0.344	0.357	0.367	0.388	0.366	0.371	0.364	0.36202	4.20943	
Phenanthrene	1.042	1.013	1.047	1.068	1.127	1.151	1.185	1.2	1.10402	6.43755	
Anthracene	1.059	1.038	1.091	1.119	1.186	1.204	1.248	1.246	1.14891	7.2217	
Carbazole	0.893	0.882	0.935	0.968	1.033	1.047	1.088	1.086	0.99034	8.56765	
Parathion Methyl	0.212	0.243	0.25	0.266	0.263	0.242	0.229	0.223	0.24107	7.80365	
Di-n-Butyl Phthalate	1.201	1.218	1.275	1.317	1.376	1.352	1.383	1.367	1.31109	5.49021	
Parathion Ethyl	0.128	0.151	0.159	0.169	0.179	0.17	0.173	0.169	0.16238	10.0045	
4-Nitroquinoline 1-Oxide	0.015	0.044	0.056	0.074	0.085	0.093	0.096	0.098	0.07002	42.111	0.999
Methapyrilene	0.394	0.426	0.456	0.441	0.365	0.301	0.261	0.238	0.36032	23.3582	0.998
Isodrin	0.119	0.117	0.123	0.126	0.129	0.13	0.134	0.133	0.12638	5.03183	
Fluoranthene	1.077	1.1	1.163	1.196	1.261	1.287	1.332	1.335	1.21871	8.23986	
Chrysene-d12	ISTD										
Benzzidine		0.416	0.459	0.499	0.549	0.543	0.519	0.507	0.49892	9.48278	
Pyrene	1.128	1.154	1.197	1.223	1.295	1.308	1.357	1.341	1.25055	6.96262	
Aramite	0.068	0.073	0.077	0.079	0.083	0.078	0.079	0.075	0.07654	5.81569	
p-Terphenyl-d14	0.782	0.777	0.814	0.834	0.882	0.912	0.953	0.935	0.86112	7.97685	
p-(Dimethylamino)azobenzene	0.194	0.22	0.238	0.243	0.257	0.264	0.274	0.273	0.24538	11.271	
Chlorobenzilate	0.308	0.312	0.335	0.339	0.351	0.355	0.37	0.37	0.34265	6.95398	
Famphur				0.079					0.07891	0	
Butyl Benzyl Phthalate	0.582	0.603	0.619	0.642	0.66	0.648	0.65	0.618	0.62772	4.24879	
3,3'-Dimethylbenzidine	0.903	0.945	1.09	1.146	1.156	1.161	1.148	1.108	1.08205	9.35731	
2-Acetylaminofluorene	0.388	0.455	0.5	0.535	0.579	0.576	0.6	0.584	0.52704	14.1511	
bis(2-Ethylhexyl)phthalate	0.72	0.75	0.814	0.825	0.873	0.858	0.877	0.855	0.80575	8.93068	0.68
3,3'-Dichlorobenzidine	0.362	0.37	0.397	0.41	0.418	0.42	0.439	0.436	0.40658	7.01312	
Benzo[a]anthracene	1.089	1.083	1.132	1.156	1.217	1.238	1.283	1.272	1.18378	6.7233	
Chrysene	0.98	0.973	1.023	1.048	1.095	1.128	1.177	1.168	1.07405	7.46673	
Perylene-d12	ISTD										
Di-n-Octyl Phthalate	1.265	1.385	1.455	1.509	1.586	1.569	1.598	1.575	1.49277	7.91423	
7,12-Dimethylbenz[a]anthracene	0.54	0.54	0.568	0.59	0.632	0.664	0.682	0.682	0.61222	9.89647	
Benzo[b]fluoranthene	1.2	1.19	1.23	1.316	1.327	1.433	1.5	1.473	1.33348	9.25564	
Benzo[k]fluoranthene	1.004	1.035	1.084	1.083	1.096	1.18	1.22	1.249	1.11883	7.8548	
Benzo[a]pyrene	0.95	0.999	1.041	1.077	1.132	1.171	1.218	1.23	1.10209	9.29818	
3-Methylcholanthrene	0.487	0.51	0.544	0.567	0.598	0.614	0.629	0.631	0.57241	9.58766	
Indeno[1,2,3-cd]pyrene	0.953	1.073	1.14	1.19	1.277	1.309	1.361	1.361	1.20807	12.1054	
Dibenz[ah]anthracene	0.781	0.896	0.957	1.015	1.097	1.131	1.181	1.186	1.03048	14.0582	
Benzo[ghi]perylene	0.773	0.877	0.926	0.956	1.02	1.024	1.048	1.047	0.95886	10.1504	

Fri Aug 04 08:41:54 2017

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081366 Run Date: 07/15/2017 Sample ID: WG621894-08
Instrument ID: HPMS12 Run Time: 02:56 Method: 8270D
File ID: 12M63403 Analyst: SCB QC Key: WATERL00
ICal Workgroup: WG621894 Cal ID: HPMS12 - 15-JUL-17

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,1'-Biphenyl		50000	51500	ug/L	1.67	3.00	25	

* Exceeds %D Limit

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5455319
Report generated 09/01/2017 08:56



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081366 Run Date: 08/03/2017 Sample ID: WG624321-12
Instrument ID: HPMS12 Run Time: 14:58 Method: 8270D
File ID: 12M63795 Analyst: MES QC Key: WATERL00
Ical Workgroup: WG624321 Cal ID: HPMS12 - 03-AUG-17

Analyte		Expected	Found	Units	RF	%D	UCL	Q
1,4-Dioxane		50000	55000	ug/L	0.576	10.0	25	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5455319
Report generated 09/01/2017 08:56



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081366	Run Date: 08/03/2017	Sample ID: WG624321-11
Instrument ID: HPMS12	Run Time: 15:28	Method: 8270D
File ID: 12M63796	Analyst: MES	QC Key: WATERLOO
ICal Workgroup: WG624321	Cal ID: HPMS12 - 03-AUG-17	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2,4,6-Trichlorophenol	CCC	50000	51200	ug/L	0.427	2.40	25	
2,4-Dichlorophenol	CCC	50000	51400	ug/L	0.292	2.80	25	
2-Nitrophenol	CCC	50000	52800	ug/L	0.198	5.50	25	
Acenaphthene	CCC	50000	53400	ug/L	1.37	6.70	25	
Benzo[a]pyrene	CCC	50000	50000	ug/L	1.10	0	25	
Di-n-Octyl Phthalate	CCC	50000	52200	ug/L	1.56	4.30	25	
Fluoranthene	CCC	50000	50400	ug/L	1.23	0.800	25	
Hexachlorobutadiene	CCC	50000	57500	ug/L	0.219	15.1	25	
Diphenylamine/n-Nitrosodiphenylamine	CCC	50000	52400	ug/L	0.700	4.70	25	
Pentachlorophenol	CCC	50000	62100	ug/L	0.175	24.2	25	
Phenol	CCC	50000	50700	ug/L	1.61	1.40	25	
n-Nitrosodipropylamine	SPCC	50000	49700	ug/L	0.983	0.600	25	
2,4-Dinitrophenol	SPCC	50000	54500	ug/L	0.233	9.00	25	
4-Nitrophenol	SPCC	50000	51500	ug/L	0.329	3.10	25	
Hexachlorocyclopentadiene	SPCC	50000	54200	ug/L	0.340	8.40	25	
1,3-Dinitrobenzene		50000	47900	ug/L	0.241	4.20	25	
2,4,5-Trichlorophenol		50000	47800	ug/L	0.417	4.40	25	
2,4-Dimethylphenol		50000	54500	ug/L	0.341	9.10	25	
2,4-Dinitrotoluene		50000	50200	ug/L	0.475	0.500	25	
2,6-Dinitrotoluene		50000	50100	ug/L	0.344	0.100	25	
2-Chloronaphthalene		50000	57900	ug/L	1.47	15.8	25	
2-Chlorophenol		50000	52000	ug/L	1.38	4.10	25	
2-Methylnaphthalene		50000	49600	ug/L	0.715	0.800	25	
2-Methylphenol		50000	50600	ug/L	1.15	1.10	25	
2-Nitroaniline		50000	51700	ug/L	0.424	3.40	25	
3-Nitroaniline		50000	50300	ug/L	0.355	0.500	25	
3-,4-Methylphenol		50000	52000	ug/L	1.49	3.90	25	
4-Bromophenyl Phenyl Ether		50000	52400	ug/L	0.220	4.90	25	
4-Chloroaniline		50000	51400	ug/L	0.151	2.70	25	
Acenaphthylene		50000	50400	ug/L	2.03	0.900	25	
Anthracene		50000	50000	ug/L	1.15	0	25	
Benzo[a]anthracene		50000	49600	ug/L	1.17	0.900	25	
Benzo[b]fluoranthene		50000	51400	ug/L	1.37	2.80	25	
Benzo[ghi]perylene		50000	50800	ug/L	0.975	1.70	25	
Benzo[k]fluoranthene		50000	50300	ug/L	1.13	0.700	25	
Benzoic Acid		50000	64200	ug/L	0.237	28.4	25	*
Benzyl Alcohol		50000	52900	ug/L	0.896	5.70	25	
bis(2-Chloroethyl)ether		50000	51400	ug/L	0.957	2.70	25	
bis(2-Chloroethoxy)methane		50000	54700	ug/L	0.591	9.40	25	
bis(2-Ethylhexyl)phthalate		50000	52400	ug/L	0.844	4.70	25	
Butyl Benzyl Phthalate		50000	51400	ug/L	0.645	2.80	25	
Carbazole		50000	52900	ug/L	1.05	5.80	25	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5455319
Report generated 09/01/2017 08:56



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: <u>L17081366</u>	Run Date: <u>08/03/2017</u>	Sample ID: <u>WG624321-11</u>
Instrument ID: <u>HPMS12</u>	Run Time: <u>15:28</u>	Method: <u>8270D</u>
File ID: <u>12M63796</u>	Analyst: <u>MES</u>	QC Key: <u>WATERL00</u>
ICal Workgroup: <u>WG624321</u>	Cal ID: <u>HPMS12 - 03-AUG-17</u>	

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Chrysene	50000	51900	ug/L	1.12	3.90	25	
Di-n-Butyl Phthalate	50000	53900	ug/L	1.41	7.80	25	
Dibenz[ah]anthracene	50000	51000	ug/L	1.05	2.10	25	
Dibenzofuran	50000	50400	ug/L	1.82	0.900	25	
Diethylphthalate	50000	52300	ug/L	1.59	4.60	25	
Dimethylphthalate	50000	51800	ug/L	1.53	3.60	25	
Fluorene	50000	50900	ug/L	1.56	1.70	25	
Hexachlorobenzene	50000	51700	ug/L	0.225	3.50	25	
Hexachloroethane	50000	50100	ug/L	0.624	0.200	25	
Indeno[1,2,3-cd]pyrene	50000	50300	ug/L	1.21	0.500	25	
Isophorone	50000	52400	ug/L	0.719	4.80	25	
Naphthalene	50000	51200	ug/L	1.09	2.30	25	
Nitrobenzene	50000	52500	ug/L	0.415	5.00	25	
Phenanthrene	50000	50500	ug/L	1.12	1.10	25	
Pyrene	50000	50200	ug/L	1.26	0.500	25	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds



Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081366 Run Date: 08/03/2017 Sample ID: WG624321-13
Instrument ID: HPMS12 Run Time: 16:00 Method: 8270D
File ID: 12M63797 Analyst: MES QC Key: WATERL00
ICal Workgroup: WG624321 Cal ID: HPMS12 - 03-AUG-17

Analyte		Expected	Found	Units	RF	%D	UCL	Q
3,3'-Dichlorobenzidine		50000	57100	ug/L	0.464	14.2	25	

* Exceeds %D Limit

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5455319
Report generated 09/01/2017 08:56



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081366	Run Date: 08/29/2017	Sample ID: WG627594-02
Instrument ID: HPMS12	Run Time: 09:47	Method: 8270D
File ID: 12M64121	Analyst: SCB	QC Key: WATERL00
Workgroup (AAB#): WG627524	Cal ID: HPMS12 - 03-AUG-17	
Matrix: WATER		

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,4-Dichlorobenzene	CCC	50000	51400	ug/L	1.52	2.74	20	
4-Chloro-3-Methylphenol	CCC	50000	52600	ug/L	0.372	5.14	20	
2,4,6-Trichlorophenol	CCC	50000	50900	ug/L	0.425	1.87	20	
2,4-Dichlorophenol	CCC	50000	52700	ug/L	0.299	5.44	20	
2-Nitrophenol	CCC	50000	51100	ug/L	0.192	2.27	20	
Acenaphthene	CCC	50000	53800	ug/L	1.38	7.52	20	
Benzo[a]pyrene	CCC	50000	54000	ug/L	1.19	7.98	20	
Di-n-Octyl Phthalate	CCC	50000	48500	ug/L	1.45	3.07	20	
Fluoranthene	CCC	50000	50900	ug/L	1.24	1.84	20	
Hexachlorobutadiene	CCC	50000	54900	ug/L	0.209	9.79	20	
Diphenylamine/n-Nitrosodiphenylamine	CCC	50000	51200	ug/L	0.685	2.49	20	
Pentachlorophenol	CCC	50000	48900	ug/L	0.133	2.20	20	
Phenol	CCC	50000	55500	ug/L	1.76	11.0	20	
n-Nitrosodipropylamine	SPCC	50000	57400	ug/L	1.14	14.9	20	
2,4-Dinitrophenol	SPCC	50000	52200	ug/L	0.220	4.39	20	
4-Nitrophenol	SPCC	50000	54900	ug/L	0.351	9.85	20	
Hexachlorocyclopentadiene	SPCC	50000	51100	ug/L	0.318	2.18	20	
Sym-Trinitrobenzene		50000	53900	ug/L	0.279	7.81	20	
1,3-Dinitrobenzene		50000	49300	ug/L	0.248	1.42	20	
1,4-Dioxane		50000	49000	ug/L	0.513	1.93	20	
2,4,5-Trichlorophenol		50000	50400	ug/L	0.440	0.737	20	
2,4-Dimethylphenol		50000	49700	ug/L	0.310	0.686	20	
2,4-Dinitrotoluene		50000	49800	ug/L	0.470	0.407	20	
2,6-Dinitrotoluene		50000	50000	ug/L	0.344	0.0562	20	
2-Chloronaphthalene		50000	50800	ug/L	1.29	1.59	20	
2-Chlorophenol		50000	48900	ug/L	1.30	2.21	20	
2-Methylnaphthalene		50000	51700	ug/L	0.746	3.47	20	
2-Methylphenol		50000	54300	ug/L	1.24	8.68	20	
2-Nitroaniline		50000	51600	ug/L	0.423	3.11	20	
3-Nitroaniline		50000	49200	ug/L	0.347	1.61	20	
3,3'-Dichlorobenzidine		50000	55400	ug/L	0.451	10.8	20	
3-,4-Methylphenol		50000	52100	ug/L	1.50	4.28	20	
4-Bromophenyl Phenyl Ether		50000	51500	ug/L	0.216	3.04	20	
4-Chloroaniline		50000	55700	ug/L	0.164	11.3	20	
Acenaphthylene		50000	52300	ug/L	2.10	4.57	20	
Anthracene		50000	51100	ug/L	1.17	2.20	20	
Benzo[a]anthracene		50000	52800	ug/L	1.25	5.51	20	
Benzo[b]fluoranthene		50000	53400	ug/L	1.42	6.76	20	
Benzo[ghi]perylene		50000	57500	ug/L	1.10	15.1	20	
Benzo[k]fluoranthene		50000	54700	ug/L	1.22	9.33	20	
Benzoic Acid		50000	32100	ug/L	0.0851	35.9	20	*
Benzyl Alcohol		50000	54600	ug/L	0.926	9.27	20	

CCV - Modified 03/05/2008
PDF File ID: 5455366
Report generated 09/01/2017 08:56



CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627594-02
 Instrument ID: HPMS12 Run Time: 09:47 Method: 8270D
 File ID: 12M64121 Analyst: SCB QC Key: WATERL00
 Workgroup (AAB#): WG627524 Cal ID: HPMS12 - 03-AUG-17
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
bis(2-Chloroethyl)ether	50000	55900	ug/L	1.04	11.9	20	
bis(2-Chloroethoxy)methane	50000	54800	ug/L	0.591	9.53	20	
bis(2-Ethylhexyl)phthalate	50000	50800	ug/L	0.819	1.60	20	
Butyl Benzyl Phthalate	50000	49900	ug/L	0.627	0.125	20	
Carbazole	50000	51700	ug/L	1.02	3.37	20	
Chrysene	50000	53300	ug/L	1.14	6.50	20	
Di-n-Butyl Phthalate	50000	52000	ug/L	1.36	4.02	20	
Dibenz[ah]anthracene	50000	55300	ug/L	1.14	10.6	20	
Dibenzofuran	50000	49400	ug/L	1.79	1.11	20	
Diethylphthalate	50000	50100	ug/L	1.53	0.261	20	
Dimethylphthalate	50000	50300	ug/L	1.49	0.569	20	
Fluorene	50000	53500	ug/L	1.64	7.00	20	
Hexachlorobenzene	50000	50400	ug/L	0.220	0.848	20	
Hexachloroethane	50000	53200	ug/L	0.662	6.38	20	
Indeno[1,2,3-cd]pyrene	50000	58100	ug/L	1.40	16.2	20	
Isophorone	50000	53800	ug/L	0.738	7.61	20	
Naphthalene	50000	49300	ug/L	1.05	1.47	20	
Nitrobenzene	50000	54700	ug/L	0.432	9.35	20	
Phenanthrene	50000	51200	ug/L	1.13	2.33	20	
Pyrene	50000	51300	ug/L	1.28	2.55	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

CCV - Modified 03/05/2008

PDF File ID: 5455366

Report generated 09/01/2017 08:56



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627620-01
Instrument ID: HPMS12 Run Time: 10:20 Method: 8270D
File ID: 12M64122 Analyst: SCB QC Key: WATERL00
Workgroup (AAB#): WG627524 Cal ID: HPMS12 - 15-JUL-17
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1'-Biphenyl		50000	50600	ug/L	1.64	1.22	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds

SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5455366
Report generated 09/01/2017 08:56



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L17081366
Instrument ID: HPMS12
Workgroup (AAB#): WG627524

CCV Number: WG627594-02
CAL ID: HPMS12 - 03-AUG-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5	IS-6
WG627594-02	NA	NA	140196	307412	602811	554616	584828	599106
Upper Limit	NA	NA	280392	614824	1205622	1109232	1169656	1198212
Lower Limit	NA	NA	70098	153706	301406	277308	292414	299553
L17081366-17	1.00	01	113978	231938	453802	438432	436070	459470
WG627291-01	1.00	01	119921	244750	480285	449564	469558	481544
WG627291-02	1.00	01	120438	254221	491117	460416	488466	509325
WG627291-03	1.00	01	115841	249347	499030	448895	486700	494827

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Acenaphthene-d10
IS-3 - Chrysene-d12
IS-4 - Naphthalene-D8
IS-5 - Perylene-d12
IS-6 - Phenanthrene-d10

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number: L17081366
Instrument ID: HPMS12
Workgroup (AAB#): WG627524

CCV Number: WG627594-02
CAL ID: HPMS12 - 03-AUG-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5	IS-6
WG627594-02	NA	NA	7.83	10.94	16.24	9.13	19.09	12.55
Upper Limit	NA	NA	8.33	11.44	16.74	9.63	19.59	13.05
Lower Limit	NA	NA	7.33	10.44	15.74	8.63	18.59	12.05
L17081366-17	1.00	01	7.829	10.932	16.237	9.121	19.085	12.546
WG627291-01	1.00	01	7.829	10.932	16.237	9.121	19.085	12.546
WG627291-02	1.00	01	7.828	10.932	16.242	9.121	19.09	12.551
WG627291-03	1.00	01	7.829	10.932	16.243	9.121	19.09	12.551

IS-1 - 1,4-Dichlorobenzene-d4
IS-2 - Acenaphthene-d10
IS-3 - Chrysene-d12
IS-4 - Naphthalene-D8
IS-5 - Perylene-d12
IS-6 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_RT - Modified 03/06/2008
PDF File ID: 5455372
Report generated 09/01/2017 08:57



2.2.1.3 Sample Data

Data File : I:\MSDCHEM\1\DATA\082917\12M64132.D Vial: 13
 Acq On : 29 Aug 2017 3:43 pm Operator: scb
 Sample : L17081366-17 Inst : MSD12
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 08:59:30 2017 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Mon Aug 21 08:23:38 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.829	152	113978	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.121	136	438432	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.932	164	231938	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.546	188	459470	40.0000	ug/ml	-0.010
113) Chrysene-d12	16.237	240	453802	40.0000	ug/ml	-0.010
128) Perylene-d12	19.085	264	436070	40.0000	ug/ml	-0.016
System Monitoring Compounds						
8) 2-Fluorophenol	6.573	112	129675	37.3571949	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	37.36%		
12) Phenol-d5	7.423	99	114968	25.9059587	ug/ml	-0.01
Spiked Amount 100.000	Range 10 - 94		Recovery =	25.91%		
31) Nitrobenzene-d5	8.395	82	139369	31.8541495	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	63.71%		
59) 2-Fluorobiphenyl	10.190	172	303751	37.7213647	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	75.44%		
86) 2,4,6-Tribromophenol	11.761	330	127018	103.9735406	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	103.97%		
117) p-Terphenyl-d14	14.581	244	435378	44.5654244	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	89.13%		
Target Compounds						
11) Aniline	7.43	66	7457	3.2282	ug/ml#	Qvalue 1

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M64132.D MEGAMIX.M Wed Aug 30 08:59:32 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\082917\12M64132.D

Vial: 13

Acq On : 29 Aug 2017 3:43 pm

Operator: scb

Sample : L17081366-17

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 8:59 2017

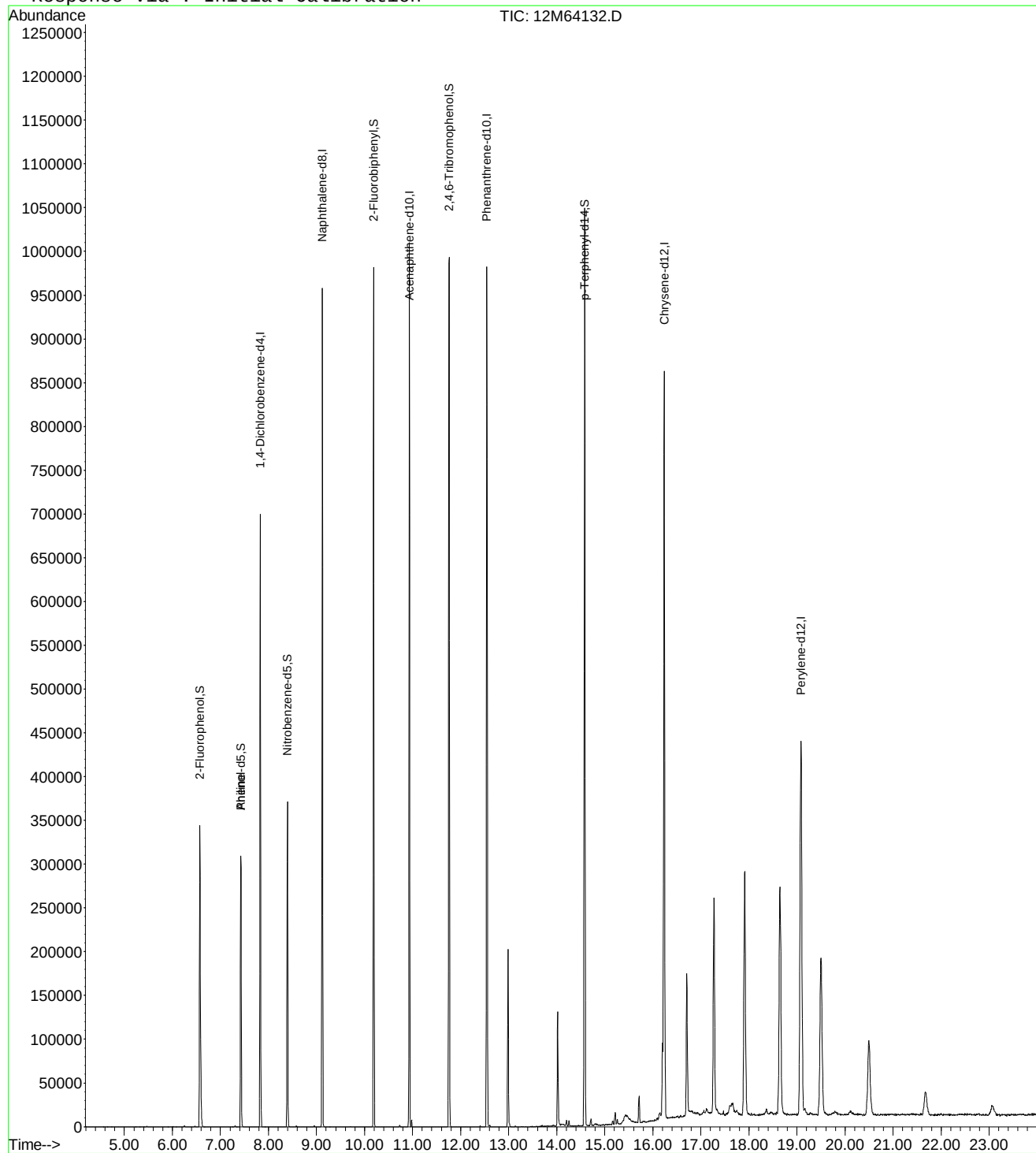
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

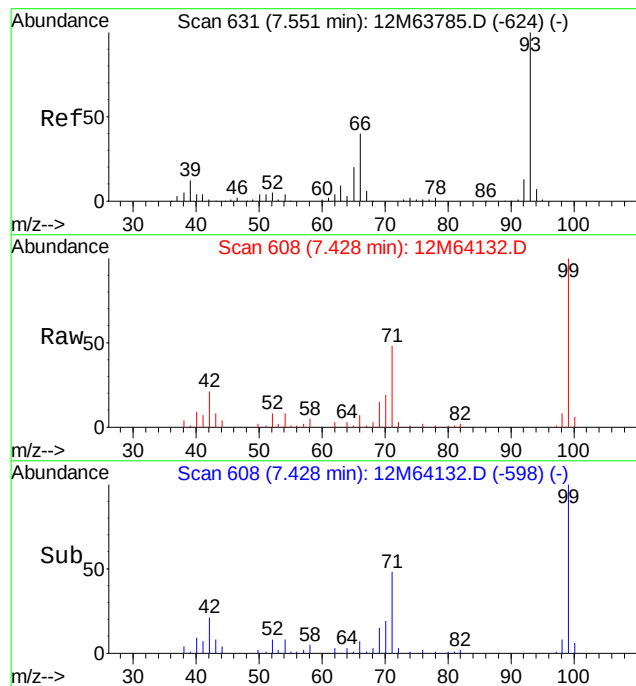
Response via : Initial Calibration



12M64132.D MEGAMIX.M

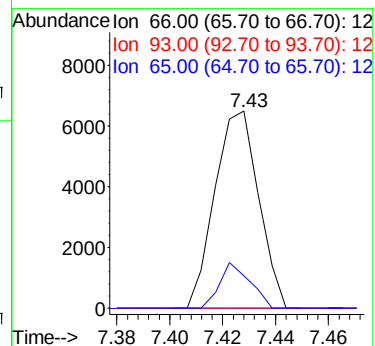
Wed Aug 30 08:59:33 2017

Page 2



#11
 Aniline
 Concen: 3.2282 ug/ml
 RT: 7.43 min Scan# 608
 Delta R.T. -0.10 min
 Lab File: 12M64132.D
 Acq: 29 Aug 2017 3:43 pm

Tgt Ion:	66	Resp:	7457
Ion	Ratio	Lower	Upper
66	100		
93	0.0	231.9	541.1#
65	16.0	48.5	113.1#



Data File : I:\MSDCHEM\1\DATA\082917\12M64132.D Vial: 13
Acq On : 29 Aug 2017 3:43 pm Operator: scb
Sample : L17081366-17 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 30 11:54:30 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
Last Update : Thu Jul 27 11:09:54 2017
Response via : Initial Calibration
DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.829	152	113978	40.0000	ug/mL	-0.037
3) Naphthalene-d8	9.121	136	438432	40.0000	ug/mL	-0.037
6) Acenaphthene-d10	10.932	164	231938	40.0000	ug/mL	-0.037
8) Phenanthrene-d10	12.546	188	459470	40.0000	ug/mL	-0.048
Target Compounds						Qvalue
7) 1,1'-Biphenyl	10.19	154	225	0.0240	ug/L #	1

(#) = qualifier out of range (m) = manual integration (+) = signals summed
12M64132.D TCL.M Wed Aug 30 11:54:30 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\082917\12M64132.D

Vial: 13

Acq On : 29 Aug 2017 3:43 pm

Operator: scb

Sample : L17081366-17

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 11:54 2017

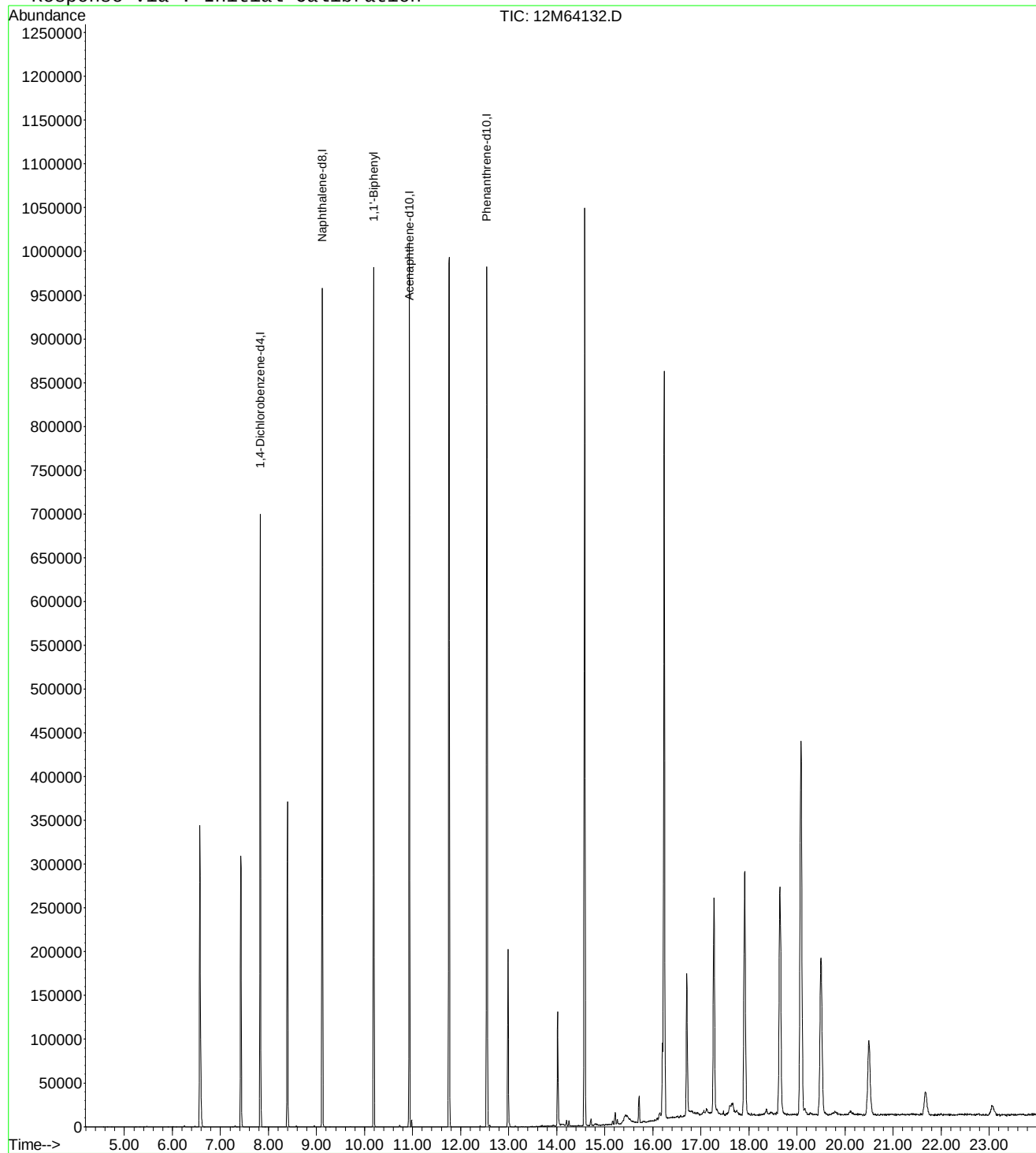
Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)

Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17

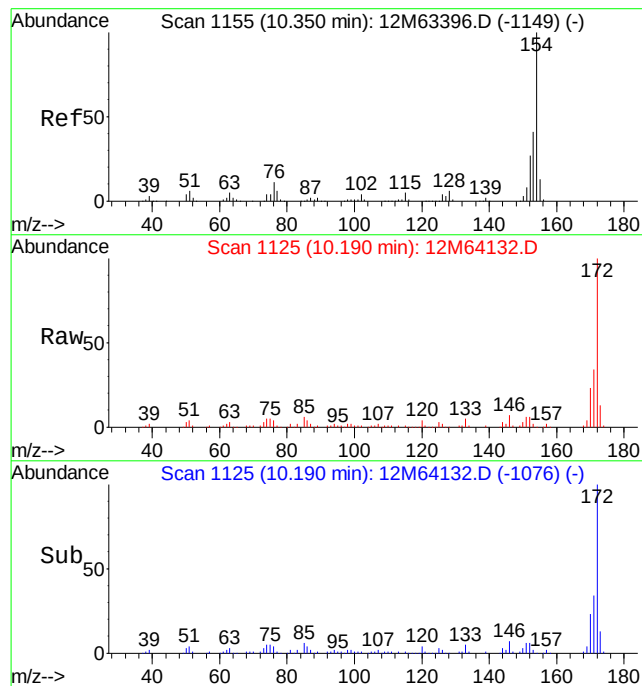
Last Update : Thu Jul 27 11:09:54 2017

Response via : Initial Calibration



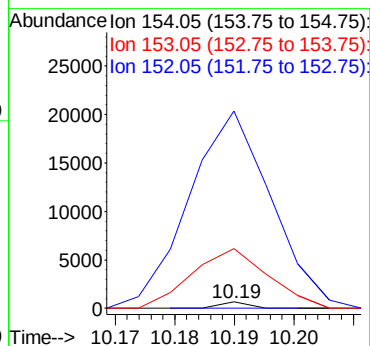
12M64132.D TCL.M Wed Aug 30 11:54:31 2017

Page 2



#7
 1,1'-Biphenyl
 Concen: 0.0240 ug/L
 RT: 10.19 min Scan# 1125
 Delta R.T. -0.14 min
 Lab File: 12M64132.D
 Acq: 29 Aug 2017 3:43 pm

Tgt Ion:154 Resp: 225
 Ion Ratio Lower Upper
 154 100
 153 2446.2 32.8 49.2#
 152 8719.1 21.4 32.2#



Data File : I:\MSDCHEM\1\DATA\082917\12M64132.D
 Acq On : 29 Aug 2017 3:43 pm
 Sample : L17081366-17
 Misc : 1,1
 MS Integration Params: LSCINT.P

Vial: 13
 Operator: scb
 Inst : MSD12
 Multiplr: 1.00

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Smoothing : ON
 Sampling : 1
 Start Thrs: 0.05
 Stop Thrs : 0
 Filtering: 5
 Min Area: 1 % of largest Peak
 Max Peaks: 100
 Peak Location: TOP

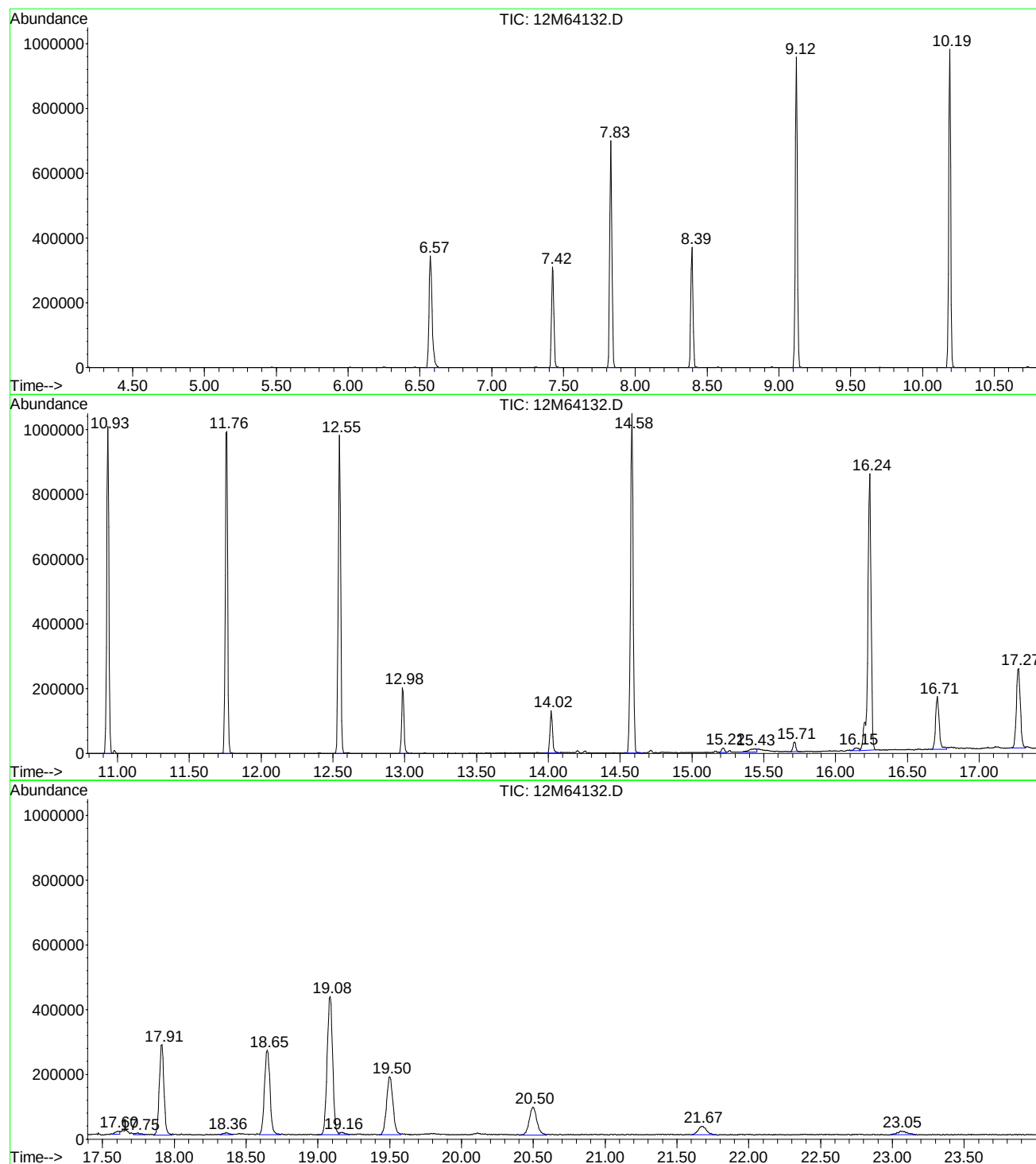
If leading or trailing edge < 100 prefer < Baseline drop else tangent >
 Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.573	442	448	460	rBB	344490	489252	35.78%	3.327%
2	7.423	602	607	617	rBB	309639	350456	25.63%	2.383%
3	7.829	677	683	690	rBB	699985	752546	55.03%	5.117%
4	8.395	783	789	798	rBB	371282	396947	29.03%	2.699%
5	9.121	919	925	933	rBB	957988	944546	69.07%	6.422%
6	10.190	1119	1125	1133	rBB	981882	936686	68.50%	6.369%
7	10.932	1258	1264	1270	rBB	1009931	1045667	76.47%	7.110%
8	11.761	1412	1419	1428	rBB	993415	1126659	82.39%	7.660%
9	12.546	1559	1566	1573	rBV	982383	1158842	84.74%	7.879%
10	12.984	1643	1648	1658	rBB	202907	226990	16.60%	1.543%
11	14.020	1834	1842	1853	rBV	130815	164170	12.01%	1.116%
12	14.581	1940	1947	1961	rBV	1048815	1320669	96.57%	8.980%
13	15.217	2061	2066	2070	rBV2	13376	18733	1.37%	0.127%
14	15.431	2088	2106	2110	rBV3	10542	40681	2.97%	0.277%
15	15.714	2154	2159	2166	rVB2	30666	41828	3.06%	0.284%
16	16.146	2232	2240	2244	rBV5	8180	20810	1.52%	0.141%
17	16.237	2244	2257	2266	rVB	853737	1367510	100.00%	9.298%
18	16.707	2338	2345	2357	rBV2	163197	284344	20.79%	1.933%
19	17.274	2441	2451	2460	rBV	245764	472740	34.57%	3.214%
20	17.600	2506	2512	2516	rBV5	8650	18747	1.37%	0.127%
21	17.749	2534	2540	2548	rVB9	5936	15530	1.14%	0.106%
22	17.915	2560	2571	2584	rBV	279052	627277	45.87%	4.265%
23	18.358	2647	2654	2663	rBV6	6516	14594	1.07%	0.099%
24	18.647	2698	2708	2725	rVB2	260232	692502	50.64%	4.708%
25	19.085	2776	2790	2801	rBV2	427528	1141891	83.50%	7.764%
26	19.165	2802	2805	2814	rVB6	7194	15500	1.13%	0.105%
27	19.501	2855	2868	2882	rBV	179705	549790	40.20%	3.738%
28	20.495	3037	3054	3072	rBV3	85637	310390	22.70%	2.110%
29	21.670	3262	3274	3292	rBV5	26579	107722	7.88%	0.732%
30	23.054	3521	3533	3551	rVB7	11556	53580	3.92%	0.364%

Sum of corrected areas: 14707599

File : I:\MSDCHEM\1\DATA\082917\12M64132.D
Operator : scb
Acquired : 29 Aug 2017 3:43 pm using AcqMethod BNARUN
Instrument : MSD12
Sample Name: L17081366-17
Misc Info : 1,1
Vial Number: 13
Quant File : MEGAMIX.RES (RTE Integrator)



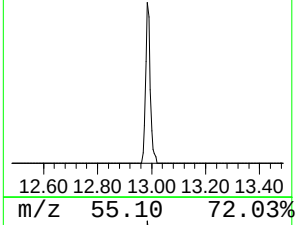
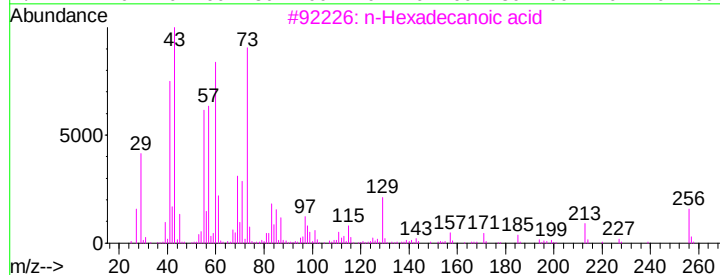
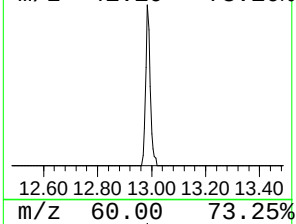
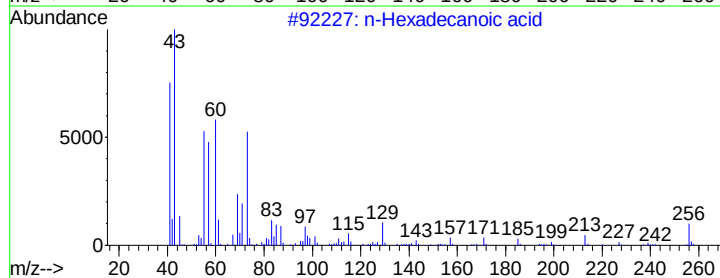
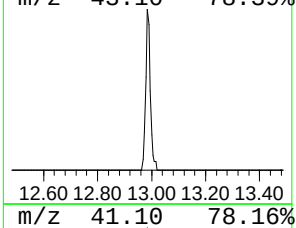
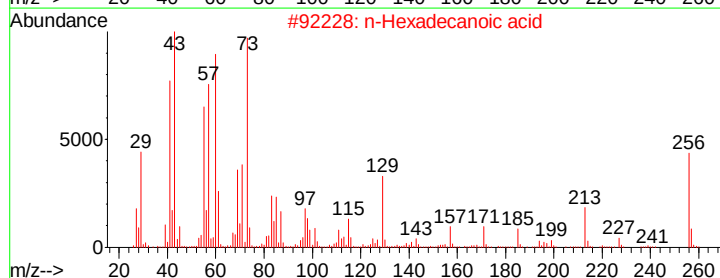
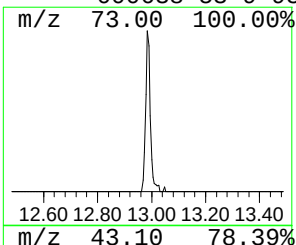
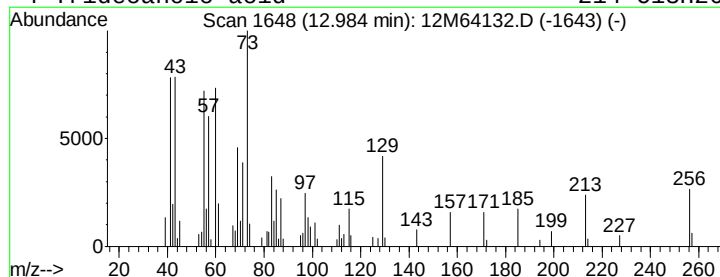
Data File : I:\MSDCHEM\1\DATA\082917\12M64132.D
Acq On : 29 Aug 2017 3:43 pm
Sample : L17081366-17
Misc : 1,1
MS Integration Params: LSCINT.P

Vial: 13
Operator: scb
Inst : MSD12
Multiplr: 1.00

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

Peak Number 1 n-Hexadecanoic acid Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.	
12.98	7.84 ug/ml	226990	Phenanthrene-d10	12.55	
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	98
2	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	98
3	n-Hexadecanoic acid	256	C16H32O2	000057-10-3	95
4	Tridecanoic acid	214	C13H26O2	000638-53-9	93



Data File : I:\MSDCHEM\1\DATA\082917\12M64132.D
Acq On : 29 Aug 2017 3:43 pm
Sample : L17081366-17
Misc : 1,1
MS Integration Params: LSCINT.P

Vial: 13
Operator: scb
Inst : MSD12
Multiplr: 1.00

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

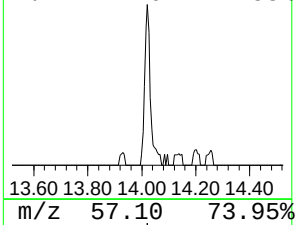
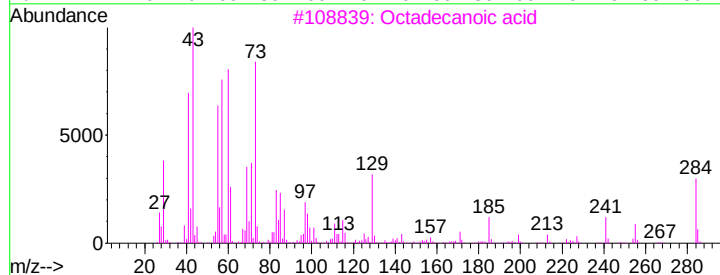
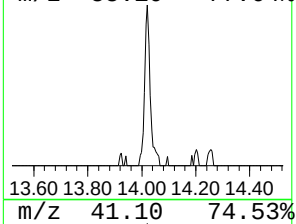
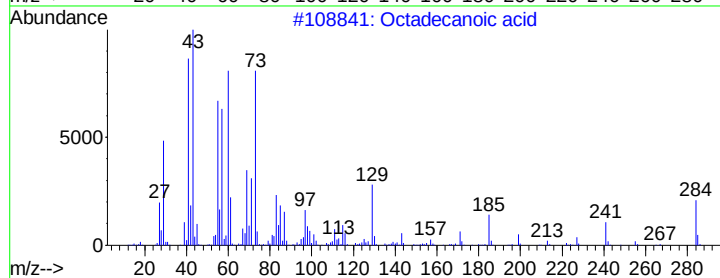
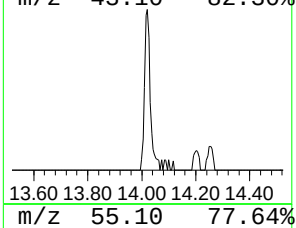
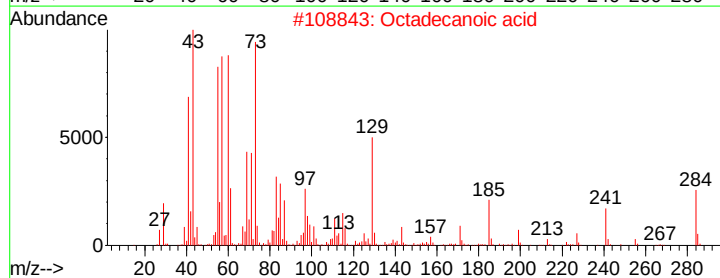
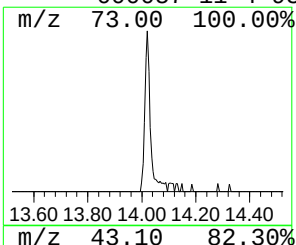
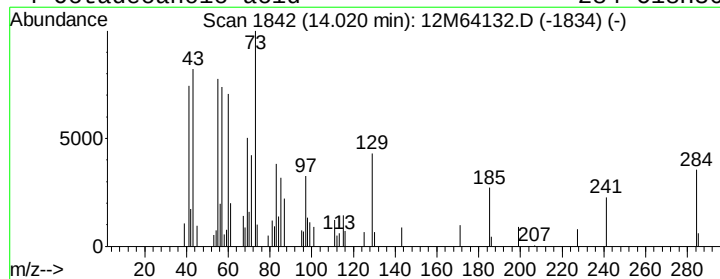
Title : OVD MSS01 8270/625 ICAL 08/3/17

Library : I:\DATABASE\NIST02.L

Peak Number 2 Octadecanoic acid Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.02	5.67 ug/ml	164170	Phenanthrene-d10	12.55

Hit#	of 5	Tentative ID	MW	MolForm	CAS#	Qual
1		Octadecanoic acid	284	C18H36O2	000057-11-4	99
2		Octadecanoic acid	284	C18H36O2	000057-11-4	95
3		Octadecanoic acid	284	C18H36O2	000057-11-4	94
4		Octadecanoic acid	284	C18H36O2	000057-11-4	93



Data File : I:\MSDCHEM\1\DATA\082917\12M64132.D
Acq On : 29 Aug 2017 3:43 pm
Sample : L17081366-17
Misc : 1,1
MS Integration Params: LSCINT.P

Vial: 13
Operator: scb
Inst : MSD12
Multiplr: 1.00

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

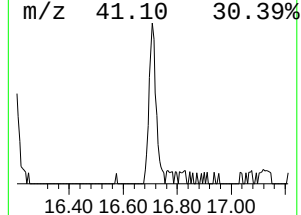
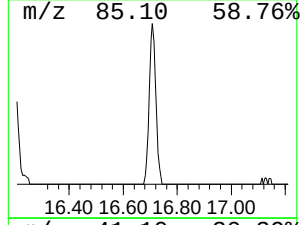
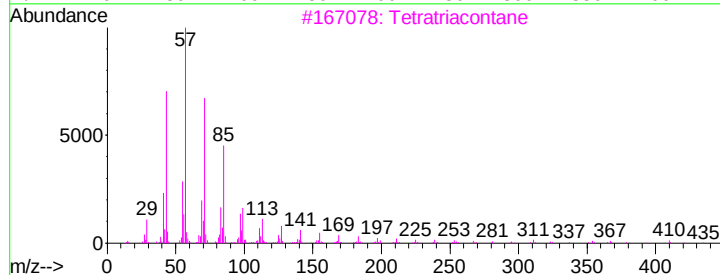
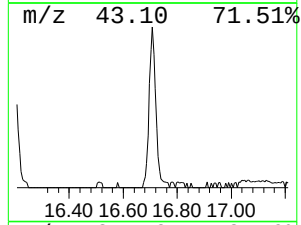
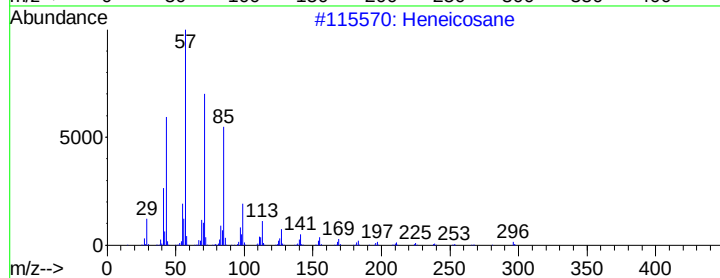
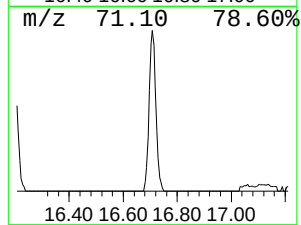
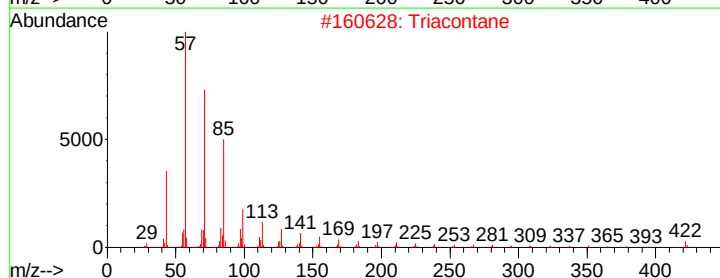
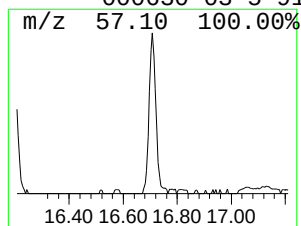
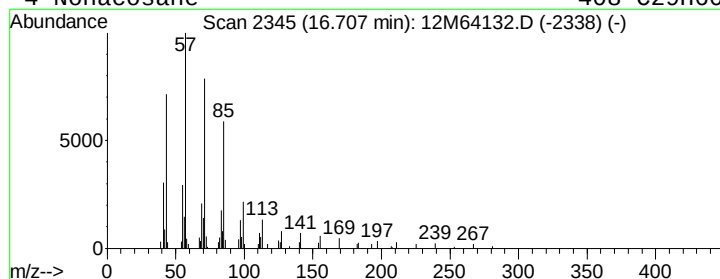
Title : OVD MSS01 8270/625 ICAL 08/3/17

Library : I:\DATABASE\NIST02.L

Peak Number 3 Triacontane

Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.	
16.71	8.32 ug/ml	284344	Chrysene-d12	16.24	
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Triacontane	422	C30H62	000638-68-6	91
2	Heneicosane	296	C21H44	000629-94-7	91
3	Tetratriacontane	479	C34H70	014167-59-0	91
4	Nonacosane	408	C29H60	000630-03-5	91



Data File : I:\MSDCHEM\1\DATA\082917\12M64132.D
Acq On : 29 Aug 2017 3:43 pm
Sample : L17081366-17
Misc : 1,1
MS Integration Params: LSCINT.P

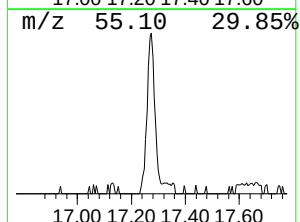
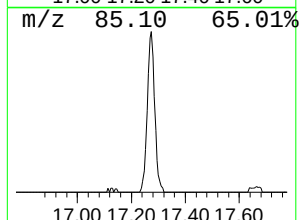
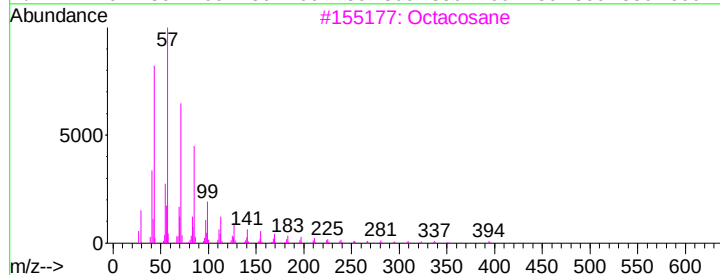
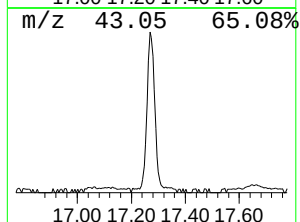
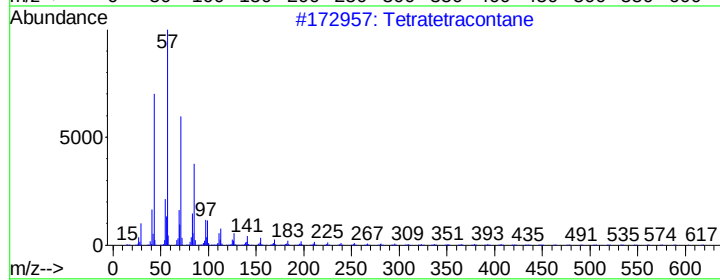
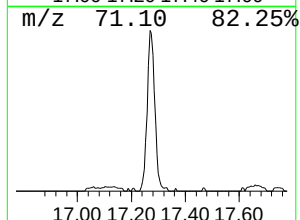
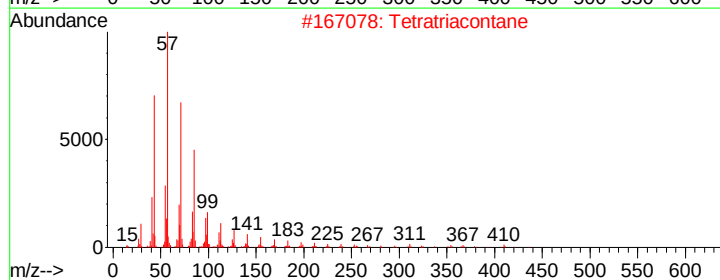
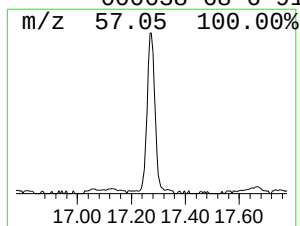
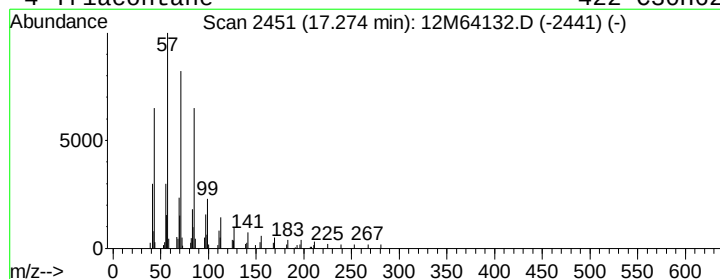
Vial: 13
Operator: scb
Inst : MSD12
Multiplr: 1.00

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

Peak Number 4 Tetratriacontane Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
17.27	13.83 ug/ml	472740	Chrysene-d12	16.24

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1			Tetratriacontane	479	C34H70	014167-59-0	91
2			Tetratetracontane	619	C44H90	007098-22-8	91
3			Octacosane	394	C28H58	000630-02-4	91
4			Triacontane	422	C30H62	000638-68-6	91



Data File : I:\MSDCHEM\1\DATA\082917\12M64132.D
Acq On : 29 Aug 2017 3:43 pm
Sample : L17081366-17
Misc : 1,1
MS Integration Params: LSCINT.P

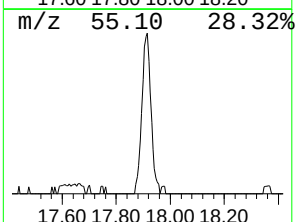
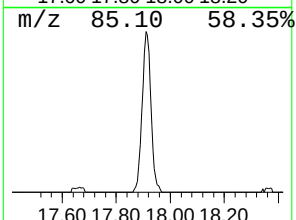
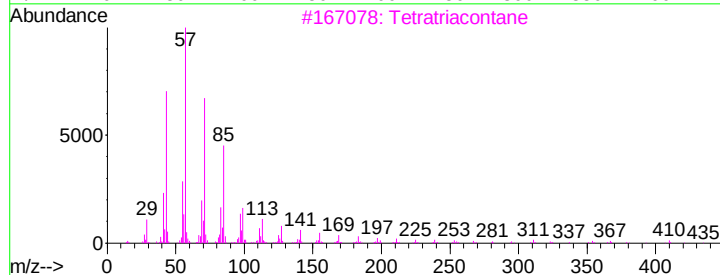
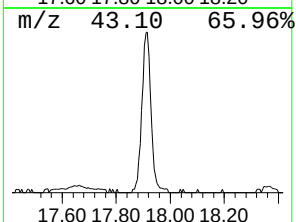
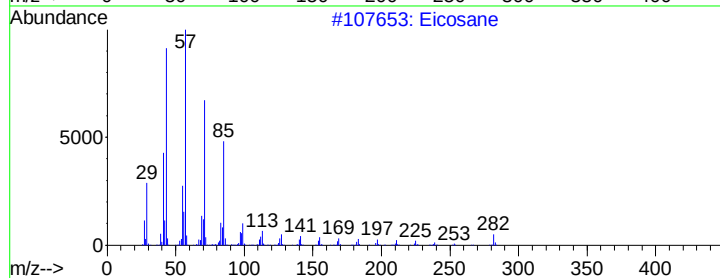
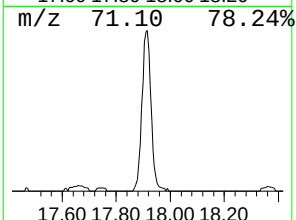
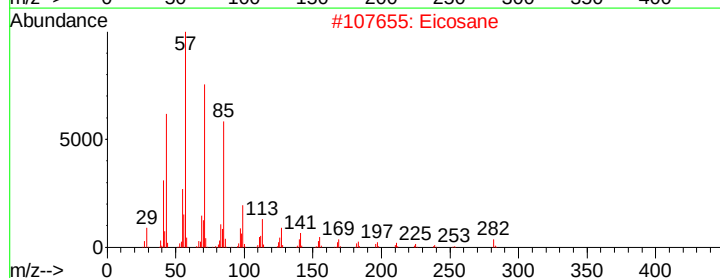
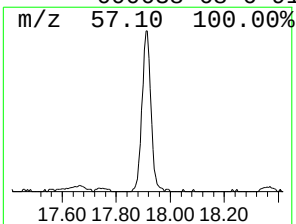
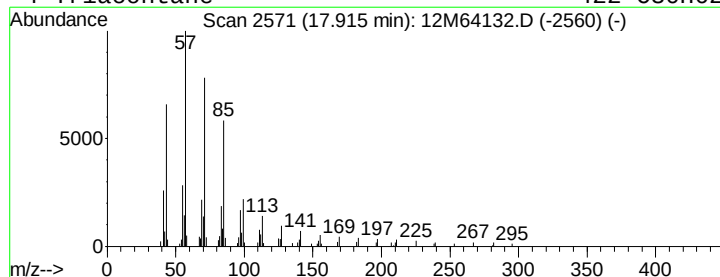
Vial: 13
Operator: scb
Inst : MSD12
Multiplr: 1.00

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

Peak Number 5 Eicosane Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
17.91	21.97 ug/ml	627277	Perylene-d12	19.08

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1	Eicosane			282	C20H42	000112-95-8	96
2	Eicosane			282	C20H42	000112-95-8	95
3	Tetratriacontane			479	C34H70	014167-59-0	91
4	Triacontane			422	C30H62	000638-68-6	91



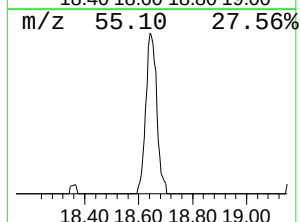
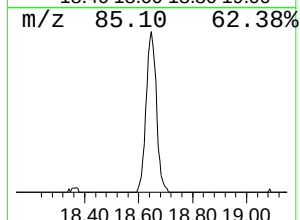
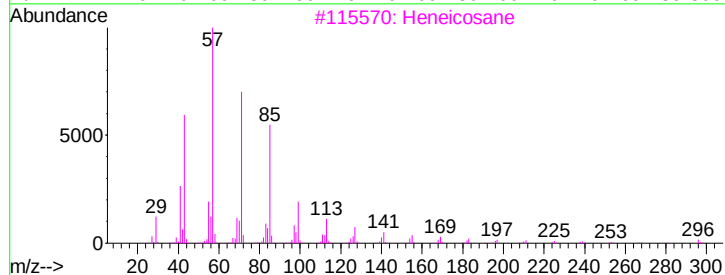
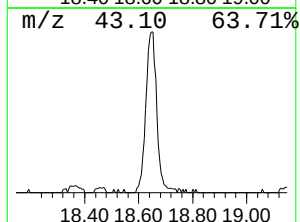
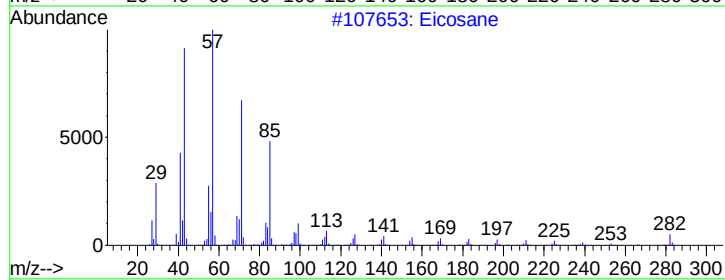
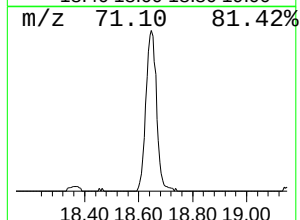
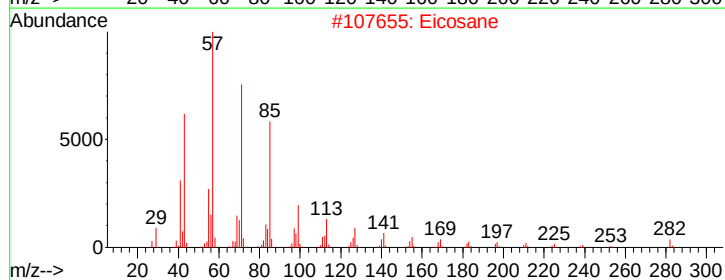
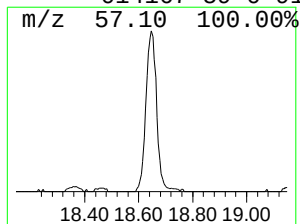
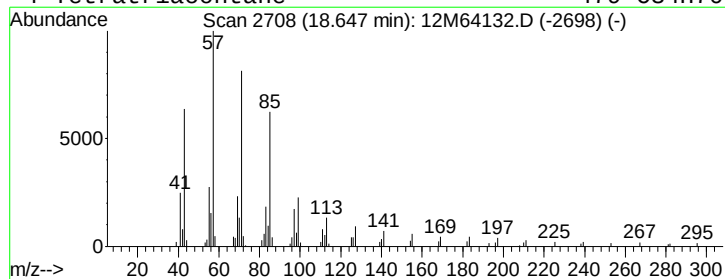
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Acq On : 29 Aug 2017 3:43 pm
Sample : L17081366-17
Misc : 1,1
MS Integration Params: LSCINT.P

Vial: 13
Operator: scb
Inst : MSD12
Multiplr: 1.00

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

Peak Number 6 Eicosane Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.	
18.65	24.26 ug/ml	692502	Perylene-d12	19.08	
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Eicosane	282	C20H42	000112-95-8	98
2	Eicosane	282	C20H42	000112-95-8	95
3	Heneicosane	296	C21H44	000629-94-7	91
4	Tetratriacontane	479	C34H70	014167-59-0	91



Data File : I:\MSDCHEM\1\DATA\082917\12M64132.D
Acq On : 29 Aug 2017 3:43 pm
Sample : L17081366-17
Misc : 1,1
MS Integration Params: LSCINT.P

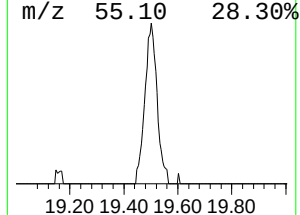
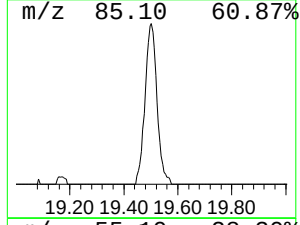
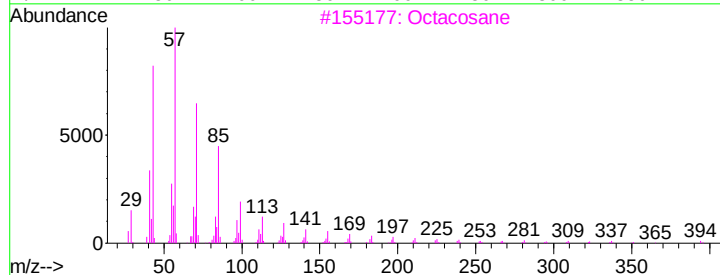
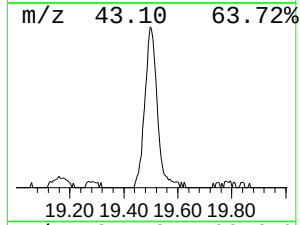
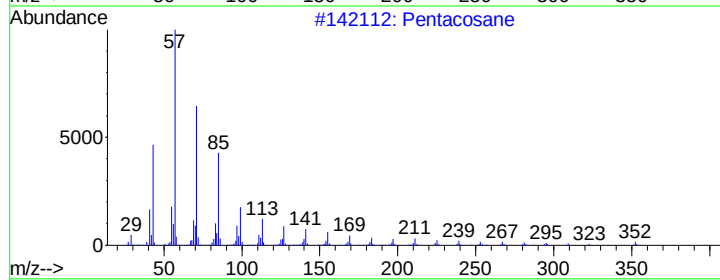
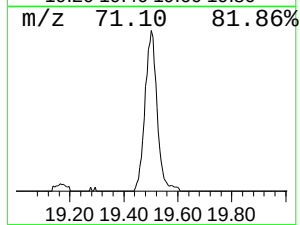
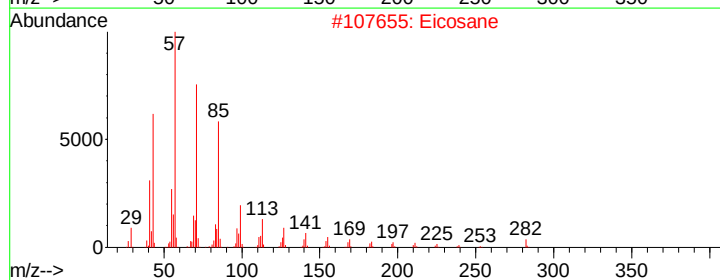
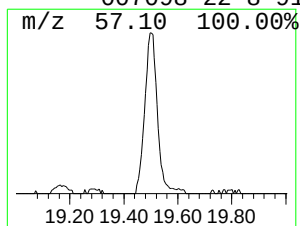
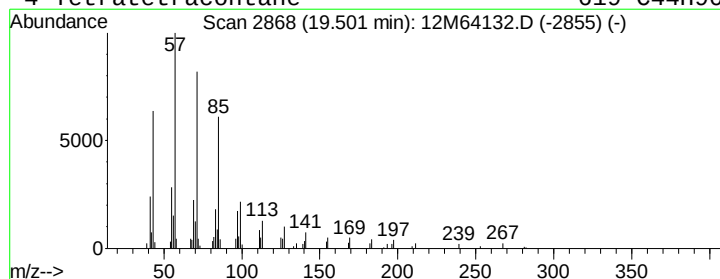
Vial: 13
Operator: scb
Inst : MSD12
Multiplr: 1.00

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

Peak Number 7 Eicosane

Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.	
19.50	19.26 ug/ml	549790	Perylene-d12	19.08	
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Eicosane	282	C20H42	000112-95-8	96
2	Pentacosane	352	C25H52	000629-99-2	91
3	Octacosane	394	C28H58	000630-02-4	91
4	Tetratetracontane	619	C44H90	007098-22-8	91



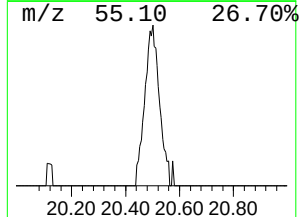
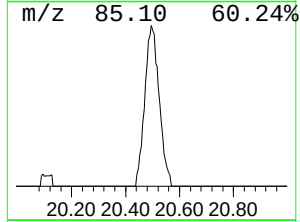
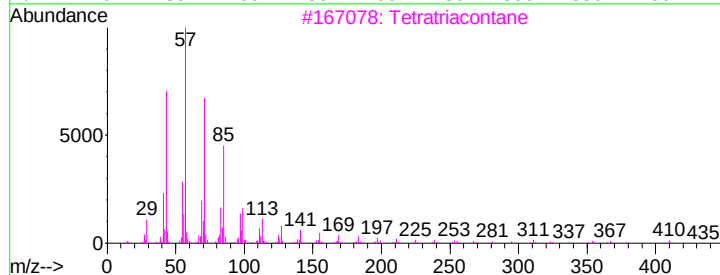
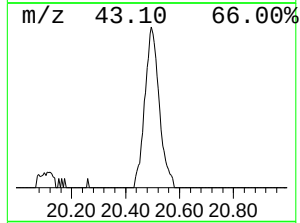
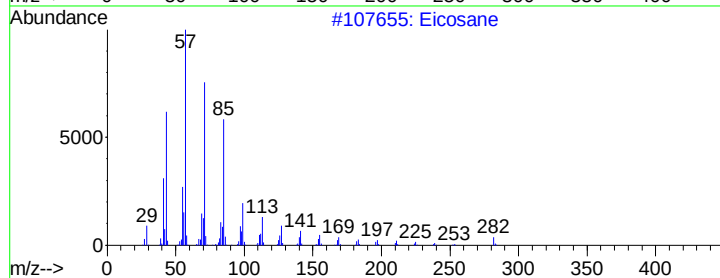
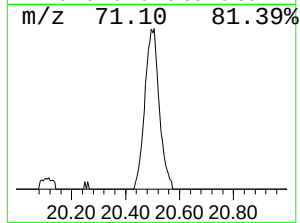
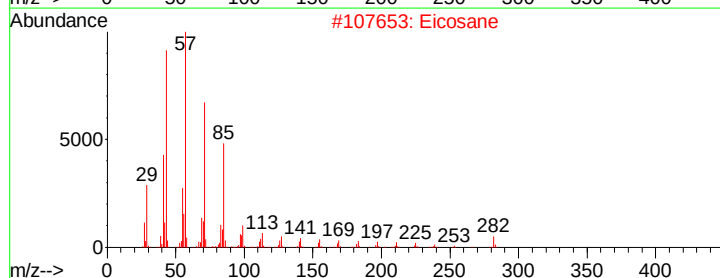
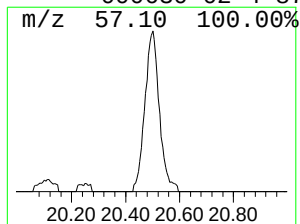
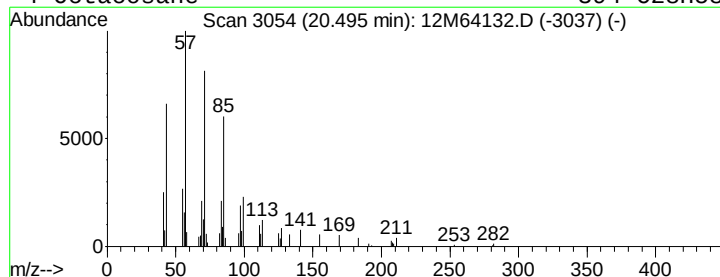
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Acq On : 29 Aug 2017 3:43 pm
Sample : L17081366-17
Misc : 1,1
MS Integration Params: LSCINT.P

Vial: 13
Operator: scb
Inst : MSD12
Multiplr: 1.00

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

Peak Number 8 Eicosane Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.	
20.50	10.87 ug/ml	310390	Perylene-d12	19.08	
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Eicosane	282	C20H42	000112-95-8	95
2	Eicosane	282	C20H42	000112-95-8	94
3	Tetratriacontane	479	C34H70	014167-59-0	91
4	Octacosane	394	C28H58	000630-02-4	87



Tentatively Identified Compound (LSC) summary

Operator ID: scb Date Acquired: 29 Aug 2017 3:43 pm
Data File: I:\MSDCHEM\1\DATA\082917\12M64132.D
Name: L17081366-17
Misc: 1,1
Method: I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title: OVD MSS01 8270/625 ICAL 08/3/17
Library Searched: I:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--			
					#	RT	Resp	Conc
n-Hexadecanoic acid	12.98	7.8	ug/ml	226990	4	12.55	1158840	40.0
Octadecanoic acid	14.02	5.7	ug/ml	164170	4	12.55	1158840	40.0
Triacontane	16.71	8.3	ug/ml	284344	5	16.24	1367510	40.0
Tetratriacontane	17.27	13.8	ug/ml	472740	5	16.24	1367510	40.0
Eicosane	17.91	22.0	ug/ml	627277	6	19.08	1141890	40.0
Eicosane	18.65	24.3	ug/ml	692502	6	19.08	1141890	40.0
Eicosane	19.50	19.3	ug/ml	549790	6	19.08	1141890	40.0
Eicosane	20.50	10.9	ug/ml	310390	6	19.08	1141890	40.0

2.2.1.4 Standards Data

Data File : I:\MSDCHEM\1\DATA\071417\12M63396.D Vial: 14
 Acq On : 14 Jul 2017 11:06 pm Operator: SCB
 Sample : WG621894-01 50PPM TCL/A-TERP STD Inst : MSD12
 Misc : 1,1 STD81291 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 17 09:14:43 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
 Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
 Last Update : Mon Jul 17 09:14:32 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.882	152	205605	40.0000	ug/mL	0.000
3) Naphthalene-d8	9.175	136	754694	40.0000	ug/mL	0.000
6) Acenaphthene-d10	10.991	164	416543	40.0000	ug/mL	0.000
8) Phenanthrene-d10	12.615	188	826043	40.0000	ug/mL	0.000
Target Compounds						Qvalue
2) Benzaldehyde	7.45	105	259821	52.5820	ug/L	100
4) Alpha-Terpineol	9.13	59	227514	48.2944	ug/L	100
5) Caprolactam	9.52	55	107659	42.3758	ug/L	100
7) 1,1'-Biphenyl	10.35	154	857851	48.3161	ug/L	100
9) Atrazine	12.17	200	242250	53.1184	ug/L	100

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63396.D TCL.M Mon Jul 17 10:40:19 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\071417\12M63396.D

Vial: 14

Acq On : 14 Jul 2017 11:06 pm

Operator: SCB

Sample : WG621894-01 50PPM TCL/A-TERP STD

Inst : MSD12

Misc : 1,1 STD81291

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jul 17 9:14 2017

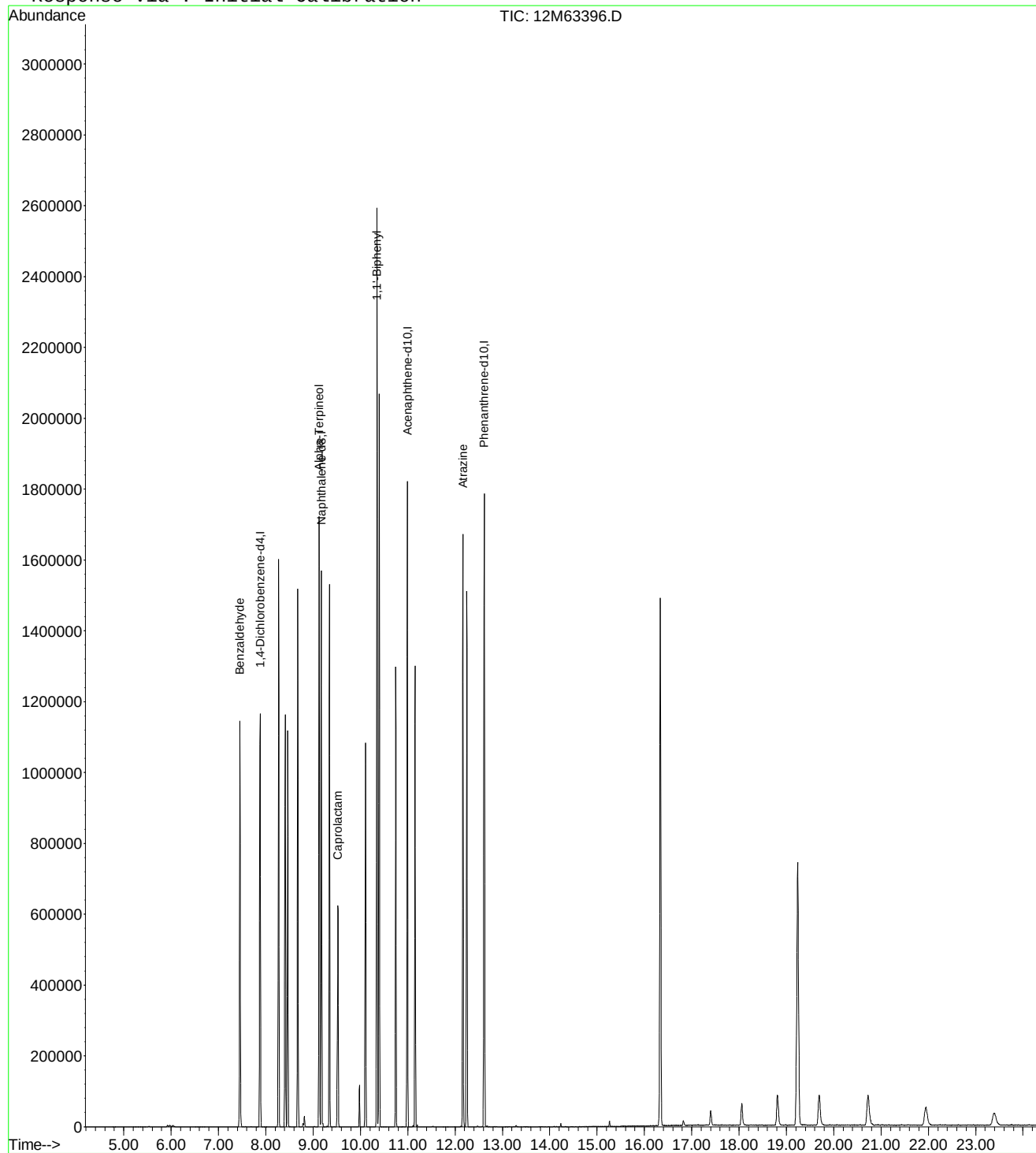
Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)

Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17

Last Update : Mon Jul 17 10:36:52 2017

Response via : Initial Calibration



12M63396.D TCL.M

Mon Jul 17 10:40:19 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\071417\12M63397.D Vial: 15
 Acq On : 14 Jul 2017 11:39 pm Operator: SCB
 Sample : WG621894-02 3PPM TCL/A-TERP STD Inst : MSD12
 Misc : 1,1 STD81291 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 17 10:35:11 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
 Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
 Last Update : Mon Jul 17 09:15:39 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.882	152	175455	40.0000	ug/mL	0.000
3) Naphthalene-d8	9.175	136	669500	40.0000	ug/mL	0.000
6) Acenaphthene-d10	10.991	164	356473	40.0000	ug/mL	0.000
8) Phenanthrene-d10	12.615	188	682293	40.0000	ug/mL	0.000
Target Compounds						Qvalue
2) Benzaldehyde	7.45	105	11215	2.6771	ug/L	96
4) Alpha-Terpineol	9.13	59	10683	2.6863	ug/L	94
5) Caprolactam	9.51	55	4539	2.1623	ug/L	94
7) 1,1'-Biphenyl	10.35	154	36040	2.4157	ug/L	100
9) Atrazine	12.16	200	9279	2.4492	ug/L	95

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63397.D TCL.M Mon Jul 17 10:40:20 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\071417\12M63397.D

Vial: 15

Acq On : 14 Jul 2017 11:39 pm

Operator: SCB

Sample : WG621894-02 3PPM TCL/A-TERP STD

Inst : MSD12

Misc : 1,1 STD81291

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jul 17 10:35 2017

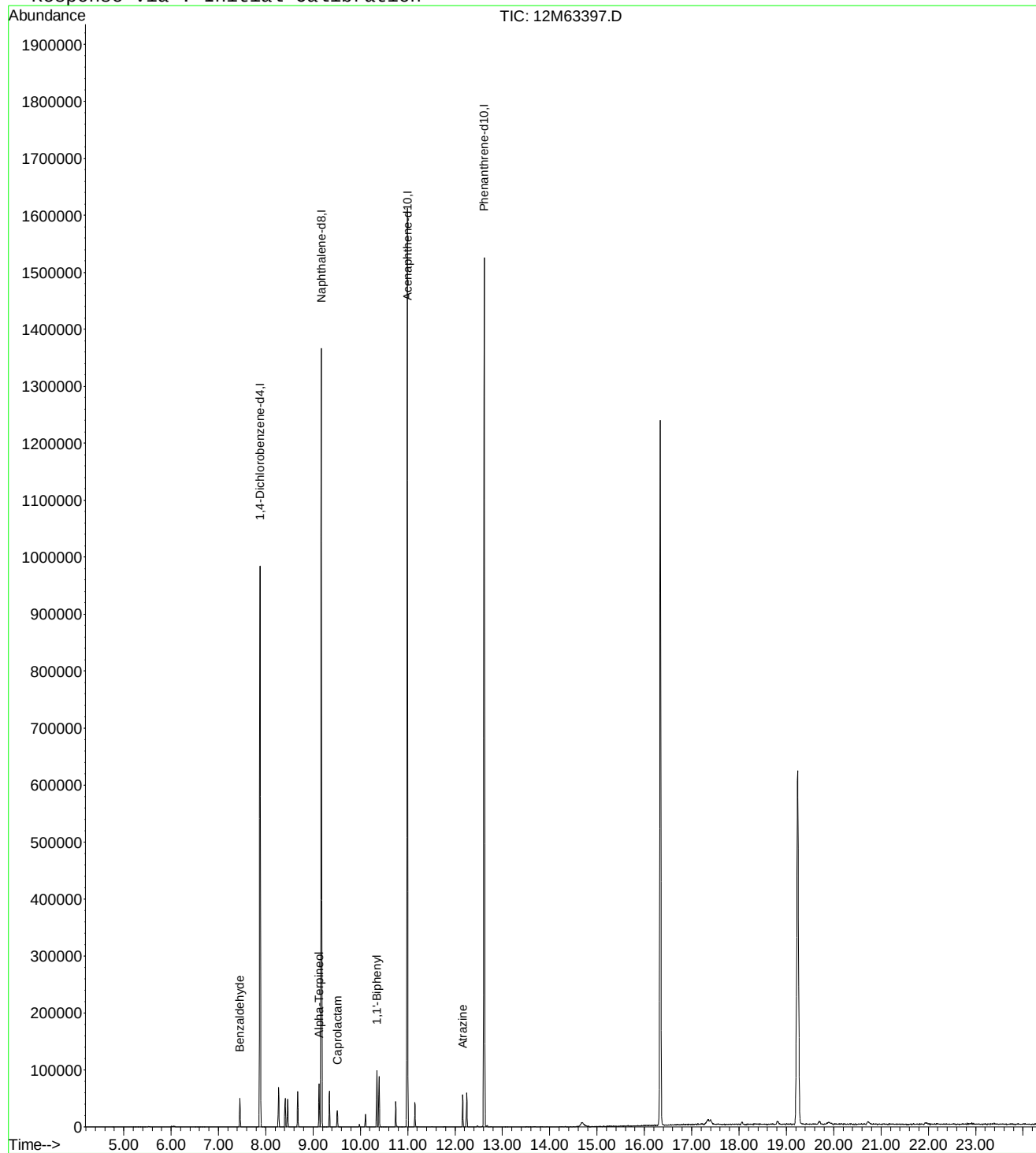
Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)

Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17

Last Update : Mon Jul 17 10:36:52 2017

Response via : Initial Calibration



12M63397.D TCL.M

Mon Jul 17 10:40:20 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\071417\12M63398.D Vial: 16
 Acq On : 15 Jul 2017 12:12 am Operator: SCB
 Sample : WG621894-03 10PPM TCL/A-TERP STD Inst : MSD12
 Misc : 1,1 STD81291 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 17 10:35:37 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
 Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
 Last Update : Mon Jul 17 10:35:19 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.882	152	176891	40.0000	ug/mL	0.000
3) Naphthalene-d8	9.175	136	662921	40.0000	ug/mL	0.000
6) Acenaphthene-d10	10.991	164	350518	40.0000	ug/mL	0.000
8) Phenanthrene-d10	12.615	188	684835	40.0000	ug/mL	0.000
Target Compounds						Qvalue
2) Benzaldehyde	7.45	105	43457	10.2894	ug/L	99
4) Alpha-Terpineol	9.13	59	39691	10.0796	ug/L	96
5) Caprolactam	9.51	55	18026	8.6726	ug/L	94
7) 1,1'-Biphenyl	10.35	154	135309	9.2237	ug/L	100
9) Atrazine	12.16	200	36977	9.7238	ug/L	97

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63398.D TCL.M Mon Jul 17 10:40:20 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\071417\12M63398.D

Vial: 16

Acq On : 15 Jul 2017 12:12 am

Operator: SCB

Sample : WG621894-03 10PPM TCL/A-TERP STD

Inst : MSD12

Misc : 1,1 STD81291

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jul 17 10:35 2017

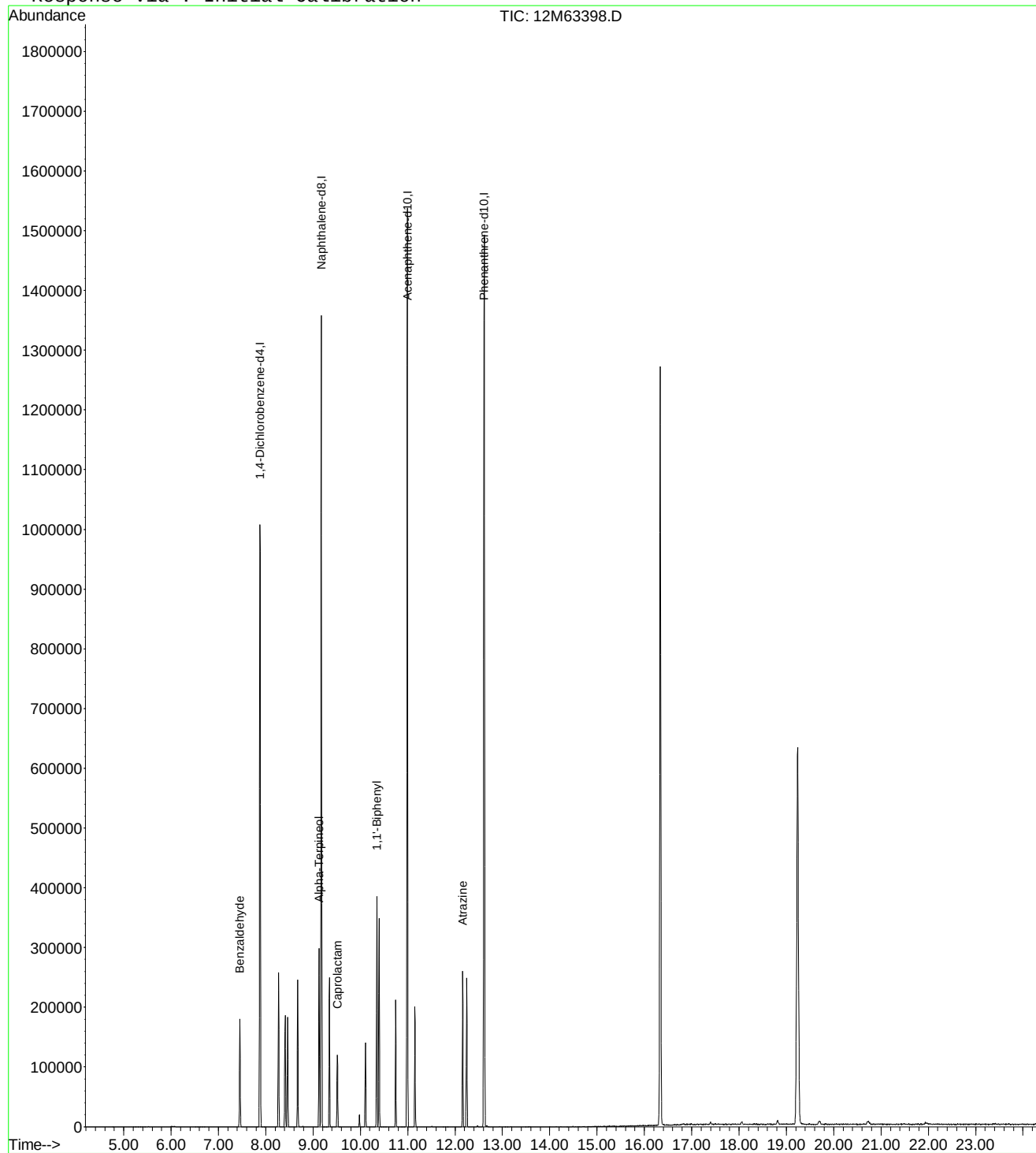
Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)

Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17

Last Update : Mon Jul 17 10:36:52 2017

Response via : Initial Calibration



12M63398.D TCL.M Mon Jul 17 10:40:20 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\071417\12M63399.D Vial: 17
 Acq On : 15 Jul 2017 12:45 am Operator: SCB
 Sample : WG621894-04 25PPM TCL/A-TERP STD Inst : MSD12
 Misc : 1,1 STD81291 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 17 10:35:54 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
 Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
 Last Update : Mon Jul 17 10:35:42 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.882	152	180106	40.0000	ug/mL	0.000
3) Naphthalene-d8	9.175	136	678191	40.0000	ug/mL	0.000
6) Acenaphthene-d10	10.991	164	361273	40.0000	ug/mL	0.000
8) Phenanthrene-d10	12.615	188	711599	40.0000	ug/mL	0.000
Target Compounds						Qvalue
2) Benzaldehyde	7.45	105	110655	25.7324	ug/L	99
4) Alpha-Terpineol	9.13	59	100149	24.8604	ug/L	96
5) Caprolactam	9.52	55	47229	22.2111	ug/L	97
7) 1,1'-Biphenyl	10.35	154	350812	23.2021	ug/L	100
9) Atrazine	12.16	200	99008	25.0567	ug/L	98

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63399.D TCL.M Mon Jul 17 10:40:21 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\071417\12M63399.D

Vial: 17

Acq On : 15 Jul 2017 12:45 am

Operator: SCB

Sample : WG621894-04 25PPM TCL/A-TERP STD

Inst : MSD12

Misc : 1,1 STD81291

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jul 17 10:35 2017

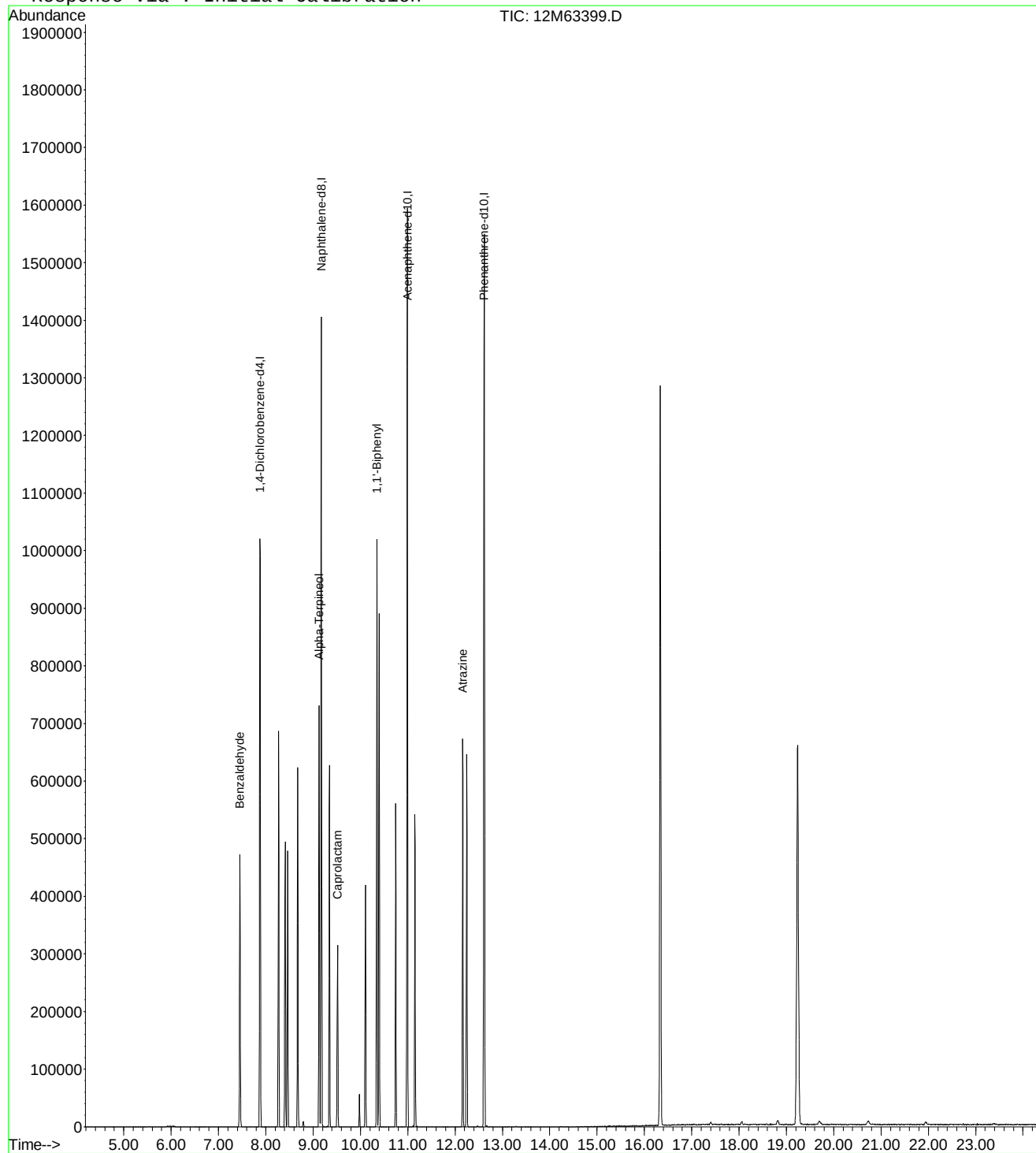
Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)

Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17

Last Update : Mon Jul 17 10:36:52 2017

Response via : Initial Calibration



12M63399.D TCL.M

Mon Jul 17 10:40:21 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\071417\12M63400.D Vial: 18
 Acq On : 15 Jul 2017 1:18 am Operator: SCB
 Sample : WG621894-05 80PPM TCL/A-TERP STD Inst : MSD12
 Misc : 1,1 STD81291 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 17 10:36:09 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
 Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
 Last Update : Mon Jul 17 10:35:59 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.882	152	175720	40.0000	ug/mL	0.000
3) Naphthalene-d8	9.175	136	660399	40.0000	ug/mL	0.000
6) Acenaphthene-d10	10.991	164	358829	40.0000	ug/mL	0.000
8) Phenanthrene-d10	12.615	188	709278	40.0000	ug/mL	0.000
Target Compounds						Qvalue
2) Benzaldehyde	7.45	105	370937	87.7504	ug/L	99
4) Alpha-Terpineol	9.13	59	321611	83.5256	ug/L	99
5) Caprolactam	9.53	55	154855	77.7957	ug/L	99
7) 1,1'-Biphenyl	10.35	154	1231389	82.2079	ug/L	99
9) Atrazine	12.17	200	346095	86.7796	ug/L	99

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63400.D TCL.M Mon Jul 17 10:40:21 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\071417\12M63400.D

Vial: 18

Acq On : 15 Jul 2017 1:18 am

Operator: SCB

Sample : WG621894-05 80PPM TCL/A-TERP STD

Inst : MSD12

Misc : 1,1 STD81291

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jul 17 10:36 2017

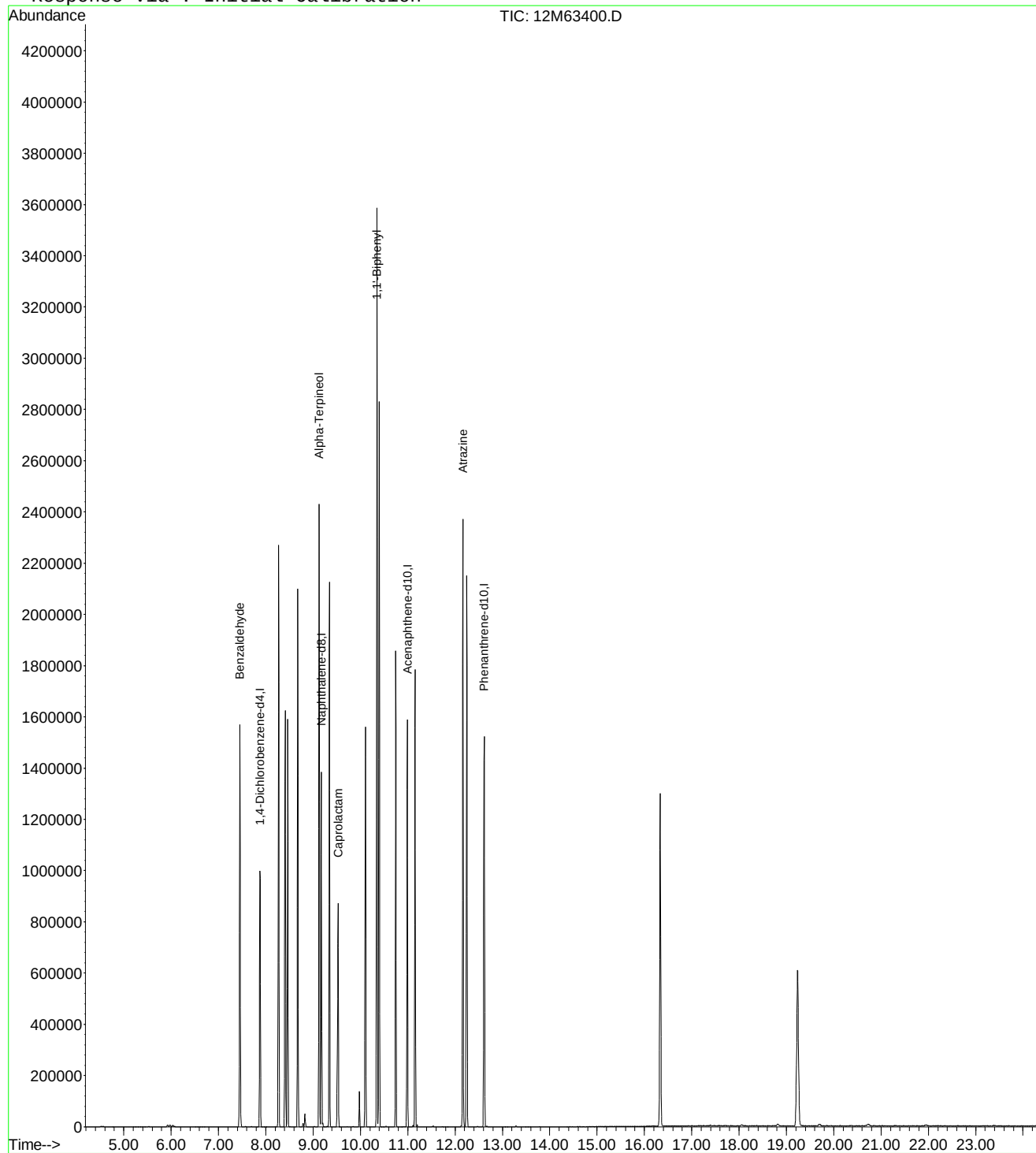
Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)

Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17

Last Update : Mon Jul 17 10:36:52 2017

Response via : Initial Calibration



12M63400.D TCL.M

Mon Jul 17 10:40:21 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\071417\12M63401.D Vial: 19
 Acq On : 15 Jul 2017 1:51 am Operator: SCB
 Sample : WG621894-06 100PPM TCL/A-TERP STD Inst : MSD12
 Misc : 1,1 STD81291 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 17 10:36:26 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
 Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
 Last Update : Mon Jul 17 10:36:14 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.882	152	185820	40.0000	ug/mL	0.000
3) Naphthalene-d8	9.175	136	692172	40.0000	ug/mL	0.000
6) Acenaphthene-d10	10.991	164	374164	40.0000	ug/mL	0.000
8) Phenanthrene-d10	12.615	188	739392	40.0000	ug/mL	0.000
Target Compounds						Qvalue
2) Benzaldehyde	7.45	105	492563	108.8452	ug/L	99
4) Alpha-Terpineol	9.13	59	419894	103.8528	ug/L	98
5) Caprolactam	9.53	55	202808	100.0365	ug/L	99
7) 1,1'-Biphenyl	10.35	154	1642731	106.1751	ug/L	100
9) Atrazine	12.17	200	459382	109.5889	ug/L	100

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63401.D TCL.M Mon Jul 17 10:40:22 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\071417\12M63401.D

Vial: 19

Acq On : 15 Jul 2017 1:51 am

Operator: SCB

Sample : WG621894-06 100PPM TCL/A-TERP STD

Inst : MSD12

Misc : 1,1 STD81291

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jul 17 10:36 2017

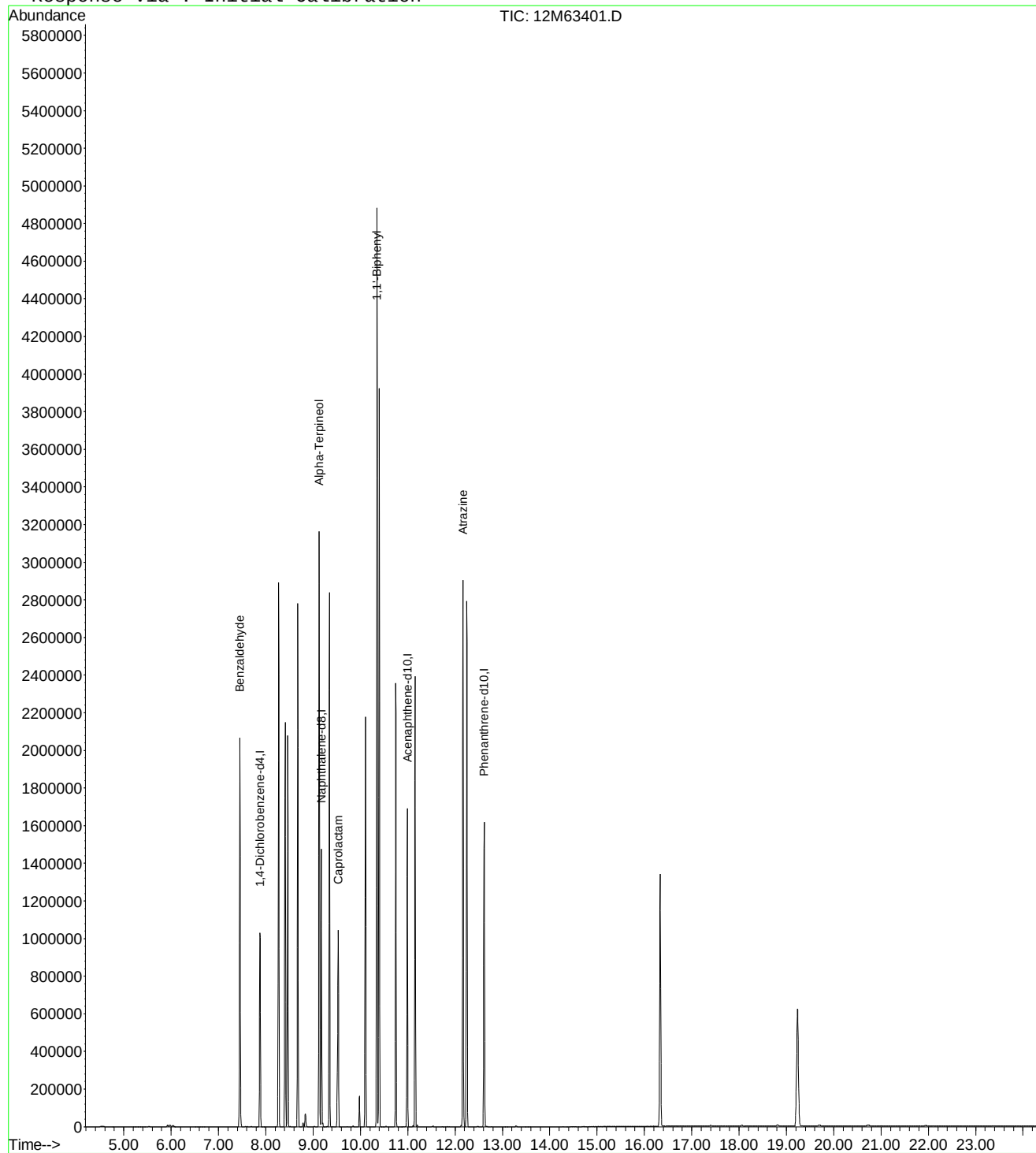
Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)

Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17

Last Update : Mon Jul 17 10:36:52 2017

Response via : Initial Calibration



12M63401.D TCL.M

Mon Jul 17 10:40:22 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\071417\12M63402.D Vial: 20
 Acq On : 15 Jul 2017 2:23 am Operator: SCB
 Sample : WG621894-07 120PPM TCL/A-TERP STD Inst : MSD12
 Misc : 1,1 STD81291 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 17 10:36:46 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
 Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
 Last Update : Mon Jul 17 10:36:34 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.877	152	168083	40.0000	ug/mL	0.000
3) Naphthalene-d8	9.175	136	622470	40.0000	ug/mL	0.000
6) Acenaphthene-d10	10.991	164	347854	40.0000	ug/mL	0.000
8) Phenanthrene-d10	12.615	188	684305	40.0000	ug/mL	0.000
Target Compounds						Qvalue
2) Benzaldehyde	7.45	105	543928	131.0505	ug/L	99
4) Alpha-Terpineol	9.13	59	462412	126.4070	ug/L	98
5) Caprolactam	9.53	55	225881	127.0530	ug/L	99
7) 1,1'-Biphenyl	10.35	154	1846850	129.4675	ug/L	99
9) Atrazine	12.17	200	523266	134.1703	ug/L	100

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63402.D TCL.M Mon Jul 17 10:40:22 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\071417\12M63402.D

Vial: 20

Acq On : 15 Jul 2017 2:23 am

Operator: SCB

Sample : WG621894-07 120PPM TCL/A-TERP STD

Inst : MSD12

Misc : 1,1 STD81291

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Jul 17 10:36 2017

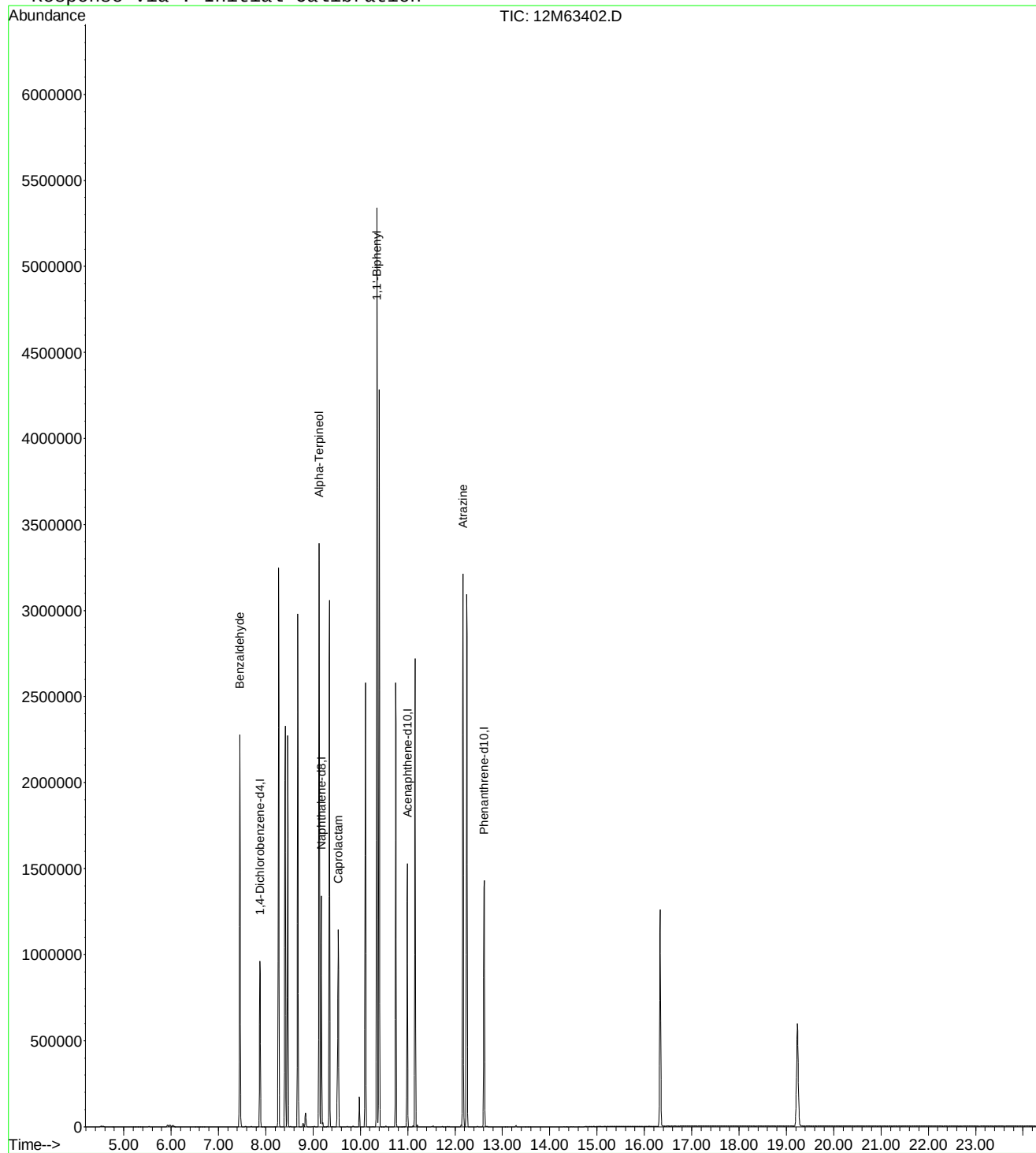
Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)

Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17

Last Update : Mon Jul 17 10:36:52 2017

Response via : Initial Calibration



12M63402.D TCL.M Mon Jul 17 10:40:22 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\071417\12M63403.D Vial: 21
 Acq On : 15 Jul 2017 2:56 am Operator: SCB
 Sample : WG621894-08 50PPM TCL/A-TERP ALT SRC Inst : MSD12
 Misc : 1,1 STD81289 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 17 10:37:26 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
 Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
 Last Update : Mon Jul 17 10:36:52 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

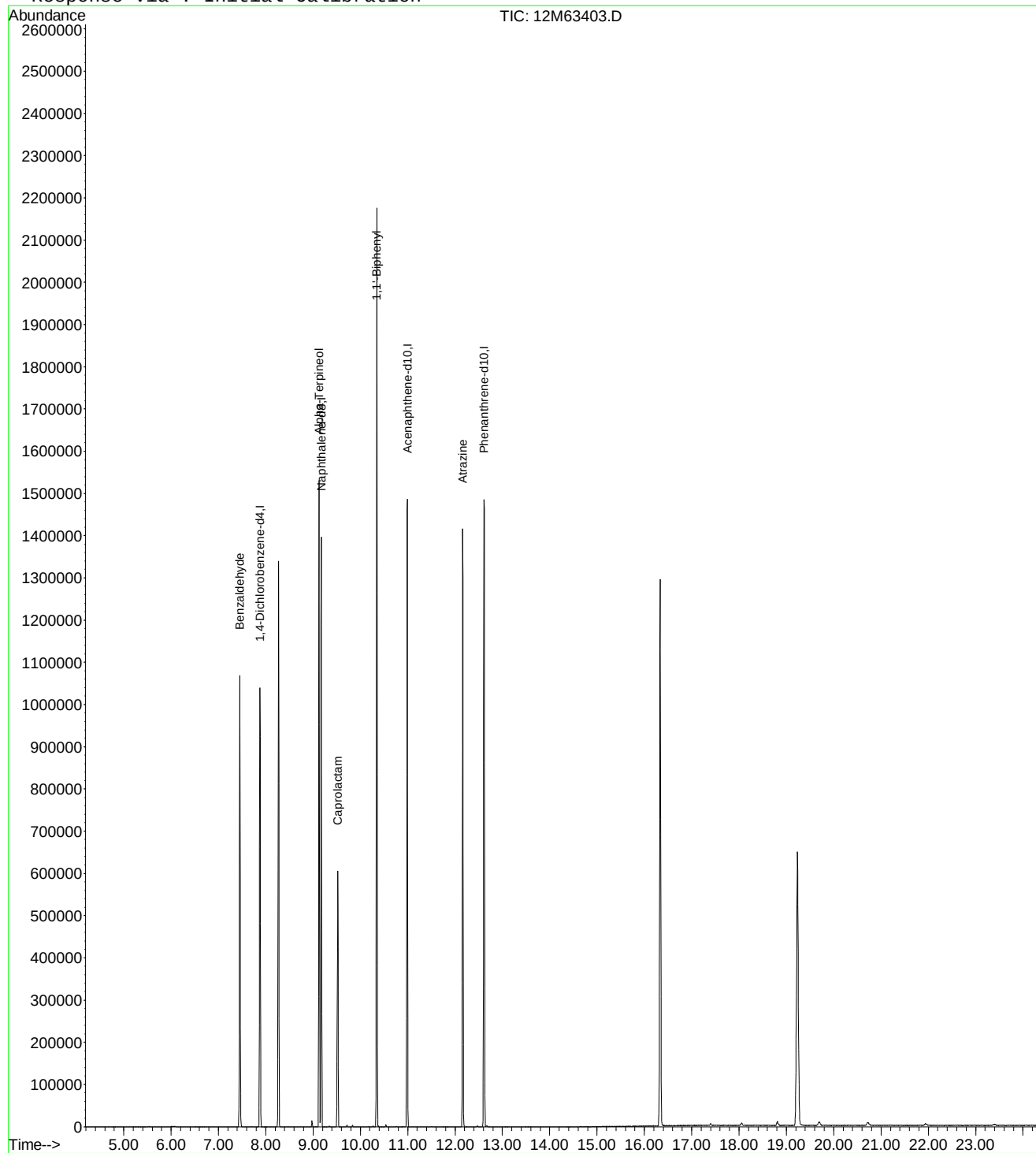
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.877	152	181777	40.0000	ug/mL	0.000
3) Naphthalene-d8	9.175	136	672742	40.0000	ug/mL	0.000
6) Acenaphthene-d10	10.986	164	359285	40.0000	ug/mL	0.000
8) Phenanthrene-d10	12.610	188	705525	40.0000	ug/mL	0.000
Target Compounds						Qvalue
2) Benzaldehyde	7.45	105	250794	55.0034	ug/L	99
4) Alpha-Terpineol	9.13	59	195450	48.9015	ug/L	98
5) Caprolactam	9.52	55	97729	52.1395	ug/L	98
7) 1,1'-Biphenyl	10.34	154	748834	51.4847	ug/L	100
9) Atrazine	12.16	200	209511	51.9053	ug/L	99

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63403.D TCL.M Mon Jul 17 10:37:26 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\071417\12M63403.D Vial: 21
Acq On : 15 Jul 2017 2:56 am Operator: SCB
Sample : WG621894-08 50PPM TCL/A-TERP ALT SRC Inst : MSD12
Misc : 1,1 STD81289 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jul 17 10:37 2017 Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
Last Update : Mon Jul 17 10:36:52 2017
Response via : Initial Calibration



12M63403.D TCL.M Mon Jul 17 10:37:26 2017

Page 2

Evaluate Continuing Calibration Report

Data File : I:\MSDCHEM\1\DATA\071417\12M63403.D Vial: 21
Acq On : 15 Jul 2017 2:56 am Operator: SCB
Sample : WG621894-08 50PPM TCL/A-TERP ALT SRC Inst : MSD12
Misc : 1,1 STD81289 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
Last Update : Mon Jul 17 10:36:52 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	88	0.00
2	Benzaldehyde	1.003	1.104	-10.1	97	0.00
3 I	Naphthalene-d8	1.000	1.000	0.0	89	0.00
4	Alpha-Terpineol	0.238	0.232	2.5	86	0.00
5	Caprolactam	0.111	0.116	-4.5	91	0.00
6 I	Acenaphthene-d10	1.000	1.000	0.0	86	0.00
7	1,1'-Biphenyl	1.619	1.667	-3.0	87	0.00
8 I	Phenanthrene-d10	1.000	1.000	0.0	85	0.00
9	Atrazine	0.229	0.238	-3.9	86	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
12M63403.D TCL.M Mon Jul 17 10:37:32 2017

Page 1

Evaluate Continuing Calibration Report

Data File : I:\MSDCHEM\1\DATA\071417\12M63403.D Vial: 21
Acq On : 15 Jul 2017 2:56 am Operator: SCB
Sample : WG621894-08 50PPM TCL/A-TERP ALT SRC Inst : MSD12
Misc : 1,1 STD81289 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
Last Update : Mon Jul 17 10:36:52 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	88	0.00
2	Benzaldehyde	50.000	55.003	-10.0	97	0.00
3 I	Naphthalene-d8	40.000	40.000	0.0	89	0.00
4	Alpha-Terpineol	50.000	48.902	2.2	86	0.00
5	Caprolactam	50.000	52.139	-4.3	91	0.00
6 I	Acenaphthene-d10	40.000	40.000	0.0	86	0.00
7	1,1'-Biphenyl	50.000	51.485	-3.0	87	0.00
8 I	Phenanthrene-d10	40.000	40.000	0.0	85	0.00
9	Atrazine	50.000	51.905	-3.8	86	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
12M63403.D TCL.M Mon Jul 17 10:37:30 2017

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Data File : I:\MSDCHEM\1\DATA\080317\12M63785.D

Vial: 2

Acq On : 3 Aug 2017 9:18 am

Operator: MES

Sample : WG624321-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:11:06 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:10:55 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.855	152	132645	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.148	136	502699	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.959	164	269929	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.578	188	530452	40.0000	ug/ml	0.000
113) Chrysene-d12	16.285	240	532162	40.0000	ug/ml	0.000
128) Perylene-d12	19.154	264	498877	40.0000	ug/ml	-0.011
System Monitoring Compounds						
8) 2-Fluorophenol	6.600	112	212209	46.9754222	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	46.98%		
12) Phenol-d5	7.449	99	270016	46.4039116	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	46.40%		
31) Nitrobenzene-d5	8.422	82	261504	47.4010071	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	94.80%		
59) 2-Fluorobiphenyl	10.217	172	468737	45.7641498	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	91.53%		
86) 2,4,6-Tribromophenol	11.787	330	71525	45.1359691	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	45.14%		
117) p-Terphenyl-d14	14.619	244	586719	46.8713780	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	93.74%		
Target Compounds				Qvalue		
2) 1,4-Dioxane	4.71	88	95861	53.5526	ug/ml	100
3) n-Nitrosodimethylamine	5.17	74	128530	47.0338	ug/ml	96
4) Pyridine	5.19	79	236961	51.7878	ug/ml	100
5) 2-Picoline	6.02	93	249265	47.5528	ug/ml	99
6) n-Nitrosomethylethylamine	6.15	88	103111	47.9406	ug/ml	98
7) Methyl Methanesulfonate	6.44	80	160414	51.1378	ug/ml	100
9) n-Nitrosodiethylamine	6.83	102	106759	46.6461	ug/ml	96
10) Ethyl Methanesulfonate	7.10	79	169965	47.7851	ug/ml	99
11) Aniline	7.55	66	143800	47.8797	ug/ml	97
13) Phenol	7.46	94	274165	46.4074	ug/ml	99
14) bis(2-Chloroethyl)ether	7.57	63	162035	47.4546	ug/ml	98
15) Pentachloroethane	7.59	167	88458	45.7516	ug/ml	98
16) 2-Chlorophenol	7.68	128	226794	45.6968	ug/ml	98
17) 1,3-Dichlorobenzene	7.83	146	244954	45.3745	ug/ml	98
18) 1,4-Dichlorobenzene	7.87	146	246104	45.0456	ug/ml	99
19) Benzyl Alcohol	7.96	108	147176	47.5297	ug/ml	96
20) 1,2-Dichlorobenzene	8.07	146	239335	45.8135	ug/ml	100
21) 2-Methylphenol	8.06	107	197075	46.9156	ug/ml	99
22) bis(2-Chloroisopropyl)ethe	8.11	45	196485	48.2613	ug/ml	99
23) 3-,4-Methylphenol	8.19	107	248027	46.4230	ug/ml	99
24) n-Nitrosopyrrolidine	8.24	100	109190	47.4690	ug/ml	95
25) n-Nitrosodipropylamine	8.24	70	173365	48.4351	ug/ml	99
26) Acetophenone	8.25	105	336809	47.3131	ug/ml	99
27) n-Nitrosomorpholine	8.25	56	132118	47.3880	ug/ml	98
28) o-Toluidine	8.29	106	368320	46.6506	ug/ml	99
29) Hexachloroethane	8.38	117	106041	46.6180	ug/ml	96
32) Nitrobenzene	8.44	77	254658	46.7450	ug/ml	98
33) n-Nitrosopiperidine	8.59	114	112052	46.4469	ug/ml	94
34) Isophorone	8.65	82	452788	47.7259	ug/ml	99
35) 2-Nitrophenol	8.76	139	120740	45.3304	ug/ml	97
36) 2,4-Dimethylphenol	8.73	122	204813	46.3545	ug/ml	99
37) 0,0,0-Triethyl Phosphoroth	8.82	198	116282	46.3186	ug/ml	95
38) bis(2-Chloroethoxy)methane	8.82	93	358779	48.6393	ug/ml	100

(#) = qualifier out of range (m) = manual integration
 12M63785.D MEGAMIX.M Thu Aug 03 13:11:59 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\080317\12M63785.D

Vial: 2

Acq On : 3 Aug 2017 9:18 am

Operator: MES

Sample : WG624321-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:11:06 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:10:55 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.77	105	92829m	36.9854	ug/ml	
40) 2,4-Dichlorophenol	8.99	162	185798	46.8749	ug/ml	99
41) a,a-Dimethylphenethylamine	9.00	58	451155	53.3784	ug/ml#	72
42) 1,2,4-Trichlorobenzene	9.09	180	205771	44.9873	ug/ml	99
43) Naphthalene	9.17	128	679118	45.9978	ug/ml#	98
44) 4-Chloroaniline	9.20	65	98301	47.3414	ug/ml	96
45) 2,6-Dichlorophenol	9.22	162	166585	45.3263	ug/ml	99
46) Hexachloropropene	9.28	213	152945	46.2671	ug/ml	98
47) Hexachlorobutadiene	9.32	225	115415	44.2670	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.51	84	217662	49.7512	ug/ml	100
49) p-Phenylenediamine	9.54	108	155505	53.7057	ug/ml	98
50) 4-Chloro-3-Methylphenol	9.63	107	234594	48.8586	ug/ml	96
51) Safrole	9.73	162	175634	45.4587	ug/ml	98
52) 2-Methylnaphthalene	9.86	142	465425	46.1137	ug/ml	100
53) 1-Methylnaphthalene	9.98	142	424737	46.0099	ug/ml	99
55) 1,2,4,5-Tetrachlorobenzene	10.07	216	216026	45.9450	ug/ml	100
56) Hexachlorocyclopentadiene	10.08	237	104360	48.2917	ug/ml	100
57) 2,4,6-Trichlorophenol	10.15	196	143362	46.1002	ug/ml	99
58) 2,4,5-Trichlorophenol	10.20	196	147452	46.1192	ug/ml	100
60) Isosafrole	10.25	162	171074	45.6692	ug/ml	99
61) 2-Chloronaphthalene	10.37	162	432364	46.0159	ug/ml	99
62) 1-Chloronaphthalene	10.41	162	416884	46.9741	ug/ml	99
63) 2-Nitroaniline	10.46	65	144557	48.1415	ug/ml	95
64) 1,4-Naphthoquinone	10.53	158	120793	41.2859	ug/ml	96
65) Dimethylphthalate	10.62	163	500833	46.0560	ug/ml	100
66) 1,3-Dinitrobenzene	10.68	168	87699	46.4249	ug/ml	96
67) 2,6-Dinitrotoluene	10.72	165	118527	46.0058	ug/ml	95
68) Acenaphthylene	10.81	152	696228	46.9415	ug/ml	100
69) 3-Nitroaniline	10.88	138	122315	46.2751	ug/ml	97
70) 2,4-Dinitrophenol	10.98	184	71697	46.6366	ug/ml	91
71) Acenaphthene	10.99	154	450451	47.7080	ug/ml	100
72) 4-Nitrophenol	10.98	65	114976	49.1763	ug/ml	97
73) 2,4-Dinitrotoluene	11.13	165	164431	46.3520	ug/ml	96
74) Pentachlorobenzene	11.17	250	169227	44.1202	ug/ml	97
75) Dibenzofuran	11.15	168	615103	46.2955	ug/ml	99
76) 2,3,4,6-Tetrachlorophenol	11.30	232	130654	46.8194	ug/ml	99
77) 1-Naphthylamine	11.23	143	439502	49.2681	ug/ml	99
78) 2-Naphthylamine	11.30	143	449858	48.1048	ug/ml	98
79) Diethylphthalate	11.33	149	522449	46.9347	ug/ml	99
80) Thionazin	11.43	107	89039	48.2738	ug/ml	99
81) Fluorene	11.51	166	537376	47.6302	ug/ml	99
82) 4-Chlorophenyl Phenyl Ether	11.46	204	255700	45.4991	ug/ml	99
83) 4-Nitroaniline	11.51	138	137727	46.9768	ug/ml	96
84) 5-Nitro-o-Toluidine	11.51	152	156767	47.6306	ug/ml	96
85) 1,2-Diphenylhydrazine	11.63	77	552255	48.6432	ug/ml	99
88) 4,6-Dinitro-2-Methylphenol	11.56	198	101298	46.1171	ug/ml	96
89) Diphenylamine/n-Nitrosodip	11.58	169	455464	46.3986	ug/ml	100
90) Sulfotep	11.77	322	87938	45.3373	ug/ml	94
91) Sym-Trinitrobenzene	11.86	75	175200	49.0459	ug/ml	98
92) Diallate	11.90	86	199627	48.7963	ug/ml	98
93) Phenacetin	11.89	108	295462	48.7515	ug/ml	99
94) Phorate	11.92	75	316672	48.9446	ug/ml#	99
95) 4-Bromophenyl Phenyl Ether	11.99	248	140966	45.7272	ug/ml	97
96) Hexachlorobenzene	12.21	284	144458	44.9188	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M63785.D MEGAMIX.M Thu Aug 03 13:11:59 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63785.D

Vial: 2

Acq On : 3 Aug 2017 9:18 am

Operator: MES

Sample : WG624321-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:11:06 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:10:55 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	12.13	87	191655	51.7206	ug/ml	99
98) 4-Aminobiphenyl	12.29	169	546930	47.8000	ug/ml	99
99) Pentachlorophenol	12.40	266	91214	45.8381	ug/ml	99
100) Pronamide	12.33	173	236178	46.9353	ug/ml	100
101) Pentachloronitrobenzene	12.49	237	67638	46.6266	ug/ml	99
102) Disulfoton	12.51	88	257019	48.7712	ug/ml	100
103) Phenanthrene	12.61	178	747434	46.3392	ug/ml	99
104) Anthracene	12.66	178	786414	46.9911	ug/ml	100
105) Carbazole	12.82	167	685230	46.7146	ug/ml	100
106) Parathion Methyl	12.99	109	174386	51.7548	ug/ml	98
107) Di-n-Butyl Phthalate	13.18	149	912081	47.9157	ug/ml	100
108) Parathion Ethyl	13.47	97	118877	49.8476	ug/ml	98
109) 4-Nitroquinoline 1-Oxide	13.58	190	56064	50.5194	ug/ml	95
110) Methapyrilene	13.62	58	242331	50.4273	ug/ml	99
111) Isodrin	13.99	193	85311	46.2767	ug/ml	97
112) Fluoranthene	14.16	202	836164	46.5193	ug/ml	100
114) Benzidine	14.26	184	365186	47.4125	ug/ml	100
115) Pyrene	14.50	202	861752	47.2752	ug/ml	100
116) Aramite	14.52	185	55110	49.7016	ug/ml	98
118) p-(Dimethylamino)azobenzen	14.83	225	170982	46.9265	ug/ml	94
119) Chlorobenzilate	14.87	251	233521	47.0053	ug/ml	97
120) Famphur	15.28	218	52489	51.1289	ug/ml	97
121) Butyl Benzyl Phthalate	15.30	149	439238	49.3066	ug/ml	98
122) 3,3'-Dimethylbenzidine	15.31	212	769159	42.7869	ug/ml	99
123) 2-Acetylaminofluorene	15.73	181	384952	48.7700	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	16.13	149	580634	48.4098	ug/ml	99
125) 3,3'-Dichlorobenzidine	16.16	252	278281	45.9505	ug/ml	100
126) Benzo[a]anthracene	16.25	228	809384	46.7537	ug/ml	100
127) Chrysene	16.32	228	728585	46.4016	ug/ml	100
129) Di-n-Octyl Phthalate	17.12	149	988911	47.7719	ug/ml	99
130) 7,12-Dimethylbenz[a]anthra	18.26	256	394056	47.9189	ug/ml	99
131) Benzo[b]fluoranthene	18.26	252	827461	45.6391	ug/ml	100
132) Benzo[k]fluoranthene	18.30	252	683287	44.8931	ug/ml	98
133) Benzo[a]pyrene	19.03	252	706002	45.9931	ug/ml	100
134) 3-Methylcholanthrene	19.94	268	373059	46.6557	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	22.35	276	796452	47.1058	ug/ml	99
136) Dibenz[ah]anthracene	22.35	278	683858	47.2651	ug/ml	99
137) Benzo[ghi]perylene	23.33	276	635912	47.0468	ug/ml	100

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63785.D MEGAMIX.M Thu Aug 03 13:11:59 2017

Page 3

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63785.D

Vial: 2

Acq On : 3 Aug 2017 9:18 am

Operator: MES

Sample : WG624321-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 3 13:11 2017

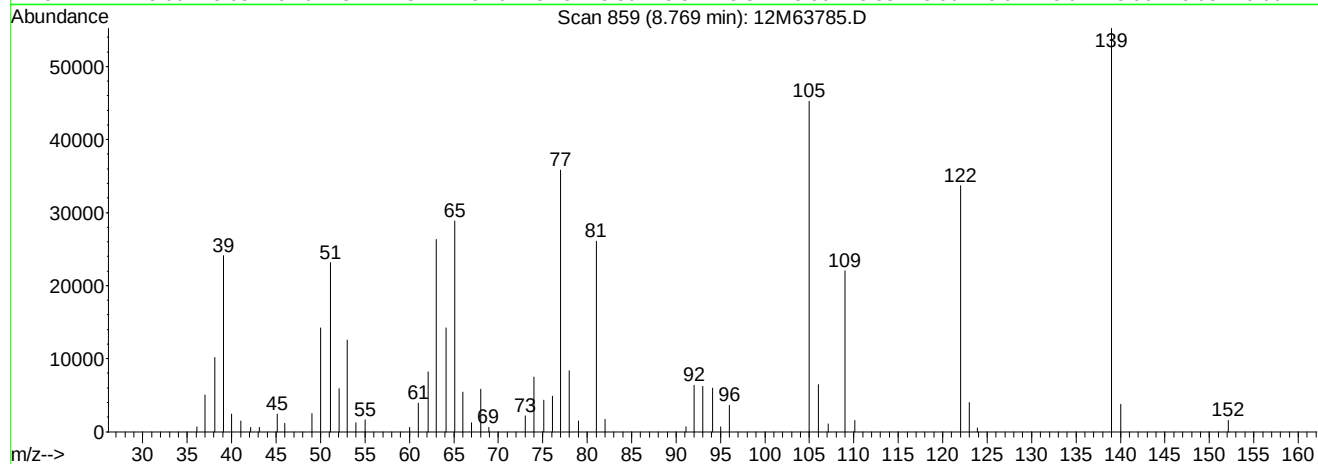
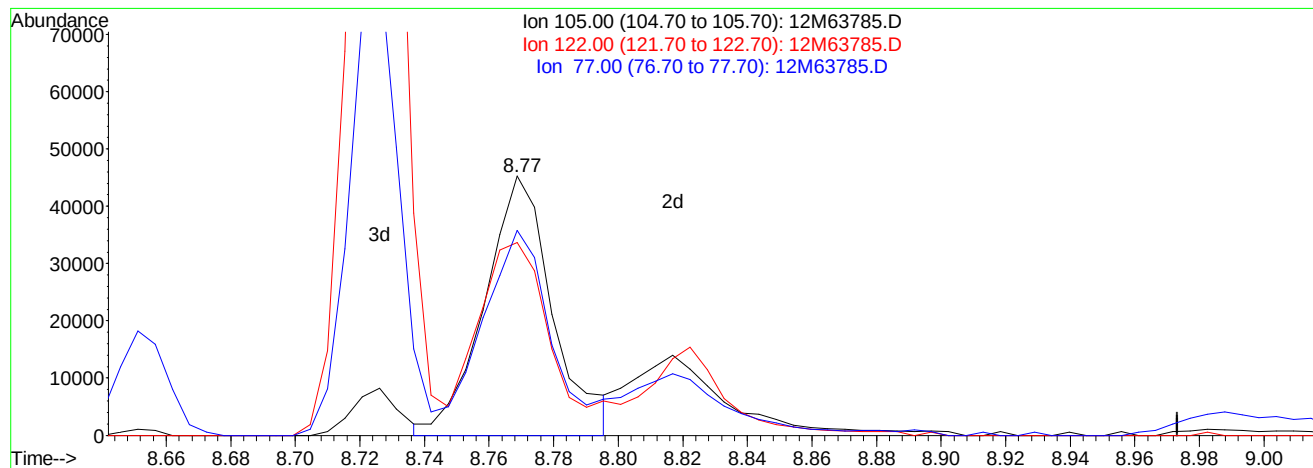
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:10:55 2017

Response via : Multiple Level Calibration



TIC: 12M63785.D

(39) Benzoic Acid

8.77min 26.36ug/ml

response 66154

Ion	Exp%	Act%
105.00	100	100
122.00	58.00	76.11
77.00	53.80	75.49#
0.00	0.00	0.00

12M63785.D MEGAMIX.M

Thu Aug 03 13:11:20 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63785.D

Vial: 2

Acq On : 3 Aug 2017 9:18 am

Operator: MES

Sample : WG624321-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 3 13:11 2017

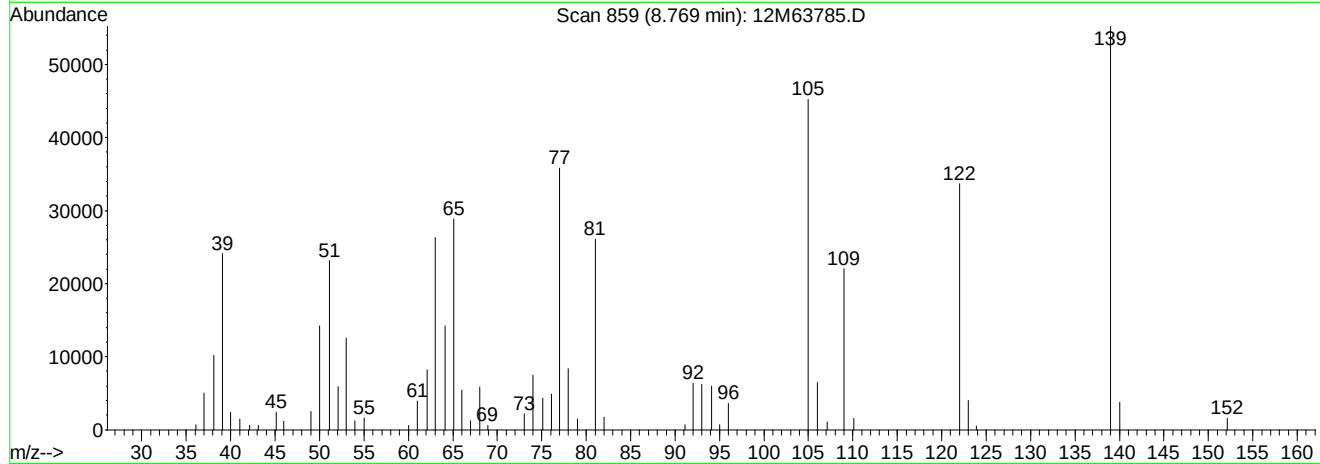
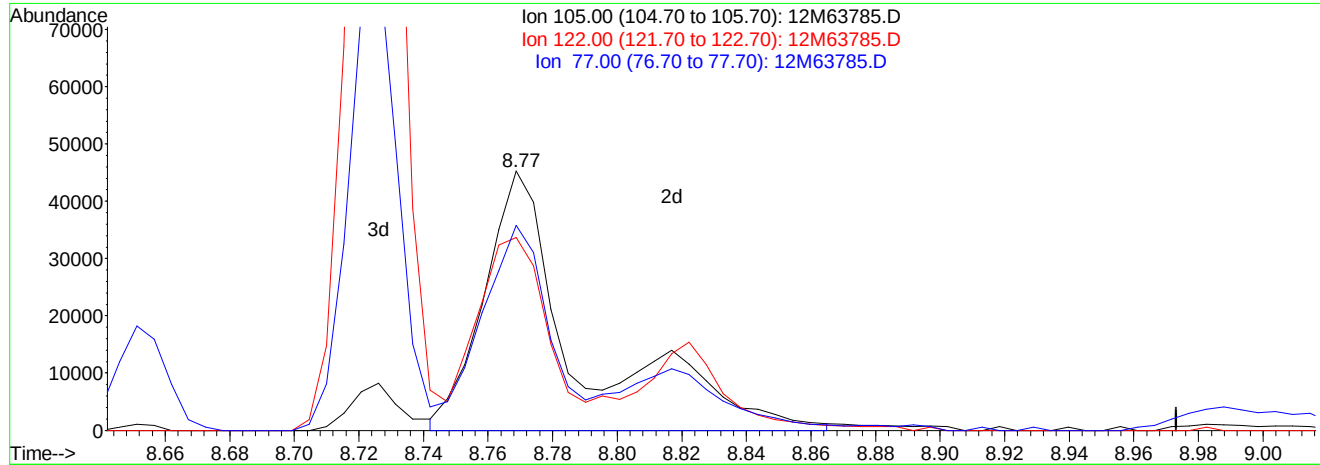
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:10:55 2017

Response via : Multiple Level Calibration



TIC: 12M63785.D

(39) Benzoic Acid

8.77min 36.99ug/ml mint

response 92829

Ion	Exp%	Act%
105.00	100	100
122.00	58.00	54.24
77.00	53.80	53.80
0.00	0.00	0.00

12M63785.D MEGAMIX.M

Thu Aug 03 2017

Analyst: 08/04/2017 09:07

Supervisor: 08/07/2017 16:22

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Data File : I:\MSDCHEM\1\DATA\080317\12M63786.D

Vial: 3

Acq On : 3 Aug 2017 9:51 am

Operator: MES

Sample : WG624321-03 1 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:12:10 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:11:55 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.855	152	130675	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.148	136	496871	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.959	164	256588	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.578	188	502032	40.0000	ug/ml	0.000
113) Chrysene-d12	16.275	240	490723	40.0000	ug/ml	-0.011
128) Perylene-d12	19.149	264	450752	40.0000	ug/ml	0.000

System Monitoring Compounds

8) 2-Fluorophenol	6.600	112	3312	0.7489081	ug/ml	0.00
Spiked Amount	100.000	Range	21 - 100	Recovery	=	0.75%#
12) Phenol-d5	7.449	99	4371	0.7681555	ug/ml	0.00
Spiked Amount	100.000	Range	10 - 94	Recovery	=	0.77%#
31) Nitrobenzene-d5	8.416	82	4391	0.8082015	ug/ml	0.00
Spiked Amount	50.000	Range	35 - 114	Recovery	=	1.62%#
59) 2-Fluorobiphenyl	10.211	172	8127	0.8414653	ug/ml	0.00
Spiked Amount	50.000	Range	43 - 116	Recovery	=	1.68%#
86) 2,4,6-Tribromophenol	11.787	330	678	0.4540870	ug/ml	0.00
Spiked Amount	100.000	Range	10 - 123	Recovery	=	0.45%#
117) p-Terphenyl-d14	14.613	244	8749	0.7648864	ug/ml	0.00
Spiked Amount	50.000	Range	33 - 141	Recovery	=	1.53%#

Target Compounds

					Qvalue	
3) n-Nitrosodimethylamine	5.17	74	1425	0.5335	ug/ml#	94
4) Pyridine	5.21	79	3167	0.7059	ug/ml#	66
5) 2-Picoline	6.03	93	3649	0.7113	ug/ml#	76
6) n-Nitrosomethylethylamine	6.15	88	650	0.3085	ug/ml#	35
7) Methyl Methanesulfonate	6.44	80	2534	0.8218	ug/ml#	84
9) n-Nitrosodiethylamine	6.83	102	1451	0.6484	ug/ml#	91
10) Ethyl Methanesulfonate	7.10	79	2760	0.7903	ug/ml#	93
11) Aniline	7.55	66	2211	0.7496	ug/ml	93
13) Phenol	7.47	94	4320	0.7466	ug/ml	98
14) bis(2-Chloroethyl)ether	7.57	63	2575	0.7688	ug/ml	97
15) Pentachloroethane	7.58	167	1335	0.7073	ug/ml	91
16) 2-Chlorophenol	7.68	128	3806	0.7844	ug/ml	93
17) 1,3-Dichlorobenzene	7.82	146	4234	0.8033	ug/ml	98
18) 1,4-Dichlorobenzene	7.87	146	4597	0.8625	ug/ml#	61
19) Benzyl Alcohol	7.96	108	2233	0.7358	ug/ml	95
20) 1,2-Dichlorobenzene	8.07	146	4186	0.8200	ug/ml	94
21) 2-Methylphenol	8.05	107	3507	0.8536	ug/ml	93
22) bis(2-Chloroisopropyl)ethe	8.11	45	3586	0.8959	ug/ml#	88
23) 3-,4-Methylphenol	8.19	107	4028	0.7698	ug/ml	97
24) n-Nitrosopyrrolidine	8.23	100	1359	0.6050	ug/ml#	52
25) n-Nitrosodipropylamine	8.23	70	3008	0.8550	ug/ml#	90
26) Acetophenone	8.25	105	5702	0.8183	ug/ml	90
27) n-Nitrosomorpholine	8.24	56	2407	0.8790	ug/ml#	86
28) o-Toluidine	8.29	106	5778	0.7476	ug/ml	93
29) Hexachloroethane	8.38	117	1829	0.8216	ug/ml	91
32) Nitrobenzene	8.44	77	4310	0.8042	ug/ml#	93
33) n-Nitrosopiperidine	8.58	114	1548	0.6538	ug/ml#	79
34) Isophorone	8.65	82	7453	0.7975	ug/ml	96
35) 2-Nitrophenol	8.76	139	1732	0.6643	ug/ml	86
36) 2,4-Dimethylphenol	8.73	122	2997	0.6898	ug/ml	82
37) 0,0,0-Triethyl Phosphoroth	8.82	198	1793	0.7299	ug/ml	96
38) bis(2-Chloroethoxy)methane	8.82	93	5911	0.8132	ug/ml	94
40) 2,4-Dichlorophenol	8.99	162	2714	0.6970	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M63786.D MEGAMIX.M Thu Aug 03 13:12:54 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\080317\12M63786.D

Vial: 3

Acq On : 3 Aug 2017 9:51 am

Operator: MES

Sample : WG624321-03 1 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:12:10 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:11:55 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
41) a,a-Dimethylphenethylamine	8.93	58	5166	0.6194	ug/ml#	76
42) 1,2,4-Trichlorobenzene	9.09	180	3465	0.7748	ug/ml	98
43) Naphthalene	9.17	128	11577	0.7997	ug/ml#	95
44) 4-Chloroaniline	9.19	65	1400	0.6845	ug/ml	83
45) 2,6-Dichlorophenol	9.22	162	2768	0.7682	ug/ml	90
46) Hexachloropropene	9.28	213	2410	0.7450	ug/ml	94
47) Hexachlorobutadiene	9.31	225	1954	0.7672	ug/ml	96
48) n-Nitrosodi-n-Butylamine	9.50	84	3329	0.7725	ug/ml	95
49) p-Phenylenediamine	9.53	108	677	0.2387	ug/ml#	31
50) 4-Chloro-3-Methylphenol	9.63	107	3449	0.7263	ug/ml	95
51) Safrole	9.73	162	2772	0.7312	ug/ml	89
52) 2-Methylnaphthalene	9.86	142	7539	0.7615	ug/ml	100
53) 1-Methylnaphthalene	9.98	142	7055	0.7785	ug/ml	96
55) 1,2,4,5-Tetrachlorobenzene	10.07	216	3417	0.7712	ug/ml	98
56) Hexachlorocyclopentadiene	10.08	237	445	0.2200	ug/ml#	27
57) 2,4,6-Trichlorophenol	10.14	196	2028	0.6918	ug/ml#	90
58) 2,4,5-Trichlorophenol	10.19	196	1830	0.6071	ug/ml	95
60) Isosafrole	10.24	162	2503	0.7072	ug/ml	95
61) 2-Chloronaphthalene	10.37	162	7485	0.8440	ug/ml	97
62) 1-Chloronaphthalene	10.40	162	6895	0.8234	ug/ml	98
63) 2-Nitroaniline	10.46	65	2109	0.7393	ug/ml	88
64) 1,4-Naphthoquinone	10.53	158	1528	0.5545	ug/ml	89
65) Dimethylphthalate	10.62	163	8478	0.8266	ug/ml#	86
66) 1,3-Dinitrobenzene	10.68	168	1097	0.6159	ug/ml	95
67) 2,6-Dinitrotoluene	10.71	165	1514	0.6230	ug/ml	96
68) Acenaphthylene	10.81	152	10901	0.7783	ug/ml	99
69) 3-Nitroaniline	10.87	138	1553	0.6221	ug/ml#	94
71) Acenaphthene	10.99	154	7019	0.7874	ug/ml	93
72) 4-Nitrophenol	10.99	65	449	0.2022	ug/ml	92
73) 2,4-Dinitrotoluene	11.12	165	1996	0.5958	ug/ml	89
74) Pentachlorobenzene	11.17	250	2940	0.8170	ug/ml	91
75) Dibenzofuran	11.15	168	10571	0.8426	ug/ml	93
76) 2,3,4,6-Tetrachlorophenol	11.29	232	1583	0.6024	ug/ml	94
77) 1-Naphthylamine	11.22	143	6994	0.8296	ug/ml	96
78) 2-Naphthylamine	11.29	143	7131	0.8096	ug/ml	98
79) Diethylphthalate	11.32	149	9091	0.8640	ug/ml	94
80) Thionazin	11.42	107	1138	0.6505	ug/ml	97
81) Fluorene	11.50	166	8307	0.7796	ug/ml	99
82) 4-Chlorophenyl Phenyl Eth	11.45	204	4008	0.7561	ug/ml	91
83) 4-Nitroaniline	11.51	138	1529	0.5527	ug/ml	80
84) 5-Nitro-o-Toluidine	11.50	152	1970	0.6344	ug/ml	88
85) 1,2-Diphenylhydrazine	11.62	77	9271	0.8600	ug/ml	94
89) Diphenylamine/n-Nitrosodip	11.57	169	7315	0.7921	ug/ml	97
90) Sulfotepp	11.77	322	1276	0.7023	ug/ml#	82
91) Sym-Trinitrobenzene	11.85	75	914	0.2718	ug/ml#	68
92) Diallyl	11.89	86	3383	0.8739	ug/ml	89
93) Phenacetin	11.88	108	3700	0.6473	ug/ml	93
94) Phorate	11.92	75	5088	0.8314	ug/ml#	93
95) 4-Bromophenyl Phenyl Ether	11.98	248	2398	0.8288	ug/ml	89
96) Hexachlorobenzene	12.21	284	2237	0.7415	ug/ml#	89
97) Dimethoate	12.13	87	3095	0.8834	ug/ml	93
98) 4-Aminobiphenyl	12.29	169	7373	0.6841	ug/ml	99
100) Pronamide	12.32	173	3020	0.6374	ug/ml#	95
101) Pentachloronitrobenzene	12.48	237	761	0.5576	ug/ml#	47

(#) = qualifier out of range (m) = manual integration
 12M63786.D MEGAMIX.M Thu Aug 03 13:12:54 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63786.D

Vial: 3

Acq On : 3 Aug 2017 9:51 am

Operator: MES

Sample : WG624321-03 1 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:12:10 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:11:55 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) Disulfoton	12.50	88	3705	0.7431	ug/ml	94
103) Phenanthrene	12.60	178	13003	0.8580	ug/ml	94
104) Anthracene	12.66	178	12501	0.7938	ug/ml	95
105) Carbazole	12.81	167	10610	0.7687	ug/ml	98
106) Parathion Methyl	12.98	109	1732	0.5459	ug/ml	94
107) Di-n-Butyl Phthalate	13.17	149	13174	0.7345	ug/ml	94
108) Parathion Ethyl	13.47	97	888	0.3945	ug/ml#	69
110) Methapyrilene	13.62	58	3278	0.7294	ug/ml#	91
111) Isodrin	13.99	193	1121	0.6458	ug/ml#	1
112) Fluoranthene	14.16	202	12773	0.7565	ug/ml	94
114) Benzidine	14.26	184	3267	0.4632	ug/ml	100
115) Pyrene	14.49	202	13367	0.8010	ug/ml	97
116) Aramite	14.52	185	214	0.2101	ug/ml#	53
118) p-(Dimethylamino)azobenzen	14.83	225	1893	0.5684	ug/ml	89
119) Chlorobenzilate	14.86	251	3037	0.6675	ug/ml#	82
120) Famphur	15.27	218	4555	4.7054	ug/ml#	69
121) Butyl Benzyl Phthalate	15.29	149	6567	0.8034	ug/ml	87
122) 3,3'-Dimethylbenzidine	15.31	212	11048	0.6716	ug/ml#	94
123) 2-Acetylaminofluorene	15.72	181	3953	0.5470	ug/ml#	89
124) bis(2-Ethylhexyl)phthalate	16.13	149	8339	0.7580	ug/ml#	89
125) 3,3'-Dichlorobenzidine	16.15	252	3687	0.6662	ug/ml#	89
126) Benzo[a]anthracene	16.32	228	11547	0.7293	ug/ml	95
127) Chrysene	16.32	228	11547	0.8041	ug/ml	98
129) Di-n-Octyl Phthalate	17.12	149	12980	0.6971	ug/ml#	99
130) 7,12-Dimethylbenz[a]anthra	18.25	256	5364	0.7272	ug/ml	97
131) Benzo[b]fluoranthene	18.24	252	11832	0.7288	ug/ml#	81
132) Benzo[k]fluoranthene	18.29	252	10762	0.7937	ug/ml#	93
133) Benzo[a]pyrene	19.01	252	9653	0.7022	ug/ml#	86
134) 3-Methylcholanthrene	19.93	268	4810	0.6723	ug/ml#	30
135) Indeno[1,2,3-cd]pyrene	22.32	276	9236	0.6094	ug/ml#	66
136) Dibenz[ah]anthracene	22.32	278	7243	0.5586	ug/ml#	63
137) Benzo[ghi]perylene	23.31	276	7423	0.6124	ug/ml#	56

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63786.D MEGAMIX.M Thu Aug 03 13:12:54 2017

Page 3

Data File : I:\MSDCHEM\1\DATA\080317\12M63786.D

Vial: 3

Acq On : 3 Aug 2017 9:51 am

Operator: MES

Sample : WG624321-03 1 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 3 13:12 2017

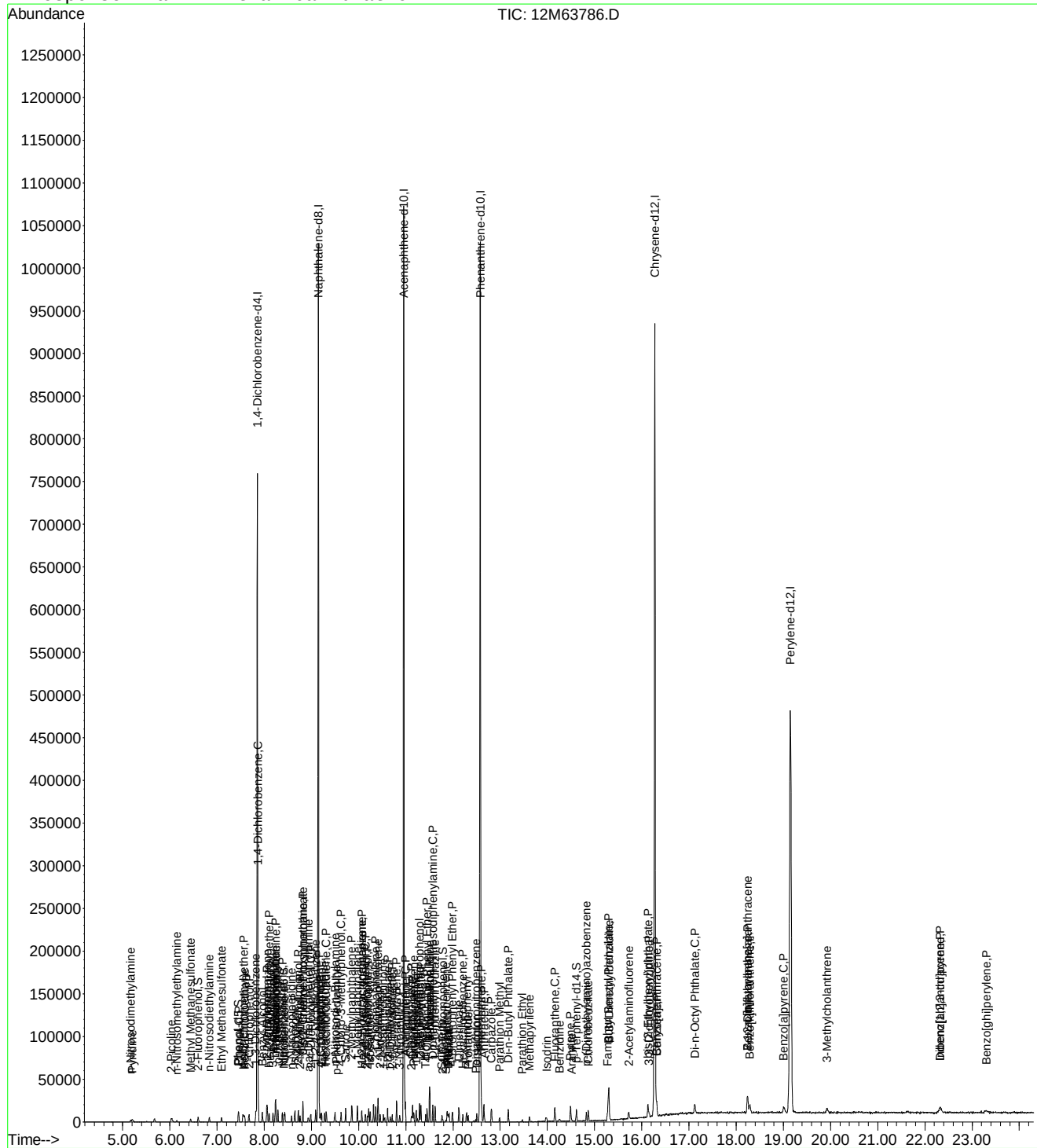
Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:12:28 2017

Response via : Initial Calibration



Data File : I:\MSDCHEM\1\DATA\080317\12M63787.D

Vial: 4

Acq On : 3 Aug 2017 10:24 am

Operator: MES

Sample : WG624321-04 3 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 04 07:10:16 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Fri Aug 04 07:07:19 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.855	152	128647	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.148	136	493014	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.954	164	261757	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.573	188	506189	40.0000	ug/ml	0.000
113) Chrysene-d12	16.275	240	499632	40.0000	ug/ml	-0.011
128) Perylene-d12	19.149	264	464771	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.600	112	10872	2.7749094	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	2.77%#		
12) Phenol-d5	7.449	99	14050	2.8049194	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	2.80%#		
31) Nitrobenzene-d5	8.416	82	14091	2.8640767	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	5.73%#		
59) 2-Fluorobiphenyl	10.211	172	25922	2.8524089	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	5.70%#		
86) 2,4,6-Tribromophenol	11.787	330	3281	2.3797832	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	2.38%#		
117) p-Terphenyl-d14	14.613	244	29312	2.7251674	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	5.45%#		
Target Compounds						
2) 1,4-Dioxane	4.72	88	4188	2.4882	ug/ml	89
3) n-Nitrosodimethylamine	5.17	74	6140	2.6335	ug/ml#	94
4) Pyridine	5.19	79	11175	2.6220	ug/ml	98
5) 2-Picoline	6.03	93	12981	2.8164	ug/ml	95
6) n-Nitrosomethylethylamine	6.14	88	5188	2.7945	ug/ml#	91
7) Methyl Methanesulfonate	6.44	80	8841	2.9724	ug/ml	93
9) n-Nitrosodiethylamine	6.83	102	5354	2.7306	ug/ml	100
10) Ethyl Methanesulfonate	7.10	79	8797	2.8324	ug/ml	99
11) Aniline	7.55	66	7287	2.7949	ug/ml	93
13) Phenol	7.46	94	14334	2.8155	ug/ml	99
14) bis(2-Chloroethyl)ether	7.57	63	8721	2.9126	ug/ml	97
15) Pentachloroethane	7.58	167	4869	2.8666	ug/ml	96
16) 2-Chlorophenol	7.68	128	11995	2.8038	ug/ml	95
17) 1,3-Dichlorobenzene	7.83	146	13497	2.8815	ug/ml	97
18) 1,4-Dichlorobenzene	7.87	146	13764	2.8906	ug/ml	90
19) Benzyl Alcohol	7.96	108	7277	2.6712	ug/ml	93
20) 1,2-Dichlorobenzene	8.06	146	12503	2.7620	ug/ml	98
21) 2-Methylphenol	8.05	107	9985	2.7302	ug/ml	96
22) bis(2-Chloroisopropyl)ethe	8.11	45	11115	3.0659	ug/ml	96
23) 3-,4-Methylphenol	8.19	107	13064	2.8251	ug/ml	99
24) n-Nitrosopyrrolidine	8.23	100	5321	2.6812	ug/ml	79
25) n-Nitrosodipropylamine	8.23	70	9633	3.0299	ug/ml	97
26) Acetophenone	8.25	105	18877	3.0121	ug/ml	97
27) n-Nitrosomorpholine	8.24	56	7634	3.1001	ug/ml	96
28) o-Toluidine	8.29	106	19825	2.8938	ug/ml	100
29) Hexachloroethane	8.38	117	5656	2.8262	ug/ml	99
32) Nitrobenzene	8.44	77	14824	3.0428	ug/ml	95
33) n-Nitrosopiperidine	8.58	114	6067	2.8798	ug/ml	98
34) Isophorone	8.65	82	24521	2.9001	ug/ml	98
35) 2-Nitrophenol	8.76	139	6334	2.7412	ug/ml	96
36) 2,4-Dimethylphenol	8.72	122	10270	2.6676	ug/ml	96
37) 0,0,0-Triethyl Phosphoroth	8.82	198	6095	2.7008	ug/ml	92
38) bis(2-Chloroethoxy)methane	8.82	93	19033	2.8602	ug/ml	96

(#) = qualifier out of range (m) = manual integration
 12M63787.D MEGAMIX.M Tue Aug 15 10:12:56 2017

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Data File : I:\MSDCHEM\1\DATA\080317\12M63787.D

Vial: 4

Acq On : 3 Aug 2017 10:24 am

Operator: MES

Sample : WG624321-04 3 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 04 07:10:16 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Fri Aug 04 07:07:19 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.76	105	330	7.5066	ug/ml#	2
40) 2,4-Dichlorophenol	8.98	162	9188	2.6256	ug/ml	97
41) a,a-Dimethylphenethylamine	8.93	58	20474	2.4943	ug/ml#	93
42) 1,2,4-Trichlorobenzene	9.09	180	11513	2.8449	ug/ml	98
43) Naphthalene	9.17	128	37572	2.8697	ug/ml#	98
44) 4-Chloroaniline	9.19	65	4835	2.6724	ug/ml	78
45) 2,6-Dichlorophenol	9.22	162	9113	2.8302	ug/ml	95
46) Hexachloropropene	9.28	213	8139	2.7167	ug/ml	98
47) Hexachlorobutadiene	9.31	225	6950	2.9655	ug/ml	93
48) n-Nitrosodi-n-Butylamine	9.50	84	11312	2.8588	ug/ml	98
49) p-Phenylenediamine	9.53	108	6137	2.0806	ug/ml	97
50) 4-Chloro-3-Methylphenol	9.63	107	12060	2.7623	ug/ml	96
51) Safrole	9.73	162	9158	2.7135	ug/ml	95
52) 2-Methylnaphthalene	9.85	142	23619	2.6572	ug/ml	95
53) 1-Methylnaphthalene	9.98	142	22428	2.7587	ug/ml	97
55) 1,2,4,5-Tetrachlorobenzene	10.07	216	11443	2.7477	ug/ml	98
56) Hexachlorocyclopentadiene	10.08	237	2935	3.1974	ug/ml#	93
57) 2,4,6-Trichlorophenol	10.14	196	7106	2.6027	ug/ml	97
58) 2,4,5-Trichlorophenol	10.19	196	7658	2.6820	ug/ml	90
60) Isosafrole	10.24	162	9133	2.7655	ug/ml	99
61) 2-Chloronaphthalene	10.36	162	23264	2.7977	ug/ml	99
62) 1-Chloronaphthalene	10.40	162	22322	2.7968	ug/ml	97
63) 2-Nitroaniline	10.46	65	7360	2.7393	ug/ml	93
64) 1,4-Naphthoquinone	10.53	158	6421	2.8401	ug/ml	98
65) Dimethylphthalate	10.62	163	26896	2.7797	ug/ml	99
66) 1,3-Dinitrobenzene	10.67	168	4204	2.5522	ug/ml	97
67) 2,6-Dinitrotoluene	10.71	165	5860	2.6052	ug/ml	88
68) Acenaphthylene	10.80	152	35404	2.6919	ug/ml	98
69) 3-Nitroaniline	10.87	138	5796	2.5118	ug/ml	93
70) 2,4-Dinitrophenol	10.98	184	433	6.3094	ug/ml#	1
71) Acenaphthene	10.99	154	21850	2.6018	ug/ml	95
72) 4-Nitrophenol	10.98	65	5261	2.5158	ug/ml	83
73) 2,4-Dinitrotoluene	11.12	165	7615	2.4637	ug/ml	89
74) Pentachlorobenzene	11.17	250	9077	2.7023	ug/ml	99
75) Dibenzofuran	11.15	168	33190	2.8060	ug/ml	98
76) 2,3,4,6-Tetrachlorophenol	11.29	232	5755	2.3410	ug/ml	96
77) 1-Naphthylamine	11.22	143	22016	2.6568	ug/ml	98
78) 2-Naphthylamine	11.29	143	24106	2.8361	ug/ml	97
79) Diethylphthalate	11.32	149	28759	2.8845	ug/ml	98
80) Thionazin	11.42	107	4501	2.7611	ug/ml	93
81) Fluorene	11.50	166	25928	2.5828	ug/ml	94
82) 4-Chlorophenyl Phenyl Ether	11.45	204	13749	2.7639	ug/ml	99
83) 4-Nitroaniline	11.50	138	6150	2.3945	ug/ml	86
84) 5-Nitro-o-Toluidine	11.50	152	7123	2.4536	ug/ml	90
85) 1,2-Diphenylhydrazine	11.62	77	29932	2.9094	ug/ml	96
88) 4,6-Dinitro-2-Methylphenol	11.55	198	2663	6.1282	ug/ml#	37
89) Diphenylamine/n-Nitrosodip	11.57	169	22883	2.7040	ug/ml	96
90) Sulfotep	11.77	322	4341	2.5997	ug/ml	96
91) Sym-Trinitrobenzene	11.85	75	5937	3.1341	ug/ml	95
92) Diallate	11.89	86	10130	2.8304	ug/ml	96
93) Phenacetin	11.87	108	13650	2.5728	ug/ml	97
94) Phorate	11.92	75	16361	2.8850	ug/ml#	95
95) 4-Bromophenyl Phenyl Ether	11.99	248	6944	2.6166	ug/ml	91
96) Hexachlorobenzene	12.21	284	7540	2.7356	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M63787.D MEGAMIX.M Tue Aug 15 10:12:57 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63787.D

Vial: 4

Acq On : 3 Aug 2017 10:24 am

Operator: MES

Sample : WG624321-04 3 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 04 07:10:16 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Fri Aug 04 07:07:19 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	12.13	87	10306	3.0537	ug/ml	99
98) 4-Aminobiphenyl	12.29	169	26865	2.6897	ug/ml	97
99) Pentachlorophenol	12.39	266	2336	4.4172	ug/ml	93
100) Pronamide	12.32	173	11612	2.6644	ug/ml	98
101) Pentachloronitrobenzene	12.48	237	3317	2.6209	ug/ml	90
102) Disulfoton	12.50	88	12899	2.8156	ug/ml	98
103) Phenanthrene	12.60	178	39545	2.8305	ug/ml	99
104) Anthracene	12.66	178	40202	2.7651	ug/ml	99
105) Carbazole	12.81	167	33531	2.6755	ug/ml	98
106) Parathion Methyl	12.98	109	8061	2.6424	ug/ml	98
107) Di-n-Butyl Phthalate	13.17	149	45580	2.7472	ug/ml	100
108) Parathion Ethyl	13.46	97	4874	2.3719	ug/ml	98
109) 4-Nitroquinoline 1-Oxide	13.57	190	563	3.5578	ug/ml#	44
110) Methapyrilene	13.62	58	14942	2.8901	ug/ml	98
111) Isodrin	13.99	193	4516	2.8238	ug/ml#	59
112) Fluoranthene	14.16	202	40884	2.6509	ug/ml	99
114) Benzidine	14.26	184	12824	2.0578	ug/ml	100
115) Pyrene	14.49	202	42259	2.7054	ug/ml	99
116) Aramite	14.52	185	2552	2.6695	ug/ml#	85
118) p-(Dimethylamino)azobenzen	14.83	225	7276	2.3739	ug/ml	88
119) Chlorobenzilate	14.86	251	11533	2.6947	ug/ml	95
120) Famphur	15.27	218	16096	16.3310	ug/ml#	73
121) Butyl Benzyl Phthalate	15.29	149	21823	2.7833	ug/ml	90
122) 3,3'-Dimethylbenzidine	15.31	212	33823	2.5025	ug/ml	99
123) 2-Acetylaminofluorene	15.72	181	14528	2.2068	ug/ml	98
124) bis(2-Ethylhexyl)phthalate	16.13	149	26984	2.6811	ug/ml	97
125) 3,3'-Dichlorobenzidine	16.15	252	13554	2.6689	ug/ml	98
126) Benzo[a]anthracene	16.25	228	40820	2.7607	ug/ml	99
127) Chrysene	16.32	228	36733	2.7380	ug/ml	99
129) Di-n-Octyl Phthalate	17.12	149	44091	2.5420	ug/ml#	99
130) 7,12-Dimethylbenz[a]anthra	18.24	256	18839	2.6483	ug/ml	99
131) Benzo[b]fluoranthene	18.24	252	41814	2.6987	ug/ml	91
132) Benzo[k]fluoranthene	18.29	252	34997	2.6921	ug/ml	96
133) Benzo[a]pyrene	19.01	252	33109	2.5855	ug/ml#	81
134) 3-Methylcholanthrene	19.93	268	16976	2.5524	ug/ml#	90
135) Indeno[1,2,3-cd]pyrene	22.33	276	33233	2.3675	ug/ml#	85
136) Dibenz[ah]anthracene	22.32	278	27231	2.2743	ug/ml#	87
137) Benzo[ghi]perylene	23.30	276	26929	2.4170	ug/ml#	87

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63787.D MEGAMIX.M Tue Aug 15 10:12:57 2017

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Data File : I:\MSDCHEM\1\DATA\080317\12M63788.D

Vial: 5

Acq On : 3 Aug 2017 10:57 am

Operator: MES

Sample : WG624321-05 10 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:12:11 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:11:55 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.855	152	134877	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.148	136	506991	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.959	164	265398	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.572	188	527010	40.0000	ug/ml	0.000
113) Chrysene-d12	16.275	240	520449	40.0000	ug/ml	-0.011
128) Perylene-d12	19.149	264	481460	40.0000	ug/ml	0.000

System Monitoring Compounds

8) 2-Fluorophenol	6.600	112	38225	8.3741422	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	8.37%#		
12) Phenol-d5	7.449	99	48013	8.1748880	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	8.17%#		
31) Nitrobenzene-d5	8.422	82	49281	8.8895372	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	17.78%#		
59) 2-Fluorobiphenyl	10.211	172	85333	8.5420408	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	17.08%#		
86) 2,4,6-Tribromophenol	11.782	330	12474	8.0770689	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	8.08%#		
117) p-Terphenyl-d14	14.613	244	101140	8.3371899	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	16.67%#		

Target Compounds

					Qvalue	
2) 1,4-Dioxane	4.70	88	16774	9.1412	ug/ml	95
3) n-Nitrosodimethylamine	5.17	74	22791	8.2670	ug/ml#	97
4) Pyridine	5.19	79	42465	9.1707	ug/ml	98
5) 2-Picoline	6.02	93	45383	8.5713	ug/ml	99
6) n-Nitrosomethylethylamine	6.15	88	17955	8.2561	ug/ml	97
7) Methyl Methanesulfonate	6.44	80	29886	9.3906	ug/ml	97
9) n-Nitrosodiethylamine	6.83	102	19058	8.2512	ug/ml	98
10) Ethyl Methanesulfonate	7.09	79	30451	8.4480	ug/ml	99
11) Aniline	7.55	66	25809	8.4775	ug/ml	95
13) Phenol	7.46	94	50320	8.4252	ug/ml	97
14) bis(2-Chloroethyl)ether	7.57	63	30688	8.8772	ug/ml	96
15) Pentachloroethane	7.58	167	17525	8.9953	ug/ml	94
16) 2-Chlorophenol	7.67	128	41658	8.3184	ug/ml	99
17) 1,3-Dichlorobenzene	7.82	146	45397	8.3448	ug/ml	99
18) 1,4-Dichlorobenzene	7.87	146	46283	8.4132	ug/ml	97
19) Benzyl Alcohol	7.96	108	26096	8.3308	ug/ml	95
20) 1,2-Dichlorobenzene	8.06	146	42947	8.1511	ug/ml	98
21) 2-Methylphenol	8.05	107	36290	8.5576	ug/ml	97
22) bis(2-Chloroisopropyl)ethe	8.11	45	36804	8.9079	ug/ml	98
23) 3-,4-Methylphenol	8.19	107	44920	8.3178	ug/ml	99
24) n-Nitrosopyrrolidine	8.23	100	19240	8.2987	ug/ml	85
25) n-Nitrosodipropylamine	8.23	70	32730	9.0137	ug/ml	95
26) Acetophenone	8.25	105	62420	8.6785	ug/ml	97
27) n-Nitrosomorpholine	8.24	56	25821	9.1353	ug/ml	96
28) o-Toluidine	8.29	106	67841	8.5043	ug/ml	98
29) Hexachloroethane	8.38	117	19853	8.6401	ug/ml	97
32) Nitrobenzene	8.44	77	48730	8.9106	ug/ml	96
33) n-Nitrosopiperidine	8.58	114	20247	8.3802	ug/ml	97
34) Isophorone	8.65	82	82831	8.6866	ug/ml	99
35) 2-Nitrophenol	8.76	139	21094	7.9294	ug/ml	94
36) 2,4-Dimethylphenol	8.72	122	36775	8.2951	ug/ml	98
37) 0,0,0-Triethyl Phosphoroth	8.82	198	21196	8.4569	ug/ml	96
38) bis(2-Chloroethoxy)methane	8.82	93	64797	8.7362	ug/ml	99

(#) = qualifier out of range (m) = manual integration
 12M63788.D MEGAMIX.M Thu Aug 03 13:16:25 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\080317\12M63788.D

Vial: 5

Acq On : 3 Aug 2017 10:57 am

Operator: MES

Sample : WG624321-05 10 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:12:11 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:11:55 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.77	105	5734	2.3727	ug/ml#	47
40) 2,4-Dichlorophenol	8.98	162	32496	8.1786	ug/ml	99
41) a,a-Dimethylphenethylamine	8.96	58	77510	9.1085	ug/ml	98
42) 1,2,4-Trichlorobenzene	9.09	180	38031	8.3347	ug/ml	99
43) Naphthalene	9.17	128	123398	8.3536	ug/ml#	98
44) 4-Chloroaniline	9.19	65	17682	8.4723	ug/ml	98
45) 2,6-Dichlorophenol	9.22	162	30571	8.3149	ug/ml	98
46) Hexachloropropene	9.28	213	28659	8.6821	ug/ml	100
47) Hexachlorobutadiene	9.31	225	22667	8.7224	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.50	84	39334	8.9449	ug/ml	97
49) p-Phenylenediamine	9.53	108	28806	9.9550	ug/ml	97
50) 4-Chloro-3-Methylphenol	9.63	107	42328	8.7358	ug/ml	98
51) Safrole	9.73	162	31526	8.1502	ug/ml	97
52) 2-Methylnaphthalene	9.85	142	83107	8.2270	ug/ml	99
53) 1-Methylnaphthalene	9.97	142	74821	8.0916	ug/ml	96
55) 1,2,4,5-Tetrachlorobenzene	10.07	216	37738	8.2342	ug/ml	97
56) Hexachlorocyclopentadiene	10.08	237	15349	7.3373	ug/ml	98
57) 2,4,6-Trichlorophenol	10.15	196	24942	8.2254	ug/ml	98
58) 2,4,5-Trichlorophenol	10.19	196	26581	8.5261	ug/ml	99
60) Isosafrole	10.24	162	31009	8.4703	ug/ml	97
61) 2-Chloronaphthalene	10.36	162	78479	8.5554	ug/ml	98
62) 1-Chloronaphthalene	10.40	162	74222	8.5697	ug/ml	98
63) 2-Nitroaniline	10.46	65	26193	8.8770	ug/ml	97
64) 1,4-Naphthoquinone	10.53	158	25230	8.8520	ug/ml	97
65) Dimethylphthalate	10.62	163	93063	8.7723	ug/ml	99
66) 1,3-Dinitrobenzene	10.67	168	15336	8.3242	ug/ml	97
67) 2,6-Dinitrotoluene	10.71	165	22035	8.7666	ug/ml	98
68) Acenaphthylene	10.81	152	122252	8.4392	ug/ml	100
69) 3-Nitroaniline	10.87	138	21227	8.2211	ug/ml	96
70) 2,4-Dinitrophenol	10.98	184	6281	4.2141	ug/ml#	1
71) Acenaphthene	10.99	154	76074	8.2506	ug/ml	96
72) 4-Nitrophenol	10.98	65	19664	8.5618	ug/ml	92
73) 2,4-Dinitrotoluene	11.12	165	28735	8.2930	ug/ml	88
74) Pentachlorobenzene	11.17	250	31328	8.4167	ug/ml	100
75) Dibenzofuran	11.15	168	110919	8.5475	ug/ml	98
76) 2,3,4,6-Tetrachlorophenol	11.30	232	21641	7.9621	ug/ml	96
77) 1-Naphthylamine	11.22	143	76594	8.7841	ug/ml	98
78) 2-Naphthylamine	11.29	143	74960	8.2275	ug/ml	96
79) Diethylphthalate	11.32	149	97099	8.9217	ug/ml	99
80) Thionazin	11.42	107	15158	8.3775	ug/ml	96
81) Fluorene	11.50	166	92662	8.4073	ug/ml	99
82) 4-Chlorophenyl Phenyl Ether	11.45	204	46179	8.4219	ug/ml	96
83) 4-Nitroaniline	11.51	138	22743	7.9476	ug/ml	89
84) 5-Nitro-o-Toluidine	11.50	152	25454	7.9249	ug/ml	88
85) 1,2-Diphenylhydrazine	11.62	77	102766	9.2166	ug/ml	98
88) 4,6-Dinitro-2-Methylphenol	11.55	198	13252	6.1176	ug/ml	72
89) Diphenylamine/n-Nitrosodip	11.57	169	80357	8.2892	ug/ml	99
90) Sulfotep	11.77	322	15356	8.0509	ug/ml	96
91) Sym-Trinitrobenzene	11.85	75	28147	7.9721	ug/ml	97
92) Diallate	11.89	86	36111	8.8865	ug/ml	98
93) Phenacetin	11.88	108	52834	8.8052	ug/ml	97
94) Phorate	11.92	75	57162	8.8978	ug/ml#	97
95) 4-Bromophenyl Phenyl Ether	11.99	248	24786	8.1606	ug/ml	96
96) Hexachlorobenzene	12.21	284	26254	8.2901	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M63788.D MEGAMIX.M Thu Aug 03 13:16:25 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63788.D

Vial: 5

Acq On : 3 Aug 2017 10:57 am

Operator: MES

Sample : WG624321-05 10 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:12:11 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:11:55 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	12.13	87	37758	10.2658	ug/ml	98
98) 4-Aminobiphenyl	12.29	169	91971	8.1294	ug/ml	99
99) Pentachlorophenol	12.39	266	12346	6.2994	ug/ml	99
100) Pronamide	12.32	173	42163	8.4771	ug/ml	99
101) Pentachloronitrobenzene	12.48	237	11988	8.3670	ug/ml	98
102) Disulfoton	12.50	88	45324	8.6597	ug/ml	99
103) Phenanthrene	12.60	178	133409	8.3862	ug/ml	100
104) Anthracene	12.66	178	136818	8.2761	ug/ml	100
105) Carbazole	12.81	167	116254	8.0233	ug/ml	99
106) Parathion Methyl	12.98	109	32005	9.6099	ug/ml	98
107) Di-n-Butyl Phthalate	13.17	149	160503	8.5244	ug/ml	99
108) Parathion Ethyl	13.46	97	19882	8.4133	ug/ml	97
109) 4-Nitroquinoline 1-Oxide	13.57	190	5839	5.4035	ug/ml	94
110) Methapyrilene	13.62	58	56125	11.8968	ug/ml	100
111) Isodrin	13.99	193	15356	8.4270	ug/ml	99
112) Fluoranthene	14.16	202	144887	8.1745	ug/ml	100
114) Benzidine	14.26	184	54142	7.2377	ug/ml	100
115) Pyrene	14.49	202	150104	8.4808	ug/ml	100
116) Aramite	14.52	185	9531	8.8211	ug/ml	95
118) p-(Dimethylamino)azobenzen	14.83	225	28647	8.1110	ug/ml	96
119) Chlorobenzilate	14.86	251	40596	8.4126	ug/ml	94
120) Famphur	15.27	218	51989	50.6383	ug/ml#	72
121) Butyl Benzyl Phthalate	15.29	149	78452	9.0495	ug/ml	96
122) 3,3'-Dimethylbenzidine	15.31	212	123008	7.0510	ug/ml	100
123) 2-Acetylaminofluorene	15.72	181	59220	7.7261	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	16.13	149	97614	8.3658	ug/ml	100
125) 3,3'-Dichlorobenzidine	16.15	252	48154	8.2038	ug/ml	99
126) Benzo[a]anthracene	16.25	228	140851	8.3878	ug/ml	99
127) Chrysene	16.32	228	126579	8.3109	ug/ml	99
129) Di-n-Octyl Phthalate	17.12	149	166658	8.3796	ug/ml	100
130) 7,12-Dimethylbenz[a]anthra	18.24	256	64967	8.2454	ug/ml	99
131) Benzo[b]fluoranthene	18.24	252	143249	8.2606	ug/ml	97
132) Benzo[k]fluoranthene	18.29	252	124540	8.5992	ug/ml	98
133) Benzo[a]pyrene	19.02	252	120278	8.1915	ug/ml	94
134) 3-Methylcholanthrene	19.93	268	61338	8.0259	ug/ml#	92
135) Indeno[1,2,3-cd]pyrene	22.33	276	129211	7.9819	ug/ml	99
136) Dibenz[ah]anthracene	22.32	278	107894	7.7910	ug/ml	98
137) Benzo[ghi]perylene	23.31	276	105513	8.1492	ug/ml	98

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63788.D MEGAMIX.M Thu Aug 03 13:16:25 2017

Page 3

Data File : I:\MSDCHEM\1\DATA\080317\12M63789.D

Vial: 6

Acq On : 3 Aug 2017 11:29 am

Operator: MES

Sample : WG624321-06 15 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:16:34 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:16:29 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.855	152	130762	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.148	136	486577	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.959	164	257950	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.578	188	509869	40.0000	ug/ml	0.000
113) Chrysene-d12	16.280	240	505377	40.0000	ug/ml	0.000
128) Perylene-d12	19.149	264	472631	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.600	112	59051	13.8017826	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	13.80%#		
12) Phenol-d5	7.449	99	74665	13.5891817	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	13.59%		
31) Nitrobenzene-d5	8.416	82	73867	14.3674840	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	28.73%#		
59) 2-Fluorobiphenyl	10.211	172	129322	13.7075389	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	27.41%#		
86) 2,4,6-Tribromophenol	11.787	330	18681	12.8619575	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	12.86%		
117) p-Terphenyl-d14	14.613	244	154193	13.4729352	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	26.95%#		
Target Compounds						
2) 1,4-Dioxane	4.71	88	24661	14.0711	ug/ml	97
3) n-Nitrosodimethylamine	5.17	74	34912	13.5920	ug/ml#	97
4) Pyridine	5.19	79	65462	14.9371	ug/ml	98
5) 2-Picoline	6.02	93	70273	14.2128	ug/ml	99
6) n-Nitrosomethylethylamine	6.15	88	27736	13.6238	ug/ml	96
7) Methyl Methanesulfonate	6.44	80	44485	14.8723	ug/ml	99
9) n-Nitrosodiethylamine	6.83	102	28784	13.3863	ug/ml	99
10) Ethyl Methanesulfonate	7.09	79	46900	13.9098	ug/ml	98
11) Aniline	7.55	66	39630	14.1035	ug/ml	98
13) Phenol	7.46	94	75803	13.6409	ug/ml	97
14) bis(2-Chloroethyl)ether	7.57	63	46577	14.5000	ug/ml	96
15) Pentachloroethane	7.58	167	24825	13.5852	ug/ml	99
16) 2-Chlorophenol	7.67	128	63932	13.6870	ug/ml	99
17) 1,3-Dichlorobenzene	7.82	146	68067	13.3538	ug/ml	98
18) 1,4-Dichlorobenzene	7.87	146	71201	13.8482	ug/ml	99
19) Benzyl Alcohol	7.96	108	40276	13.6611	ug/ml	97
20) 1,2-Dichlorobenzene	8.06	146	65744	13.4294	ug/ml	99
21) 2-Methylphenol	8.05	107	53599	13.4847	ug/ml	96
22) bis(2-Chloroisopropyl)ethe	8.11	45	55347	14.1673	ug/ml	99
23) 3-,4-Methylphenol	8.19	107	68021	13.4601	ug/ml	99
24) n-Nitrosopyrrolidine	8.23	100	29026	13.4122	ug/ml	87
25) n-Nitrosodipropylamine	8.24	70	49607	14.6318	ug/ml	97
26) Acetophenone	8.25	105	93276	13.8014	ug/ml	96
27) n-Nitrosomorpholine	8.24	56	38790	14.7605	ug/ml	97
28) o-Toluidine	8.29	106	101762	13.6683	ug/ml	99
29) Hexachloroethane	8.38	117	29642	13.7685	ug/ml	95
32) Nitrobenzene	8.44	77	73203	14.4264	ug/ml	96
33) n-Nitrosopiperidine	8.58	114	30182	13.4168	ug/ml	98
34) Isophorone	8.65	82	125651	14.2254	ug/ml	99
35) 2-Nitrophenol	8.76	139	33472	13.6414	ug/ml	96
36) 2,4-Dimethylphenol	8.72	122	56143	13.7422	ug/ml	99
37) 0,0,0-Triethyl Phosphoroth	8.82	198	32240	13.7667	ug/ml	98
38) bis(2-Chloroethoxy)methane	8.82	93	97594	14.1763	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M63789.D MEGAMIX.M Thu Aug 03 13:20:45 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\080317\12M63789.D

Vial: 6

Acq On : 3 Aug 2017 11:29 am

Operator: MES

Sample : WG624321-06 15 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:16:34 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:16:29 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.78	105	13981	6.1085	ug/ml#	71
40) 2,4-Dichlorophenol	8.98	162	49007	13.3016	ug/ml	99
41) a,a-Dimethylphenethylamine	8.96	58	120599	14.3259	ug/ml	99
42) 1,2,4-Trichlorobenzene	9.09	180	58768	13.8065	ug/ml	97
43) Naphthalene	9.17	128	188456	13.7339	ug/ml#	99
44) 4-Chloroaniline	9.19	65	28345	14.9802	ug/ml	91
45) 2,6-Dichlorophenol	9.22	162	45772	13.4007	ug/ml	99
46) Hexachloropropene	9.28	213	43572	14.2629	ug/ml	99
47) Hexachlorobutadiene	9.31	225	34509	14.2289	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.50	84	59905	14.7440	ug/ml	97
49) p-Phenylenediamine	9.53	108	45041	17.2070	ug/ml	99
50) 4-Chloro-3-Methylphenol	9.63	107	63873	14.0909	ug/ml	99
51) Safrole	9.73	162	47555	13.2568	ug/ml	97
52) 2-Methylnaphthalene	9.86	142	125995	13.4506	ug/ml	99
53) 1-Methylnaphthalene	9.98	142	115260	13.4132	ug/ml	98
55) 1,2,4,5-Tetrachlorobenzene	10.07	216	58464	13.5313	ug/ml	98
56) Hexachlorocyclopentadiene	10.08	237	25858	14.1694	ug/ml	99
57) 2,4,6-Trichlorophenol	10.15	196	39627	13.9011	ug/ml	98
58) 2,4,5-Trichlorophenol	10.19	196	40246	13.5913	ug/ml	99
60) Isosafrole	10.25	162	47697	13.8533	ug/ml	98
61) 2-Chloronaphthalene	10.37	162	119334	13.7912	ug/ml	99
62) 1-Chloronaphthalene	10.41	162	112209	13.7168	ug/ml	97
63) 2-Nitroaniline	10.46	65	39922	14.3167	ug/ml	98
64) 1,4-Naphthoquinone	10.53	158	38924	15.2941	ug/ml	99
65) Dimethylphthalate	10.62	163	140820	14.0805	ug/ml	100
66) 1,3-Dinitrobenzene	10.67	168	23201	13.3782	ug/ml	96
67) 2,6-Dinitrotoluene	10.71	165	32109	13.5710	ug/ml	97
68) Acenaphthylene	10.81	152	187076	13.7237	ug/ml	100
69) 3-Nitroaniline	10.87	138	32030	13.1543	ug/ml	96
70) 2,4-Dinitrophenol	10.98	184	12208	8.6406	ug/ml#	9
71) Acenaphthene	10.99	154	116647	13.4787	ug/ml	98
72) 4-Nitrophenol	10.98	65	29343	13.5610	ug/ml	94
73) 2,4-Dinitrotoluene	11.12	165	43591	13.4190	ug/ml	94
74) Pentachlorobenzene	11.17	250	47069	13.4530	ug/ml	98
75) Dibenzofuran	11.15	168	167457	13.6405	ug/ml	97
76) 2,3,4,6-Tetrachlorophenol	11.30	232	32963	12.9224	ug/ml	95
77) 1-Naphthylamine	11.22	143	115467	14.0932	ug/ml	97
78) 2-Naphthylamine	11.29	143	110678	12.7937	ug/ml	97
79) Diethylphthalate	11.32	149	145730	14.1423	ug/ml	99
80) Thionazin	11.42	107	23641	13.8847	ug/ml	99
81) Fluorene	11.50	166	141214	13.6416	ug/ml	100
82) 4-Chlorophenyl Phenyl Ether	11.45	204	70268	13.5528	ug/ml	98
83) 4-Nitroaniline	11.51	138	35634	13.2438	ug/ml	92
84) 5-Nitro-o-Toluidine	11.50	152	40268	13.3804	ug/ml	93
85) 1,2-Diphenylhydrazine	11.62	77	154628	14.7024	ug/ml	98
88) 4,6-Dinitro-2-Methylphenol	11.55	198	22851	11.3046	ug/ml	84
89) Diphenylamine/n-Nitrosodip	11.57	169	120543	13.3109	ug/ml	99
90) Sulfotep	11.77	322	23196	12.8789	ug/ml	98
91) Sym-Trinitrobenzene	11.85	75	45475	14.0311	ug/ml	99
92) Diallate	11.90	86	54747	14.4230	ug/ml	98
93) Phenacetin	11.88	108	80138	14.3432	ug/ml	99
94) Phorate	11.92	75	88570	14.8697	ug/ml#	98
95) 4-Bromophenyl Phenyl Ether	11.99	248	37714	13.1895	ug/ml	96
96) Hexachlorobenzene	12.21	284	39198	13.1676	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M63789.D MEGAMIX.M Thu Aug 03 13:20:45 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63789.D

Vial: 6

Acq On : 3 Aug 2017 11:29 am

Operator: MES

Sample : WG624321-06 15 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:16:34 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:16:29 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	12.13	87	55920	16.4085	ug/ml	99
98) 4-Aminobiphenyl	12.29	169	143218	13.5282	ug/ml	100
99) Pentachlorophenol	12.39	266	20576	11.2148	ug/ml	99
100) Pronamide	12.32	173	63862	13.7348	ug/ml	99
101) Pentachloronitrobenzene	12.48	237	18552	13.8829	ug/ml	98
102) Disulfoton	12.50	88	68289	14.0339	ug/ml	98
103) Phenanthrene	12.60	178	200128	13.3943	ug/ml	100
104) Anthracene	12.66	178	208660	13.4455	ug/ml	99
105) Carbazole	12.81	167	178792	13.2201	ug/ml	100
106) Parathion Methyl	12.98	109	47817	15.4444	ug/ml	98
107) Di-n-Butyl Phthalate	13.17	149	243872	13.8451	ug/ml	99
108) Parathion Ethyl	13.46	97	30412	13.9143	ug/ml	100
109) 4-Nitroquinoline 1-Oxide	13.57	190	10760	11.0056	ug/ml	96
110) Methapyrilene	13.62	58	87234	19.5404	ug/ml	99
111) Isodrin	13.99	193	23580	13.8471	ug/ml	99
112) Fluoranthene	14.16	202	222326	13.4332	ug/ml	99
114) Benzidine	14.26	184	86898	12.4303	ug/ml	100
115) Pyrene	14.49	202	226877	13.6137	ug/ml	99
116) Aramite	14.52	185	14552	14.3376	ug/ml	96
118) p-(Dimethylamino)azobenzen	14.83	225	45137	13.7170	ug/ml	97
119) Chlorobenzilate	14.86	251	63525	14.0033	ug/ml	98
120) Famphur	15.27	218	67850	68.0581	ug/ml#	73
121) Butyl Benzyl Phthalate	15.29	149	117224	14.3927	ug/ml	94
122) 3,3'-Dimethylbenzidine	15.31	212	206484	13.3942	ug/ml	100
123) 2-Acetylaminofluorene	15.72	181	94803	13.3729	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	16.13	149	154290	14.4724	ug/ml	99
125) 3,3'-Dichlorobenzidine	16.15	252	75253	13.7929	ug/ml	99
126) Benzo[a]anthracene	16.25	228	214524	13.5656	ug/ml	100
127) Chrysene	16.32	228	193906	13.5495	ug/ml	99
129) Di-n-Octyl Phthalate	17.12	149	257918	13.7936	ug/ml	100
130) 7,12-Dimethylbenz[a]anthra	18.24	256	100628	13.2159	ug/ml	97
131) Benzo[b]fluoranthene	18.24	252	217959	13.0763	ug/ml	98
132) Benzo[k]fluoranthene	18.29	252	192193	14.0252	ug/ml	98
133) Benzo[a]pyrene	19.01	252	184441	13.2646	ug/ml	98
134) 3-Methylcholanthrene	19.93	268	96394	13.3144	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	22.34	276	201995	13.2156	ug/ml	99
136) Dibenz[ah]anthracene	22.33	278	169641	13.0092	ug/ml	98
137) Benzo[ghi]perylene	23.30	276	164207	13.5079	ug/ml	98

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63789.D MEGAMIX.M Thu Aug 03 13:20:45 2017

Page 3

Data File : I:\MSDCHEM\1\DATA\080317\12M63790.D

Vial: 7

Acq On : 3 Aug 2017 12:02 pm

Operator: MES

Sample : WG624321-07 25 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:17:09 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:16:59 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.855	152	126600	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.148	136	483787	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.959	164	259242	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.578	188	511119	40.0000	ug/ml	0.000
113) Chrysene-d12	16.280	240	513258	40.0000	ug/ml	0.000
128) Perylene-d12	19.154	264	477821	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.600	112	97494	24.1274772	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	24.13%		
12) Phenol-d5	7.449	99	124411	24.0053321	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	24.01%		
31) Nitrobenzene-d5	8.416	82	122854	24.6329977	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	49.27%		
59) 2-Fluorobiphenyl	10.211	172	218387	23.4766265	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	46.95%		
86) 2,4,6-Tribromophenol	11.787	330	32804	22.9908559	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	22.99%		
117) p-Terphenyl-d14	14.613	244	267694	23.5166571	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	47.03%		
Target Compounds						
					Qvalue	
2) 1,4-Dioxane	4.71	88	40699	24.6320	ug/ml	97
3) n-Nitrosodimethylamine	5.17	74	58751	24.3782	ug/ml	99
4) Pyridine	5.19	79	108139	25.8290	ug/ml	99
5) 2-Picoline	6.02	93	116283	24.9001	ug/ml	99
6) n-Nitrosomethylethylamine	6.15	88	47097	24.5764	ug/ml	97
7) Methyl Methanesulfonate	6.44	80	75397	26.7773	ug/ml	98
9) n-Nitrosodiethylamine	6.83	102	49551	24.4868	ug/ml	99
10) Ethyl Methanesulfonate	7.10	79	79213	24.8912	ug/ml	99
11) Aniline	7.55	66	66847	25.2262	ug/ml	99
13) Phenol	7.46	94	126901	24.2150	ug/ml	97
14) bis(2-Chloroethyl)ether	7.57	63	75738	24.9194	ug/ml	98
15) Pentachloroethane	7.58	167	42763	24.8731	ug/ml	97
16) 2-Chlorophenol	7.68	128	105067	23.7732	ug/ml	100
17) 1,3-Dichlorobenzene	7.82	146	116409	24.1954	ug/ml	100
18) 1,4-Dichlorobenzene	7.87	146	116139	23.8118	ug/ml	99
19) Benzyl Alcohol	7.96	108	68050	24.3665	ug/ml	99
20) 1,2-Dichlorobenzene	8.06	146	110526	23.8631	ug/ml	99
21) 2-Methylphenol	8.06	107	90392	24.1034	ug/ml	98
22) bis(2-Chloroisopropyl)ethe	8.11	45	90251	24.3792	ug/ml	100
23) 3-,4-Methylphenol	8.19	107	114848	24.1033	ug/ml	99
24) n-Nitrosopyrrolidine	8.23	100	48717	23.9338	ug/ml	91
25) n-Nitrosodipropylamine	8.24	70	81207	25.3443	ug/ml	98
26) Acetophenone	8.25	105	156536	24.5655	ug/ml	99
27) n-Nitrosomorpholine	8.25	56	63595	25.6560	ug/ml	98
28) o-Toluidine	8.29	106	169806	24.1467	ug/ml	100
29) Hexachloroethane	8.38	117	51006	25.1100	ug/ml	99
32) Nitrobenzene	8.44	77	121949	24.7851	ug/ml	99
33) n-Nitrosopiperidine	8.58	114	50307	23.0803	ug/ml	96
34) Isophorone	8.65	82	210355	24.4813	ug/ml	100
35) 2-Nitrophenol	8.76	139	56431	23.6596	ug/ml	98
36) 2,4-Dimethylphenol	8.72	122	92342	23.2841	ug/ml	97
37) 0,0,0-Triethyl Phosphoroth	8.82	198	54283	23.7973	ug/ml	99
38) bis(2-Chloroethoxy)methane	8.82	93	164694	24.6390	ug/ml	100

(#) = qualifier out of range (m) = manual integration
 12M63790.D MEGAMIX.M Thu Aug 03 13:17:40 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\080317\12M63790.D

Vial: 7

Acq On : 3 Aug 2017 12:02 pm

Operator: MES

Sample : WG624321-07 25 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:17:09 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:16:59 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.76	105	35220m	15.8982	ug/ml	
40) 2,4-Dichlorophenol	8.98	162	83977	23.4168	ug/ml	98
41) a,a-Dimethylphenethylamine	8.97	58	205268	24.6753	ug/ml	99
42) 1,2,4-Trichlorobenzene	9.09	180	97225	23.4266	ug/ml	100
43) Naphthalene	9.17	128	315192	23.6176	ug/ml#	99
44) 4-Chloroaniline	9.19	65	46240	25.1816	ug/ml	97
45) 2,6-Dichlorophenol	9.22	162	78647	23.7363	ug/ml	99
46) Hexachloropropene	9.28	213	74165	24.9712	ug/ml	99
47) Hexachlorobutadiene	9.31	225	57361	24.1578	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.50	84	100224	25.4875	ug/ml	99
49) p-Phenylenediamine	9.53	108	79682	32.4598	ug/ml	99
50) 4-Chloro-3-Methylphenol	9.63	107	108144	24.4423	ug/ml	98
51) Safrole	9.72	162	81707	23.4482	ug/ml	99
52) 2-Methylnaphthalene	9.86	142	213585	23.4239	ug/ml	100
53) 1-Methylnaphthalene	9.98	142	194510	23.2627	ug/ml	98
55) 1,2,4,5-Tetrachlorobenzene	10.07	216	100148	23.5806	ug/ml	99
56) Hexachlorocyclopentadiene	10.08	237	47267	27.1485	ug/ml	99
57) 2,4,6-Trichlorophenol	10.15	196	65340	23.2206	ug/ml	99
58) 2,4,5-Trichlorophenol	10.20	196	68652	23.4956	ug/ml	100
60) Isosafrole	10.25	162	81243	23.9524	ug/ml	100
61) 2-Chloronaphthalene	10.36	162	198280	23.2568	ug/ml	98
62) 1-Chloronaphthalene	10.41	162	193749	24.0513	ug/ml	99
63) 2-Nitroaniline	10.46	65	66562	24.3281	ug/ml	99
64) 1,4-Naphthoquinone	10.53	158	64514	26.2048	ug/ml	99
65) Dimethylphthalate	10.62	163	237766	24.1426	ug/ml	100
66) 1,3-Dinitrobenzene	10.68	168	40979	24.1555	ug/ml	99
67) 2,6-Dinitrotoluene	10.71	165	55193	23.7393	ug/ml	98
68) Acenaphthylene	10.81	152	316294	23.5798	ug/ml	100
69) 3-Nitroaniline	10.87	138	56152	23.4912	ug/ml	99
70) 2,4-Dinitrophenol	10.98	184	25403	18.5076	ug/ml	54
71) Acenaphthene	10.99	154	201889	23.7300	ug/ml	98
72) 4-Nitrophenol	10.98	65	52970	25.1206	ug/ml	94
73) 2,4-Dinitrotoluene	11.12	165	75016	23.4887	ug/ml	96
74) Pentachlorobenzene	11.17	250	81218	23.5288	ug/ml	100
75) Dibenzofuran	11.15	168	283516	23.4476	ug/ml	98
76) 2,3,4,6-Tetrachlorophenol	11.30	232	58408	23.3667	ug/ml	98
77) 1-Naphthylamine	11.22	143	199011	24.7431	ug/ml	98
78) 2-Naphthylamine	11.29	143	196242	22.9750	ug/ml	98
79) Diethylphthalate	11.32	149	244914	24.1812	ug/ml	100
80) Thionazin	11.42	107	39584	23.6584	ug/ml	94
81) Fluorene	11.51	166	244912	24.0314	ug/ml	100
82) 4-Chlorophenyl Phenyl Ether	11.45	204	120505	23.6021	ug/ml	99
83) 4-Nitroaniline	11.51	138	61559	23.3959	ug/ml	94
84) 5-Nitro-o-Toluidine	11.51	152	71085	24.0608	ug/ml	97
85) 1,2-Diphenylhydrazine	11.62	77	259440	25.0595	ug/ml	99
88) 4,6-Dinitro-2-Methylphenol	11.55	198	41961	21.3164	ug/ml	90
89) Diphenylamine/n-Nitrosodip	11.57	169	208216	23.4479	ug/ml	99
90) Sulfotep	11.77	322	40374	22.8404	ug/ml	97
91) Sym-Trinitrobenzene	11.85	75	81015	25.5944	ug/ml	99
92) Diallate	11.90	86	91590	24.6510	ug/ml	98
93) Phenacetin	11.88	108	137014	25.0279	ug/ml	98
94) Phorate	11.92	75	147687	25.2698	ug/ml#	97
95) 4-Bromophenyl Phenyl Ether	11.99	248	65494	23.3371	ug/ml	98
96) Hexachlorobenzene	12.21	284	65837	22.4954	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M63790.D MEGAMIX.M Thu Aug 03 13:17:40 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63790.D

Vial: 7

Acq On : 3 Aug 2017 12:02 pm

Operator: MES

Sample : WG624321-07 25 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:17:09 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:16:59 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	12.13	87	93440	28.0951	ug/ml	98
98) 4-Aminobiphenyl	12.29	169	248352	23.8937	ug/ml	100
99) Pentachlorophenol	12.39	266	38379	21.5154	ug/ml	99
100) Pronamide	12.32	173	110095	24.1648	ug/ml	99
101) Pentachloronitrobenzene	12.48	237	33431	25.5185	ug/ml	96
102) Disulfoton	12.51	88	117211	24.6572	ug/ml	98
103) Phenanthrene	12.60	178	341207	23.2498	ug/ml	99
104) Anthracene	12.66	178	357363	23.4387	ug/ml	100
105) Carbazole	12.81	167	309150	23.3448	ug/ml	100
106) Parathion Methyl	12.98	109	84973	28.2207	ug/ml	98
107) Di-n-Butyl Phthalate	13.17	149	420683	24.3744	ug/ml	99
108) Parathion Ethyl	13.47	97	54112	25.3735	ug/ml	99
109) 4-Nitroquinoline 1-Oxide	13.57	190	23508	25.1603	ug/ml	98
110) Methapyrilene	13.62	58	141029	31.7504	ug/ml	100
111) Isodrin	13.99	193	40323	24.0793	ug/ml	100
112) Fluoranthene	14.16	202	382018	23.5212	ug/ml	100
114) Benzidine	14.26	184	160156	23.4446	ug/ml	100
115) Pyrene	14.49	202	392433	23.6762	ug/ml	99
116) Aramite	14.52	185	25453	25.2585	ug/ml	98
118) p-(Dimethylamino)azobenzen	14.83	225	77977	23.7698	ug/ml	98
119) Chlorobenzilate	14.87	251	108841	24.0581	ug/ml	99
120) Famphur	15.28	218	81855	80.8454	ug/ml#	76
121) Butyl Benzyl Phthalate	15.29	149	205889	25.4809	ug/ml	98
122) 3,3'-Dimethylbenzidine	15.31	212	367649	24.2837	ug/ml	99
123) 2-Acetylaminofluorene	15.72	181	171635	24.4329	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	16.13	149	264664	24.9236	ug/ml	100
125) 3,3'-Dichlorobenzidine	16.15	252	131621	24.2678	ug/ml	100
126) Benzo[a]anthracene	16.25	228	370948	23.5661	ug/ml	100
127) Chrysene	16.32	228	336236	23.5937	ug/ml	99
129) Di-n-Octyl Phthalate	17.12	149	450729	24.4085	ug/ml	99
130) 7,12-Dimethylbenz[a]anthra	18.25	256	176135	23.2792	ug/ml	99
131) Benzo[b]fluoranthene	18.25	252	392919	23.6803	ug/ml	98
132) Benzo[k]fluoranthene	18.29	252	323520	23.5852	ug/ml	99
133) Benzo[a]pyrene	19.02	252	321504	23.3340	ug/ml	99
134) 3-Methylcholanthrene	19.93	268	169306	23.6467	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	22.34	276	355359	23.4821	ug/ml	99
136) Dibenz[ah]anthracene	22.33	278	303148	23.5284	ug/ml	99
137) Benzo[ghi]perylene	23.31	276	285468	23.7656	ug/ml	100

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63790.D MEGAMIX.M Thu Aug 03 13:17:40 2017

Page 3

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63790.D

Vial: 7

Acq On : 3 Aug 2017 12:02 pm

Operator: MES

Sample : WG624321-07 25 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 3 13:17 2017

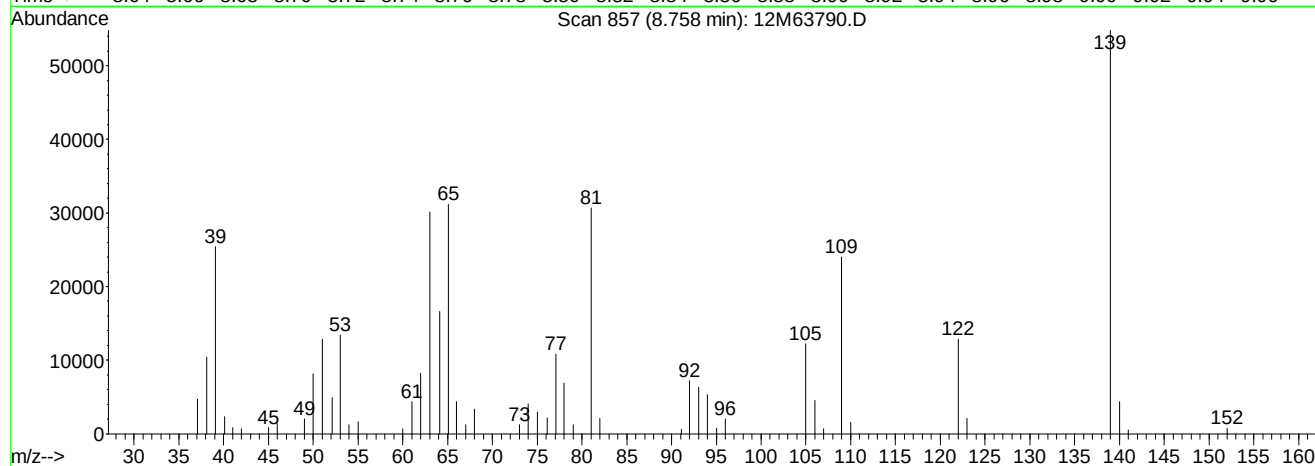
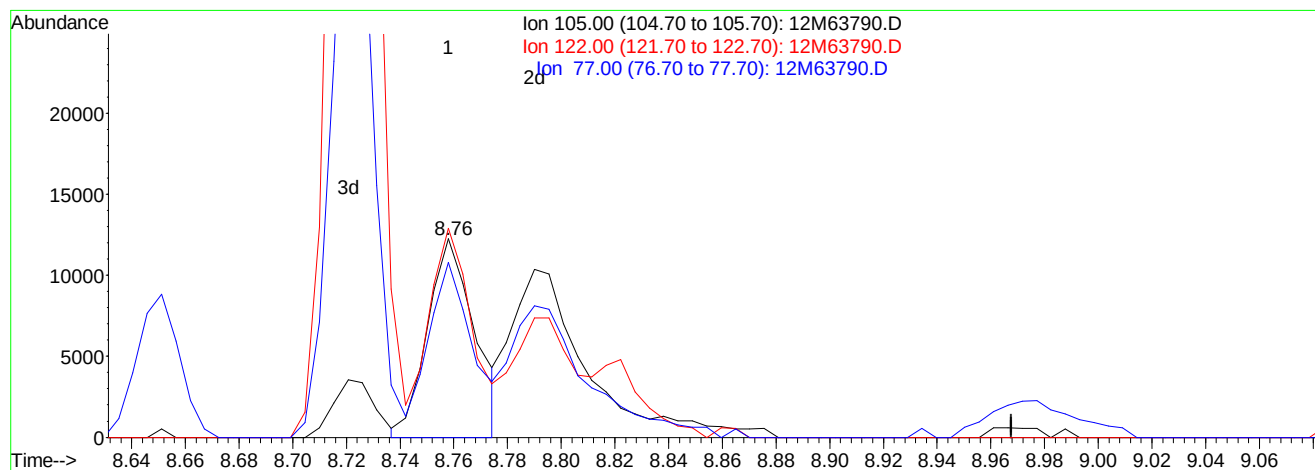
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:16:59 2017

Response via : Multiple Level Calibration



TIC: 12M63790.D

(39) Benzoic Acid

8.76min 6.71ug/ml

response 14867

Ion	Exp%	Act%
105.00	100	100
122.00	54.20	73.96
77.00	53.80	82.20#
0.00	0.00	0.00

12M63790.D MEGAMIX.M

Thu Aug 03 13:17:19 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63790.D

Vial: 7

Acq On : 3 Aug 2017 12:02 pm

Operator: MES

Sample : WG624321-07 25 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 3 13:17 2017

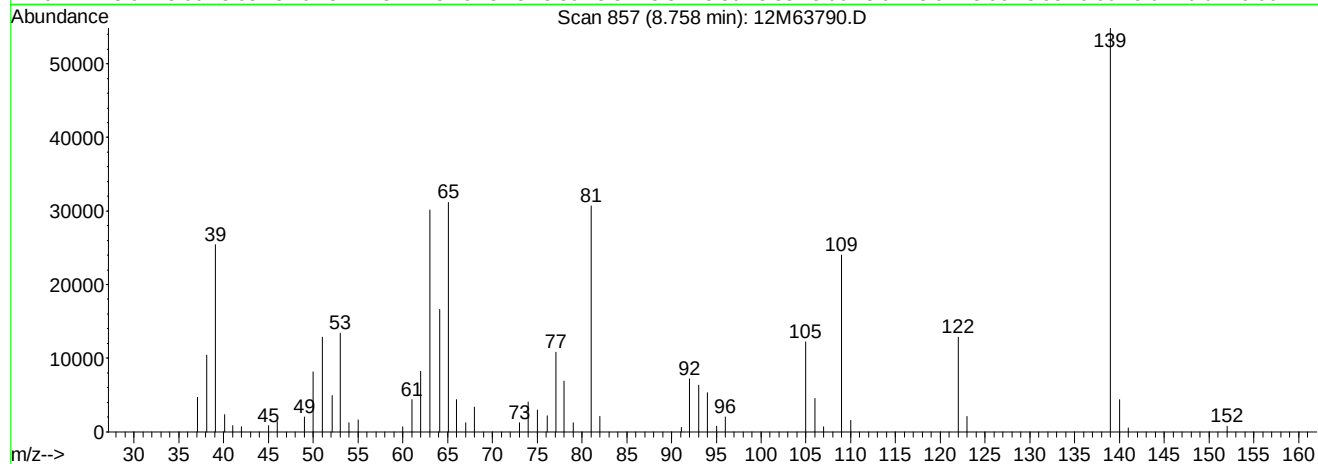
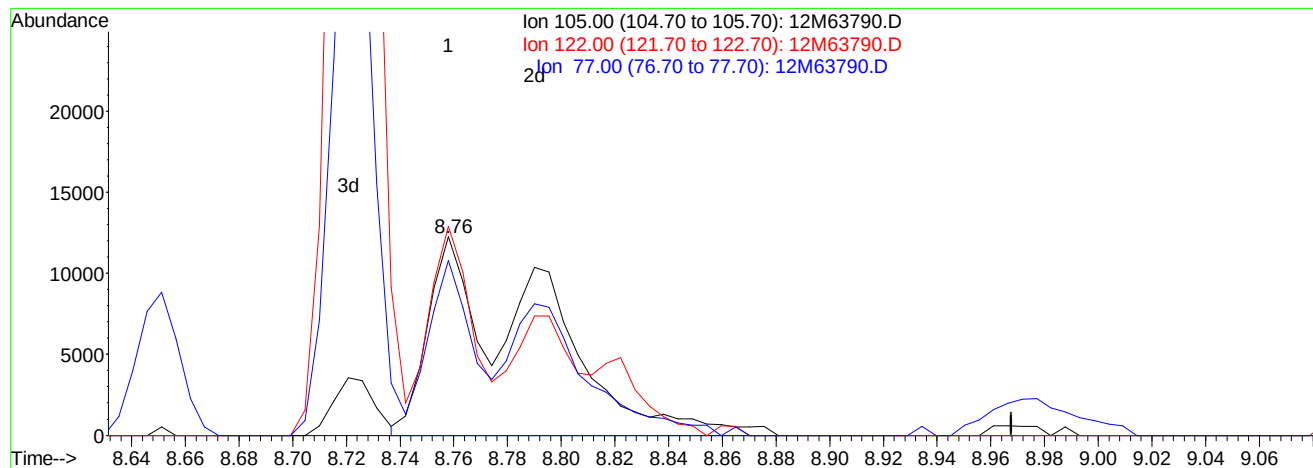
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:16:59 2017

Response via : Multiple Level Calibration



TIC: 12M63790.D

(39) Benzoic Acid

8.76min 15.90ug/ml mint

response 35220

Ion	Exp%	Act%
105.00	100	100
122.00	54.20	31.22#
77.00	53.80	34.70
0.00	0.00	0.00

12M63790.D MEGAMIX.M

Thu Aug 03 2017

Analyst: 08/04/2017 09:07

Supervisor: 08/07/2017 16:22

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Data File : I:\MSDCHEM\1\DATA\080317\12M63791.D

Vial: 8

Acq On : 3 Aug 2017 12:35 pm

Operator: MES

Sample : WG624321-08 80 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:17:50 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:17:43 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.855	152	130007	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.148	136	492359	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.959	164	265298	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.583	188	533718	40.0000	ug/ml	0.000
113) Chrysene-d12	16.285	240	543772	40.0000	ug/ml	0.000
128) Perylene-d12	19.159	264	506164	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.600	112	319058	77.6856229	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery	=	77.69%	
12) Phenol-d5	7.449	99	415922	78.9857527	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery	=	78.99%	
31) Nitrobenzene-d5	8.421	82	391799	77.8619174	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery	=	155.72%#	
59) 2-Fluorobiphenyl	10.216	172	764770	81.0636905	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery	=	162.13%#	
86) 2,4,6-Tribromophenol	11.787	330	122609	84.8490118	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery	=	84.85%	
117) p-Terphenyl-d14	14.618	244	991442	82.9158406	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery	=	165.83%#	
Target Compounds						
					Qvalue	
2) 1,4-Dioxane	4.71	88	141291	83.7697	ug/ml	99
3) n-Nitrosodimethylamine	5.17	74	192105	78.7056	ug/ml	100
4) Pyridine	5.19	79	346666	81.2722	ug/ml	100
5) 2-Picoline	6.02	93	372422	78.2299	ug/ml	99
6) n-Nitrosomethylethylamine	6.15	88	149967	76.9198	ug/ml	98
7) Methyl Methanesulfonate	6.44	80	238777	82.6303	ug/ml	99
9) n-Nitrosodiethylamine	6.83	102	161410	78.3702	ug/ml	98
10) Ethyl Methanesulfonate	7.10	79	250561	77.3404	ug/ml	98
11) Aniline	7.55	66	210685	77.9746	ug/ml	96
13) Phenol	7.47	94	416281	77.9747	ug/ml	98
14) bis(2-Chloroethyl)ether	7.57	63	235911	76.0326	ug/ml	95
15) Pentachloroethane	7.59	167	137966	78.3533	ug/ml	99
16) 2-Chlorophenol	7.68	128	354351	78.8754	ug/ml	98
17) 1,3-Dichlorobenzene	7.83	146	385617	78.5803	ug/ml	99
18) 1,4-Dichlorobenzene	7.87	146	393875	79.1699	ug/ml	97
19) Benzyl Alcohol	7.96	108	228348	80.1636	ug/ml	97
20) 1,2-Dichlorobenzene	8.07	146	380815	80.6081	ug/ml	99
21) 2-Methylphenol	8.06	107	303953	79.7047	ug/ml	99
22) bis(2-Chloroisopropyl)ethe	8.11	45	286863	76.0131	ug/ml	99
23) 3-,4-Methylphenol	8.19	107	378730	78.0623	ug/ml	99
24) n-Nitrosopyrrolidine	8.25	100	168730	81.7838	ug/ml	92
25) n-Nitrosodipropylamine	8.25	70	250291	76.6499	ug/ml	98
26) Acetophenone	8.25	105	509320	78.4450	ug/ml	97
27) n-Nitrosomorpholine	8.25	56	192171	76.1915	ug/ml	98
28) o-Toluidine	8.30	106	558580	78.0758	ug/ml	99
29) Hexachloroethane	8.38	117	164882	79.4021	ug/ml	96
32) Nitrobenzene	8.44	77	381673	76.7769	ug/ml	98
33) n-Nitrosopiperidine	8.59	114	171901	78.5972	ug/ml	97
34) Isophorone	8.66	82	676136	78.0096	ug/ml	98
35) 2-Nitrophenol	8.76	139	192421	80.1178	ug/ml	97
36) 2,4-Dimethylphenol	8.73	122	319871	80.3248	ug/ml	99
37) 0,0,0-Triethyl Phosphoroth	8.83	198	190671	82.8340	ug/ml	93
38) bis(2-Chloroethoxy)methane	8.83	93	540595	80.0880	ug/ml	100

(#) = qualifier out of range (m) = manual integration
 12M63791.D MEGAMIX.M Thu Aug 03 13:18:30 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\080317\12M63791.D

Vial: 8

Acq On : 3 Aug 2017 12:35 pm

Operator: MES

Sample : WG624321-08 80 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:17:50 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:17:43 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.79	105	213353m	96.0123	ug/ml	
40) 2,4-Dichlorophenol	8.99	162	298122	82.4698	ug/ml	98
41) a,a-Dimethylphenethylamine	9.03	58	682239m	80.9415	ug/ml	
42) 1,2,4-Trichlorobenzene	9.09	180	332590	79.5925	ug/ml	99
43) Naphthalene	9.17	128	1079380	80.2109	ug/ml#	97
44) 4-Chloroaniline	9.20	65	144666	78.1441	ug/ml	76
45) 2,6-Dichlorophenol	9.22	162	265664	79.5155	ug/ml	98
46) Hexachloropropene	9.29	213	249410	83.0364	ug/ml	99
47) Hexachlorobutadiene	9.32	225	189889	79.1296	ug/ml	100
48) n-Nitrosodi-n-Butylamine	9.51	84	329223	82.9926	ug/ml	99
49) p-Phenylenediamine	9.54	108	232311	95.2828	ug/ml	98
50) 4-Chloro-3-Methylphenol	9.63	107	356554	79.6595	ug/ml	96
51) Safrole	9.73	162	283240	80.6426	ug/ml	97
52) 2-Methylnaphthalene	9.86	142	748466	81.5163	ug/ml	100
53) 1-Methylnaphthalene	9.98	142	683715	81.2043	ug/ml	99
55) 1,2,4,5-Tetrachlorobenzene	10.07	216	357174	82.8378	ug/ml	99
56) Hexachlorocyclopentadiene	10.08	237	176615	102.6977	ug/ml	99
57) 2,4,6-Trichlorophenol	10.15	196	233221	81.8253	ug/ml	99
58) 2,4,5-Trichlorophenol	10.20	196	241798	81.3166	ug/ml	99
60) Isosafrole	10.25	162	277469	80.4965	ug/ml	97
61) 2-Chloronaphthalene	10.37	162	698700	80.7929	ug/ml	98
62) 1-Chloronaphthalene	10.41	162	682302	83.3855	ug/ml	99
63) 2-Nitroaniline	10.46	65	219696	79.2612	ug/ml	96
64) 1,4-Naphthoquinone	10.53	158	169885	69.2472	ug/ml	97
65) Dimethylphthalate	10.62	163	809883	80.8561	ug/ml	100
66) 1,3-Dinitrobenzene	10.68	168	142084	82.3071	ug/ml	94
67) 2,6-Dinitrotoluene	10.72	165	189731	80.5245	ug/ml	96
68) Acenaphthylene	10.81	152	1127859	82.9664	ug/ml	100
69) 3-Nitroaniline	10.88	138	190533	78.6029	ug/ml	99
70) 2,4-Dinitrophenol	10.99	184	126383	91.2622	ug/ml	86
71) Acenaphthene	11.00	154	736001	85.3232	ug/ml	100
72) 4-Nitrophenol	10.99	65	174395	81.5491	ug/ml	92
73) 2,4-Dinitrotoluene	11.13	165	266953	82.5802	ug/ml	95
74) Pentachlorobenzene	11.17	250	287193	81.9997	ug/ml	97
75) Dibenzofuran	11.15	168	1004223	81.8452	ug/ml	98
76) 2,3,4,6-Tetrachlorophenol	11.30	232	224257	88.3973	ug/ml	98
77) 1-Naphthylamine	11.23	143	717286	88.0899	ug/ml	98
78) 2-Naphthylamine	11.30	143	758413	87.8221	ug/ml	96
79) Diethylphthalate	11.33	149	824061	80.1560	ug/ml	99
80) Thionazin	11.43	107	136807	80.8228	ug/ml	99
81) Fluorene	11.51	166	876167	84.6182	ug/ml	100
82) 4-Chlorophenyl Phenyl Ether	11.46	204	425909	82.0776	ug/ml	97
83) 4-Nitroaniline	11.53	138	219862	82.7488	ug/ml	96
84) 5-Nitro-o-Toluidine	11.51	152	259802	86.6804	ug/ml	92
85) 1,2-Diphenylhydrazine	11.63	77	836653	79.4227	ug/ml	98
88) 4,6-Dinitro-2-Methylphenol	11.56	198	168515	82.9196	ug/ml	93
89) Diphenylamine/n-Nitrosodip	11.58	169	745212	81.1563	ug/ml	100
90) Sulfotep	11.78	322	150020	81.9484	ug/ml	92
91) Sym-Trinitrobenzene	11.87	75	273650	83.8877	ug/ml	98
92) Diallate	11.90	86	302129	78.5859	ug/ml	97
93) Phenacetin	11.89	108	461633	81.3942	ug/ml	98
94) Phorate	11.92	75	471408	77.8737	ug/ml#	97
95) 4-Bromophenyl Phenyl Ether	12.00	248	235008	80.8405	ug/ml	97
96) Hexachlorobenzene	12.21	284	244656	80.9730	ug/ml	97

(#) = qualifier out of range (m) = manual integration
 12M63791.D MEGAMIX.M Thu Aug 03 13:18:30 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63791.D

Vial: 8

Acq On : 3 Aug 2017 12:35 pm

Operator: MES

Sample : WG624321-08 80 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:17:50 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:17:43 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	12.14	87	264445	76.8949	ug/ml	98
98) 4-Aminobiphenyl	12.29	169	896331	83.3281	ug/ml	99
99) Pentachlorophenol	12.40	266	154762	84.2856	ug/ml	99
100) Pronamide	12.33	173	381489	80.8601	ug/ml	99
101) Pentachloronitrobenzene	12.49	237	109866	80.7017	ug/ml	99
102) Disulfoton	12.51	88	390243	79.4632	ug/ml	100
103) Phenanthrene	12.61	178	1228478	80.9083	ug/ml	100
104) Anthracene	12.66	178	1284765	81.4650	ug/ml	100
105) Carbazole	12.82	167	1117866	81.6655	ug/ml	100
106) Parathion Methyl	12.99	109	258292	82.8825	ug/ml	98
107) Di-n-Butyl Phthalate	13.18	149	1443127	80.8464	ug/ml	100
108) Parathion Ethyl	13.48	97	181368	82.3912	ug/ml	97
109) 4-Nitroquinoline 1-Oxide	13.58	190	98769	104.6254	ug/ml	97
110) Methapyrilene	13.63	58	320947	66.9838	ug/ml	99
111) Isodrin	13.99	193	139094	80.2176	ug/ml	99
112) Fluoranthene	14.16	202	1373799	81.8260	ug/ml	100
114) Benzidine	14.26	184	590730	84.3804	ug/ml	100
115) Pyrene	14.50	202	1422928	81.6750	ug/ml	100
116) Aramite	14.52	185	84542	79.8328	ug/ml	98
118) p-(Dimethylamino)azobenzen	14.83	225	286650	83.2204	ug/ml	92
119) Chlorobenzilate	14.87	251	386568	81.0927	ug/ml	95
120) Famphur	15.28	218	18253	17.0162	ug/ml#	1
121) Butyl Benzyl Phthalate	15.30	149	704392	82.8572	ug/ml	96
122) 3,3'-Dimethylbenzidine	15.31	212	1262919	80.9017	ug/ml	99
123) 2-Acetylaminofluorene	15.73	181	626504	85.1372	ug/ml	98
124) bis(2-Ethylhexyl)phthalate	16.13	149	932962	83.6832	ug/ml	100
125) 3,3'-Dichlorobenzidine	16.16	252	456724	80.0478	ug/ml	99
126) Benzo[a]anthracene	16.25	228	1345971	81.2996	ug/ml	100
127) Chrysene	16.33	228	1226809	81.8373	ug/ml	100
129) Di-n-Octyl Phthalate	17.13	149	1588303	82.0106	ug/ml	99
130) 7,12-Dimethylbenz[a]anthra	18.26	256	672430	84.5906	ug/ml	99
131) Benzo[b]fluoranthene	18.26	252	1450579	82.7915	ug/ml	100
132) Benzo[k]fluoranthene	18.32	252	1194591	83.2860	ug/ml	99
133) Benzo[a]pyrene	19.03	252	1184971	81.9589	ug/ml	100
134) 3-Methylcholanthrene	19.95	268	621313	82.7556	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	22.38	276	1324916	83.6843	ug/ml	99
136) Dibenz[ah]anthracene	22.37	278	1144648	84.8716	ug/ml	100
137) Benzo[ghi]perylene	23.35	276	1036703	82.5340	ug/ml	100

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63791.D MEGAMIX.M Thu Aug 03 13:18:30 2017

Page 3

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63791.D

Vial: 8

Acq On : 3 Aug 2017 12:35 pm

Operator: MES

Sample : WG624321-08 80 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 3 13:17 2017

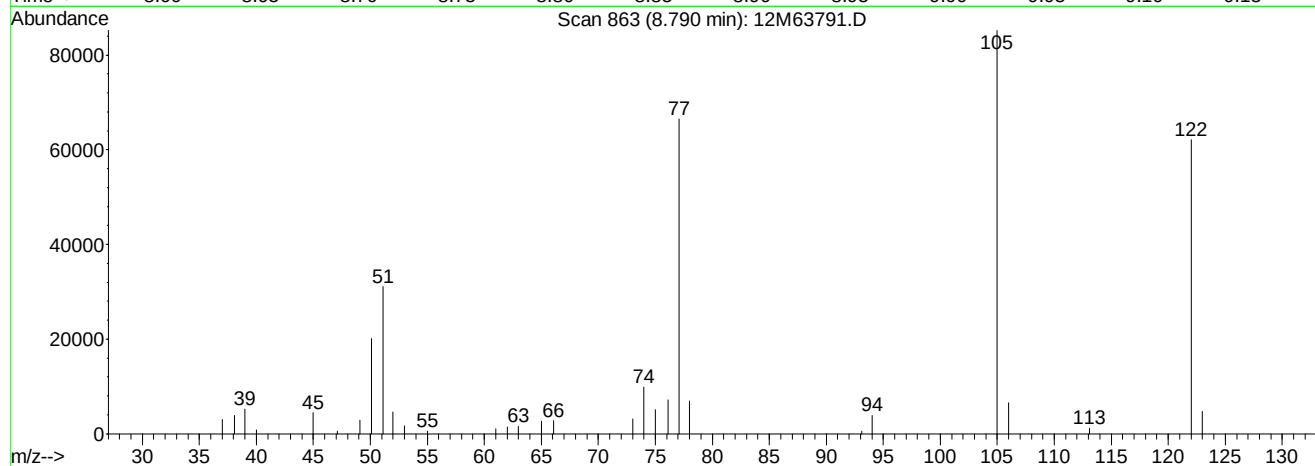
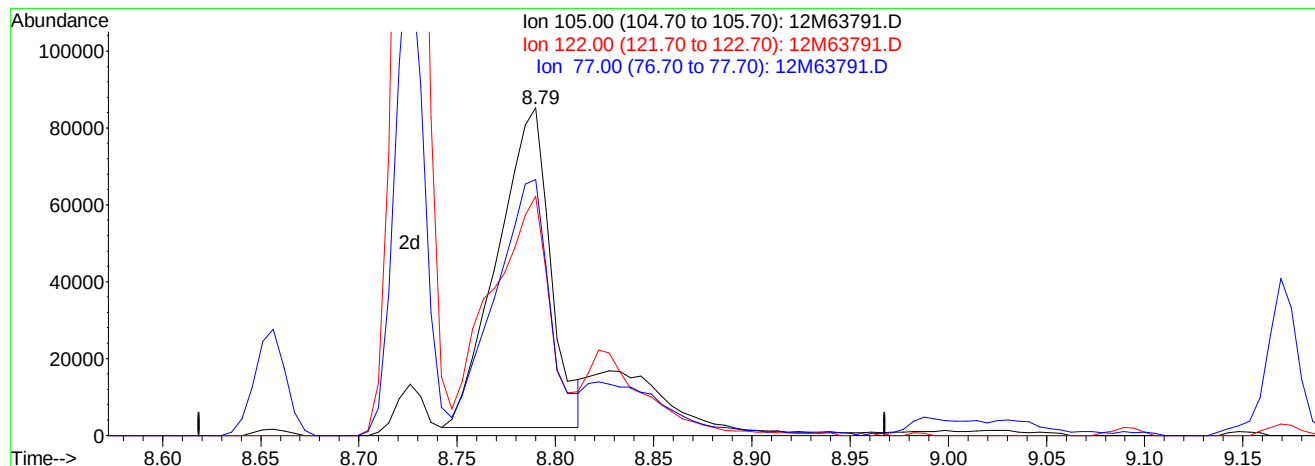
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:17:43 2017

Response via : Multiple Level Calibration



TIC: 12M63791.D

(39) Benzoic Acid

8.79min 70.39ug/ml

response 156416

Ion	Exp%	Act%
105.00	100	100
122.00	54.20	80.87#
77.00	53.80	82.53#
0.00	0.00	0.00

12M63791.D MEGAMIX.M

Thu Aug 03 13:18:00 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63791.D

Vial: 8

Acq On : 3 Aug 2017 12:35 pm

Operator: MES

Sample : WG624321-08 80 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 3 13:18 2017

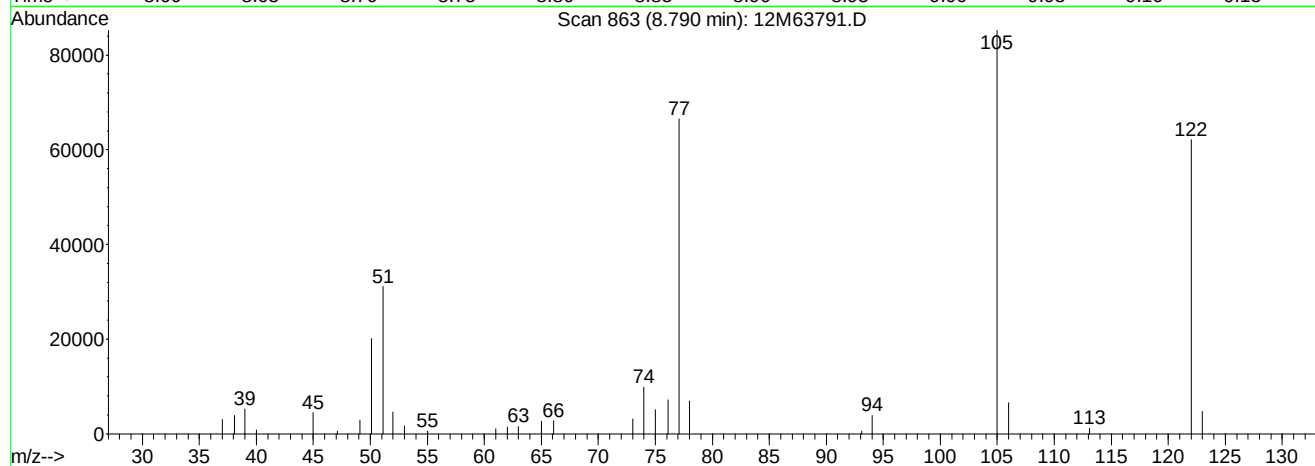
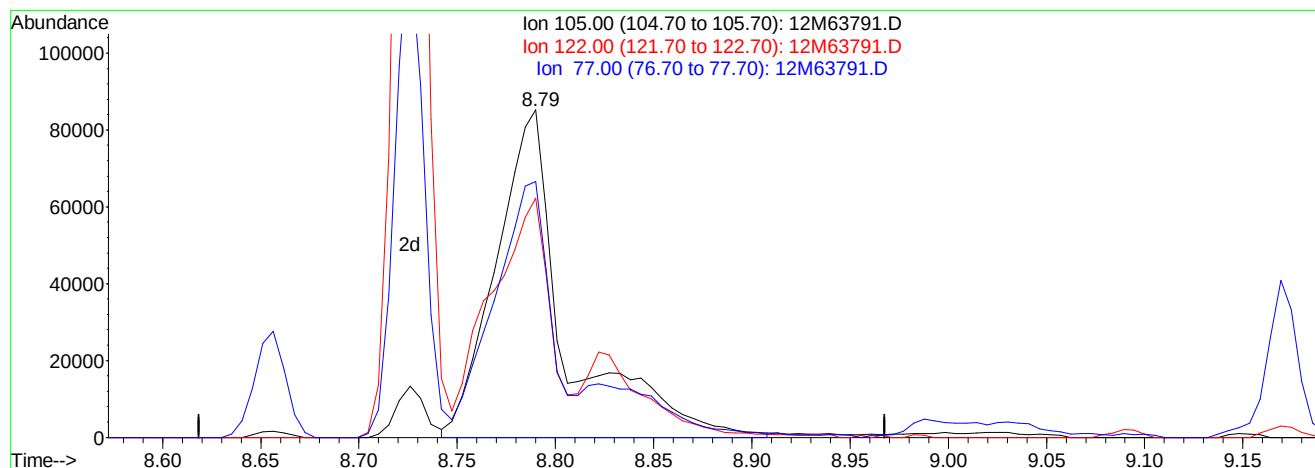
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:17:43 2017

Response via : Multiple Level Calibration



TIC: 12M63791.D

(39) Benzoic Acid

8.79min 96.01ug/ml mint

response 213353

Ion	Exp%	Act%
105.00	100	100
122.00	54.20	59.29
77.00	53.80	60.51
0.00	0.00	0.00

12M63791.D MEGAMIX.M

Thu Aug 03 2017

Analyst: 08/04/2017 09:07

Supervisor: 08/07/2017 16:22

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63791.D

Vial: 8

Acq On : 3 Aug 2017 12:35 pm

Operator: MES

Sample : WG624321-08 80 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 3 13:18 2017

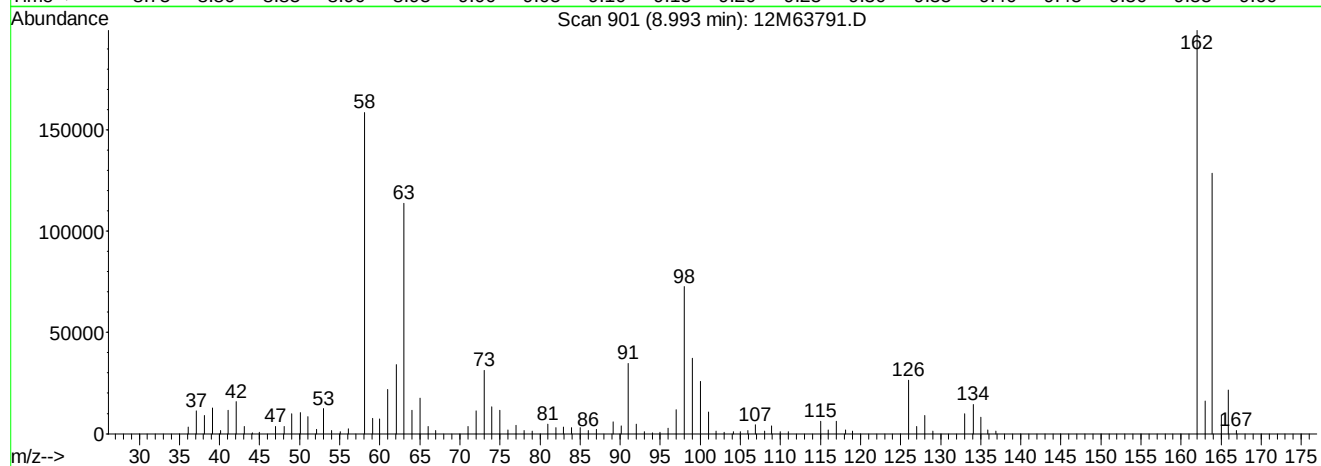
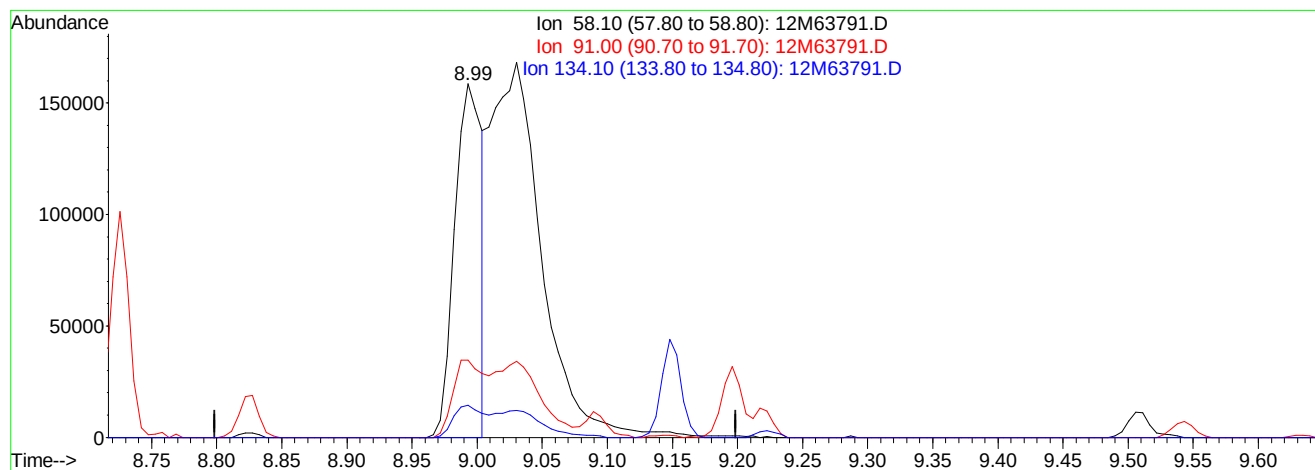
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:17:43 2017

Response via : Multiple Level Calibration



TIC: 12M63791.D

(41) a,a-Dimethylphenethylamine

8.99min 27.37ug/ml

response 230707

Ion	Exp%	Act%
58.10	100	100
91.00	20.00	26.40#
134.10	7.70	10.42#
0.00	0.00	0.00

12M63791.D MEGAMIX.M

Thu Aug 03 13:18:11 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63791.D

Vial: 8

Acq On : 3 Aug 2017 12:35 pm

Operator: MES

Sample : WG624321-08 80 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 3 13:18 2017

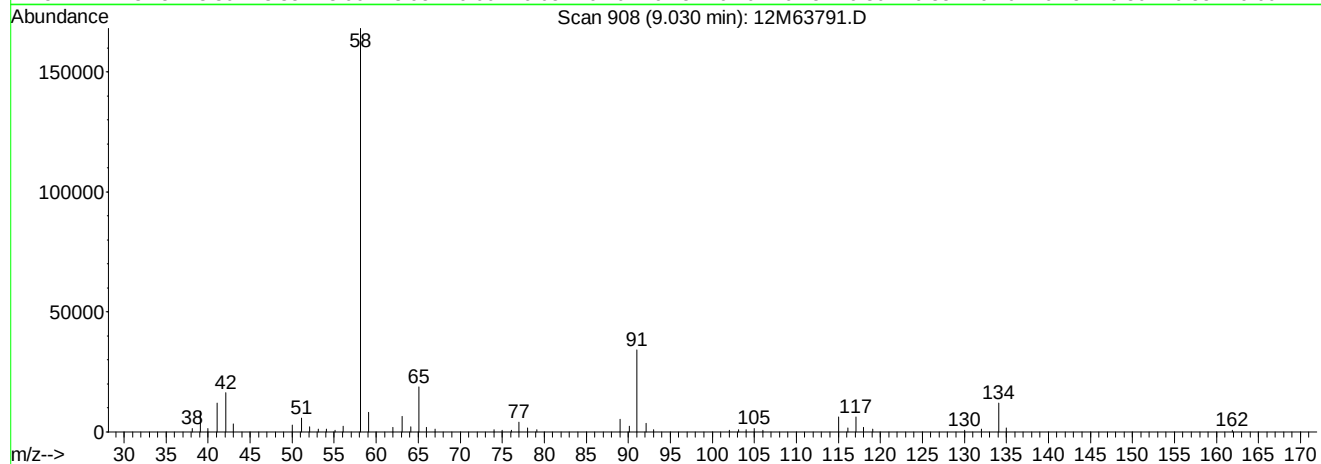
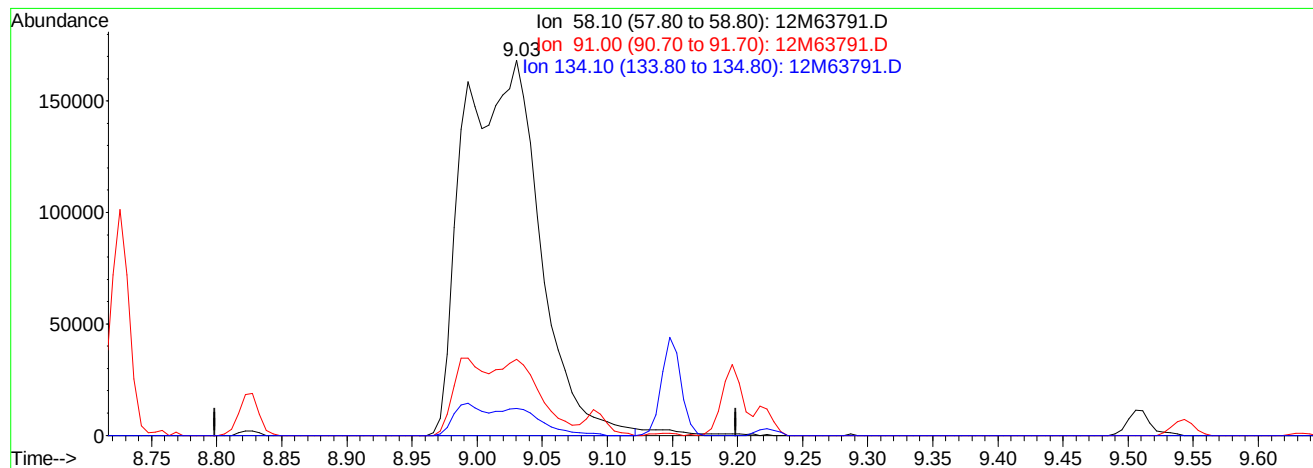
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:17:43 2017

Response via : Multiple Level Calibration



TIC: 12M63791.D

(41) a,a-Dimethylphenethylamine

9.03min 80.94ug/ml mint

response 682239

Ion	Exp%	Act%
58.10	100	100
91.00	20.00	8.93#
134.10	7.70	3.52#
0.00	0.00	0.00

12M63791.D MEGAMIX.M

Thu Aug 03 2017

Analyst: 08/04/2017 09:07

Supervisor: 08/07/2017 16:22

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Data File : I:\MSDCHEM\1\DATA\080317\12M63792.D

Vial: 9

Acq On : 3 Aug 2017 1:08 pm

Operator: MES

Sample : WG624321-09 100 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:46:42 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:18:35 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.855	152	130103	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.148	136	494029	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.959	164	268407	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.583	188	527621	40.0000	ug/ml	0.000
113) Chrysene-d12	16.285	240	537977	40.0000	ug/ml	0.000
128) Perylene-d12	19.159	264	501035	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	6.600	112	416139	102.6703024	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery = 102.67%#			
12) Phenol-d5	7.455	99	529775	101.8480196	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery = 101.85%#			
31) Nitrobenzene-d5	8.422	82	496840	99.3592652	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery = 198.72%#			
59) 2-Fluorobiphenyl	10.217	172	993054	105.1018938	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 210.20%#			
86) 2,4,6-Tribromophenol	11.793	330	161691	111.7327978	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 111.73%#			
117) p-Terphenyl-d14	14.619	244	1281174	109.5396129	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 219.08%#			
Target Compounds						
					Qvalue	
2) 1,4-Dioxane	4.71	88	182600	108.3077	ug/ml	100
3) n-Nitrosodimethylamine	5.17	74	248021	102.9603	ug/ml	99
4) Pyridine	5.18	79	443706	104.5562	ug/ml	100
5) 2-Picoline	6.02	93	481922	102.1343	ug/ml	99
6) n-Nitrosomethylethylamine	6.15	88	193480	100.6638	ug/ml	98
7) Methyl Methanesulfonate	6.44	80	304290	104.6414	ug/ml	99
9) n-Nitrosodiethylamine	6.84	102	209565	103.0291	ug/ml	97
10) Ethyl Methanesulfonate	7.10	79	322005	100.5517	ug/ml	98
11) Aniline	7.55	66	268321	100.3093	ug/ml	94
13) Phenol	7.47	94	535436	101.5871	ug/ml	98
14) bis(2-Chloroethyl)ether	7.57	63	302382	98.4726	ug/ml	94
15) Pentachloroethane	7.58	167	178852	102.4705	ug/ml	99
16) 2-Chlorophenol	7.68	128	457587	103.0996	ug/ml	97
17) 1,3-Dichlorobenzene	7.83	146	504058	103.8788	ug/ml	98
18) 1,4-Dichlorobenzene	7.87	146	507185	102.9688	ug/ml	98
19) Benzyl Alcohol	7.97	108	293984	104.3195	ug/ml	95
20) 1,2-Dichlorobenzene	8.07	146	496440	106.2597	ug/ml	98
21) 2-Methylphenol	8.06	107	390919	103.7724	ug/ml	98
22) bis(2-Chloroisopropyl)ethe	8.11	45	362643	97.0643	ug/ml	98
23) 3-,4-Methylphenol	8.19	107	496291	103.6665	ug/ml	98
24) n-Nitrosopyrrolidine	8.25	100	215271	105.6514	ug/ml	89
25) n-Nitrosodipropylamine	8.25	70	312128	96.5196	ug/ml	97
26) Acetophenone	8.25	105	645199	100.3265	ug/ml	97
27) n-Nitrosomorpholine	8.26	56	239116	95.4306	ug/ml	97
28) o-Toluidine	8.30	106	720423	101.8897	ug/ml	99
29) Hexachloroethane	8.38	117	210355	102.0911	ug/ml	94
32) Nitrobenzene	8.44	77	485640	98.3320	ug/ml	98
33) n-Nitrosopiperidine	8.59	114	222654	102.8781	ug/ml	94
34) Isophorone	8.66	82	860450	100.0235	ug/ml	98
35) 2-Nitrophenol	8.76	139	249412	104.9768	ug/ml	96
36) 2,4-Dimethylphenol	8.73	122	412040	104.5264	ug/ml	98
37) 0,0,0-Triethyl Phosphoroth	8.83	198	247108	108.1558	ug/ml	91
38) bis(2-Chloroethoxy)methane	8.83	93	683354	101.9163	ug/ml	99

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

12M63792.D MEGAMIX.M Thu Aug 03 13:49:26 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\080317\12M63792.D

Vial: 9

Acq On : 3 Aug 2017 1:08 pm

Operator: MES

Sample : WG624321-09 100 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:46:42 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:18:35 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.80	105	294992	138.5688	ug/ml#	77
40) 2,4-Dichlorophenol	8.99	162	381144	106.1682	ug/ml	98
41) a,a-Dimethylphenethylamine	9.04	58	875823m	104.5488	ug/ml	
42) 1,2,4-Trichlorobenzene	9.09	180	436642	105.4104	ug/ml	99
43) Naphthalene	9.17	128	1398291	104.7806	ug/ml#	97
44) 4-Chloroaniline	9.20	65	182232	99.2110	ug/ml	79
45) 2,6-Dichlorophenol	9.22	162	343796	103.8717	ug/ml	98
46) Hexachloropropene	9.28	213	320013	106.5160	ug/ml	98
47) Hexachlorobutadiene	9.32	225	248272	104.1231	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.51	84	415445	105.5190	ug/ml#	89
49) p-Phenylenediamine	9.55	108	286109	111.4534	ug/ml	98
50) 4-Chloro-3-Methylphenol	9.63	107	453969	102.1285	ug/ml	94
51) Safrole	9.73	162	368466	105.9906	ug/ml	95
52) 2-Methylnaphthalene	9.86	142	972575	107.0083	ug/ml	100
53) 1-Methylnaphthalene	9.98	142	888375	106.5772	ug/ml	99
55) 1,2,4,5-Tetrachlorobenzene	10.07	216	466900	108.0645	ug/ml	99
56) Hexachlorocyclopentadiene	10.08	237	229066	128.9271	ug/ml	100
57) 2,4,6-Trichlorophenol	10.15	196	307049	107.8017	ug/ml	100
58) 2,4,5-Trichlorophenol	10.20	196	321114	107.9131	ug/ml	99
60) Isosafrole	10.25	162	359325	104.0182	ug/ml	96
61) 2-Chloronaphthalene	10.37	162	913688	105.5325	ug/ml	97
62) 1-Chloronaphthalene	10.41	162	872813	106.2207	ug/ml	98
63) 2-Nitroaniline	10.46	65	273517	98.1965	ug/ml	93
64) 1,4-Naphthoquinone	10.53	158	197501	81.3455	ug/ml	97
65) Dimethylphthalate	10.62	163	1044551	104.0247	ug/ml	100
66) 1,3-Dinitrobenzene	10.68	168	181728	105.0305	ug/ml	93
67) 2,6-Dinitrotoluene	10.72	165	244214	103.6425	ug/ml	94
68) Acenaphthylene	10.81	152	1443464	106.0800	ug/ml	99
69) 3-Nitroaniline	10.88	138	249145	102.9404	ug/ml	96
70) 2,4-Dinitrophenol	10.99	184	170019	125.0219	ug/ml	78
71) Acenaphthene	11.00	154	948706	109.6755	ug/ml	100
72) 4-Nitrophenol	10.99	65	216670	101.0055	ug/ml	90
73) 2,4-Dinitrotoluene	11.14	165	347832	107.6804	ug/ml	91
74) Pentachlorobenzene	11.17	250	375928	107.2692	ug/ml	96
75) Dibenzofuran	11.15	168	1290423	104.9847	ug/ml	97
76) 2,3,4,6-Tetrachlorophenol	11.30	232	291354	114.3720	ug/ml	96
77) 1-Naphthylamine	11.23	143	922913	111.4634	ug/ml	97
78) 2-Naphthylamine	11.30	143	976744	112.3832	ug/ml	95
79) Diethylphthalate	11.33	149	1052518	102.0222	ug/ml	99
80) Thionazin	11.43	107	175784	103.6692	ug/ml	99
81) Fluorene	11.51	166	1116917	107.4828	ug/ml	100
82) 4-Chlorophenyl Phenyl Ether	11.46	204	546459	105.1684	ug/ml	96
83) 4-Nitroaniline	11.53	138	278018	104.3905	ug/ml	93
84) 5-Nitro-o-Toluidine	11.51	152	331188	110.1888	ug/ml	89
85) 1,2-Diphenylhydrazine	11.63	77	1041087	98.2645	ug/ml	97
88) 4,6-Dinitro-2-Methylphenol	11.56	198	222455	113.1685	ug/ml	87
89) Diphenylamine/n-Nitrosodip	11.58	169	971005	108.4251	ug/ml	100
90) Sulfotep	11.78	322	199727	112.0051	ug/ml	87
91) Sym-Trinitrobenzene	11.87	75	347629	109.1302	ug/ml	97
92) Diallate	11.90	86	376366	99.9855	ug/ml#	94
93) Phenacetin	11.90	108	579556	104.3790	ug/ml	97
94) Phorate	11.92	75	583473	98.3967	ug/ml#	95
95) 4-Bromophenyl Phenyl Ether	11.99	248	308599	108.8905	ug/ml	94
96) Hexachlorobenzene	12.21	284	317630	107.7845	ug/ml	95

(#) = qualifier out of range (m) = manual integration
 12M63792.D MEGAMIX.M Thu Aug 03 13:49:26 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63792.D

Vial: 9

Acq On : 3 Aug 2017 1:08 pm

Operator: MES

Sample : WG624321-09 100 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 13:46:42 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:18:35 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	12.15	87	308365	90.5609	ug/ml	98
98) 4-Aminobiphenyl	12.29	169	1131416	107.2730	ug/ml	99
99) Pentachlorophenol	12.40	266	205896	115.3974	ug/ml	100
100) Pronamide	12.33	173	490250	106.3807	ug/ml	99
101) Pentachloronitrobenzene	12.49	237	142077	106.5492	ug/ml	98
102) Disulfoton	12.51	88	489842	101.7865	ug/ml	99
103) Phenanthrene	12.61	178	1562504	105.4533	ug/ml	99
104) Anthracene	12.66	178	1646526	106.9489	ug/ml	100
105) Carbazole	12.82	167	1435053	107.5014	ug/ml	99
106) Parathion Methyl	12.99	109	302020	97.8269	ug/ml	97
107) Di-n-Butyl Phthalate	13.18	149	1824819	104.4951	ug/ml	100
108) Parathion Ethyl	13.48	97	228001	105.7170	ug/ml	96
109) 4-Nitroquinoline 1-Oxide	13.58	190	127059	138.7140	ug/ml	94
110) Methapyrilene	13.62	58	344516	70.7815	ug/ml	99
111) Isodrin	13.99	193	176205	103.9377	ug/ml	99
112) Fluoranthene	14.16	202	1756636	107.1257	ug/ml	100
114) Benzidine	14.26	184	698148	102.3975	ug/ml	100
115) Pyrene	14.50	202	1825441	107.0374	ug/ml	100
116) Aramite	14.52	185	106206	102.2403	ug/ml	96
118) p-(Dimethylamino)azobenzen	14.83	225	368796	109.5433	ug/ml	90
119) Chlorobenzilate	14.87	251	498113	106.6599	ug/ml	93
120) Famphur	15.28	218	8646	8.1470	ug/ml#	1
121) Butyl Benzyl Phthalate	15.30	149	873713	104.3619	ug/ml	95
122) 3,3'-Dimethylbenzidine	15.32	212	1543447	101.9133	ug/ml	99
123) 2-Acetylaminofluorene	15.74	181	806751	112.0899	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	16.13	149	1178977	107.8200	ug/ml	99
125) 3,3'-Dichlorobenzidine	16.16	252	590051	105.7004	ug/ml	99
126) Benzo[a]anthracene	16.26	228	1725881	106.6354	ug/ml	100
127) Chrysene	16.33	228	1582651	107.9058	ug/ml	100
129) Di-n-Octyl Phthalate	17.13	149	2002193	105.5608	ug/ml	99
130) 7,12-Dimethylbenz[a]anthra	18.27	256	853674	109.5304	ug/ml	98
131) Benzo[b]fluoranthene	18.27	252	1878686	109.2736	ug/ml	100
132) Benzo[k]fluoranthene	18.32	252	1527748	107.8958	ug/ml	100
133) Benzo[a]pyrene	19.03	252	1525044	107.9295	ug/ml	99
134) 3-Methylcholanthrene	19.96	268	787629	107.4200	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	22.39	276	1704851	110.2976	ug/ml	99
136) Dibenz[ah]anthracene	22.38	278	1478809	112.2402	ug/ml	100
137) Benzo[ghi]perylene	23.36	276	1313171	106.9812	ug/ml	100

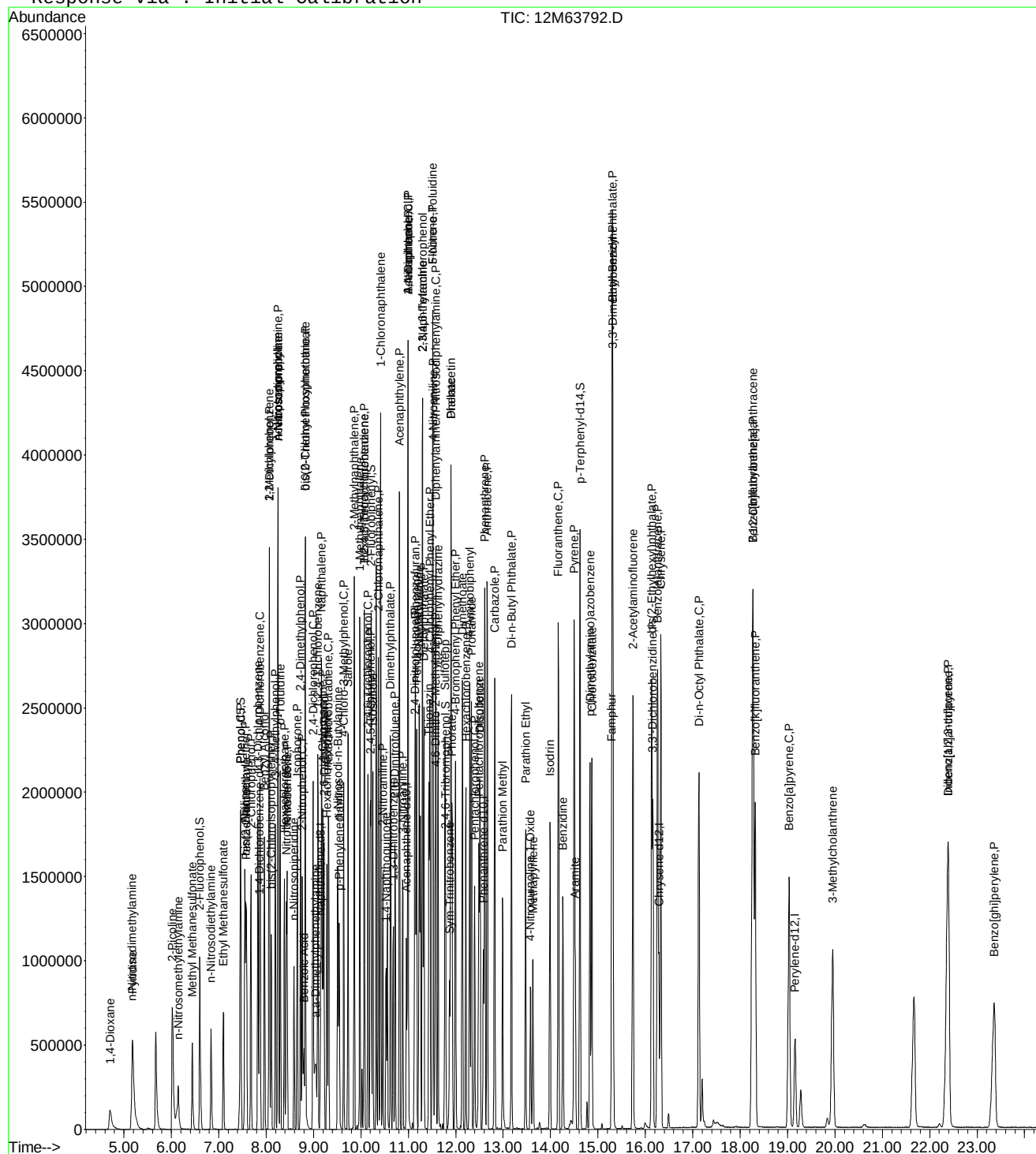
 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63792.D MEGAMIX.M Thu Aug 03 13:49:26 2017

Page 3

Vial: 9
Operator: MES
Inst : MSD12
Multiplr: 1.00

Quant Results File: MEGAMIX.RES

```
Method       : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title        : OVD MSS01 8270/625 ICAL 08/3/17
Last Update   : Thu Aug 03 13:47:54 2017
Response via  : Initial Calibration
```



Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63792.D

Vial: 9

Acq On : 3 Aug 2017 1:08 pm

Operator: MES

Sample : WG624321-09 100 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 3 13:46 2017

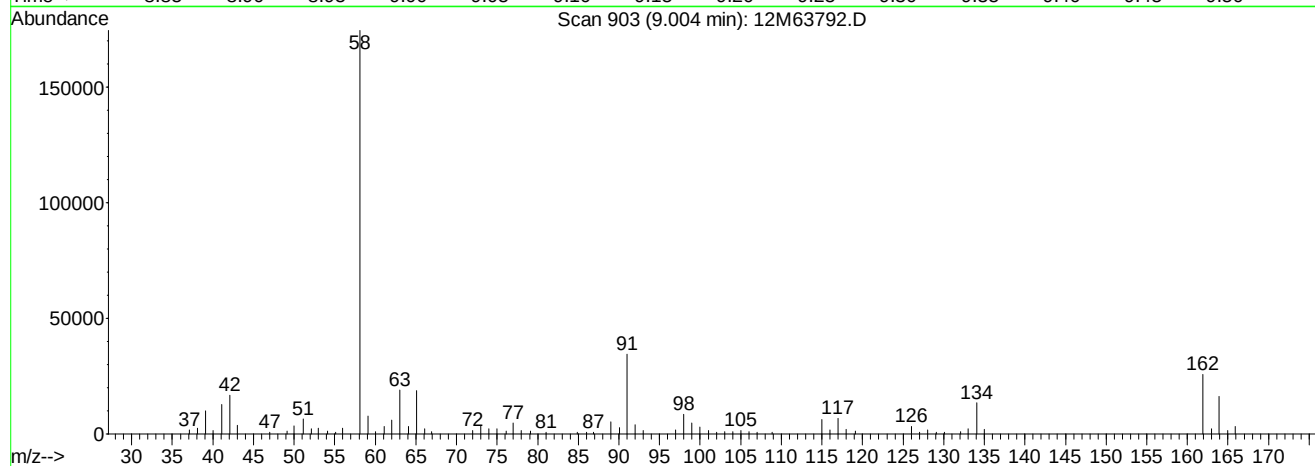
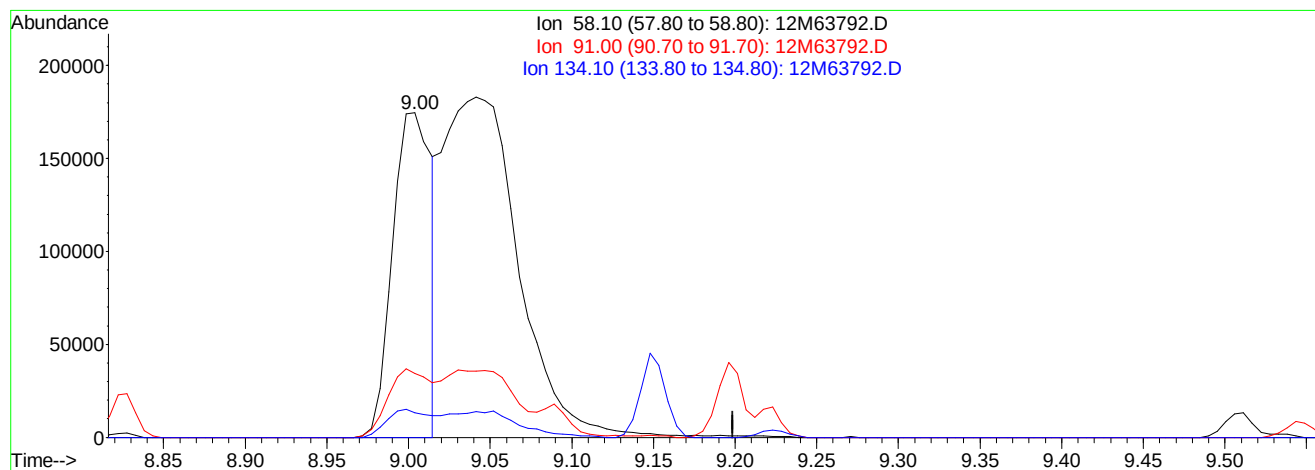
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:18:35 2017

Response via : Multiple Level Calibration



TIC: 12M63792.D

(41) a,a-Dimethylphenethylamine

9.00min 34.70ug/ml

response 290646

Ion	Exp%	Act%
58.10	100	100
91.00	20.00	22.63
134.10	7.70	10.53#
0.00	0.00	0.00

12M63792.D MEGAMIX.M

Thu Aug 03 13:46:59 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63792.D

Vial: 9

Acq On : 3 Aug 2017 1:08 pm

Operator: MES

Sample : WG624321-09 100 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 3 13:49 2017

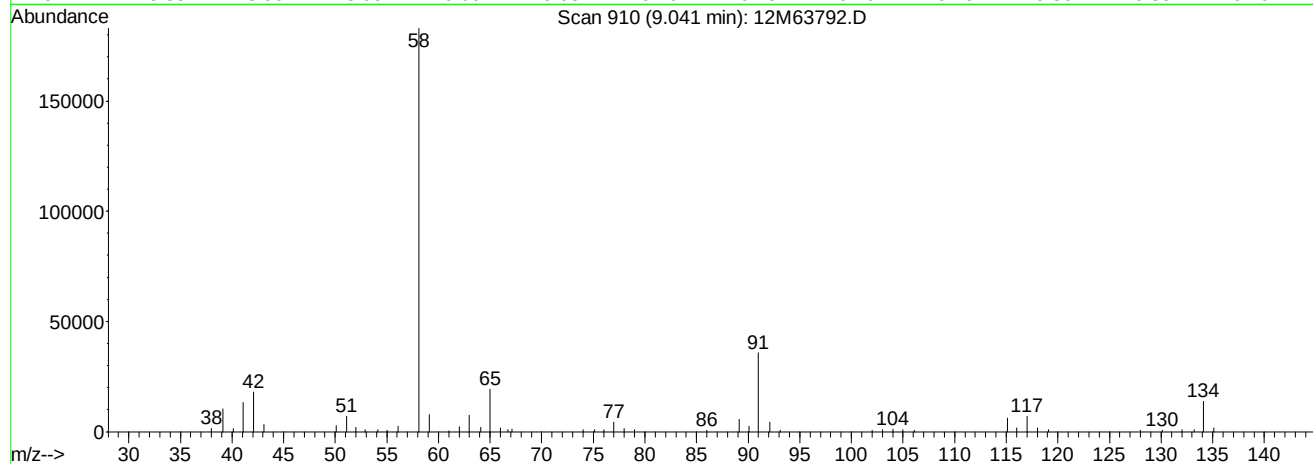
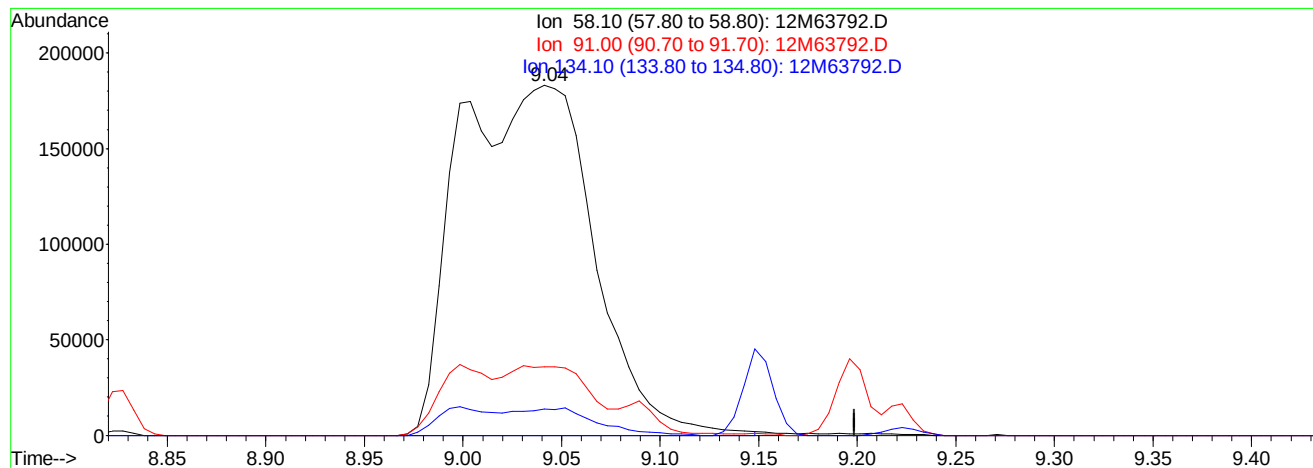
Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:47:54 2017

Response via : Multiple Level Calibration



TIC: 12M63792.D

(41) a,a-Dimethylphenethylamine

9.04min 104.55ug/ml mint

response 875823

Ion	Exp%	Act%
58.10	100	100
91.00	20.00	7.51#
134.10	7.70	3.50#
0.00	0.00	0.00

12M63792.D MEGAMIX.M

Thu Aug 03 2017

Analyst: 08/04/2017 09:07

Supervisor: 08/07/2017 16:22

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Data File : I:\MSDCHEM\1\DATA\080317\12M63793.D

Vial: 10

Acq On : 3 Aug 2017 1:41 pm

Operator: MES

Sample : WG624321-10 120 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 14:05:26 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:49:29 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.855	152	131765	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.148	136	501263	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.959	164	266674	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.583	188	532979	40.0000	ug/ml	0.000
113) Chrysene-d12	16.285	240	553464	40.0000	ug/ml	0.000
128) Perylene-d12	19.165	264	511861	40.0000	ug/ml	0.011
System Monitoring Compounds						
8) 2-Fluorophenol	6.605	112	499049	122.8712646	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery = 122.87%#			
12) Phenol-d5	7.454	99	643411	123.7160269	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery = 123.72%#			
31) Nitrobenzene-d5	8.427	82	595524	118.1827265	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery = 236.37%#			
59) 2-Fluorobiphenyl	10.216	172	1206498	129.6483411	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery = 259.30%#			
86) 2,4,6-Tribromophenol	11.792	330	200589	141.2733591	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery = 141.27%#			
117) p-Terphenyl-d14	14.618	244	1552522	129.6408901	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery = 259.28%#			
Target Compounds						
					Qvalue	
2) 1,4-Dioxane	4.71	88	219380	127.7962	ug/ml	99
3) n-Nitrosodimethylamine	5.17	74	298855	123.7388	ug/ml	98
4) Pyridine	5.18	79	535918	123.1885	ug/ml	100
5) 2-Picoline	6.02	93	574516	120.8445	ug/ml	99
6) n-Nitrosomethylethylamine	6.15	88	234579	121.8976	ug/ml	99
7) Methyl Methanesulfonate	6.44	80	361511	120.9633	ug/ml	99
9) n-Nitrosodiethylamine	6.84	102	250964	123.2331	ug/ml	95
10) Ethyl Methanesulfonate	7.10	79	385156	119.8855	ug/ml	98
11) Aniline	7.55	66	319870	119.0437	ug/ml	91
13) Phenol	7.47	94	646442	122.6177	ug/ml	96
14) bis(2-Chloroethyl)ether	7.57	63	360745	116.8749	ug/ml	91
15) Pentachloroethane	7.59	167	213406	121.7080	ug/ml	99
16) 2-Chlorophenol	7.68	128	550916	123.9750	ug/ml	96
17) 1,3-Dichlorobenzene	7.83	146	607371	124.9112	ug/ml	98
18) 1,4-Dichlorobenzene	7.87	146	619373	125.5481	ug/ml	98
19) Benzyl Alcohol	7.97	108	354665	125.5407	ug/ml	94
20) 1,2-Dichlorobenzene	8.07	146	600354	128.2409	ug/ml	98
21) 2-Methylphenol	8.07	107	470883	124.7673	ug/ml	97
22) bis(2-Chloroisopropyl)ethe	8.11	45	435525	116.2572	ug/ml	97
23) 3-,4-Methylphenol	8.20	107	592638	123.5089	ug/ml	98
24) n-Nitrosopyrrolidine	8.26	100	251936	123.1231	ug/ml	88
25) n-Nitrosodipropylamine	8.25	70	368997	113.2686	ug/ml	96
26) Acetophenone	8.26	105	761720	117.8052	ug/ml	96
27) n-Nitrosomorpholine	8.26	56	277678	109.7726	ug/ml	97
28) o-Toluidine	8.30	106	857093	120.8475	ug/ml	99
29) Hexachloroethane	8.38	117	250408	120.9837	ug/ml	93
32) Nitrobenzene	8.44	77	580807	116.5994	ug/ml	96
33) n-Nitrosopiperidine	8.59	114	268648	123.6291	ug/ml	92
34) Isophorone	8.66	82	1027349	118.5211	ug/ml	97
35) 2-Nitrophenol	8.76	139	304533	127.8636	ug/ml	94
36) 2,4-Dimethylphenol	8.73	122	501537	126.6976	ug/ml	98
37) 0,0,0-Triethyl Phosphoroth	8.83	198	297365	129.0716	ug/ml	90
38) bis(2-Chloroethoxy)methane	8.83	93	812727	120.0320	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M63793.D MEGAMIX.M Thu Aug 03 14:06:00 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\080317\12M63793.D

Vial: 10

Acq On : 3 Aug 2017 1:41 pm

Operator: MES

Sample : WG624321-10 120 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 14:05:26 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:49:29 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.81	105	371653	180.1428	ug/ml#	64
40) 2,4-Dichlorophenol	8.99	162	470852	130.6188	ug/ml	97
41) a,a-Dimethylphenethylamine	9.06	58	1056969m	125.3157	ug/ml	
42) 1,2,4-Trichlorobenzene	9.09	180	530719	127.3626	ug/ml	99
43) Naphthalene	9.17	128	1690525	125.8490	ug/ml#	98
44) 4-Chloroaniline	9.20	65	217884	117.7080	ug/ml	79
45) 2,6-Dichlorophenol	9.22	162	418217	125.8778	ug/ml	98
46) Hexachloropropene	9.29	213	388687	127.5867	ug/ml	99
47) Hexachlorobutadiene	9.32	225	297796	123.8128	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.51	84	413848	102.1170	ug/ml	88
49) p-Phenylenediamine	9.55	108	334661	120.3591	ug/ml	97
50) 4-Chloro-3-Methylphenol	9.64	107	545910	121.8570	ug/ml	93
51) Safrole	9.73	162	447909	128.4965	ug/ml	93
52) 2-Methylnaphthalene	9.86	142	1187531	130.0582	ug/ml	100
53) 1-Methylnaphthalene	9.98	142	1075956	128.5798	ug/ml	98
55) 1,2,4,5-Tetrachlorobenzene	10.07	216	566250	132.8923	ug/ml	99
56) Hexachlorocyclopentadiene	10.08	237	275259	151.6994	ug/ml	99
57) 2,4,6-Trichlorophenol	10.15	196	371944	132.5916	ug/ml	99
58) 2,4,5-Trichlorophenol	10.20	196	391150	133.4299	ug/ml	99
60) Isosafrole	10.25	162	435836	128.3409	ug/ml	95
61) 2-Chloronaphthalene	10.37	162	1104447	129.5041	ug/ml	97
62) 1-Chloronaphthalene	10.41	162	1058854	130.6513	ug/ml	98
63) 2-Nitroaniline	10.46	65	324591	118.1064	ug/ml	91
64) 1,4-Naphthoquinone	10.53	158	226790	96.6741	ug/ml	95
65) Dimethylphthalate	10.63	163	1252629	126.3473	ug/ml	99
66) 1,3-Dinitrobenzene	10.68	168	221705	130.5124	ug/ml	92
67) 2,6-Dinitrotoluene	10.72	165	299118	129.4296	ug/ml	91
68) Acenaphthylene	10.81	152	1765239	131.6421	ug/ml	100
69) 3-Nitroaniline	10.88	138	302266	127.2574	ug/ml	94
70) 2,4-Dinitrophenol	10.99	184	211589	161.3634	ug/ml	72
71) Acenaphthene	11.00	154	1135339	132.8325	ug/ml	100
72) 4-Nitrophenol	10.99	65	254402	119.5572	ug/ml	89
73) 2,4-Dinitrotoluene	11.14	165	428141	135.1031	ug/ml	87
74) Pentachlorobenzene	11.17	250	464803	134.8864	ug/ml	95
75) Dibenzofuran	11.15	168	1582379	130.8788	ug/ml	96
76) 2,3,4,6-Tetrachlorophenol	11.30	232	352601	140.3582	ug/ml	95
77) 1-Naphthylamine	11.23	143	1122263	135.1990	ug/ml	96
78) 2-Naphthylamine	11.30	143	1167629	135.5526	ug/ml	94
79) Diethylphthalate	11.33	149	1257685	123.4328	ug/ml	98
80) Thionazin	11.43	107	210181	125.9560	ug/ml	99
81) Fluorene	11.51	166	1340305	130.7609	ug/ml	100
82) 4-Chlorophenyl Phenyl Ether	11.46	204	671948	131.6516	ug/ml	95
83) 4-Nitroaniline	11.53	138	335534	127.8624	ug/ml	92
84) 5-Nitro-o-Toluidine	11.52	152	399797	134.7984	ug/ml	88
85) 1,2-Diphenylhydrazine	11.63	77	1231003	117.4444	ug/ml	95
88) 4,6-Dinitro-2-Methylphenol	11.57	198	277710	142.1145	ug/ml	83
89) Diphenylamine/n-Nitrosodip	11.58	169	1173167	130.6040	ug/ml	99
90) Sulfotep	11.78	322	243715	136.6512	ug/ml	85
91) Sym-Trinitrobenzene	11.87	75	417417	130.5987	ug/ml	96
92) Diallate	11.90	86	446315	117.9146	ug/ml#	93
93) Phenacetin	11.90	108	684395	122.3710	ug/ml	96
94) Phorate	11.93	75	692611	115.9504	ug/ml#	95
95) 4-Bromophenyl Phenyl Ether	12.00	248	380006	134.0781	ug/ml	93
96) Hexachlorobenzene	12.21	284	392652	133.2784	ug/ml	94

(#) = qualifier out of range (m) = manual integration
 12M63793.D MEGAMIX.M Thu Aug 03 14:06:01 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63793.D

Vial: 10

Acq On : 3 Aug 2017 1:41 pm

Operator: MES

Sample : WG624321-10 120 PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 03 14:05:26 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Thu Aug 03 13:49:29 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	12.14	87	351712	101.4171	ug/ml	98
98) 4-Aminobiphenyl	12.29	169	1374811	129.7306	ug/ml	99
99) Pentachlorophenol	12.40	266	255209	143.2951	ug/ml	99
100) Pronamide	12.33	173	584174	126.2171	ug/ml	99
101) Pentachloronitrobenzene	12.49	237	171723	128.0988	ug/ml	99
102) Disulfoton	12.51	88	581596	120.1129	ug/ml	100
103) Phenanthrene	12.62	178	1919512	129.2997	ug/ml	100
104) Anthracene	12.67	178	1992241	129.0655	ug/ml	99
105) Carbazole	12.82	167	1735866	129.9904	ug/ml	100
106) Parathion Methyl	12.99	109	356987	114.2049	ug/ml	97
107) Di-n-Butyl Phthalate	13.18	149	2185028	124.4422	ug/ml	99
108) Parathion Ethyl	13.48	97	270685	124.7863	ug/ml	94
109) 4-Nitroquinoline 1-Oxide	13.58	190	156260	170.5326	ug/ml	93
110) Methapyrilene	13.63	58	380508	75.5874	ug/ml	97
111) Isodrin	13.99	193	213318	125.5161	ug/ml	99
112) Fluoranthene	14.16	202	2133959	130.0694	ug/ml	99
114) Benzidine	14.26	184	842305	121.8767	ug/ml	100
115) Pyrene	14.50	202	2227242	127.8291	ug/ml	100
116) Aramite	14.52	185	124942	117.3850	ug/ml	96
118) p-(Dimethylamino)azobenzen	14.83	225	452616	131.8971	ug/ml	87
119) Chlorobenzilate	14.87	251	614398	128.5721	ug/ml	91
120) Famphur	15.28	218	4381	4.0126	ug/ml#	1
121) Butyl Benzyl Phthalate	15.30	149	1026870	118.9259	ug/ml	94
122) 3,3'-Dimethylbenzidine	15.32	212	1839068	120.3204	ug/ml	99
123) 2-Acetylaminofluorene	15.75	181	968975	131.6466	ug/ml	98
124) bis(2-Ethylhexyl)phthalate	16.13	149	1419936	126.7849	ug/ml	99
125) 3,3'-Dichlorobenzidine	16.16	252	724680	127.3097	ug/ml	99
126) Benzo[a]anthracene	16.26	228	2112698	127.8452	ug/ml	99
127) Chrysene	16.33	228	1939193	129.3884	ug/ml	100
129) Di-n-Octyl Phthalate	17.13	149	2418483	125.7461	ug/ml	98
130) 7,12-Dimethylbenz[a]anthra	18.27	256	1047793	132.6515	ug/ml	98
131) Benzo[b]fluoranthene	18.28	252	2261901	130.0348	ug/ml	100
132) Benzo[k]fluoranthene	18.33	252	1917662	133.7339	ug/ml	97
133) Benzo[a]pyrene	19.04	252	1889093	132.3517	ug/ml	100
134) 3-Methylcholanthrene	19.96	268	969103	130.8117	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	22.41	276	2089990	133.7125	ug/ml	99
136) Dibenz[ah]anthracene	22.40	278	1821329	136.7623	ug/ml	99
137) Benzo[ghi]perylene	23.37	276	1608025	129.7357	ug/ml	100

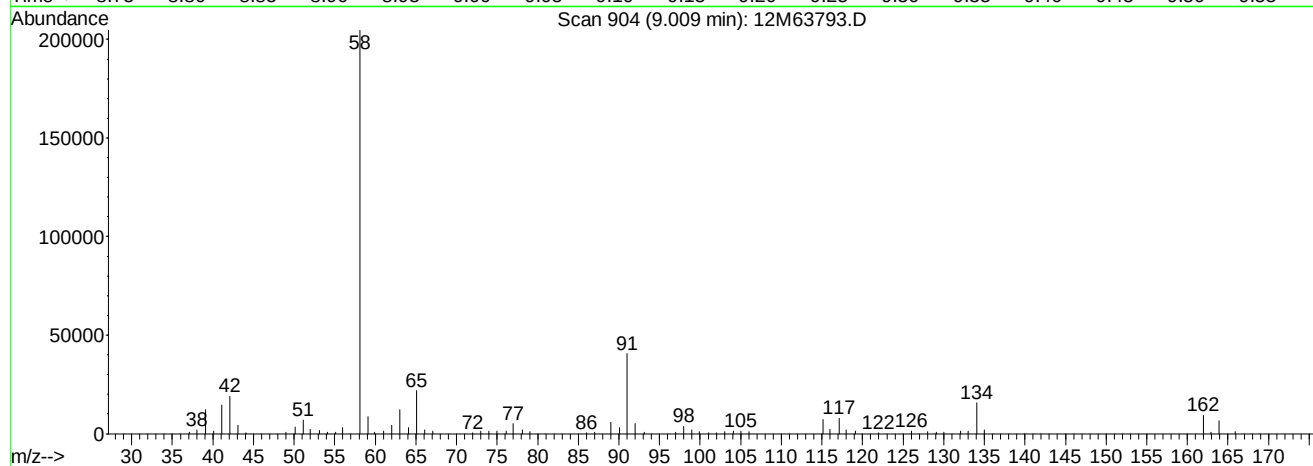
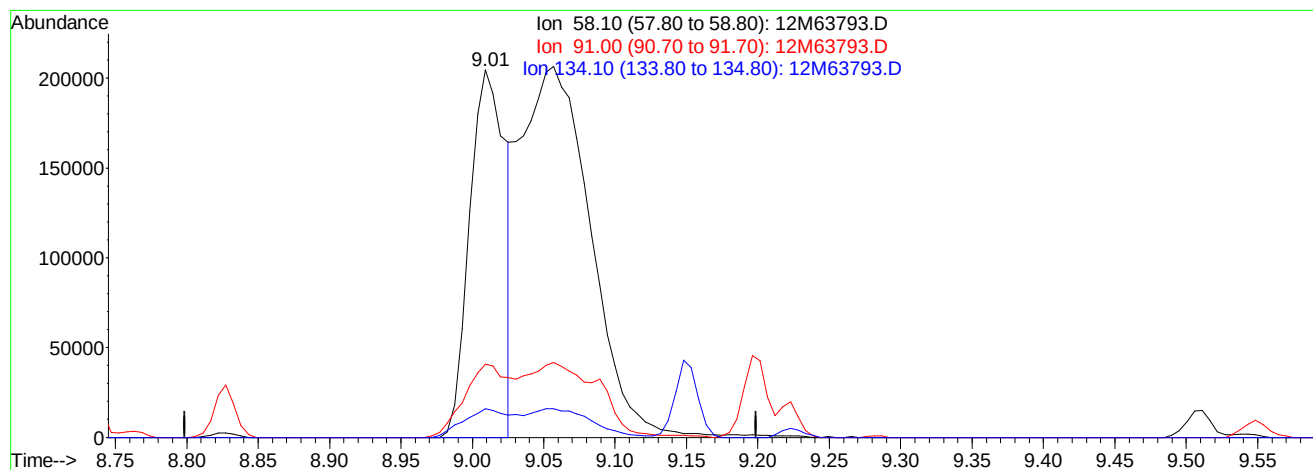
 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63793.D MEGAMIX.M Thu Aug 03 14:06:01 2017

Page 3

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63793.D Vial: 10
Acq On : 3 Aug 2017 1:41 pm Operator: MES
Sample : WG624321-10 120 PPM 8270 STD Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 3 14:05 2017 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Last Update : Thu Aug 03 13:49:29 2017
Response via : Multiple Level Calibration



TIC: 12M63793.D

(41) a,a-Dimethylphenethylamine

9.01min 42.44ug/ml

response 357970

Ion	Exp%	Act%
58.10	100	100
91.00	20.00	25.92#
134.10	7.70	11.29#
0.00	0.00	0.00

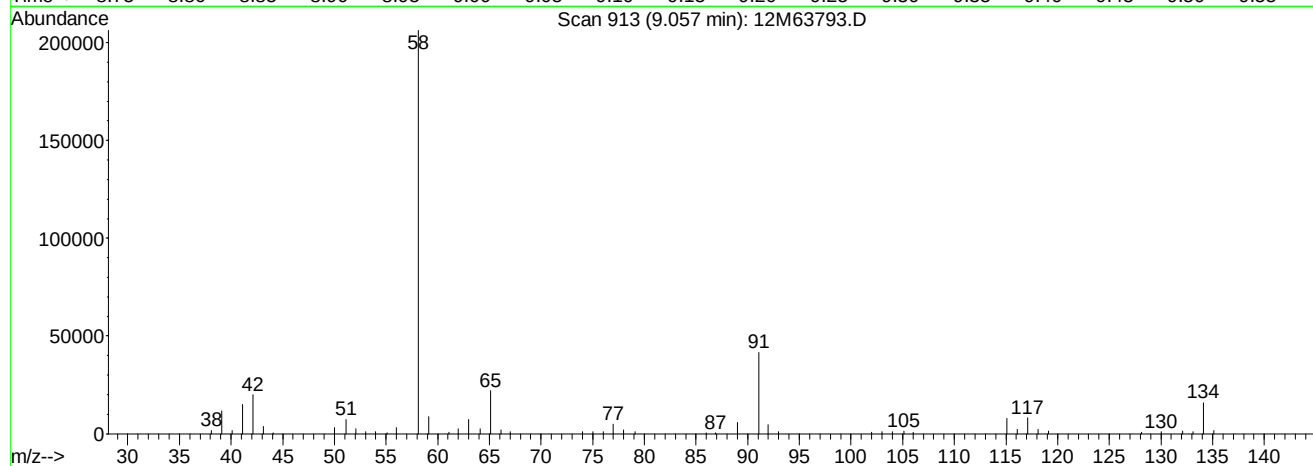
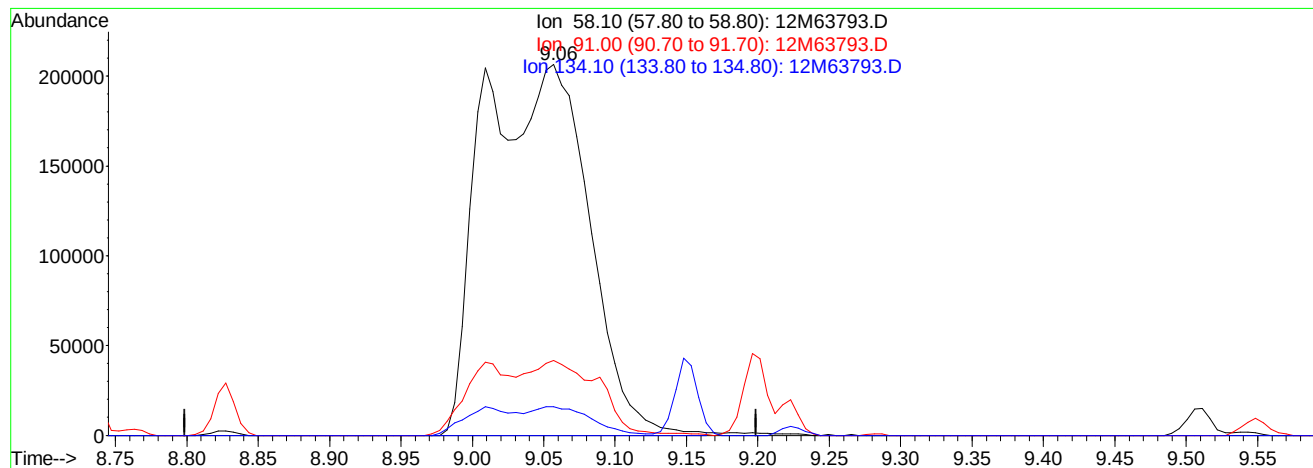
12M63793.D MEGAMIX.M

Thu Aug 03 14:05:38 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63793.D Vial: 10
Acq On : 3 Aug 2017 1:41 pm Operator: MES
Sample : WG624321-10 120 PPM 8270 STD Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 3 14:05 2017 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Last Update : Thu Aug 03 13:49:29 2017
Response via : Multiple Level Calibration



TIC: 12M63793.D

(41) a,a-Dimethylphenethylamine

9.06min 125.32ug/ml mint

response 1056969

Ion	Exp%	Act%
58.10	100	100
91.00	20.00	8.78#
134.10	7.70	3.82#
0.00	0.00	0.00

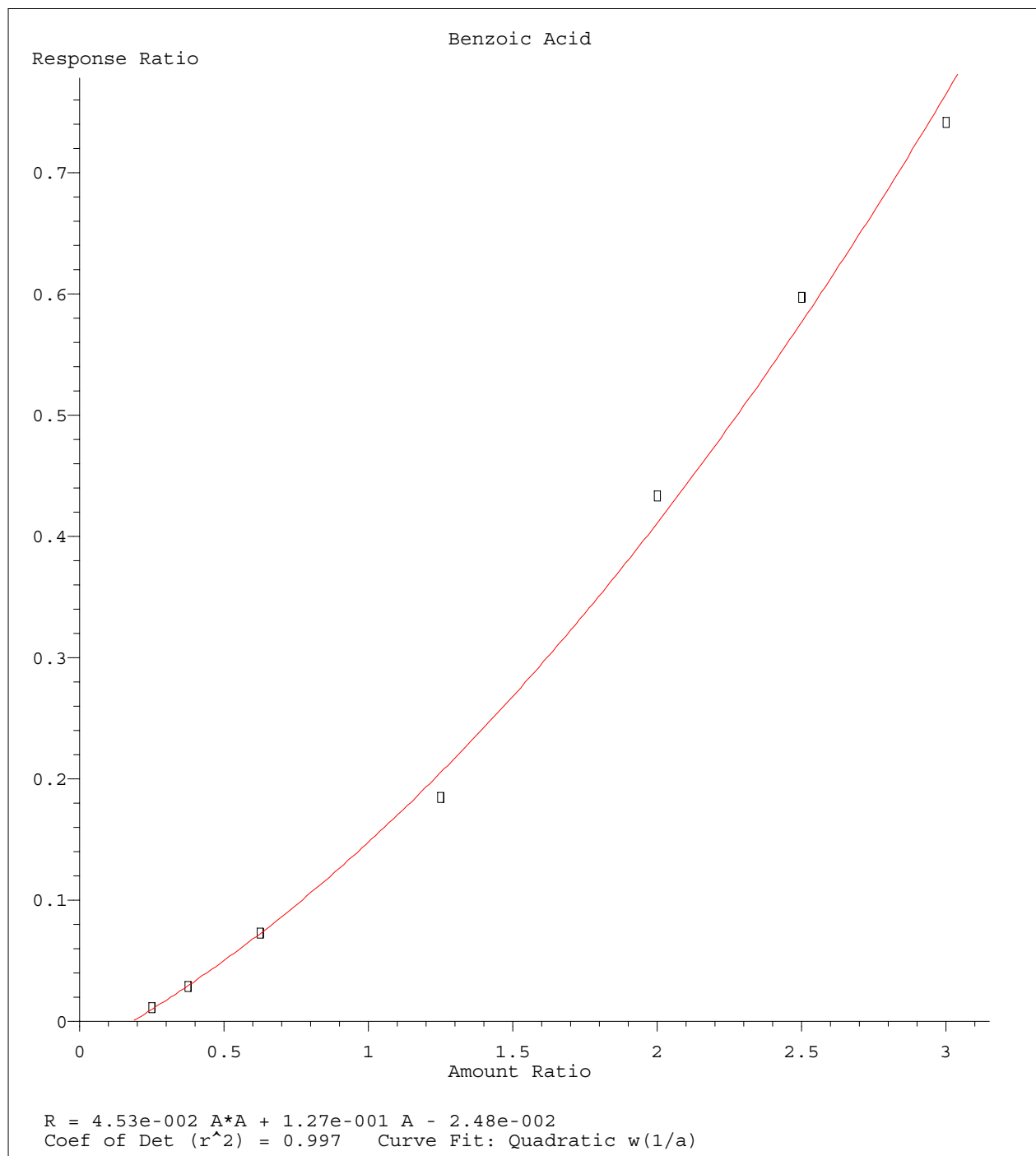
12M63793.D MEGAMIX.M

Thu Aug 03 2017

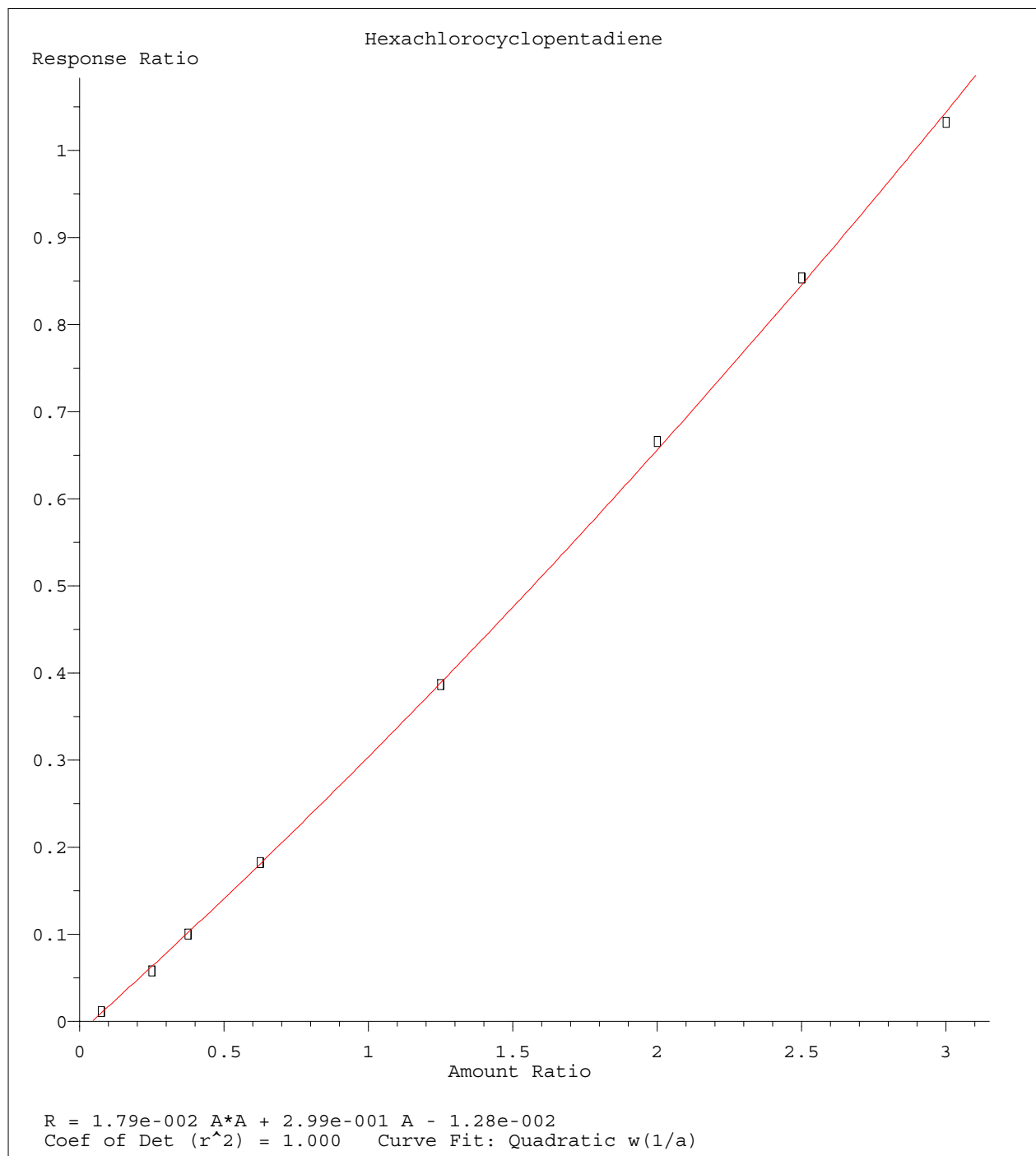
Analyst: 08/04/2017 09:08

Supervisor: 08/07/2017 16:22

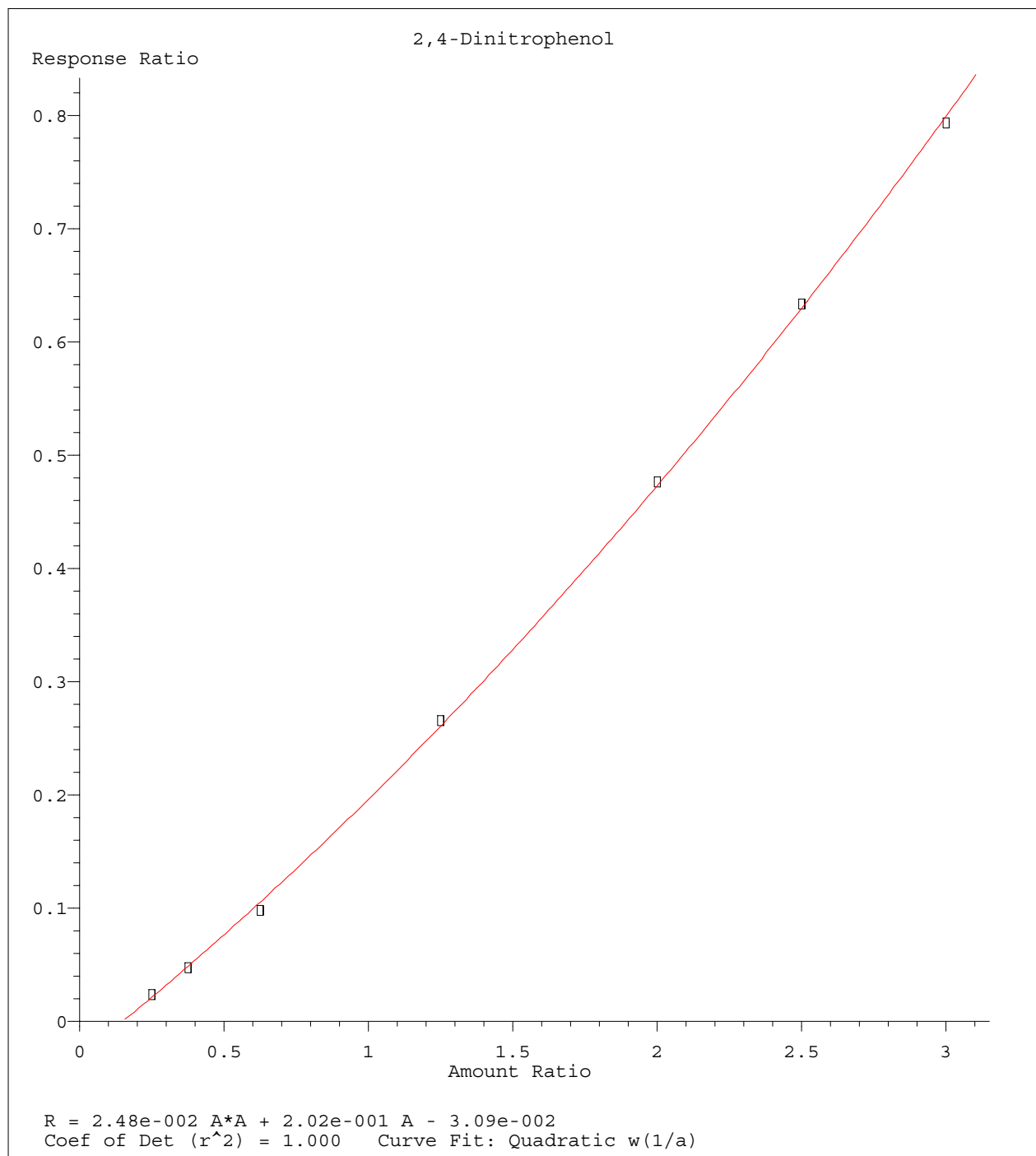
#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak



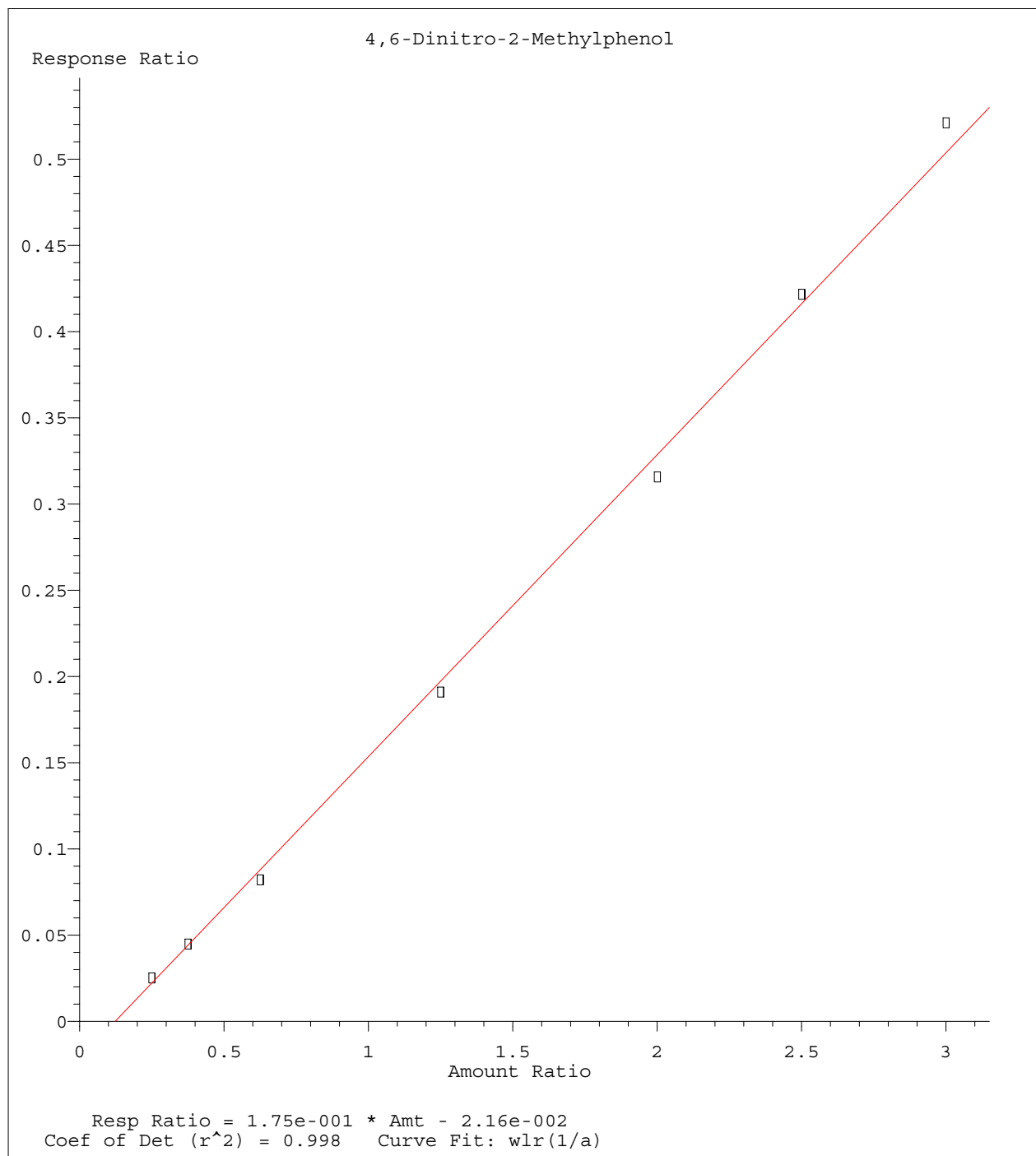
Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017



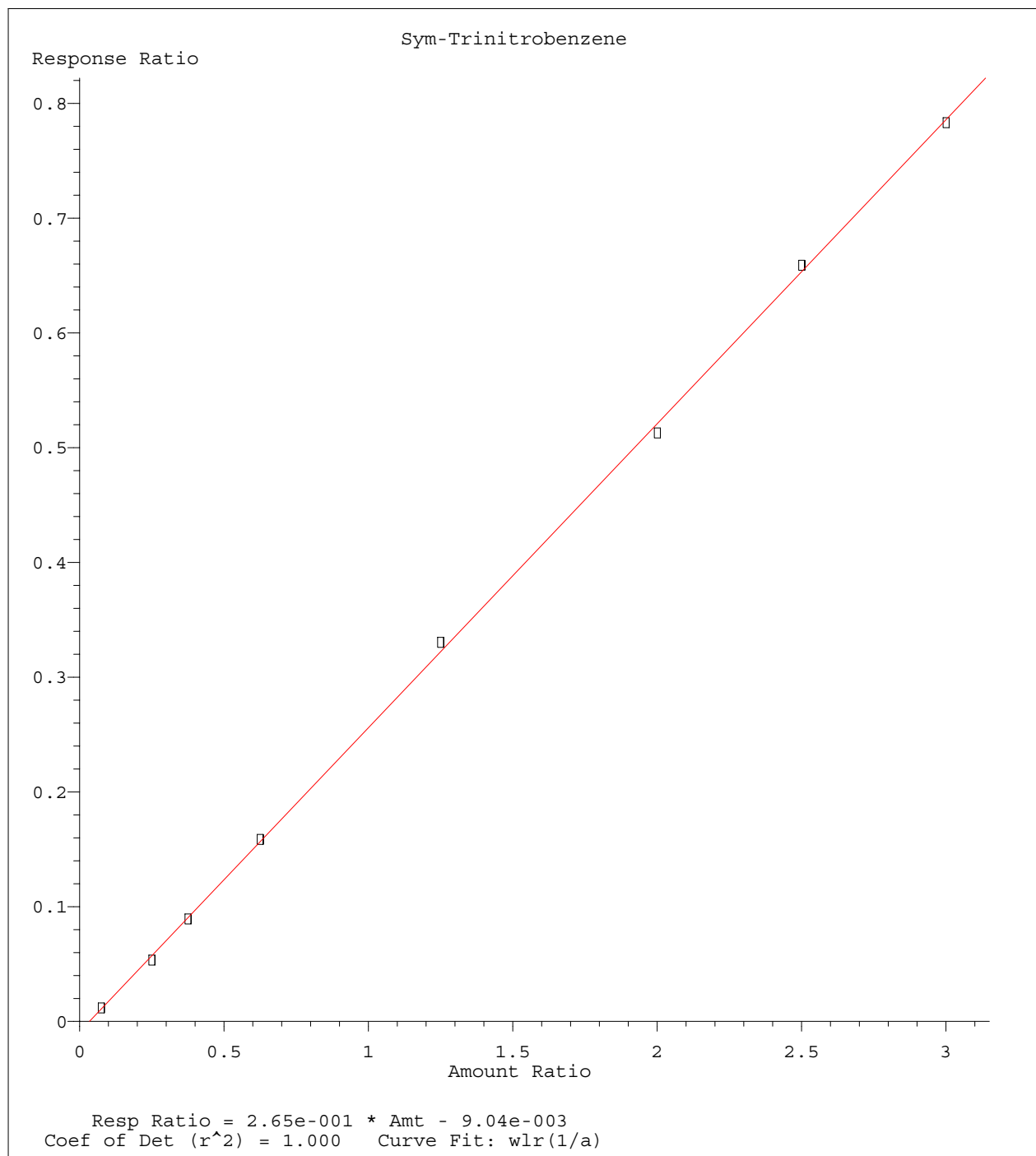
Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017



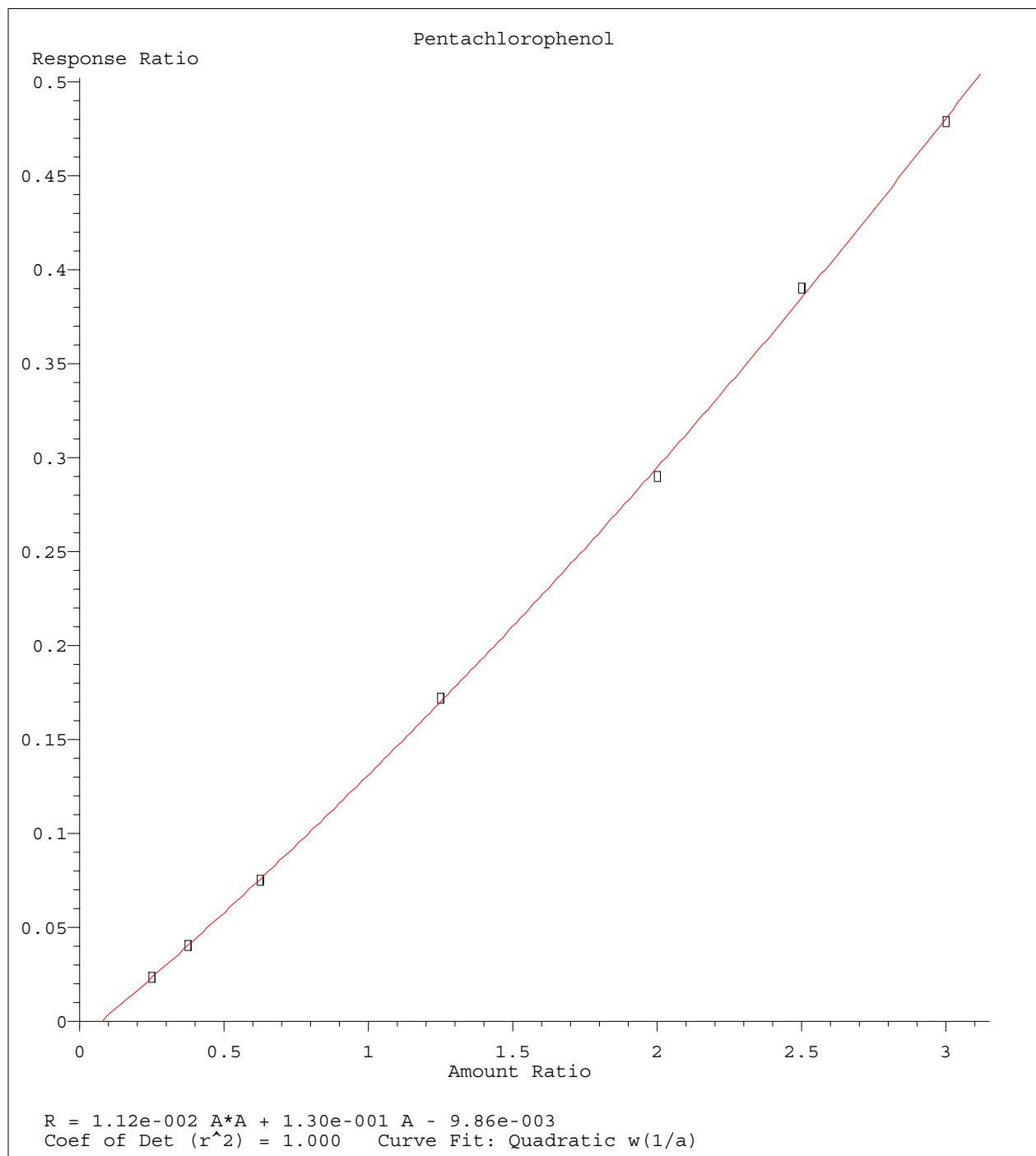
Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017



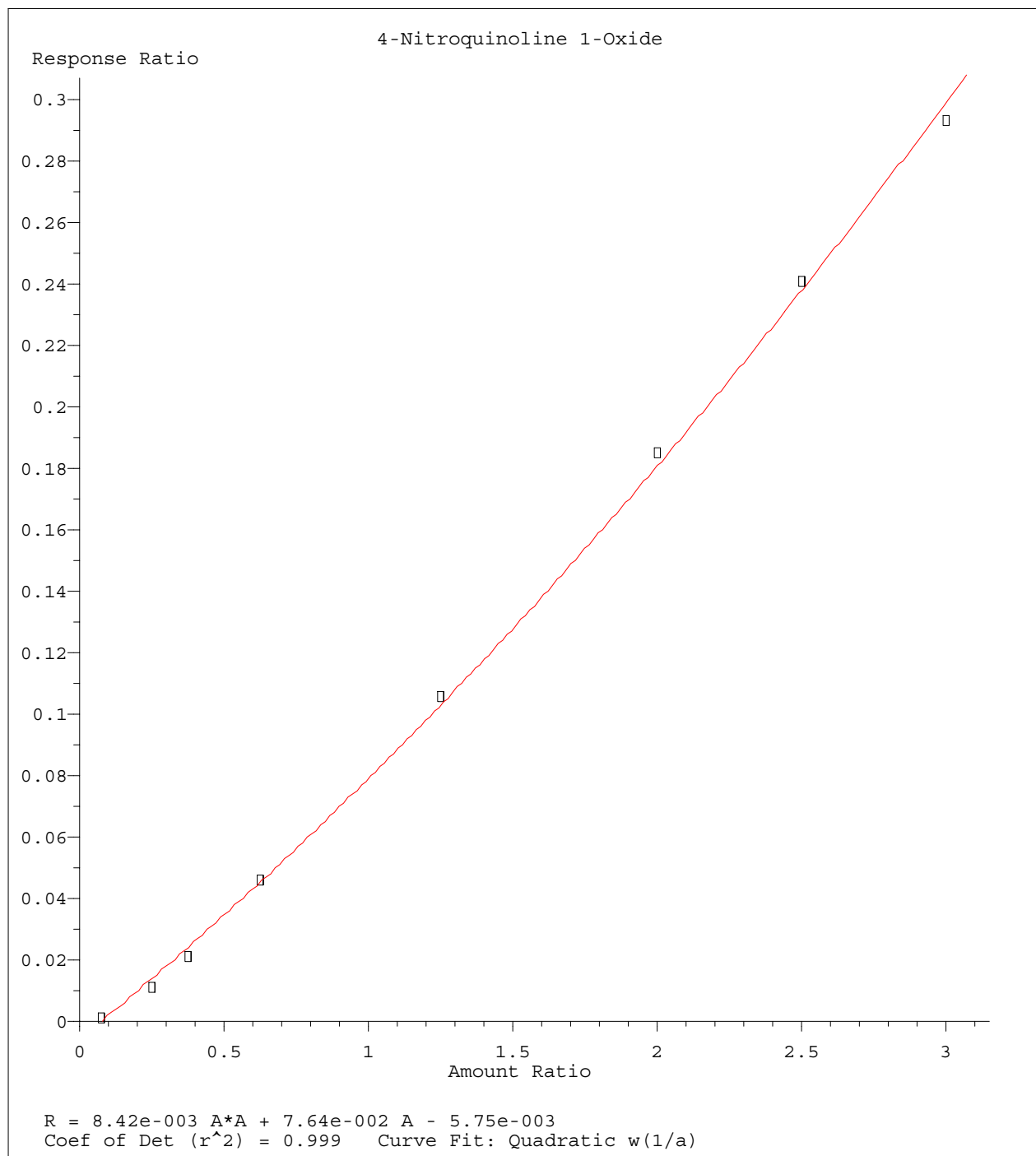
Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017



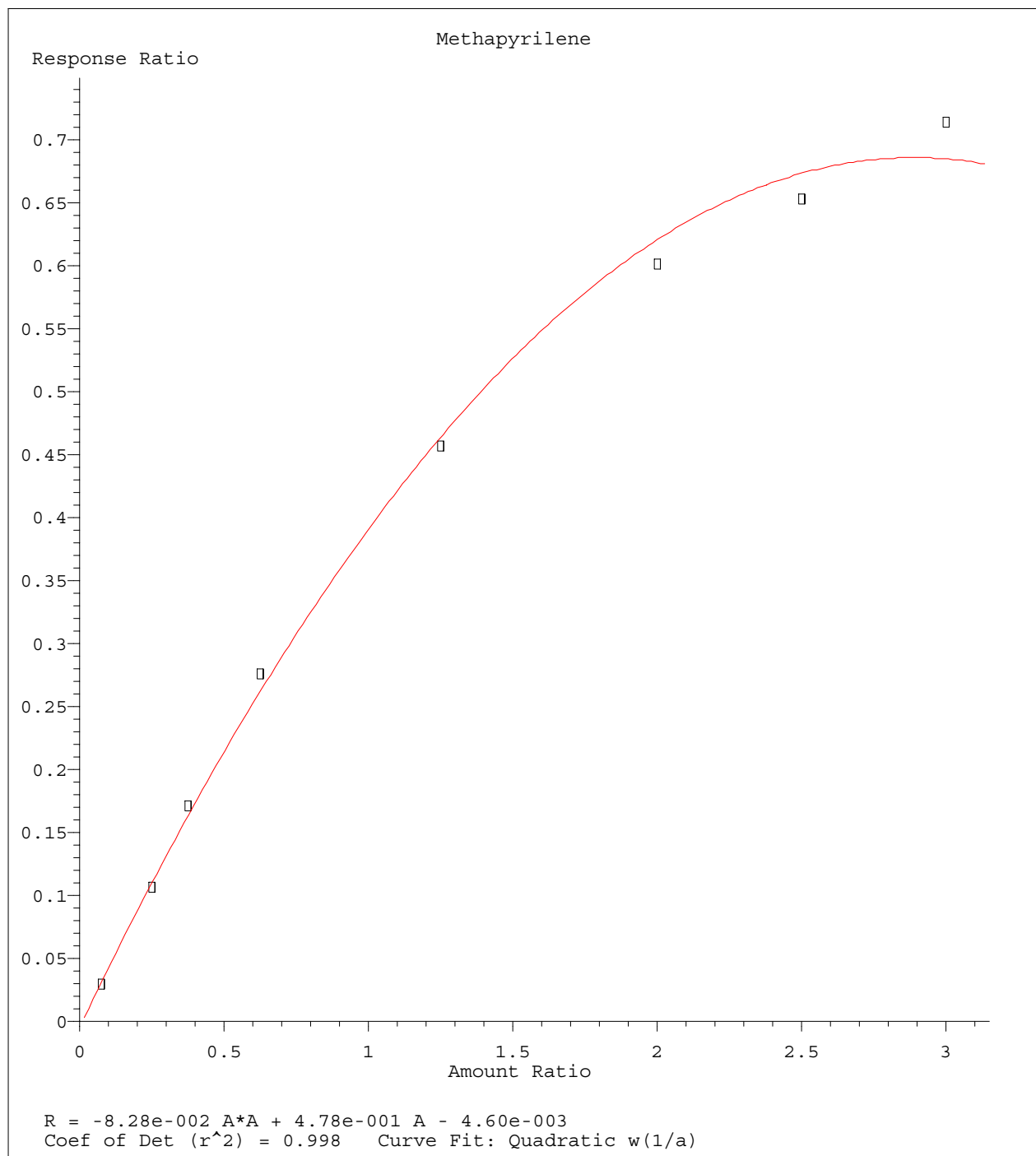
Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017



Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017



Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017



Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017

Data File : I:\MSDCHEM\1\DATA\080317\12M63795.D Vial: 12
 Acq On : 3 Aug 2017 2:58 pm Operator: MES
 Sample : WG624321-12 50PPM 1,4-DIOXANE ALT SOURCE Inst : MSD12
 Misc : 1,1 STD81996 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 04 07:11:25 2017 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Fri Aug 04 07:07:19 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.855	152	135020	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.148	136	521554	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.959	164	273477	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.578	188	518647	40.0000	ug/ml	0.000
113) Chrysene-d12	16.280	240	511616	40.0000	ug/ml	0.000
128) Perylene-d12	19.154	264	467635	40.0000	ug/ml	0.000

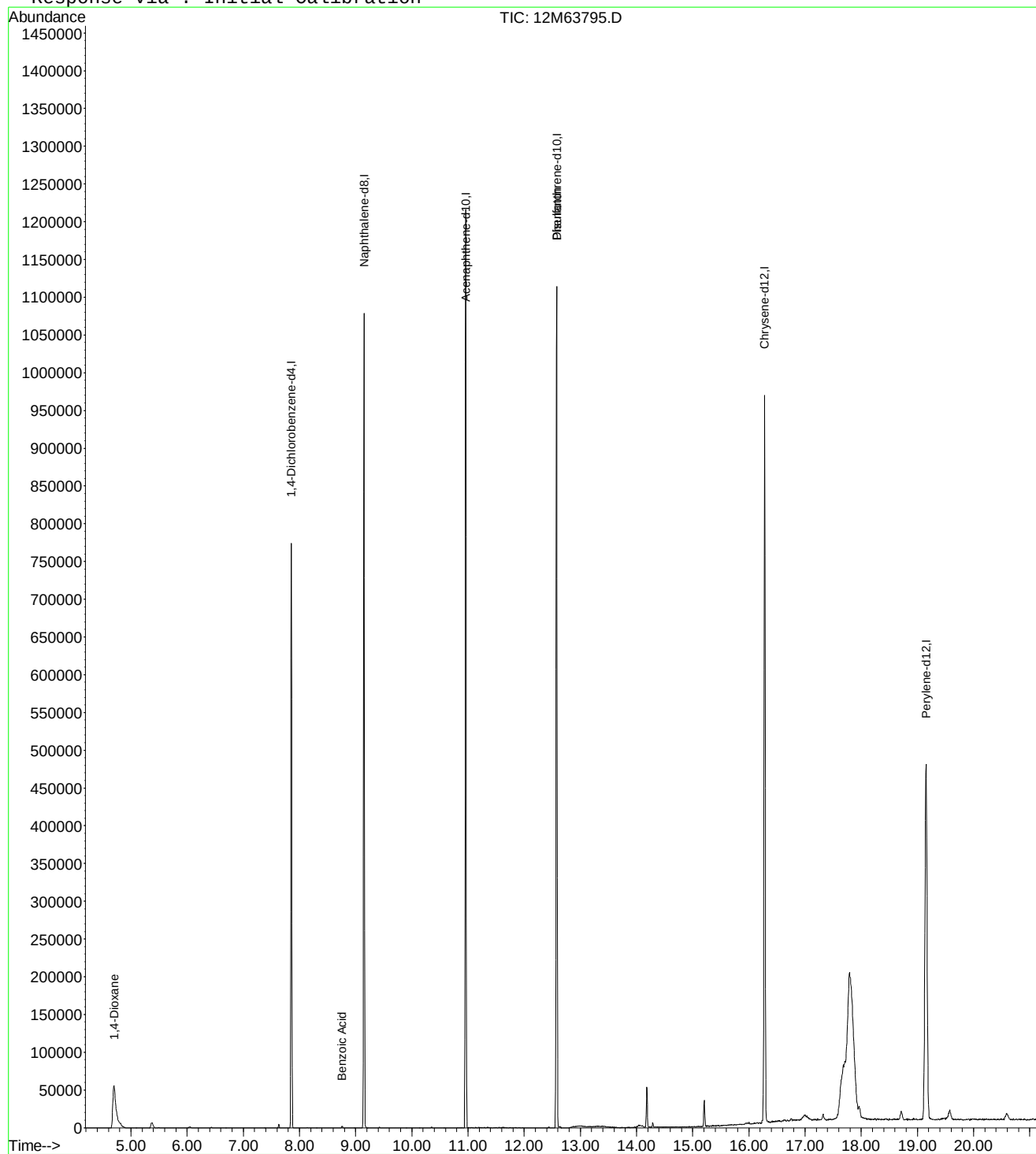
System Monitoring Compounds	Spiked Amount	Range	QIon	Response	Conc	Units	Dev(Min)
8) 2-Fluorophenol	100.000	21 - 100	0.000	112	0	0.00000000 ug/ml	
12) Phenol-d5	100.000	10 - 94	0.000	99	0	0.00000000 ug/ml	
31) Nitrobenzene-d5	50.000	35 - 114	0.000	82	0	0.00000000 ug/ml	
59) 2-Fluorobiphenyl	50.000	43 - 116	0.000	172	0	0.00000000 ug/ml	
86) 2,4,6-Tribromophenol	100.000	10 - 123	0.000	330	0	0.00000000 ug/ml	
117) p-Terphenyl-d14	50.000	33 - 141	0.000	244	0	0.00000000 ug/ml	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) 1,4-Dioxane	4.70	88	97186	55.0150	ug/ml	98
39) Benzoic Acid	8.76	105	1056	7.8811	ug/ml#	73
102) Disulfoton	12.57	88	7760	1.6532	ug/ml#	41

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63795.D MEGAMIX.M Fri Aug 04 07:11:26 2017

Data File : I:\MSDCHEM\1\DATA\080317\12M63795.D Vial: 12
Acq On : 3 Aug 2017 2:58 pm Operator: MES
Sample : WG624321-12 50PPM 1,4-DIOXANE ALT SOURCE Inst : MSD12
Misc : 1,1 STD81996 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 4 7:11 2017 Quant Results File: MEGAMIX.RES

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Last Update : Fri Aug 04 07:07:19 2017
Response via : Initial Calibration



12M63795.D MEGAMIX.M Fri Aug 04 07:11:26 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63795.D Vial: 12
 Acq On : 3 Aug 2017 2:58 pm Operator: MES
 Sample : WG624321-12 50PPM 1,4-DIOXANE ALT SOURCE Inst : MSD12
 Misc : 1,1 STD81996 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Fri Aug 04 07:07:19 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	102	0.00
2	1,4-Dioxane	50.000	55.015	-10.0	101	-0.01
3	n-Nitrosodimethylamine	50.000	0.000	100.0#	0	-5.17#
4	Pyridine	50.000	0.000	100.0#	0	-5.19#
5	2-Picoline	50.000	0.000	100.0#	0	-6.02#
6	n-Nitrosomethylethylamine	50.000	0.000	100.0#	0	-6.15#
7	Methyl Methanesulfonate	50.000	0.000	100.0#	0	-6.44#
8 S	2-Fluorophenol	50.000	0.000	100.0#	0	-6.60#
9	n-Nitrosodiethylamine	50.000	0.000	100.0#	0	-6.83#
10	Ethyl Methanesulfonate	50.000	0.000	100.0#	0	-7.10#
11	Aniline	50.000	0.000	100.0#	0	-7.55#
12 S	Phenol-d5	50.000	0.000	100.0#	0	-7.45#
13 C,P	Phenol	50.000	0.000	100.0#	0	-7.46#
14 P	bis(2-Chloroethyl)ether	50.000	0.000	100.0#	0	-7.57#
15	Pentachloroethane	50.000	0.000	100.0#	0	-7.59#
16 P	2-Chlorophenol	50.000	0.000	100.0#	0	-7.68#
17	1,3-Dichlorobenzene	50.000	0.000	100.0#	0	-7.83#
18 C	1,4-Dichlorobenzene	50.000	0.000	100.0#	0	-7.87#
19	Benzyl Alcohol	50.000	0.136	99.7#	0	-0.11
20	1,2-Dichlorobenzene	50.000	0.000	100.0#	0	-8.07#
21 P	2-Methylphenol	50.000	0.000	100.0#	0	-8.06#
22 P	bis(2-Chloroisopropyl)ether	50.000	0.000	100.0#	0	-8.11#
23 P	3-,4-Methylphenol	50.000	0.000	100.0#	0	-8.19#
24	n-Nitrosopyrrolidine	50.000	0.000	100.0#	0	-8.24#
25 P	n-Nitrosodipropylamine	50.000	0.000	100.0#	0	-8.24#
26	Acetophenone	50.000	0.000	100.0#	0	-8.25#
27	n-Nitrosomorpholine	50.000	0.000	100.0#	0	-8.25#
28	o-Toluidine	50.000	0.000	100.0#	0	-8.29#
29 P	Hexachloroethane	50.000	0.000	100.0#	0	-8.38#
30 I	Naphthalene-d8	40.000	40.000	0.0	104	0.00
31 S	Nitrobenzene-d5	50.000	0.000	100.0#	0	-8.42#
32 P	Nitrobenzene	50.000	0.000	100.0#	0	-8.44#
33	n-Nitrosopiperidine	50.000	0.000	100.0#	0	-8.59#
34 P	Isophorone	50.000	0.000	100.0#	0	-8.65#
35 C,P	2-Nitrophenol	50.000	0.000	100.0#	0	-8.76#
36 P	2,4-Dimethylphenol	50.000	0.054	99.9#	0	0.03
37	0,0,0-Triethyl Phosphorothi	50.000	0.000	100.0#	0	-8.82#
38 P	bis(2-Chloroethoxy)methane	50.000	0.000	100.0#	0	-8.82#
39	Benzoic Acid	50.000	7.881	84.2#	1	0.00
40 C,P	2,4-Dichlorophenol	50.000	0.000	100.0#	0	-8.99#
41	a,a-Dimethylphenethylamine	50.000	0.255	99.5#	0	0.15
42	1,2,4-Trichlorobenzene	50.000	0.000	100.0#	0	-9.09#
43 P	Naphthalene	50.000	0.000	100.0#	0	-9.17#
44 P	4-Chloroaniline	50.000	0.298	99.4#	1	-0.04
45	2,6-Dichlorophenol	50.000	0.000	100.0#	0	-9.22#
46	Hexachloropropene	50.000	0.000	100.0#	0	-9.28#
47 C,P	Hexachlorobutadiene	50.000	0.000	100.0#	0	-9.32#
48	n-Nitrosodi-n-Butylamine	50.000	0.000	100.0#	0	-9.51#
49	p-Phenylenediamine	50.000	0.000	100.0#	0	-9.54#
50 C,P	4-Chloro-3-Methylphenol	50.000	0.000	100.0#	0	-9.63#
51	Safrole	50.000	0.000	100.0#	0	-9.73#
52 P	2-Methylnaphthalene	50.000	0.000	100.0#	0	-9.86#
53	1-Methylnaphthalene	50.000	0.000	100.0#	0	-9.98#

(#) = Out of Range

12M63795.D MEGAMIX.M

Fri Aug 04 07:11:29 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\080317\12M63795.D Vial: 12
 Acq On : 3 Aug 2017 2:58 pm Operator: MES
 Sample : WG624321-12 50PPM 1,4-DIOXANE ALT SOURCE Inst : MSD12
 Misc : 1,1 STD81996 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Fri Aug 04 07:07:19 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
54 I	Acenaphthene-d10	40.000	40.000	0.0	101	0.00
55	1,2,4,5-Tetrachlorobenzene	50.000	0.000	100.0#	0	-10.07#
56 P	Hexachlorocyclopentadiene	50.000	0.000	100.0#	0	-10.08#
57 C,P	2,4,6-Trichlorophenol	50.000	0.000	100.0#	0	-10.15#
58 P	2,4,5-Trichlorophenol	50.000	0.000	100.0#	0	-10.20#
59 S	2-Fluorobiphenyl	50.000	0.000	100.0#	0	-10.22#
60	Isosafrole	50.000	0.000	100.0#	0	-10.25#
61 P	2-Chloronaphthalene	50.000	0.000	100.0#	0	-10.37#
62	1-Chloronaphthalene	50.000	0.000	100.0#	0	-10.41#
63 P	2-Nitroaniline	50.000	0.000	100.0#	0	-10.46#
64	1,4-Naphthoquinone	50.000	0.000	100.0#	0	-10.53#
65 P	Dimethylphthalate	50.000	0.000	100.0#	0	-10.62#
66	1,3-Dinitrobenzene	50.000	0.000	100.0#	0	-10.68#
67 P	2,6-Dinitrotoluene	50.000	0.000	100.0#	0	-10.72#
68 P	Acenaphthylene	50.000	0.000	100.0#	0	-10.81#
69 P	3-Nitroaniline	50.000	0.000	100.0#	0	-10.88#
70 P	2,4-Dinitrophenol	50.000	0.000	100.0#	0	-10.98#
71 C,P	Acenaphthene	50.000	0.089	99.8#	0	-0.04
72 P	4-Nitrophenol	50.000	0.214	99.6#	0	-0.03
73 P	2,4-Dinitrotoluene	50.000	0.000	100.0#	0	-11.13#
74	Pentachlorobenzene	50.000	0.000	100.0#	0	-11.17#
75 P	Dibenzofuran	50.000	0.000	100.0#	0	-11.15#
76	2,3,4,6-Tetrachlorophenol	50.000	0.000	100.0#	0	-11.30#
77	1-Naphthylamine	50.000	0.000	100.0#	0	-11.23#
78	2-Naphthylamine	50.000	0.000	100.0#	0	-11.30#
79 P	Diethylphthalate	50.000	0.000	100.0#	0	-11.33#
80	Thionazin	50.000	0.000	100.0#	0	-11.43#
81 P	Fluorene	50.000	0.000	100.0#	0	-11.51#
82 P	4-Chlorophenyl Phenyl Ether	50.000	0.000	100.0#	0	-11.46#
83 P	4-Nitroaniline	50.000	0.000	100.0#	0	-11.51#
84	5-Nitro-o-Toluidine	50.000	0.000	100.0#	0	-11.51#
85	1,2-Diphenylhydrazine	50.000	0.000	100.0#	0	-11.63#
86 S	2,4,6-Tribromophenol	50.000	0.000	100.0#	0	-11.79#
87 I	Phenanthrene-d10	40.000	40.000	0.0	98	0.00
88 P	4,6-Dinitro-2-Methylphenol	50.000	0.000	100.0#	0	-11.56#
89 C,P	Diphenylamine/n-Nitrosodiph	50.000	0.000	100.0#	0	-11.58#
90	Sulfotep	50.000	0.000	100.0#	0	-11.77#
91	Sym-Trinitrobenzene	50.000	0.000	100.0#	0	-11.86#
92	Diallate	50.000	0.000	100.0#	0	-11.90#
93	Phenacetin	50.000	0.000	100.0#	0	-11.89#
94	Phorate	50.000	0.000	100.0#	0	-11.92#
95 P	4-Bromophenyl Phenyl Ether	50.000	0.000	100.0#	0	-11.99#
96 P	Hexachlorobenzene	50.000	0.000	100.0#	0	-12.21#
97	Dimethoate	50.000	0.000	100.0#	0	-12.13#
98	4-Aminobiphenyl	50.000	0.000	100.0#	0	-12.29#
99 C,P	Pentachlorophenol	50.000	0.000	100.0#	0	-12.40#
100	Pronamide	50.000	0.000	100.0#	0	-12.33#
101	Pentachloronitrobenzene	50.000	0.000	100.0#	0	-12.49#
102	Disulfoton	50.000	1.653	96.7#	3	0.06
103 P	Phenanthrene	50.000	0.000	100.0#	0	-12.61#
104 P	Anthracene	50.000	0.000	100.0#	0	-12.66#
105 P	Carbazole	50.000	0.000	100.0#	0	-12.82#
106	Parathion Methyl	50.000	0.000	100.0#	0	-12.99#

(#) = Out of Range

12M63795.D MEGAMIX.M

Fri Aug 04 07:11:29 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63795.D Vial: 12
 Acq On : 3 Aug 2017 2:58 pm Operator: MES
 Sample : WG624321-12 50PPM 1,4-DIOXANE ALT SOURCE Inst : MSD12
 Misc : 1,1 STD81996 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Fri Aug 04 07:07:19 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
107 P	Di-n-Butyl Phthalate	50.000	0.000	100.0#	0	-13.18#
108	Parathion Ethyl	50.000	0.000	100.0#	0	-13.47#
109	4-Nitroquinoline 1-Oxide	50.000	0.000	100.0#	0	-13.58#
110	Methapyrilene	50.000	0.000	100.0#	0	-13.62#
111	Isodrin	50.000	0.000	100.0#	0	-13.99#
112 C,P	Fluoranthene	50.000	0.000	100.0#	0	-14.16#
113 I	Chrysene-d12	40.000	40.000	0.0	96	0.00
114	Benzidine	50.000	0.000	100.0#	0	-14.26#
115 P	Pyrene	50.000	0.000	100.0#	0	-14.50#
116	Aramite	50.000	0.000	100.0#	0	-14.52#
117 S	p-Terphenyl-d14	50.000	0.000	100.0#	0	-14.62#
118	p-(Dimethylamino)azobenzene	50.000	0.000	100.0#	0	-14.83#
119	Chlorobenzilate	50.000	0.000	100.0#	0	-14.87#
120	Famphur	50.000	0.000	100.0#	0	-15.28#
121 P	Butyl Benzyl Phthalate	50.000	0.000	100.0#	0	-15.30#
122	3,3'-Dimethylbenzidine	50.000	0.000	100.0#	0	-15.31#
123	2-Acetylaminofluorene	50.000	0.000	100.0#	0	-15.73#
124 P	bis(2-Ethylhexyl)phthalate	50.000	0.000	100.0#	0	-16.13#
125 P	3,3'-Dichlorobenzidine	50.000	0.000	100.0#	0	-16.16#
126 P	Benzo[a]anthracene	50.000	0.060	99.9#	0	0.02
127 P	Chrysene	50.000	0.066	99.9#	0	-0.05
128 I	Perylene-d12	40.000	40.000	0.0	94	0.00
129 C,P	Di-n-Octyl Phthalate	50.000	0.000	100.0#	0	-17.12#
130	7,12-Dimethylbenz[a]anthrac	50.000	0.000	100.0#	0	-18.26#
131 P	Benzo[b]fluoranthene	50.000	0.000	100.0#	0	-18.26#
132 P	Benzo[k]fluoranthene	50.000	0.000	100.0#	0	-18.30#
133 C,P	Benzo[a]pyrene	50.000	0.061	99.9#	0	0.12
134	3-Methylcholanthrene	50.000	0.000	100.0#	0	-19.94#
135 P	Indeno[1,2,3-cd]pyrene	50.000	0.000	100.0#	0	-22.35#
136 P	Dibenz[ah]anthracene	50.000	0.000	100.0#	0	-22.35#
137 P	Benzo[ghi]perylene	50.000	0.000	100.0#	0	-23.33#

(#) = Out of Range SPCC's out = 0 CCC's out = 13
 12M63795.D MEGAMIX.M Fri Aug 04 07:11:29 2017

Data File : I:\MSDCHEM\1\DATA\080317\12M63796.D

Vial: 13

Acq On : 3 Aug 2017 3:28 pm

Operator: MES

Sample : WG624321-11 50PPM MM ALT SOURCE

Inst : MSD12

Misc : 1,1 STD81294

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 04 07:11:34 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Fri Aug 04 07:07:19 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.855	152	125071	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.148	136	473321	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.959	164	255717	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.578	188	498710	40.0000	ug/ml	0.000
113) Chrysene-d12	16.280	240	504405	40.0000	ug/ml	0.000
128) Perylene-d12	19.154	264	469897	40.0000	ug/ml	0.000
System Monitoring Compounds						
8) 2-Fluorophenol	0.000	112	0	0.0000000	ug/ml	
Spiked Amount 100.000	Range 21 - 100		Recovery	=	0.00%#	
12) Phenol-d5	0.000	99	0	0.0000000	ug/ml	
Spiked Amount 100.000	Range 10 - 94		Recovery	=	0.00%#	
31) Nitrobenzene-d5	8.384	82	26397	5.5885723	ug/ml	-0.04
Spiked Amount 50.000	Range 35 - 114		Recovery	=	11.18%#	
59) 2-Fluorobiphenyl	0.000	172	0	0.0000000	ug/ml	
Spiked Amount 50.000	Range 43 - 116		Recovery	=	0.00%#	
86) 2,4,6-Tribromophenol	0.000	330	0	0.0000000	ug/ml	
Spiked Amount 100.000	Range 10 - 123		Recovery	=	0.00%#	
117) p-Terphenyl-d14	0.000	244	0	0.0000000	ug/ml	
Spiked Amount 50.000	Range 33 - 141		Recovery	=	0.00%#	
Target Compounds						
					Qvalue	
3) n-Nitrosodimethylamine	5.17	74	109244	48.1963	ug/ml	99
4) Pyridine	5.18	79	216868	52.3382	ug/ml	99
7) Methyl Methanesulfonate	6.44	80	150069	51.8963	ug/ml	100
10) Ethyl Methanesulfonate	7.10	79	157351	52.1121	ug/ml	100
11) Aniline	7.55	66	127111	50.1466	ug/ml	97
13) Phenol	7.46	94	250929	50.6973	ug/ml	95
14) bis(2-Chloroethyl)ether	7.57	63	149535	51.3695	ug/ml	97
15) Pentachloroethane	7.58	167	91073	55.1522	ug/ml	99
16) 2-Chlorophenol	7.68	128	216441	52.0394	ug/ml	98
17) 1,3-Dichlorobenzene	7.82	146	236710	51.9806	ug/ml	99
18) 1,4-Dichlorobenzene	7.87	146	236275	51.0391	ug/ml	99
19) Benzyl Alcohol	7.96	108	139996	52.8576	ug/ml	98
20) 1,2-Dichlorobenzene	8.06	146	223621	50.8112	ug/ml	100
21) 2-Methylphenol	8.05	107	179794	50.5661	ug/ml	99
22) bis(2-Chloroisopropyl)ethe	8.11	45	179343	50.8836	ug/ml	99
23) 3-,4-Methylphenol	8.19	107	233580	51.9568	ug/ml	99
25) n-Nitrosodipropylamine	8.24	70	153689	49.7224	ug/ml#	66
26) Acetophenone	8.25	105	326021	53.5084	ug/ml	100
27) n-Nitrosomorpholine	8.24	56	9469	3.9552	ug/ml#	47
28) o-Toluidine	8.25	106	25392	3.8124	ug/ml#	1
29) Hexachloroethane	8.38	117	97491	50.1077	ug/ml	97
32) Nitrobenzene	8.44	77	245482	52.4842	ug/ml	100
34) Isophorone	8.65	82	425282	52.3906	ug/ml	98
35) 2-Nitrophenol	8.76	139	117033	52.7555	ug/ml	98
36) 2,4-Dimethylphenol	8.73	122	201587	54.5394	ug/ml	98
37) 0,0,0-Triethyl Phosphoroth	8.82	198	111035	51.2484	ug/ml#	56
38) bis(2-Chloroethoxy)methane	8.82	93	349500	54.7064	ug/ml#	96
39) Benzoic Acid	8.78	105	140259	64.2103	ug/ml#	69
40) 2,4-Dichlorophenol	8.99	162	172665	51.3949	ug/ml	99
42) 1,2,4-Trichlorobenzene	9.09	180	196538	50.5857	ug/ml	99
43) Naphthalene	9.17	128	642958	51.1508	ug/ml#	100
44) 4-Chloroaniline	9.20	65	89215	51.3623	ug/ml	69
45) 2,6-Dichlorophenol	9.22	162	176151	56.9822	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M63796.D MEGAMIX.M Fri Aug 04 07:11:34 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\080317\12M63796.D

Vial: 13

Acq On : 3 Aug 2017 3:28 pm

Operator: MES

Sample : WG624321-11 50PPM MM ALT SOURCE

Inst : MSD12

Misc : 1,1 STD81294

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 04 07:11:34 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Fri Aug 04 07:07:19 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Hexachloropropene	9.28	213	162052	56.3414	ug/ml	100
47) Hexachlorobutadiene	9.31	225	129445	57.5304	ug/ml	99
49) p-Phenylenediamine	9.63	108	16619	5.8686	ug/ml#	1
50) 4-Chloro-3-Methylphenol	9.63	107	220257	52.5472	ug/ml	99
51) Safrole	9.73	162	175046	54.0240	ug/ml	99
52) 2-Methylnaphthalene	9.86	142	423216	49.5948	ug/ml	100
53) 1-Methylnaphthalene	9.98	142	421906	54.0546	ug/ml	100
55) 1,2,4,5-Tetrachlorobenzene	10.07	216	215316	52.9237	ug/ml	99
56) Hexachlorocyclopentadiene	10.08	237	108571	54.1822	ug/ml	100
57) 2,4,6-Trichlorophenol	10.15	196	136608	51.2168	ug/ml	99
58) 2,4,5-Trichlorophenol	10.19	196	133305	47.7891	ug/ml	99
60) Isosafrole	10.25	162	180937	56.0823	ug/ml	99
61) 2-Chloronaphthalene	10.37	162	470251	57.8875	ug/ml	99
62) 1-Chloronaphthalene	10.41	162	392401	50.3264	ug/ml	100
63) 2-Nitroaniline	10.46	65	135652	51.6796	ug/ml	99
64) 1,4-Naphthoquinone	10.53	158	186196	84.3027	ug/ml	96
65) Dimethylphthalate	10.62	163	489727	51.8080	ug/ml	100
66) 1,3-Dinitrobenzene	10.68	168	77102	47.9140	ug/ml	99
67) 2,6-Dinitrotoluene	10.72	165	109999	50.0571	ug/ml	99
68) Acenaphthylene	10.81	152	648036	50.4355	ug/ml	100
69) 3-Nitroaniline	10.88	138	113324	50.2709	ug/ml	98
70) 2,4-Dinitrophenol	10.98	184	74376	54.5048	ug/ml	89
71) Acenaphthene	10.99	154	437894	53.3745	ug/ml	99
72) 4-Nitrophenol	10.98	65	105278	51.5320	ug/ml	98
73) 2,4-Dinitrotoluene	11.12	165	151716	50.2450	ug/ml	99
74) Pentachlorobenzene	11.17	250	170911	52.0831	ug/ml	98
75) Dibenzofuran	11.15	168	582838	50.4395	ug/ml	99
76) 2,3,4,6-Tetrachlorophenol	11.30	232	113565	47.2863	ug/ml	98
79) Diethylphthalate	11.32	149	509281	52.2871	ug/ml	100
80) Thionazin	11.42	107	82116	51.5638	ug/ml	100
81) Fluorene	11.51	166	498813	50.8622	ug/ml	99
82) 4-Chlorophenyl Phenyl Ethe	11.46	204	247557	50.9411	ug/ml	98
83) 4-Nitroaniline	11.51	138	121685	48.4973	ug/ml	94
84) 5-Nitro-o-Toluidine	11.56	152	6142	2.1657	ug/ml#	1
85) 1,2-Diphenylhydrazine	11.62	77	505678	50.3136	ug/ml	99
88) 4,6-Dinitro-2-Methylphenol	11.56	198	99077	50.2707	ug/ml	97
89) Diphenylamine/n-Nitrosodip	11.58	169	436475	52.3508	ug/ml	99
90) Sulfotep	11.77	322	86759	52.7369	ug/ml	96
91) Sym-Trinitrobenzene	11.86	75	185949	57.6383	ug/ml	99
92) Diallate	11.90	86	179473	50.8987	ug/ml	98
93) Phenacetin	11.89	108	284197	54.3688	ug/ml	99
94) Phorate	11.92	75	280084	50.1291	ug/ml#	100
95) 4-Bromophenyl Phenyl Ether	11.99	248	137112	52.4407	ug/ml	100
96) Hexachlorobenzene	12.21	284	140508	51.7429	ug/ml	98
97) Dimethoate	12.13	87	192641	57.9360	ug/ml	95
99) Pentachlorophenol	12.39	266	109098	62.0885	ug/ml	100
100) Pronamide	12.33	173	244212	56.8757	ug/ml	99
101) Pentachloronitrobenzene	12.48	237	68215	54.7074	ug/ml	99
102) Disulfoton	12.51	88	237917	52.7114	ug/ml	100
103) Phenanthrene	12.61	178	695765	50.5471	ug/ml	100
104) Anthracene	12.66	178	716422	50.0145	ug/ml	100
105) Carbazole	12.82	167	653106	52.8947	ug/ml	99
106) Parathion Methyl	12.99	109	183845	61.1680	ug/ml	99
107) Di-n-Butyl Phthalate	13.17	149	880983	53.8950	ug/ml	100

(#) = qualifier out of range (m) = manual integration
 12M63796.D MEGAMIX.M Fri Aug 04 07:11:34 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63796.D Vial: 13
 Acq On : 3 Aug 2017 3:28 pm Operator: MES
 Sample : WG624321-11 50PPM MM ALT SOURCE Inst : MSD12
 Misc : 1,1 STD81294 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 04 07:11:34 2017 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Fri Aug 04 07:07:19 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
108) Parathion Ethyl	13.47	97	106360	52.5347	ug/ml	99
109) 4-Nitroquinoline 1-Oxide	13.58	190	63341	59.6907	ug/ml	97
111) Isodrin	13.99	193	85851	54.4861	ug/ml	100
112) Fluoranthene	14.16	202	765775	50.3980	ug/ml	100
115) Pyrene	14.50	202	792112	50.2304	ug/ml	100
116) Aramite	14.52	185	54053	56.0063	ug/ml	98
119) Chlorobenzilate	14.87	251	241254	55.8354	ug/ml	98
120) Famphur	15.28	218	341990	343.7000	ug/ml#	67
121) Butyl Benzyl Phthalate	15.29	149	406690	51.3779	ug/ml	98
124) bis(2-Ethylhexyl)phthalate	16.13	149	532090	52.3679	ug/ml	100
126) Benzo[a]anthracene	16.25	228	739990	49.5720	ug/ml	100
127) Chrysene	16.32	228	703432	51.9370	ug/ml	100
129) Di-n-Octyl Phthalate	17.12	149	914581	52.1538	ug/ml	100
130) 7,12-Dimethylbenz[a]anthra	18.25	256	393754	54.7486	ug/ml	100
131) Benzo[b]fluoranthene	18.25	252	805346	51.4108	ug/ml	99
132) Benzo[k]fluoranthene	18.30	252	661465	50.3269	ug/ml	100
133) Benzo[a]pyrene	19.02	252	647322	49.9988	ug/ml	100
134) 3-Methylcholanthrene	19.94	268	400660	59.5834	ug/ml	99
135) Indeno[1,2,3-cd]pyrene	22.35	276	713192	50.2540	ug/ml	100
136) Dibenz[ah]anthracene	22.35	278	617829	51.0369	ug/ml	100
137) Benzo[ghi]perylene	23.33	276	572504	50.8252	ug/ml	100

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63796.D MEGAMIX.M Fri Aug 04 07:11:34 2017

Page 3

Data File : I:\MSDCHEM\1\DATA\080317\12M63796.D

Vial: 13

Acq On : 3 Aug 2017 3:28 pm

Operator: MES

Sample : WG624321-11 50PPM MM ALT SOURCE

Inst : MSD12

Misc : 1,1 STD81294

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Fri Aug 04 07:07:19 2017

Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min

Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	94	0.00
2	1,4-Dioxane	50.000	0.000	100.0#	0	-4.71#
3	n-Nitrosodimethylamine	50.000	48.196	3.6	85	0.00
4	Pyridine	50.000	52.338	-4.7	92	0.00
5	2-Picoline	50.000	0.000	100.0#	0	-6.02#
6	n-Nitrosomethylethylamine	50.000	0.000	100.0#	0	-6.15#
7	Methyl Methanesulfonate	50.000	51.896	-3.8	94	0.00
8 S	2-Fluorophenol	50.000	0.000	100.0#	0	-6.60#
9	n-Nitrosodiethylamine	50.000	0.000	100.0#	0	-6.83#
10	Ethyl Methanesulfonate	50.000	52.112	-4.2	93	0.00
11	Aniline	50.000	50.147	-0.3	88	0.00
12 S	Phenol-d5	50.000	0.000	100.0#	0	-7.45#
13 C,P	Phenol	50.000	50.697	-1.4	92	0.00
14 P	bis(2-Chloroethyl)ether	50.000	51.370	-2.7	92	0.00
15	Pentachloroethane	50.000	55.152	-10.3	103	0.00
16 P	2-Chlorophenol	50.000	52.039	-4.1	95	0.00
17	1,3-Dichlorobenzene	50.000	51.981	-4.0	97	0.00
18 C	1,4-Dichlorobenzene	50.000	51.039	-2.1	96	0.00
19	Benzyl Alcohol	50.000	52.858	-5.7	95	0.00
20	1,2-Dichlorobenzene	50.000	50.811	-1.6	93	0.00
21 P	2-Methylphenol	50.000	50.566	-1.1	91	0.00
22 P	bis(2-Chloroisopropyl)ether	50.000	50.884	-1.8	91	0.00
23 P	3-,4-Methylphenol	50.000	51.957	-3.9	94	0.00
24	n-Nitrosopyrrolidine	50.000	0.000	100.0#	0	-8.24#
25 P	n-Nitrosodipropylamine	50.000	49.722	0.6	89	0.00
26	Acetophenone	50.000	53.508	-7.0	97	0.00
27	n-Nitrosomorpholine	50.000	3.955	92.1#	7	-0.01
28	o-Toluidine	50.000	3.812	92.4#	7	-0.04
29 P	Hexachloroethane	50.000	50.108	-0.2	92	0.00
30 I	Naphthalene-d8	40.000	40.000	0.0	94	0.00
31 S	Nitrobenzene-d5	50.000	5.589	88.8#	10	-0.04
32 P	Nitrobenzene	50.000	52.484	-5.0	96	0.00
33	n-Nitrosopiperidine	50.000	0.000	100.0#	0	-8.59#
34 P	Isophorone	50.000	52.391	-4.8	94	0.00
35 C,P	2-Nitrophenol	50.000	52.756	-5.5	97	0.00
36 P	2,4-Dimethylphenol	50.000	54.539	-9.1	98	0.00
37	0,0,0-Triethyl Phosphorothi	50.000	51.248	-2.5	95	0.00
38 P	bis(2-Chloroethoxy)methane	50.000	54.706	-9.4	97	0.00
39	Benzoic Acid	50.000	64.210	-28.4	151	0.01
40 C,P	2,4-Dichlorophenol	50.000	51.395	-2.8	93	0.00
41	a,a-Dimethylphenethylamine	50.000	0.021	100.0#	0	0.15
42	1,2,4-Trichlorobenzene	50.000	50.586	-1.2	96	0.00
43 P	Naphthalene	50.000	51.151	-2.3	95	0.00
44 P	4-Chloroaniline	50.000	51.362	-2.7	91	0.00
45	2,6-Dichlorophenol	50.000	56.982	-14.0	106	0.00
46	Hexachloropropene	50.000	56.341	-12.7	106	0.00
47 C,P	Hexachlorobutadiene	50.000	57.530	-15.1	112	0.00
48	n-Nitrosodi-n-Butylamine	50.000	0.404	99.2#	1	0.12
49	p-Phenylenediamine	50.000	5.869	88.3#	11	0.09
50 C,P	4-Chloro-3-Methylphenol	50.000	52.547	-5.1	94	0.00
51	Safrole	50.000	54.024	-8.0	100	0.00
52 P	2-Methylnaphthalene	50.000	49.595	0.8	91	0.00
53	1-Methylnaphthalene	50.000	54.055	-8.1	99	0.00

(#)= Out of Range

12M63796.D MEGAMIX.M

Fri Aug 04 07:11:37 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\080317\12M63796.D

Vial: 13

Acq On : 3 Aug 2017 3:28 pm

Operator: MES

Sample : WG624321-11 50PPM MM ALT SOURCE

Inst : MSD12

Misc : 1,1 STD81294

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Fri Aug 04 07:07:19 2017

Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
54 I	Acenaphthene-d10	40.000	40.000	0.0	95	0.00
55	1,2,4,5-Tetrachlorobenzene	50.000	52.924	-5.8	100	0.00
56 P	Hexachlorocyclopentadiene	50.000	54.182	-8.4	104	0.00
57 C,P	2,4,6-Trichlorophenol	50.000	51.217	-2.4	95	0.00
58 P	2,4,5-Trichlorophenol	50.000	47.789	4.4	90	0.00
59 S	2-Fluorobiphenyl	50.000	0.000	100.0#	0	-10.22#
60	Isosafrole	50.000	56.082	-12.2	106	0.00
61 P	2-Chloronaphthalene	50.000	57.888	-15.8	109	0.00
62	1-Chloronaphthalene	50.000	50.326	-0.7	94	0.00
63 P	2-Nitroaniline	50.000	51.680	-3.4	94	0.00
64	1,4-Naphthoquinone	50.000	84.303	-68.6#	154	0.00
65 P	Dimethylphthalate	50.000	51.808	-3.6	98	0.00
66	1,3-Dinitrobenzene	50.000	47.914	4.2	88	0.00
67 P	2,6-Dinitrotoluene	50.000	50.057	-0.1	93	0.00
68 P	Acenaphthylene	50.000	50.436	-0.9	93	0.00
69 P	3-Nitroaniline	50.000	50.271	-0.5	93	0.00
70 P	2,4-Dinitrophenol	50.000	54.505	-9.0	104	0.00
71 C,P	Acenaphthene	50.000	53.374	-6.7	97	0.00
72 P	4-Nitrophenol	50.000	51.532	-3.1	92	0.00
73 P	2,4-Dinitrotoluene	50.000	50.245	-0.5	92	0.00
74	Pentachlorobenzene	50.000	52.083	-4.2	101	0.00
75 P	Dibenzofuran	50.000	50.439	-0.9	95	0.00
76	2,3,4,6-Tetrachlorophenol	50.000	47.286	5.4	87	0.00
77	1-Naphthylamine	50.000	0.350	99.3#	1	0.02
78	2-Naphthylamine	50.000	0.431	99.1#	1	0.00
79 P	Diethylphthalate	50.000	52.287	-4.6	97	0.00
80	Thionazin	50.000	51.564	-3.1	92	0.00
81 P	Fluorene	50.000	50.862	-1.7	93	0.00
82 P	4-Chlorophenyl Phenyl Ether	50.000	50.941	-1.9	97	0.00
83 P	4-Nitroaniline	50.000	48.497	3.0	88	0.00
84	5-Nitro-o-Toluidine	50.000	2.166	95.7#	4	0.05
85	1,2-Diphenylhydrazine	50.000	50.314	-0.6	92	0.00
86 S	2,4,6-Tribromophenol	50.000	0.000	100.0#	0	-11.79#
87 I	Phenanthrene-d10	40.000	40.000	0.0	94	0.00
88 P	4,6-Dinitro-2-Methylphenol	50.000	50.271	-0.5	98	0.00
89 C,P	Diphenylamine/n-Nitrosodiph	50.000	52.351	-4.7	96	0.00
90	Sulfotep	50.000	52.737	-5.5	99	0.00
91	Sym-Trinitrobenzene	50.000	57.638	-15.3	106	0.00
92	Diallate	50.000	50.899	-1.8	90	0.00
93	Phenacetin	50.000	54.369	-8.7	96	0.00
94	Phorate	50.000	50.129	-0.3	88	0.00
95 P	4-Bromophenyl Phenyl Ether	50.000	52.441	-4.9	97	0.00
96 P	Hexachlorobenzene	50.000	51.743	-3.5	97	0.00
97	Dimethoate	50.000	57.936	-15.9	101	0.00
98	4-Aminobiphenyl	50.000	0.088	99.8#	0	-0.09
99 C,P	Pentachlorophenol	50.000	62.089	-24.2#	120	0.00
100	Pronamide	50.000	56.876	-13.8	103	0.00
101	Pentachloronitrobenzene	50.000	54.707	-9.4	101	0.00
102	Disulfoton	50.000	52.711	-5.4	93	0.00
103 P	Phenanthrene	50.000	50.547	-1.1	93	0.00
104 P	Anthracene	50.000	50.014	-0.0	91	0.00
105 P	Carbazole	50.000	52.895	-5.8	95	0.00
106	Parathion Methyl	50.000	61.168	-22.3	105	0.00

(#)= Out of Range

12M63796.D MEGAMIX.M

Fri Aug 04 07:11:37 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63796.D Vial: 13
 Acq On : 3 Aug 2017 3:28 pm Operator: MES
 Sample : WG624321-11 50PPM MM ALT SOURCE Inst : MSD12
 Misc : 1,1 STD81294 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Fri Aug 04 07:07:19 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
107 P	Di-n-Butyl Phthalate	50.000	53.895	-7.8	97	0.00
108	Parathion Ethyl	50.000	52.535	-5.1	89	0.00
109	4-Nitroquinoline 1-Oxide	50.000	59.691	-19.4	113	0.00
110	Methapyrilene	50.000	0.414	99.2#	0	-0.15
111	Isodrin	50.000	54.486	-9.0	101	0.00
112 C,P	Fluoranthene	50.000	50.398	-0.8	92	0.00
113 I	Chrysene-d12	40.000	40.000	0.0	95	0.00
114	Benzidine	50.000	0.000	100.0#	0	-14.26#
115 P	Pyrene	50.000	50.230	-0.5	92	0.00
116	Aramite	50.000	56.006	-12.0	98	0.00
117 S	p-Terphenyl-d14	50.000	0.000	100.0#	0	-14.62#
118	p-(Dimethylamino)azobenzene	50.000	0.000	100.0#	0	-14.83#
119	Chlorobenzilate	50.000	55.835	-11.7	103	0.00
120	Famphur	50.000	343.700	-587.4#	652	0.00
121 P	Butyl Benzyl Phthalate	50.000	51.378	-2.8	93	0.00
122	3,3'-Dimethylbenzidine	50.000	0.411	99.2#	1	-0.01
123	2-Acetylaminofluorene	50.000	0.000	100.0#	0	-15.73#
124 P	bis(2-Ethylhexyl)phthalate	50.000	52.368	-4.7	92	0.00
125 P	3,3'-Dichlorobenzidine	50.000	0.000	100.0#	0	-16.16#
126 P	Benzo[a]anthracene	50.000	49.572	0.9	91	0.00
127 P	Chrysene	50.000	51.937	-3.9	97	0.00
128 I	Perylene-d12	40.000	40.000	0.0	94	0.00
129 C,P	Di-n-Octyl Phthalate	50.000	52.154	-4.3	92	0.00
130	7,12-Dimethylbenz[a]anthrac	50.000	54.749	-9.5	100	0.00
131 P	Benzo[b]fluoranthene	50.000	51.411	-2.8	97	0.00
132 P	Benzo[k]fluoranthene	50.000	50.327	-0.7	97	0.00
133 C,P	Benzo[a]pyrene	50.000	49.999	0.0	92	0.00
134	3-Methylcholanthrene	50.000	59.583	-19.2	107	0.00
135 P	Indeno[1,2,3-cd]pyrene	50.000	50.254	-0.5	90	0.00
136 P	Dibenz[ah]anthracene	50.000	51.037	-2.1	90	0.00
137 P	Benzo[ghi]perylene	50.000	50.825	-1.7	90	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 1
 12M63796.D MEGAMIX.M Fri Aug 04 07:11:37 2017

Data File : I:\MSDCHEM\1\DATA\080317\12M63797.D Vial: 14
 Acq On : 3 Aug 2017 4:00 pm Operator: MES
 Sample : WG624321-13 50PPM APPIX/MP/BENZIDINE ALT Inst : MSD12
 Misc : 1,1 STD82728 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 04 07:11:44 2017 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Fri Aug 04 07:07:19 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.855	152	125729	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.148	136	480444	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.954	164	253515	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.572	188	493988	40.0000	ug/ml	0.000
113) Chrysene-d12	16.280	240	495460	40.0000	ug/ml	0.000
128) Perylene-d12	19.143	264	442994	40.0000	ug/ml	-0.011

System Monitoring Compounds

8) 2-Fluorophenol	0.000	112	0	0.0000000	ug/ml	
Spiked Amount	100.000	Range	21 - 100	Recovery	=	0.00%#
12) Phenol-d5	0.000	99	0	0.0000000	ug/ml	
Spiked Amount	100.000	Range	10 - 94	Recovery	=	0.00%#
31) Nitrobenzene-d5	0.000	82	0	0.0000000	ug/ml	
Spiked Amount	50.000	Range	35 - 114	Recovery	=	0.00%#
59) 2-Fluorobiphenyl	0.000	172	0	0.0000000	ug/ml	
Spiked Amount	50.000	Range	43 - 116	Recovery	=	0.00%#
86) 2,4,6-Tribromophenol	0.000	330	0	0.0000000	ug/ml	
Spiked Amount	100.000	Range	10 - 123	Recovery	=	0.00%#
117) p-Terphenyl-d14	0.000	244	0	0.0000000	ug/ml	
Spiked Amount	50.000	Range	33 - 141	Recovery	=	0.00%#

Target Compounds

					Qvalue	
5) 2-Picoline	6.02	93	241569	53.6281	ug/ml	99
6) n-Nitrosomethylethylamine	6.14	88	101406	55.8893	ug/ml	98
9) n-Nitrosodiethylamine	6.83	102	104068	54.3080	ug/ml	98
23) 3-,4-Methylphenol	8.29	107	274323	60.7002	ug/ml#	42
24) n-Nitrosopyrrolidine	8.23	100	106608	54.9664	ug/ml#	46
27) n-Nitrosomorpholine	8.25	56	128425	53.3628	ug/ml	98
28) o-Toluidine	8.29	106	366376	54.7207	ug/ml	100
33) n-Nitrosopiperidine	8.58	114	106344	51.7985	ug/ml	97
39) Benzoic Acid	8.93	105	1466	8.1633	ug/ml#	1
41) a,a-Dimethylphenethylamine	8.93	58	477774	59.7280	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.51	84	170461	44.2060	ug/ml	90
49) p-Phenylenediamine	9.53	108	265693	92.4317	ug/ml	99
50) 4-Chloro-3-Methylphenol	9.53	107	80250	18.8616	ug/ml#	26
77) 1-Naphthylamine	11.22	143	449336	55.9875	ug/ml	97
78) 2-Naphthylamine	11.29	143	471808	57.3144	ug/ml	99
80) Thionazin	11.50	107	11431	7.2403	ug/ml#	1
84) 5-Nitro-o-Toluidine	11.50	152	138346	49.2043	ug/ml	97
85) 1,2-Diphenylhydrazine	11.50	77	137063	13.7559	ug/ml#	61
97) Dimethoate	12.29	87	8116	2.4642	ug/ml#	54
98) 4-Aminobiphenyl	12.29	169	522228	53.5757	ug/ml	99
102) Disulfoton	12.57	88	7805	1.7458	ug/ml#	44
108) Parathion Ethyl	13.62	97	134783	67.2101	ug/ml#	8
109) 4-Nitroquinoline 1-Oxide	13.62	190	11227	14.3430	ug/ml#	8
110) Methapyrilene	13.62	58	143937	28.2016	ug/ml	97
114) Benzidine	14.26	184	460581	74.5290	ug/ml	100
118) p-(Dimethylamino)azobenzen	14.83	225	179017	58.8997	ug/ml	96
122) 3,3'-Dimethylbenzidine	15.31	212	559241	41.7258	ug/ml	98
123) 2-Acetylaminofluorene	15.73	181	361946	55.4436	ug/ml	99
125) 3,3'-Dichlorobenzidine	16.15	252	287515	57.0905	ug/ml	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M63797.D MEGAMIX.M Fri Aug 04 07:11:45 2017

Data File : I:\MSDCHEM\1\DATA\080317\12M63797.D Vial: 14
 Acq On : 3 Aug 2017 4:00 pm Operator: MES
 Sample : WG624321-13 50PPM APPIX/MP/BENZIDINE ALT Inst : MSD12
 Misc : 1,1 STD82728 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Fri Aug 04 07:07:19 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	95	0.00
2	1,4-Dioxane	50.000	0.000	100.0#	0	-4.71#
3	n-Nitrosodimethylamine	50.000	0.000	100.0#	0	-5.17#
4	Pyridine	50.000	0.000	100.0#	0	-5.19#
5	2-Picoline	50.000	53.628	-7.3	97	0.00
6	n-Nitrosomethylethylamine	50.000	55.889	-11.8	98	0.00
7	Methyl Methanesulfonate	50.000	0.000	100.0#	0	-6.44#
8 S	2-Fluorophenol	50.000	0.000	100.0#	0	-6.60#
9	n-Nitrosodiethylamine	50.000	54.308	-8.6	97	0.00
10	Ethyl Methanesulfonate	50.000	0.000	100.0#	0	-7.10#
11	Aniline	50.000	0.000	100.0#	0	-7.55#
12 S	Phenol-d5	50.000	0.000	100.0#	0	-7.45#
13 C,P	Phenol	50.000	0.000	100.0#	0	-7.46#
14 P	bis(2-Chloroethyl)ether	50.000	0.000	100.0#	0	-7.57#
15	Pentachloroethane	50.000	0.000	100.0#	0	-7.59#
16 P	2-Chlorophenol	50.000	0.000	100.0#	0	-7.68#
17	1,3-Dichlorobenzene	50.000	0.000	100.0#	0	-7.83#
18 C	1,4-Dichlorobenzene	50.000	0.000	100.0#	0	-7.87#
19	Benzyl Alcohol	50.000	0.080	99.8#	0	-0.11
20	1,2-Dichlorobenzene	50.000	0.000	100.0#	0	-8.07#
21 P	2-Methylphenol	50.000	0.000	100.0#	0	-8.06#
22 P	bis(2-Chloroisopropyl)ether	50.000	0.000	100.0#	0	-8.11#
23 P	3-,4-Methylphenol	50.000	60.700	-21.4	111	0.10
24	n-Nitrosopyrrolidine	50.000	54.966	-9.9	98	0.00
25 P	n-Nitrosodipropylamine	50.000	0.736	98.5#	1	0.00
26	Acetophenone	50.000	0.000	100.0#	0	-8.25#
27	n-Nitrosomorpholine	50.000	53.363	-6.7	97	0.00
28	o-Toluidine	50.000	54.721	-9.4	99	0.00
29 P	Hexachloroethane	50.000	0.000	100.0#	0	-8.38#
30 I	Naphthalene-d8	40.000	40.000	0.0	96	0.00
31 S	Nitrobenzene-d5	50.000	0.000	100.0#	0	-8.42#
32 P	Nitrobenzene	50.000	0.000	100.0#	0	-8.44#
33	n-Nitrosopiperidine	50.000	51.799	-3.6	95	0.00
34 P	Isophorone	50.000	0.879	98.2#	2	-0.07
35 C,P	2-Nitrophenol	50.000	0.000	100.0#	0	-8.76#
36 P	2,4-Dimethylphenol	50.000	0.000	100.0#	0	-8.73#
37	0,0,0-Triethyl Phosphorothi	50.000	0.000	100.0#	0	-8.82#
38 P	bis(2-Chloroethoxy)methane	50.000	0.248	99.5#	0	0.11
39	Benzoic Acid	50.000	8.163	83.7#	2	0.16
40 C,P	2,4-Dichlorophenol	50.000	0.000	100.0#	0	-8.99#
41	a,a-Dimethylphenethylamine	50.000	59.728	-19.5	106	-0.07
42	1,2,4-Trichlorobenzene	50.000	0.000	100.0#	0	-9.09#
43 P	Naphthalene	50.000	0.000	100.0#	0	-9.17#
44 P	4-Chloroaniline	50.000	0.167	99.7#	0	-0.06
45	2,6-Dichlorophenol	50.000	0.000	100.0#	0	-9.22#
46	Hexachloropropene	50.000	0.000	100.0#	0	-9.28#
47 C,P	Hexachlorobutadiene	50.000	0.000	100.0#	0	-9.32#
48	n-Nitrosodi-n-Butylamine	50.000	44.206	11.6	78	0.00
49	p-Phenylenediamine	50.000	92.432	-84.9#	171	0.00
50 C,P	4-Chloro-3-Methylphenol	50.000	18.862	62.3#	34	-0.10
51	Safrole	50.000	0.000	100.0#	0	-9.73#
52 P	2-Methylnaphthalene	50.000	0.000	100.0#	0	-9.86#
53	1-Methylnaphthalene	50.000	0.000	100.0#	0	-9.98#

(#) = Out of Range

12M63797.D MEGAMIX.M Fri Aug 04 07:11:47 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\080317\12M63797.D Vial: 14
 Acq On : 3 Aug 2017 4:00 pm Operator: MES
 Sample : WG624321-13 50PPM APPIX/MP/BENZIDINE ALT Inst : MSD12
 Misc : 1,1 STD82728 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Fri Aug 04 07:07:19 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
54 I	Acenaphthene-d10	40.000	40.000	0.0	94	0.00
55	1,2,4,5-Tetrachlorobenzene	50.000	0.000	100.0#	0	-10.07#
56 P	Hexachlorocyclopentadiene	50.000	0.000	100.0#	0	-10.08#
57 C,P	2,4,6-Trichlorophenol	50.000	0.000	100.0#	0	-10.15#
58 P	2,4,5-Trichlorophenol	50.000	0.000	100.0#	0	-10.20#
59 S	2-Fluorobiphenyl	50.000	0.000	100.0#	0	-10.22#
60	Isosafrole	50.000	0.000	100.0#	0	-10.25#
61 P	2-Chloronaphthalene	50.000	0.000	100.0#	0	-10.37#
62	1-Chloronaphthalene	50.000	0.000	100.0#	0	-10.41#
63 P	2-Nitroaniline	50.000	0.000	100.0#	0	-10.46#
64	1,4-Naphthoquinone	50.000	0.000	100.0#	0	-10.53#
65 P	Dimethylphthalate	50.000	0.000	100.0#	0	-10.62#
66	1,3-Dinitrobenzene	50.000	0.000	100.0#	0	-10.68#
67 P	2,6-Dinitrotoluene	50.000	0.000	100.0#	0	-10.72#
68 P	Acenaphthylene	50.000	0.000	100.0#	0	-10.81#
69 P	3-Nitroaniline	50.000	0.000	100.0#	0	-10.88#
70 P	2,4-Dinitrophenol	50.000	0.000	100.0#	0	-10.98#
71 C,P	Acenaphthene	50.000	0.185	99.6#	0	-0.04
72 P	4-Nitrophenol	50.000	0.181	99.6#	0	-0.02
73 P	2,4-Dinitrotoluene	50.000	0.000	100.0#	0	-11.13#
74	Pentachlorobenzene	50.000	0.000	100.0#	0	-11.17#
75 P	Dibenzofuran	50.000	0.000	100.0#	0	-11.15#
76	2,3,4,6-Tetrachlorophenol	50.000	0.000	100.0#	0	-11.30#
77	1-Naphthylamine	50.000	55.987	-12.0	102	0.00
78	2-Naphthylamine	50.000	57.314	-14.6	105	0.00
79 P	Diethylphthalate	50.000	0.000	100.0#	0	-11.33#
80	Thionazin	50.000	7.240	85.5#	13	0.07
81 P	Fluorene	50.000	0.000	100.0#	0	-11.51#
82 P	4-Chlorophenyl Phenyl Ether	50.000	0.000	100.0#	0	-11.46#
83 P	4-Nitroaniline	50.000	0.000	100.0#	0	-11.51#
84	5-Nitro-o-Toluidine	50.000	49.204	1.6	88	0.00
85	1,2-Diphenylhydrazine	50.000	13.756	72.5#	25	-0.12
86 S	2,4,6-Tribromophenol	50.000	0.000	100.0#	0	-11.79#
87 I	Phenanthrene-d10	40.000	40.000	0.0	93	0.00
88 P	4,6-Dinitro-2-Methylphenol	50.000	0.000	100.0#	0	-11.56#
89 C,P	Diphenylamine/n-Nitrosodiph	50.000	0.299	99.4#	1	-0.13
90	Sulfotep	50.000	0.000	100.0#	0	-11.77#
91	Sym-Trinitrobenzene	50.000	0.000	100.0#	0	-11.86#
92	Diallate	50.000	0.000	100.0#	0	-11.90#
93	Phenacetin	50.000	0.000	100.0#	0	-11.89#
94	Phorate	50.000	0.000	100.0#	0	-11.92#
95 P	4-Bromophenyl Phenyl Ether	50.000	0.000	100.0#	0	-11.99#
96 P	Hexachlorobenzene	50.000	0.000	100.0#	0	-12.21#
97	Dimethoate	50.000	2.464	95.1#	4	0.15
98	4-Aminobiphenyl	50.000	53.576	-7.2	95	0.00
99 C,P	Pentachlorophenol	50.000	0.000	100.0#	0	-12.40#
100	Pronamide	50.000	0.000	100.0#	0	-12.33#
101	Pentachloronitrobenzene	50.000	0.000	100.0#	0	-12.49#
102	Disulfoton	50.000	1.746	96.5#	3	0.06
103 P	Phenanthrene	50.000	0.000	100.0#	0	-12.61#
104 P	Anthracene	50.000	0.000	100.0#	0	-12.66#
105 P	Carbazole	50.000	0.000	100.0#	0	-12.82#
106	Parathion Methyl	50.000	0.000	100.0#	0	-12.99#

(#) = Out of Range

12M63797.D MEGAMIX.M

Fri Aug 04 07:11:47 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\080317\12M63797.D Vial: 14
 Acq On : 3 Aug 2017 4:00 pm Operator: MES
 Sample : WG624321-13 50PPM APPIX/MP/BENZIDINE ALT Inst : MSD12
 Misc : 1,1 STD82728 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Fri Aug 04 07:07:19 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
107 P	Di-n-Butyl Phthalate	50.000	0.000	100.0#	0	-13.18#
108	Parathion Ethyl	50.000	67.210	-34.4	113	0.15
109	4-Nitroquinoline 1-Oxide	50.000	14.343	71.3#	20	0.05
110	Methapyrilene	50.000	28.202	43.6#	59	0.00
111	Isodrin	50.000	0.000	100.0#	0	-13.99#
112 C,P	Fluoranthene	50.000	0.000	100.0#	0	-14.16#
113 I	Chrysene-d12	40.000	40.000	0.0	93	0.00
114	Benzidine	50.000	74.529	-49.1#	126	0.00
115 P	Pyrene	50.000	0.000	100.0#	0	-14.50#
116	Aramite	50.000	0.000	100.0#	0	-14.52#
117 S	p-Terphenyl-d14	50.000	0.000	100.0#	0	-14.62#
118	p-(Dimethylamino)azobenzene	50.000	58.900	-17.8	105	0.00
119	Chlorobenzilate	50.000	0.000	100.0#	0	-14.87#
120	Famphur	50.000	0.000	100.0#	0	-15.28#
121 P	Butyl Benzyl Phthalate	50.000	0.000	100.0#	0	-15.30#
122	3,3'-Dimethylbenzidine	50.000	41.726	16.5	73	0.00
123	2-Acetylaminofluorene	50.000	55.444	-10.9	94	0.00
124 P	bis(2-Ethylhexyl)phthalate	50.000	0.104	99.8#	0	0.02
125 P	3,3'-Dichlorobenzidine	50.000	57.090	-14.2	103	0.00
126 P	Benzo[a]anthracene	50.000	0.056	99.9#	0	0.03
127 P	Chrysene	50.000	0.062	99.9#	0	-0.04
128 I	Perylene-d12	40.000	40.000	0.0	89	-0.01
129 C,P	Di-n-Octyl Phthalate	50.000	0.000	100.0#	0	-17.12#
130	7,12-Dimethylbenz[a]anthrac	50.000	0.000	100.0#	0	-18.26#
131 P	Benzo[b]fluoranthene	50.000	0.000	100.0#	0	-18.26#
132 P	Benzo[k]fluoranthene	50.000	0.000	100.0#	0	-18.30#
133 C,P	Benzo[a]pyrene	50.000	0.000	100.0#	0	-19.03#
134	3-Methylcholanthrene	50.000	0.000	100.0#	0	-19.94#
135 P	Indeno[1,2,3-cd]pyrene	50.000	0.000	100.0#	0	-22.35#
136 P	Dibenz[ah]anthracene	50.000	0.000	100.0#	0	-22.35#
137 P	Benzo[ghi]perylene	50.000	0.000	100.0#	0	-23.33#

(#) = Out of Range SPCC's out = 0 CCC's out = 13
 12M63797.D MEGAMIX.M Fri Aug 04 07:11:47 2017

Data File : I:\MSDCHEM\1\DATA\082917\12M64121.D

Vial: 2

Acq On : 29 Aug 2017 9:47 am

Operator: scb

Sample : WG627594-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 10:14:04 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.834	152	140196	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.127	136	554616	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.938	164	307412	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.551	188	599106	40.0000	ug/ml	0.000
113) Chrysene-d12	16.243	240	602811	40.0000	ug/ml	0.000
128) Perylene-d12	19.090	264	584828	40.0000	ug/ml	-0.011
System Monitoring Compounds						
8) 2-Fluorophenol	6.573	112	227411	53.2616822	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	53.26%		
12) Phenol-d5	7.428	99	299111	54.7949438	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	54.79%		
31) Nitrobenzene-d5	8.400	82	300793	54.3472291	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	108.69%		
59) 2-Fluorobiphenyl	10.195	172	536543	50.2719006	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	100.54%		
86) 2,4,6-Tribromophenol	11.760	330	77463	47.8412994	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	47.84%		
117) p-Terphenyl-d14	14.581	244	666308	51.3442520	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	102.69%		
Target Compounds						
					Qvalue	
2) 1,4-Dioxane	4.67	88	89939	49.0329	ug/ml	96
3) n-Nitrosodimethylamine	5.14	74	154353	60.7508	ug/ml	97
4) Pyridine	5.16	79	273172	58.8140	ug/ml	96
5) 2-Picoline	5.99	93	279292	55.6044	ug/ml	98
6) n-Nitrosomethylethylamine	6.11	88	117011	57.8351	ug/ml	97
7) Methyl Methanesulfonate	6.41	80	180805	55.7798	ug/ml	99
9) n-Nitrosodiethylamine	6.81	102	119025	55.7038	ug/ml	99
10) Ethyl Methanesulfonate	7.08	79	197369	58.3135	ug/ml	95
11) Aniline	7.52	66	163486	57.5387	ug/ml	96
13) Phenol	7.44	94	307899	55.4962	ug/ml	98
14) bis(2-Chloroethyl)ether	7.55	63	182527	55.9385	ug/ml	98
15) Pentachloroethane	7.56	167	93186	50.3437	ug/ml	99
16) 2-Chlorophenol	7.65	128	227956	48.8950	ug/ml	94
17) 1,3-Dichlorobenzene	7.80	146	261158	51.1622	ug/ml	99
18) 1,4-Dichlorobenzene	7.85	146	266576	51.3721	ug/ml	99
19) Benzyl Alcohol	7.94	108	162203	54.6351	ug/ml	94
20) 1,2-Dichlorobenzene	8.04	146	268129	54.3515	ug/ml	100
21) 2-Methylphenol	8.04	107	216580	54.3405	ug/ml	95
22) bis(2-Chloroisopropyl)ethe	8.08	45	214270	54.2345	ug/ml	96
23) 3-,4-Methylphenol	8.17	107	262746	52.1392	ug/ml	94
24) n-Nitrosopyrrolidine	8.22	100	124785	57.6992	ug/ml	98
25) n-Nitrosodipropylamine	8.22	70	198968	57.4267	ug/ml	99
26) Acetophenone	8.23	105	380656	55.7353	ug/ml	98
27) n-Nitrosomorpholine	8.22	56	153662	57.2605	ug/ml	99
28) o-Toluidine	8.27	106	388199	51.9971	ug/ml	99
29) Hexachloroethane	8.36	117	116003	53.1900	ug/ml	98
32) Nitrobenzene	8.42	77	299656	54.6758	ug/ml	93
33) n-Nitrosopiperidine	8.56	114	120559	50.8691	ug/ml	93
34) Isophorone	8.63	82	511769	53.8039	ug/ml	99
35) 2-Nitrophenol	8.74	139	132917	51.1333	ug/ml	94
36) 2,4-Dimethylphenol	8.70	122	215065	49.6571	ug/ml	95
37) 0,0,0-Triethyl Phosphoroth	8.80	198	141531	55.7488	ug/ml	92
38) bis(2-Chloroethoxy)methane	8.80	93	409984	54.7673	ug/ml	98

(#) = qualifier out of range (m) = manual integration
 12M64121.D MEGAMIX.M Tue Aug 29 16:23:17 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\082917\12M64121.D

Vial: 2

Acq On : 29 Aug 2017 9:47 am

Operator: scb

Sample : WG627594-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 10:14:04 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Benzoic Acid	8.75	105	58967m	32.0552	ug/ml	
40) 2,4-Dichlorophenol	8.96	162	207533	52.7189	ug/ml	99
41) a,a-Dimethylphenethylamine	8.96	58	504915	54.6795	ug/ml	98
42) 1,2,4-Trichlorobenzene	9.07	180	233942	51.3870	ug/ml	99
43) Naphthalene	9.15	128	725629	49.2661	ug/ml#	100
44) 4-Chloroaniline	9.17	65	113315	55.6747	ug/ml	58
45) 2,6-Dichlorophenol	9.20	162	184697	50.9891	ug/ml	99
46) Hexachloropropene	9.26	213	185478	55.0338	ug/ml	98
47) Hexachlorobutadiene	9.29	225	144725	54.8933	ug/ml	98
48) n-Nitrosodi-n-Butylamine	9.48	84	242363	54.4469	ug/ml	99
49) p-Phenylenediamine	9.52	108	163536	49.2838	ug/ml	99
50) 4-Chloro-3-Methylphenol	9.61	107	258206	52.5714	ug/ml	99
51) Safrrole	9.70	162	197031	51.8958	ug/ml	98
52) 2-Methylnaphthalene	9.83	142	517312	51.7357	ug/ml	100
53) 1-Methylnaphthalene	9.95	142	467620	51.1297	ug/ml	98
55) 1,2,4,5-Tetrachlorobenzene	10.05	216	256139	52.3707	ug/ml	100
56) Hexachlorocyclopentadiene	10.05	237	122310	51.0923	ug/ml	99
57) 2,4,6-Trichlorophenol	10.13	196	163317	50.9339	ug/ml	99
58) 2,4,5-Trichlorophenol	10.17	196	168904	50.3687	ug/ml	99
60) Isosafrole	10.23	162	188573	48.6202	ug/ml	97
61) 2-Chloronaphthalene	10.34	162	496073	50.7972	ug/ml	98
62) 1-Chloronaphthalene	10.39	162	490277	52.3053	ug/ml	99
63) 2-Nitroaniline	10.44	65	162685	51.5560	ug/ml	100
64) 1,4-Naphthoquinone	10.51	158	131208	49.4163	ug/ml	97
65) Dimethylphthalate	10.60	163	571419	50.2847	ug/ml	100
66) 1,3-Dinitrobenzene	10.65	168	95353	49.2912	ug/ml	90
67) 2,6-Dinitrotoluene	10.70	165	132011	49.9719	ug/ml	95
68) Acenaphthylene	10.79	152	807642	52.2872	ug/ml	100
69) 3-Nitroaniline	10.86	138	133321	49.1963	ug/ml	99
70) 2,4-Dinitrophenol	10.96	184	84641	52.1925	ug/ml	99
71) Acenaphthene	10.97	154	530237	53.7618	ug/ml	99
72) 4-Nitrophenol	10.96	65	134897	54.9263	ug/ml	96
73) 2,4-Dinitrotoluene	11.10	165	180759	49.7967	ug/ml	91
74) Pentachlorobenzene	11.15	250	204888	51.9376	ug/ml	100
75) Dibenzofuran	11.12	168	686853	49.4453	ug/ml	97
76) 2,3,4,6-Tetrachlorophenol	11.27	232	158940	55.0507	ug/ml	99
77) 1-Naphthylamine	11.20	143	468697	48.1609	ug/ml	99
78) 2-Naphthylamine	11.27	143	513927	51.4852	ug/ml	99
79) Diethylphthalate	11.30	149	586984	50.1305	ug/ml	100
80) Thionazin	11.40	107	94226	49.2183	ug/ml	92
81) Fluorene	11.48	166	630736	53.4988	ug/ml	100
82) 4-Chlorophenyl Phenyl Ether	11.43	204	289180	49.4994	ug/ml	97
83) 4-Nitroaniline	11.49	138	159353	52.8299	ug/ml	97
84) 5-Nitro-o-Toluidine	11.49	152	186088	54.5805	ug/ml	97
85) 1,2-Diphenylhydrazine	11.60	77	640465	53.0085	ug/ml	96
88) 4,6-Dinitro-2-Methylphenol	11.54	198	108994	46.4502	ug/ml	93
89) Diphenylamine/n-Nitrosodip	11.55	169	513273	51.2456	ug/ml	100
90) Sulfotep	11.75	322	100165	50.6828	ug/ml	97
91) Sym-Trinitrobenzene	11.84	75	208561	53.9045	ug/ml	97
92) Diallate	11.87	86	226541	53.4809	ug/ml	99
93) Phenacetin	11.87	108	348764	55.5400	ug/ml	99
94) Phorate	11.89	75	355959	53.0330	ug/ml#	96
95) 4-Bromophenyl Phenyl Ether	11.96	248	161829	51.5221	ug/ml	99
96) Hexachlorobenzene	12.18	284	164492	50.4242	ug/ml	96

(#) = qualifier out of range (m) = manual integration
 12M64121.D MEGAMIX.M Tue Aug 29 16:23:18 2017

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Data File : I:\MSDCHEM\1\DATA\082917\12M64121.D

Vial: 2

Acq On : 29 Aug 2017 9:47 am

Operator: scb

Sample : WG627594-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 10:14:04 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97) Dimethoate	12.11	87	210529	52.7055	ug/ml	98
98) 4-Aminobiphenyl	12.27	169	591625	50.0457	ug/ml	99
99) Pentachlorophenol	12.37	266	99259	48.9009	ug/ml	99
100) Pronamide	12.30	173	271982	52.7284	ug/ml	98
101) Pentachloronitrobenzene	12.45	237	85985	57.4028	ug/ml	97
102) Disulfoton	12.48	88	286939	52.9192	ug/ml	98
103) Phenanthrene	12.58	178	846066	51.1661	ug/ml	100
104) Anthracene	12.63	178	879335	51.1006	ug/ml	99
105) Carbazole	12.79	167	766675	51.6873	ug/ml	99
106) Parathion Methyl	12.96	109	194388	53.8377	ug/ml	98
107) Di-n-Butyl Phthalate	13.14	149	1021271	52.0075	ug/ml	100
108) Parathion Ethyl	13.44	97	127225	52.3100	ug/ml	96
109) 4-Nitroquinoline 1-Oxide	13.54	190	47439	40.0488	ug/ml	95
110) Methapyrilene	13.59	58	199265	32.8901	ug/ml	94
111) Isodrin	13.96	193	93511	49.4024	ug/ml	99
112) Fluoranthene	14.13	202	929422	50.9178	ug/ml	99
114) Benzidine	14.22	184	409868	54.5118	ug/ml	100
115) Pyrene	14.46	202	966332	51.2749	ug/ml	100
116) Aramite	14.49	185	59559	51.6372	ug/ml	97
118) p-(Dimethylamino)azobenzen	14.79	225	199916	54.0622	ug/ml	83
119) Chlorobenzilate	14.83	251	280915	54.4012	ug/ml	90
120) Famphur	15.24	218	40708	34.2329	ug/ml	94
121) Butyl Benzyl Phthalate	15.26	149	472408	49.9377	ug/ml	92
122) 3,3'-Dimethylbenzidine	15.28	212	900052	55.1951	ug/ml	98
123) 2-Acetylaminofluorene	15.70	181	433248	54.5471	ug/ml	98
124) bis(2-Ethylhexyl)phthalate	16.09	149	616877	50.8016	ug/ml	98
125) 3,3'-Dichlorobenzidine	16.12	252	339429	55.3961	ug/ml	98
126) Benzo[a]anthracene	16.22	228	941155	52.7558	ug/ml	100
127) Chrysene	16.29	228	861930	53.2506	ug/ml	99
129) Di-n-Octyl Phthalate	17.08	149	1057776	48.4654	ug/ml	98
130) 7,12-Dimethylbenz[a]anthra	18.20	256	489362	54.6705	ug/ml	94
131) Benzo[b]fluoranthene	18.20	252	1040674	53.3779	ug/ml	98
132) Benzo[k]fluoranthene	18.25	252	894205	54.6644	ug/ml	99
133) Benzo[a]pyrene	18.96	252	869946	53.9891	ug/ml	98
134) 3-Methylcholanthrene	19.87	268	437142	52.2332	ug/ml	97
135) Indeno[1,2,3-cd]pyrene	22.27	276	1025784	58.0757	ug/ml	97
136) Dibenz[ah]anthracene	22.26	278	833437	55.3176	ug/ml	99
137) Benzo[ghi]perylene	23.22	276	806615	57.5363	ug/ml	97

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M64121.D MEGAMIX.M Tue Aug 29 16:23:18 2017

Page 3

Data File : I:\MSDCHEM\1\DATA\082917\12M64121.D

Vial: 2

Acq On : 29 Aug 2017 9:47 am

Operator: scb

Sample : WG627594-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min

Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	106	0.00
2	1,4-Dioxane	0.523	0.513	1.9	94	0.00
3	n-Nitrosodimethylamine	0.725	0.881	-21.5	120	0.00
4	Pyridine	1.325	1.559	-17.7	115	0.00
5	2-Picoline	1.433	1.594	-11.2	112	0.00
6	n-Nitrosomethylethylamine	0.577	0.668	-15.8	113	0.00
7	Methyl Methanesulfonate	0.925	1.032	-11.6	113	0.00
8 S	2-Fluorophenol	1.218	1.298	-6.6	107	0.00
9	n-Nitrosodiethylamine	0.610	0.679	-11.3	111	0.00
10	Ethyl Methanesulfonate	0.966	1.126	-16.6	116	0.00
11	Aniline	0.811	0.933	-15.0	114	0.00
12 S	Phenol-d5	1.557	1.707	-9.6	111	0.00
13 C,P	Phenol	1.583	1.757	-11.0	112	0.00
14 P	bis(2-Chloroethyl)ether	0.931	1.042	-11.9	113	0.00
15	Pentachloroethane	0.528	0.532	-0.8	105	0.00
16 P	2-Chlorophenol	1.330	1.301	2.2	101	0.00
17	1,3-Dichlorobenzene	1.456	1.490	-2.3	107	0.00
18 C	1,4-Dichlorobenzene	1.481	1.521	-2.7	108	0.00
19	Benzyl Alcohol	0.847	0.926	-9.3	110	0.00
20	1,2-Dichlorobenzene	1.408	1.530	-8.7	112	0.00
21 P	2-Methylphenol	1.137	1.236	-8.7	110	0.00
22 P	bis(2-Chloroisopropyl)ether	1.127	1.223	-8.5	109	0.00
23 P	3-,4-Methylphenol	1.438	1.499	-4.2	106	0.00
24	n-Nitrosopyrrolidine	0.617	0.712	-15.4	114	0.00
25 P	n-Nitrosodipropylamine	0.989	1.135	-14.8	115	0.00
26	Acetophenone	1.949	2.172	-11.4	113	0.00
27	n-Nitrosomorpholine	0.766	0.877	-14.5	116	0.00
28	o-Toluidine	2.130	2.215	-4.0	105	0.00
29 P	Hexachloroethane	0.622	0.662	-6.4	109	0.00
30 I	Naphthalene-d8	1.000	1.000	0.0	110	0.00
31 S	Nitrobenzene-d5	0.399	0.434	-8.8	115	0.00
32 P	Nitrobenzene	0.395	0.432	-9.4	118	0.00
33	n-Nitrosopiperidine	0.171	0.174	-1.8	108	0.00
34 P	Isophorone	0.686	0.738	-7.6	113	0.00
35 C,P	2-Nitrophenol	0.187	0.192	-2.7	110	0.00
36 P	2,4-Dimethylphenol	0.312	0.310	0.6	105	0.00
37	0,0,0-Triethyl Phosphorothi	0.183	0.204	-11.5	122	0.00
38 P	bis(2-Chloroethoxy)methane	0.540	0.591	-9.4	114	0.00
39	Benzoic Acid	0.156	0.085	45.5#	64	0.00
40 C,P	2,4-Dichlorophenol	0.284	0.299	-5.3	112	0.00
41	a,a-Dimethylphenethylamine	0.666	0.728	-9.3	112	0.00
42	1,2,4-Trichlorobenzene	0.328	0.337	-2.7	114	0.00
43 P	Naphthalene	1.062	1.047	1.4	107	0.00
44 P	4-Chloroaniline	0.147	0.163	-10.9	115	0.00
45	2,6-Dichlorophenol	0.261	0.266	-1.9	111	0.00
46	Hexachloropropene	0.243	0.268	-10.3	121	0.00
47 C,P	Hexachlorobutadiene	0.190	0.209	-10.0	125	0.00
48	n-Nitrosodi-n-Butylamine	0.321	0.350	-9.0	111	0.00
49	p-Phenylenediamine	0.239	0.236	1.3	105	0.00
50 C,P	4-Chloro-3-Methylphenol	0.354	0.372	-5.1	110	0.00
51	Safrole	0.274	0.284	-3.6	112	0.00
52 P	2-Methylnaphthalene	0.721	0.746	-3.5	111	0.00
53	1-Methylnaphthalene	0.660	0.675	-2.3	110	0.00

(#)= Out of Range

12M64121.D MEGAMIX.M

Tue Aug 29 16:23:24 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\082917\12M64121.D

Vial: 2

Acq On : 29 Aug 2017 9:47 am

Operator: scb

Sample : WG627594-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min

Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
54 I	Acenaphthene-d10	1.000	1.000	0.0	114	0.00
55	1,2,4,5-Tetrachlorobenzene	0.636	0.667	-4.9	119	0.00
56 P	Hexachlorocyclopentadiene	0.283	0.318	-12.4	117	0.00
57 C,P	2,4,6-Trichlorophenol	0.417	0.425	-1.9	114	0.00
58 P	2,4,5-Trichlorophenol	0.436	0.440	-0.9	115	0.00
59 S	2-Fluorobiphenyl	1.389	1.396	-0.5	114	0.00
60	Isosafrole	0.505	0.491	2.8	110	0.00
61 P	2-Chloronaphthalene	1.271	1.291	-1.6	115	0.00
62	1-Chloronaphthalene	1.220	1.276	-4.6	118	0.00
63 P	2-Nitroaniline	0.411	0.423	-2.9	113	0.00
64	1,4-Naphthoquinone	0.345	0.341	1.2	109	0.00
65 P	Dimethylphthalate	1.479	1.487	-0.5	114	0.00
66	1,3-Dinitrobenzene	0.252	0.248	1.6	109	0.00
67 P	2,6-Dinitrotoluene	0.344	0.344	0.0	111	0.00
68 P	Acenaphthylene	2.010	2.102	-4.6	116	0.00
69 P	3-Nitroaniline	0.353	0.347	1.7	109	0.00
70 P	2,4-Dinitrophenol	0.192	0.220	-14.6	118	0.00
71 C,P	Acenaphthene	1.283	1.380	-7.6	118	0.00
72 P	4-Nitrophenol	0.320	0.351	-9.7	117	0.00
73 P	2,4-Dinitrotoluene	0.472	0.470	0.4	110	0.00
74	Pentachlorobenzene	0.513	0.533	-3.9	121	0.00
75 P	Dibenzofuran	1.807	1.787	1.1	112	0.00
76	2,3,4,6-Tetrachlorophenol	0.376	0.414	-10.1	122	0.00
77	1-Naphthylamine	1.266	1.220	3.6	107	0.00
78	2-Naphthylamine	1.299	1.337	-2.9	114	0.00
79 P	Diethylphthalate	1.524	1.528	-0.3	112	0.00
80	Thionazin	0.249	0.245	1.6	106	0.00
81 P	Fluorene	1.534	1.641	-7.0	117	0.00
82 P	4-Chlorophenyl Phenyl Ether	0.760	0.753	0.9	113	0.00
83 P	4-Nitroaniline	0.392	0.415	-5.9	116	0.00
84	5-Nitro-o-Toluidine	0.444	0.484	-9.0	119	0.00
85	1,2-Diphenylhydrazine	1.572	1.667	-6.0	116	0.00
86 S	2,4,6-Tribromophenol	0.211	0.202	4.3	108	0.00
87 I	Phenanthrene-d10	1.000	1.000	0.0	113	0.00
88 P	4,6-Dinitro-2-Methylphenol	0.143	0.146	-2.1	108	0.00
89 C,P	Diphenylamine/n-Nitrosodiph	0.669	0.685	-2.4	113	0.00
90	Sulfotep	0.132	0.134	-1.5	114	0.00
91	Sym-Trinitrobenzene	0.238	0.278	-16.8	119	0.00
92	Diallate	0.283	0.303	-7.1	113	0.00
93	Phenacetin	0.419	0.466	-11.2	118	0.00
94	Phorate	0.448	0.475	-6.0	112	0.00
95 P	4-Bromophenyl Phenyl Ether	0.210	0.216	-2.9	115	0.00
96 P	Hexachlorobenzene	0.218	0.220	-0.9	114	0.00
97	Dimethoate	0.267	0.281	-5.2	110	0.00
98	4-Aminobiphenyl	0.789	0.790	-0.1	108	0.00
99 C,P	Pentachlorophenol	0.131	0.133	-1.5	109	0.00
100	Pronamide	0.344	0.363	-5.5	115	0.00
101	Pentachloronitrobenzene	0.100	0.115	-15.0	127	0.00
102	Disulfoton	0.362	0.383	-5.8	112	0.00
103 P	Phenanthrene	1.104	1.130	-2.4	113	0.00
104 P	Anthracene	1.149	1.174	-2.2	112	0.00
105 P	Carbazole	0.990	1.024	-3.4	112	0.00
106	Parathion Methyl	0.241	0.260	-7.9	111	0.00

(#) = Out of Range

12M64121.D MEGAMIX.M

Tue Aug 29 16:23:24 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\082917\12M64121.D Vial: 2
 Acq On : 29 Aug 2017 9:47 am Operator: scb
 Sample : WG627594-02 50PPM 8270 STD Inst : MSD12
 Misc : 1,1 STD81744 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Mon Aug 21 08:23:38 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
 Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
107 P	Di-n-Butyl Phthalate	1.311	1.364	-4.0	112	0.00
108	Parathion Ethyl	0.162	0.170	-4.9	107	0.00
109	4-Nitroquinoline 1-Oxide	0.070	0.063	10.0	85	0.00
110	Methapyrilene	0.360	0.266	26.1	82	0.00
111	Isodrin	0.126	0.125	0.8	110	0.00
112 C,P	Fluoranthene	1.219	1.241	-1.8	111	0.00
113 I	Chrysene-d12	1.000	1.000	0.0	113	0.00
114	Benzidine	0.499	0.544	-9.0	112	0.00
115 P	Pyrene	1.251	1.282	-2.5	112	0.00
116	Aramite	0.077	0.079	-2.6	108	0.00
117 S	p-Terphenyl-d14	0.861	0.884	-2.7	114	0.00
118	p-(Dimethylamino)azobenzene	0.245	0.265	-8.2	117	0.00
119	Chlorobenzilate	0.343	0.373	-8.7	120	0.00
120	Famphur	0.079	0.054	31.6	78	0.00
121 P	Butyl Benzyl Phthalate	0.628	0.627	0.2	108	0.00
122	3,3'-Dimethylbenzidine	1.082	1.194	-10.4	117	0.00
123	2-Acetylaminofluorene	0.527	0.575	-9.1	113	0.00
124 P	bis(2-Ethylhexyl)phthalate	0.806	0.819	-1.6	106	0.00
125 P	3,3'-Dichlorobenzidine	0.407	0.450	-10.6	122	0.00
126 P	Benzo[a]anthracene	1.184	1.249	-5.5	116	0.00
127 P	Chrysene	1.074	1.144	-6.5	118	0.00
128 I	Perylene-d12	1.000	1.000	0.0	117	-0.01
129 C,P	Di-n-Octyl Phthalate	1.493	1.447	3.1	107	0.00
130	7,12-Dimethylbenz[a]anthrac	0.612	0.669	-9.3	124	-0.01
131 P	Benzo[b]fluoranthene	1.333	1.424	-6.8	126	0.00
132 P	Benzo[k]fluoranthene	1.119	1.223	-9.3	131	0.00
133 C,P	Benzo[a]pyrene	1.102	1.190	-8.0	123	0.00
134	3-Methylcholanthrene	0.572	0.598	-4.5	117	0.00
135 P	Indeno[1,2,3-cd]pyrene	1.208	1.403	-16.1	129	0.00
136 P	Dibenz[ah]anthracene	1.030	1.140	-10.7	122	-0.01
137 P	Benzo[ghi]perylene	0.959	1.103	-15.0	127	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 12M64121.D MEGAMIX.M Tue Aug 29 16:23:24 2017

Data File : I:\MSDCHEM\1\DATA\082917\12M64121.D

Vial: 2

Acq On : 29 Aug 2017 9:47 am

Operator: scb

Sample : WG627594-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min

Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	106	0.00
2	1,4-Dioxane	50.000	49.033	1.9	94	0.00
3	n-Nitrosodimethylamine	50.000	60.751	-21.5	120	0.00
4	Pyridine	50.000	58.814	-17.6	115	0.00
5	2-Picoline	50.000	55.604	-11.2	112	0.00
6	n-Nitrosomethylethylamine	50.000	57.835	-15.7	113	0.00
7	Methyl Methanesulfonate	50.000	55.780	-11.6	113	0.00
8 S	2-Fluorophenol	50.000	53.262	-6.5	107	0.00
9	n-Nitrosodiethylamine	50.000	55.704	-11.4	111	0.00
10	Ethyl Methanesulfonate	50.000	58.314	-16.6	116	0.00
11	Aniline	50.000	57.539	-15.1	114	0.00
12 S	Phenol-d5	50.000	54.795	-9.6	111	0.00
13 C,P	Phenol	50.000	55.496	-11.0	112	0.00
14 P	bis(2-Chloroethyl)ether	50.000	55.938	-11.9	113	0.00
15	Pentachloroethane	50.000	50.344	-0.7	105	0.00
16 P	2-Chlorophenol	50.000	48.895	2.2	101	0.00
17	1,3-Dichlorobenzene	50.000	51.162	-2.3	107	0.00
18 C	1,4-Dichlorobenzene	50.000	51.372	-2.7	108	0.00
19	Benzyl Alcohol	50.000	54.635	-9.3	110	0.00
20	1,2-Dichlorobenzene	50.000	54.352	-8.7	112	0.00
21 P	2-Methylphenol	50.000	54.340	-8.7	110	0.00
22 P	bis(2-Chloroisopropyl)ether	50.000	54.234	-8.5	109	0.00
23 P	3-,4-Methylphenol	50.000	52.139	-4.3	106	0.00
24	n-Nitrosopyrrolidine	50.000	57.699	-15.4	114	0.00
25 P	n-Nitrosodipropylamine	50.000	57.427	-14.9	115	0.00
26	Acetophenone	50.000	55.735	-11.5	113	0.00
27	n-Nitrosomorpholine	50.000	57.261	-14.5	116	0.00
28	o-Toluidine	50.000	51.997	-4.0	105	0.00
29 P	Hexachloroethane	50.000	53.190	-6.4	109	0.00
30 I	Naphthalene-d8	40.000	40.000	0.0	110	0.00
31 S	Nitrobenzene-d5	50.000	54.347	-8.7	115	0.00
32 P	Nitrobenzene	50.000	54.676	-9.4	118	0.00
33	n-Nitrosopiperidine	50.000	50.869	-1.7	108	0.00
34 P	Isophorone	50.000	53.804	-7.6	113	0.00
35 C,P	2-Nitrophenol	50.000	51.133	-2.3	110	0.00
36 P	2,4-Dimethylphenol	50.000	49.657	0.7	105	0.00
37	0,0,0-Triethyl Phosphorothi	50.000	55.749	-11.5	122	0.00
38 P	bis(2-Chloroethoxy)methane	50.000	54.767	-9.5	114	0.00
39	Benzoic Acid	50.000	32.055	35.9	64	0.00
40 C,P	2,4-Dichlorophenol	50.000	52.719	-5.4	112	0.00
41	a,a-Dimethylphenethylamine	50.000	54.679	-9.4	112	0.00
42	1,2,4-Trichlorobenzene	50.000	51.387	-2.8	114	0.00
43 P	Naphthalene	50.000	49.266	1.5	107	0.00
44 P	4-Chloroaniline	50.000	55.675	-11.3	115	0.00
45	2,6-Dichlorophenol	50.000	50.989	-2.0	111	0.00
46	Hexachloropropene	50.000	55.034	-10.1	121	0.00
47 C,P	Hexachlorobutadiene	50.000	54.893	-9.8	125	0.00
48	n-Nitrosodi-n-Butylamine	50.000	54.447	-8.9	111	0.00
49	p-Phenylenediamine	50.000	49.284	1.4	105	0.00
50 C,P	4-Chloro-3-Methylphenol	50.000	52.571	-5.1	110	0.00
51	Safrole	50.000	51.896	-3.8	112	0.00
52 P	2-Methylnaphthalene	50.000	51.736	-3.5	111	0.00
53	1-Methylnaphthalene	50.000	51.130	-2.3	110	0.00

(#) = Out of Range

12M64121.D MEGAMIX.M

Tue Aug 29 16:23:22 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\082917\12M64121.D

Vial: 2

Acq On : 29 Aug 2017 9:47 am

Operator: scb

Sample : WG627594-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min

Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
54 I	Acenaphthene-d10	40.000	40.000	0.0	114	0.00
55	1,2,4,5-Tetrachlorobenzene	50.000	52.371	-4.7	119	0.00
56 P	Hexachlorocyclopentadiene	50.000	51.092	-2.2	117	0.00
57 C,P	2,4,6-Trichlorophenol	50.000	50.934	-1.9	114	0.00
58 P	2,4,5-Trichlorophenol	50.000	50.369	-0.7	115	0.00
59 S	2-Fluorobiphenyl	50.000	50.272	-0.5	114	0.00
60	Isosafrole	50.000	48.620	2.8	110	0.00
61 P	2-Chloronaphthalene	50.000	50.797	-1.6	115	0.00
62	1-Chloronaphthalene	50.000	52.305	-4.6	118	0.00
63 P	2-Nitroaniline	50.000	51.556	-3.1	113	0.00
64	1,4-Naphthoquinone	50.000	49.416	1.2	109	0.00
65 P	Dimethylphthalate	50.000	50.285	-0.6	114	0.00
66	1,3-Dinitrobenzene	50.000	49.291	1.4	109	0.00
67 P	2,6-Dinitrotoluene	50.000	49.972	0.1	111	0.00
68 P	Acenaphthylene	50.000	52.287	-4.6	116	0.00
69 P	3-Nitroaniline	50.000	49.196	1.6	109	0.00
70 P	2,4-Dinitrophenol	50.000	52.193	-4.4	118	0.00
71 C,P	Acenaphthene	50.000	53.762	-7.5	118	0.00
72 P	4-Nitrophenol	50.000	54.926	-9.9	117	0.00
73 P	2,4-Dinitrotoluene	50.000	49.797	0.4	110	0.00
74	Pentachlorobenzene	50.000	51.938	-3.9	121	0.00
75 P	Dibenzofuran	50.000	49.445	1.1	112	0.00
76	2,3,4,6-Tetrachlorophenol	50.000	55.051	-10.1	122	0.00
77	1-Naphthylamine	50.000	48.161	3.7	107	0.00
78	2-Naphthylamine	50.000	51.485	-3.0	114	0.00
79 P	Diethylphthalate	50.000	50.131	-0.3	112	0.00
80	Thionazin	50.000	49.218	1.6	106	0.00
81 P	Fluorene	50.000	53.499	-7.0	117	0.00
82 P	4-Chlorophenyl Phenyl Ether	50.000	49.499	1.0	113	0.00
83 P	4-Nitroaniline	50.000	52.830	-5.7	116	0.00
84	5-Nitro-o-Toluidine	50.000	54.581	-9.2	119	0.00
85	1,2-Diphenylhydrazine	50.000	53.008	-6.0	116	0.00
86 S	2,4,6-Tribromophenol	50.000	47.841	4.3	108	0.00
87 I	Phenanthrene-d10	40.000	40.000	0.0	113	0.00
88 P	4,6-Dinitro-2-Methylphenol	50.000	46.450	7.1	108	0.00
89 C,P	Diphenylamine/n-Nitrosodiph	50.000	51.246	-2.5	113	0.00
90	Sulfotep	50.000	50.683	-1.4	114	0.00
91	Sym-Trinitrobenzene	50.000	53.904	-7.8	119	0.00
92	Diallate	50.000	53.481	-7.0	113	0.00
93	Phenacetin	50.000	55.540	-11.1	118	0.00
94	Phorate	50.000	53.033	-6.1	112	0.00
95 P	4-Bromophenyl Phenyl Ether	50.000	51.522	-3.0	115	0.00
96 P	Hexachlorobenzene	50.000	50.424	-0.8	114	0.00
97	Dimethoate	50.000	52.706	-5.4	110	0.00
98	4-Aminobiphenyl	50.000	50.046	-0.1	108	0.00
99 C,P	Pentachlorophenol	50.000	48.901	2.2	109	0.00
100	Pronamide	50.000	52.728	-5.5	115	0.00
101	Pentachloronitrobenzene	50.000	57.403	-14.8	127	0.00
102	Disulfoton	50.000	52.919	-5.8	112	0.00
103 P	Phenanthrene	50.000	51.166	-2.3	113	0.00
104 P	Anthracene	50.000	51.101	-2.2	112	0.00
105 P	Carbazole	50.000	51.687	-3.4	112	0.00
106	Parathion Methyl	50.000	53.838	-7.7	111	0.00

(#) = Out of Range

12M64121.D MEGAMIX.M

Tue Aug 29 16:23:22 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\082917\12M64121.D

Vial: 2

Acq On : 29 Aug 2017 9:47 am

Operator: scb

Sample : WG627594-02 50PPM 8270 STD

Inst : MSD12

Misc : 1,1 STD81744

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min

Max. RRF Dev : 40% Max. Rel. Area : 500%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
107 P	Di-n-Butyl Phthalate	50.000	52.008	-4.0	112	0.00
108	Parathion Ethyl	50.000	52.310	-4.6	107	0.00
109	4-Nitroquinoline 1-Oxide	50.000	40.049	19.9	85	0.00
110	Methapyrilene	50.000	32.890	34.2	82	0.00
111	Isodrin	50.000	49.402	1.2	110	0.00
112 C,P	Fluoranthene	50.000	50.918	-1.8	111	0.00
113 I	Chrysene-d12	40.000	40.000	0.0	113	0.00
114	Benzidine	50.000	54.512	-9.0	112	0.00
115 P	Pyrene	50.000	51.275	-2.5	112	0.00
116	Aramite	50.000	51.637	-3.3	108	0.00
117 S	p-Terphenyl-d14	50.000	51.344	-2.7	114	0.00
118	p-(Dimethylamino)azobenzene	50.000	54.062	-8.1	117	0.00
119	Chlorobenzilate	50.000	54.401	-8.8	120	0.00
120	Famphur	50.000	34.233	31.5	78	0.00
121 P	Butyl Benzyl Phthalate	50.000	49.938	0.1	108	0.00
122	3,3'-Dimethylbenzidine	50.000	55.195	-10.4	117	0.00
123	2-Acetylaminofluorene	50.000	54.547	-9.1	113	0.00
124 P	bis(2-Ethylhexyl)phthalate	50.000	50.802	-1.6	106	0.00
125 P	3,3'-Dichlorobenzidine	50.000	55.396	-10.8	122	0.00
126 P	Benzo[a]anthracene	50.000	52.756	-5.5	116	0.00
127 P	Chrysene	50.000	53.251	-6.5	118	0.00
128 I	Perylene-d12	40.000	40.000	0.0	117	-0.01
129 C,P	Di-n-Octyl Phthalate	50.000	48.465	3.1	107	0.00
130	7,12-Dimethylbenz[a]anthrac	50.000	54.670	-9.3	124	-0.01
131 P	Benzo[b]fluoranthene	50.000	53.378	-6.8	126	0.00
132 P	Benzo[k]fluoranthene	50.000	54.664	-9.3	131	0.00
133 C,P	Benzo[a]pyrene	50.000	53.989	-8.0	123	0.00
134	3-Methylcholanthrene	50.000	52.233	-4.5	117	0.00
135 P	Indeno[1,2,3-cd]pyrene	50.000	58.076	-16.2	129	0.00
136 P	Dibenz[ah]anthracene	50.000	55.318	-10.6	122	-0.01
137 P	Benzo[ghi]perylene	50.000	57.536	-15.1	127	-0.01

(#) = Out of Range
 12M64121.D MEGAMIX.M

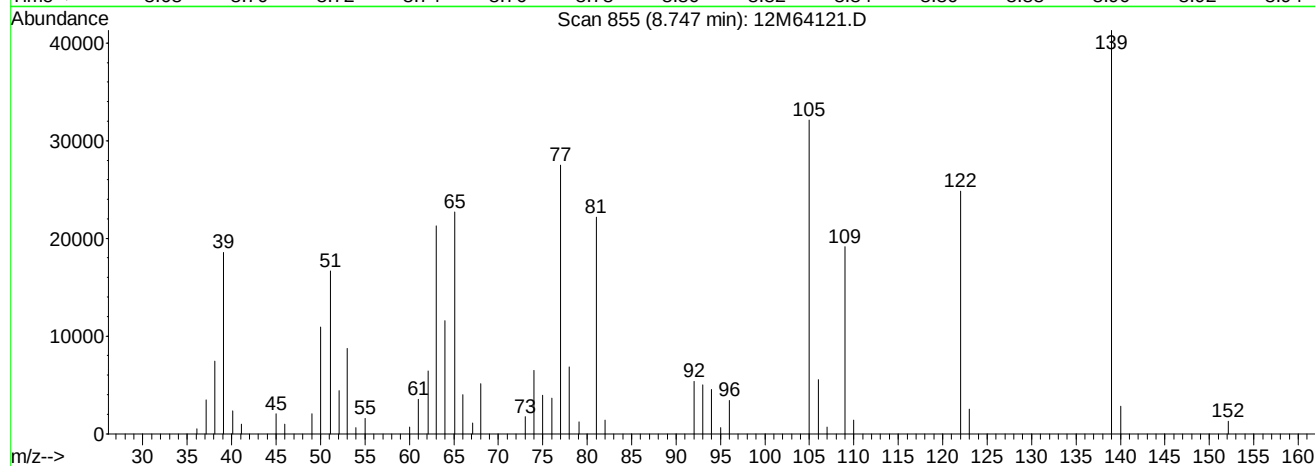
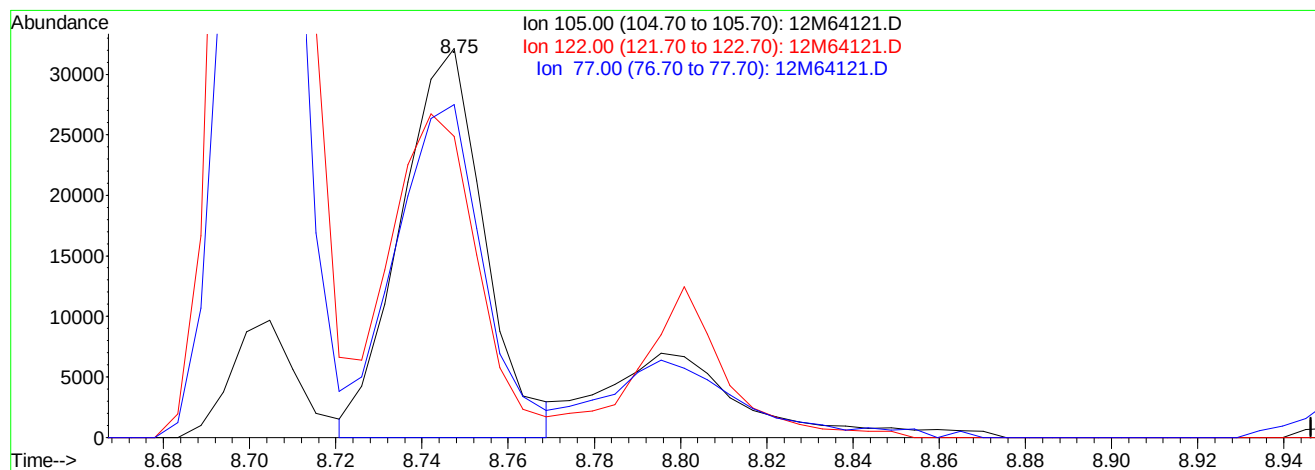
SPCC's out = 0 CCC's out = 0
 Tue Aug 29 16:23:22 2017

Page 3

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\082917\12M64121.D Vial: 2
Acq On : 29 Aug 2017 9:47 am Operator: scb
Sample : WG627594-02 50PPM 8270 STD Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 10:14 2017 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Last Update : Mon Aug 21 08:23:38 2017
Response via : Multiple Level Calibration



TIC: 12M64121.D

(39) Benzoic Acid

8.75min 26.13ug/ml

response 43095

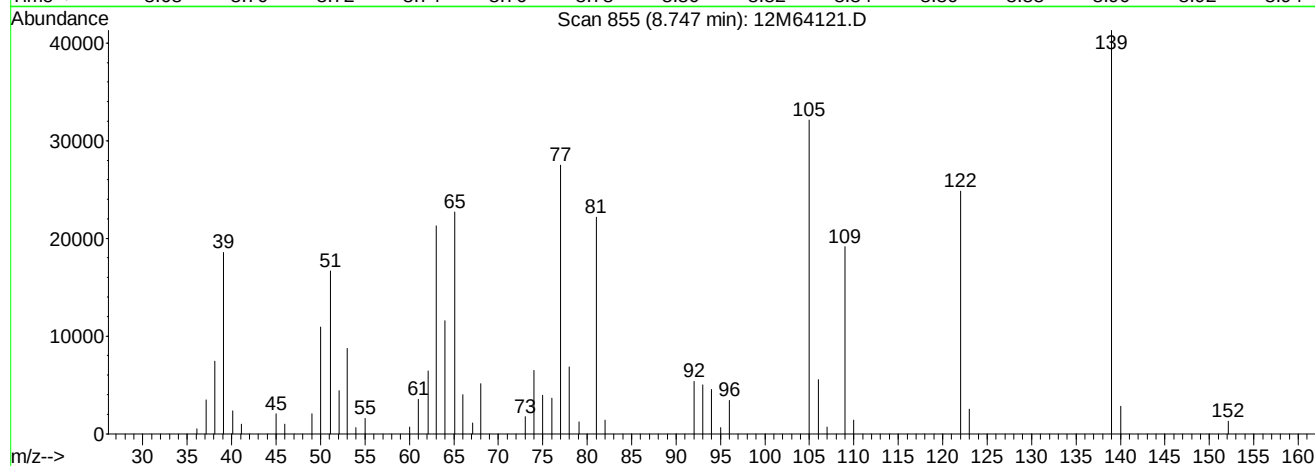
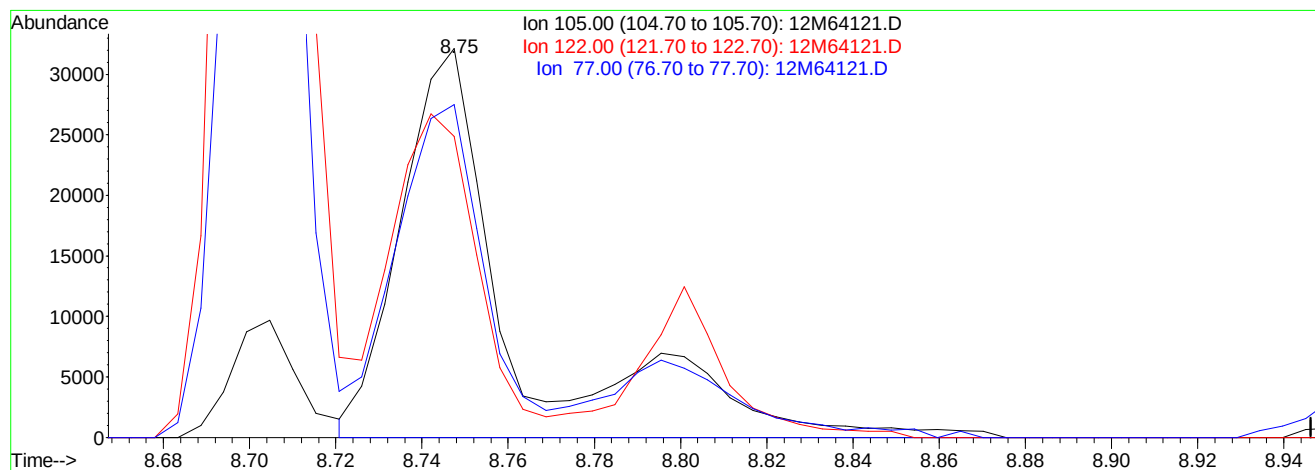
Ion	Exp%	Act%
105.00	100	100
122.00	54.20	83.93#
77.00	53.80	89.69#
0.00	0.00	0.00

12M64121.D MEGAMIX.M Tue Aug 29 16:22:58 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\082917\12M64121.D Vial: 2
Acq On : 29 Aug 2017 9:47 am Operator: scb
Sample : WG627594-02 50PPM 8270 STD Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 16:23 2017 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Last Update : Mon Aug 21 08:23:38 2017
Response via : Multiple Level Calibration



TIC: 12M64121.D

(39) Benzoic Acid

8.75min 32.06ug/ml mint

response 58967

lon	Exp%	Act%
105.00	100	100
122.00	54.20	61.34
77.00	53.80	65.55
0.00	0.00	0.00

12M64121.D MEGAMIX.M

Tue Aug 29

Analyst: 08/30/2017 14:16

Supervisor: 08/30/2017 14:43

17

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Data File : I:\MSDCHEM\1\DATA\082917\12M64122.D Vial: 3
 Acq On : 29 Aug 2017 10:20 am Operator: scb
 Sample : WG627620-01 50PPM TCL/A-TERP STD Inst : MSD12
 Misc : 1,1 STD81291 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 29 10:44:52 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
 Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
 Last Update : Thu Jul 27 11:09:54 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.829	152	169492	40.0000	ug/mL	-0.037
3) Naphthalene-d8	9.121	136	634658	40.0000	ug/mL	-0.037
6) Acenaphthene-d10	10.932	164	341649	40.0000	ug/mL	-0.037
8) Phenanthrene-d10	12.546	188	670635	40.0000	ug/mL	-0.048
Target Compounds						Qvalue
2) Benzaldehyde	7.41	105	220283	51.8135	ug/L	97
4) Alpha-Terpineol	9.08	59	199515	52.9141	ug/L	97
5) Caprolactam	9.47	55	98412	55.6545	ug/L	94
7) 1,1'-Biphenyl	10.30	154	699957	50.6085	ug/L	99
9) Atrazine	12.10	200	198622	51.7677	ug/L	98

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M64122.D TCL.M Tue Aug 29 16:27:45 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\082917\12M64122.D

Vial: 3

Acq On : 29 Aug 2017 10:20 am

Operator: scb

Sample : WG627620-01 50PPM TCL/A-TERP STD

Inst : MSD12

Misc : 1,1 STD81291

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 10:44 2017

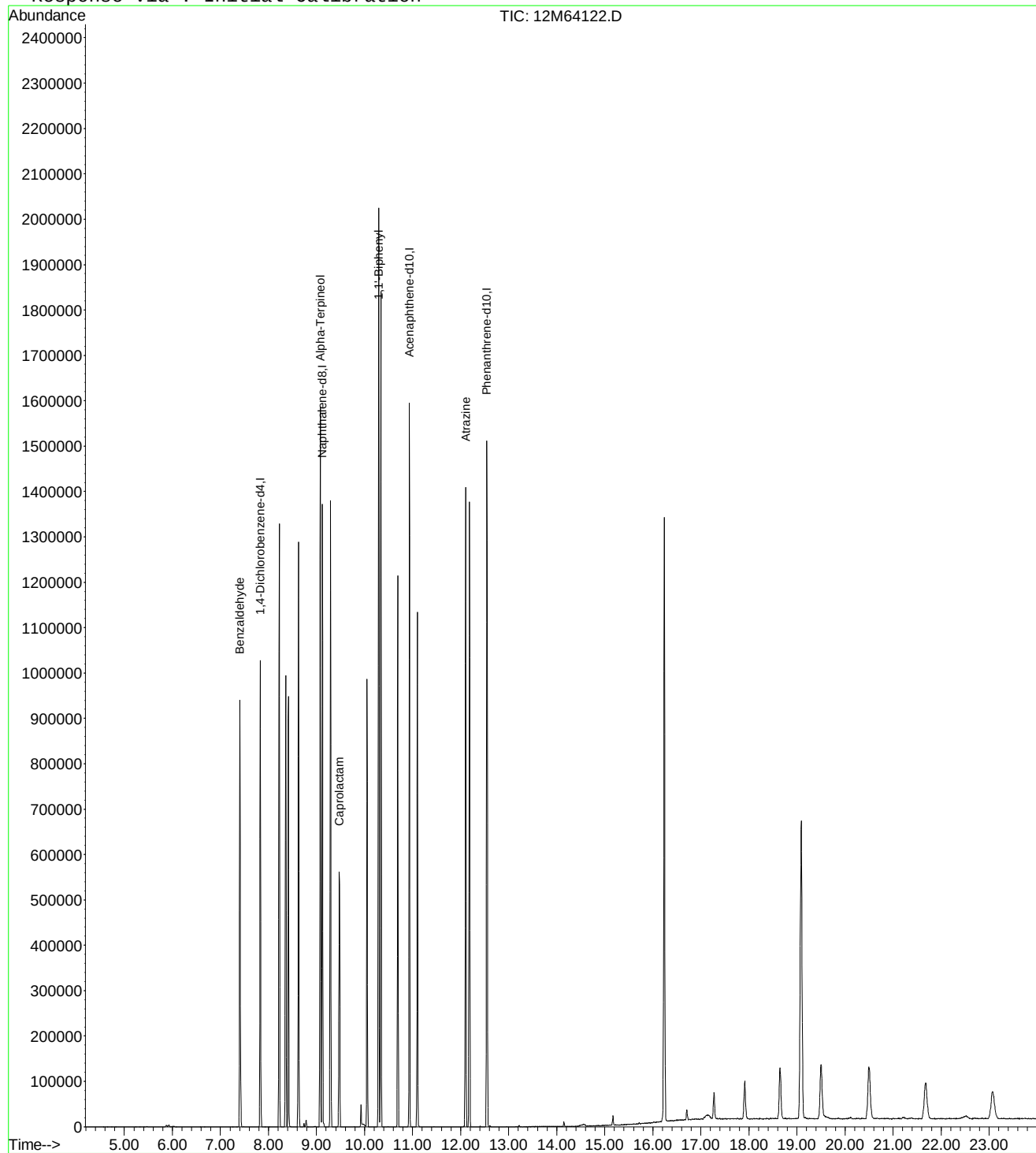
Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)

Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17

Last Update : Thu Jul 27 11:09:54 2017

Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : I:\MSDCHEM\1\DATA\082917\12M64122.D Vial: 3
Acq On : 29 Aug 2017 10:20 am Operator: scb
Sample : WG627620-01 50PPM TCL/A-TERP STD Inst : MSD12
Misc : 1,1 STD81291 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
Last Update : Thu Jul 27 11:09:54 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	82	-0.04
2	Benzaldehyde	1.003	1.040	-3.7	85	-0.03
3 I	Naphthalene-d8	1.000	1.000	0.0	84	-0.04
4	Alpha-Terpineol	0.238	0.251	-5.5	88	-0.03
5	Caprolactam	0.111	0.124	-11.7	91	-0.04
6 I	Acenaphthene-d10	1.000	1.000	0.0	82	-0.04
7	1,1'-Biphenyl	1.619	1.639	-1.2	82	-0.03
8 I	Phenanthrene-d10	1.000	1.000	0.0	81	-0.05
9	Atrazine	0.229	0.237	-3.5	82	-0.04

(#) = Out of Range SPCC's out = 0 CCC's out = 0
12M64122.D TCL.M Tue Aug 29 10:45:10 2017

Page 1

Evaluate Continuing Calibration Report

Data File : I:\MSDCHEM\1\DATA\082917\12M64122.D Vial: 3
Acq On : 29 Aug 2017 10:20 am Operator: scb
Sample : WG627620-01 50PPM TCL/A-TERP STD Inst : MSD12
Misc : 1,1 STD81291 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
Last Update : Thu Jul 27 11:09:54 2017
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	82	-0.04
2	Benzaldehyde	50.000	51.814	-3.6	85	-0.03
3 I	Naphthalene-d8	40.000	40.000	0.0	84	-0.04
4	Alpha-Terpineol	50.000	52.914	-5.8	88	-0.03
5	Caprolactam	50.000	55.654	-11.3	91	-0.04
6 I	Acenaphthene-d10	40.000	40.000	0.0	82	-0.04
7	1,1'-Biphenyl	50.000	50.608	-1.2	82	-0.03
8 I	Phenanthrene-d10	40.000	40.000	0.0	81	-0.05
9	Atrazine	50.000	51.768	-3.5	82	-0.04

(#) = Out of Range SPCC's out = 0 CCC's out = 0
12M64122.D TCL.M Tue Aug 29 10:45:09 2017

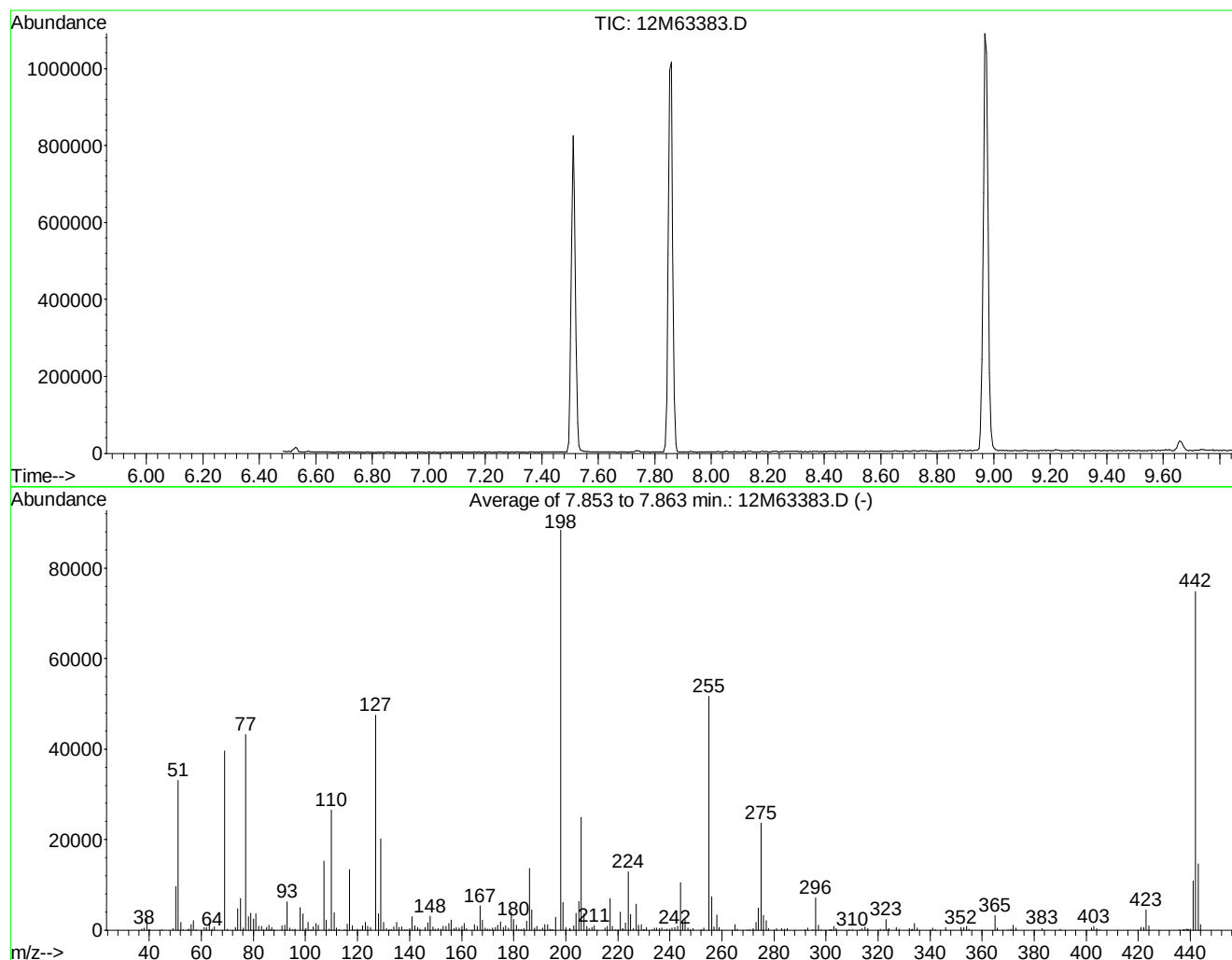
Page 1

2.2.1.5 Raw QC Data

DFTPP

Data File : I:\MSDCHEM\1\DATA\071417\12M63383.D
Acq On : 14 Jul 2017 4:06 pm
Sample : WG621882-01 50PPM DFTPP STD
Misc : 1,1 STD80383
MS Integration Params: RTEINT.P
Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP

Vial: 1
Operator: SCB
Inst : MSD12
Multiplr: 1.00



AutoFind: Scans 257, 258, 259; Background Corrected with Scan 251

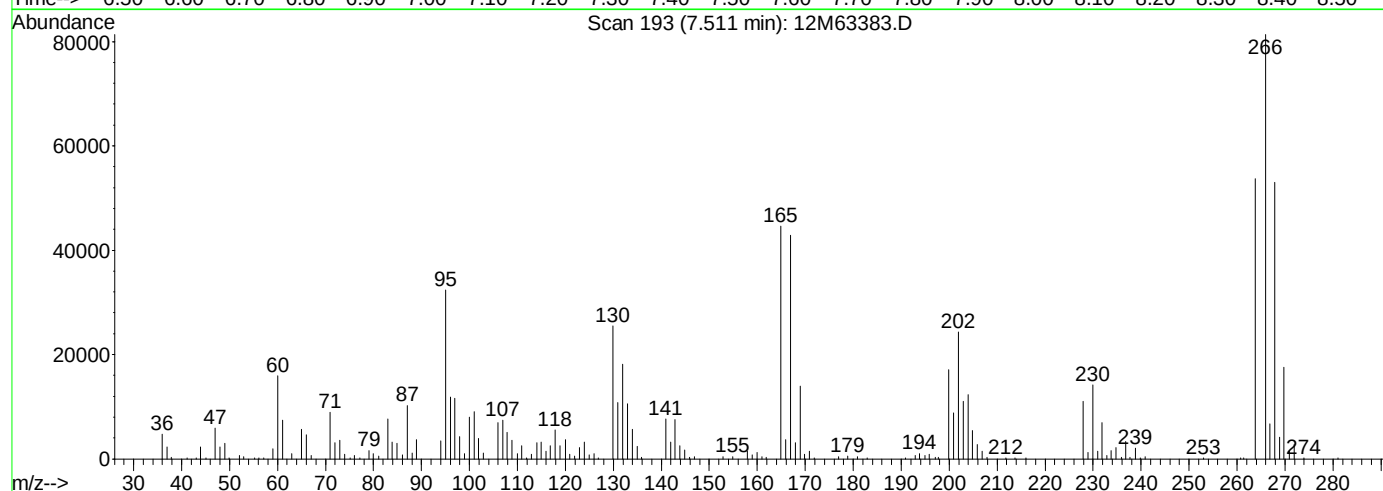
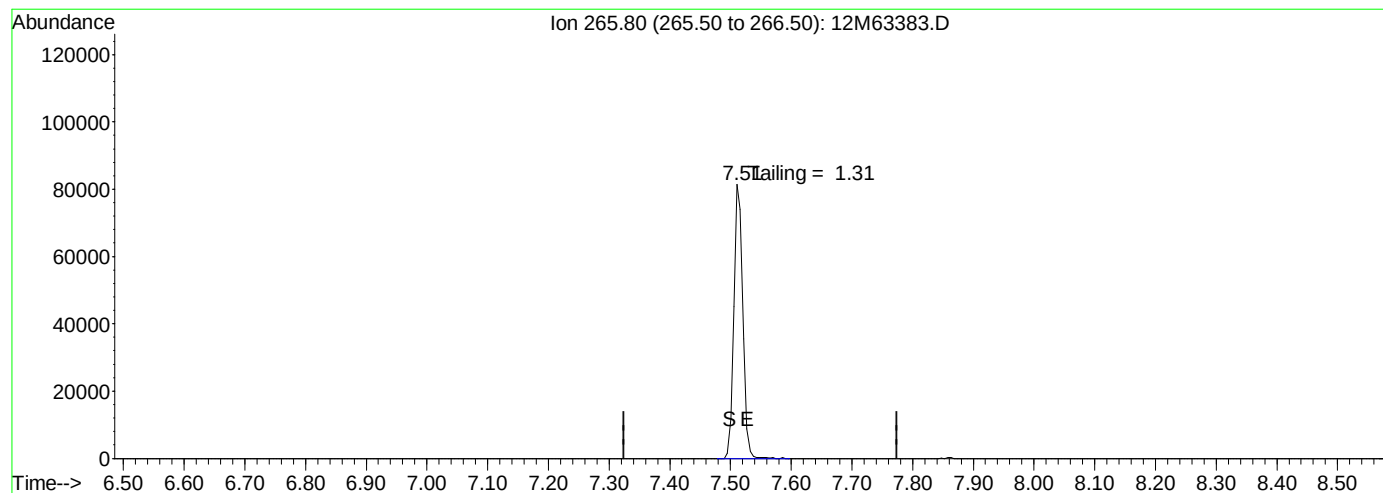
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	37.3	33025	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.8	39589	PASS
70	69	0.00	2	0.4	152	PASS
127	198	40	60	53.6	47445	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	88442	PASS
199	198	5	9	6.8	6044	PASS
275	198	10	30	26.7	23635	PASS
365	198	1	100	3.6	3201	PASS
441	443	0.01	100	74.5	10879	PASS
442	198	40	100	84.7	74920	PASS
443	442	17	23	19.5	14603	PASS

12M63383.D DFTPP.M Mon Jul 17 11:03:05 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\071417\12M63383.D Vial: 1
 Acq On : 14 Jul 2017 4:06 pm Operator: SCB
 Sample : WG621882-01 50PPM DFTPP STD Inst : MSD12
 Misc : 1,1 STD80383 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 14 16:17 2017 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
 Title : DFTPP
 Last Update : Sat Jul 08 10:28:44 2017
 Response via : Single Level Calibration



TIC: 12M63383.D

(1) Pentachlorophenol

7.51min 0.00ug/ml

response 84234

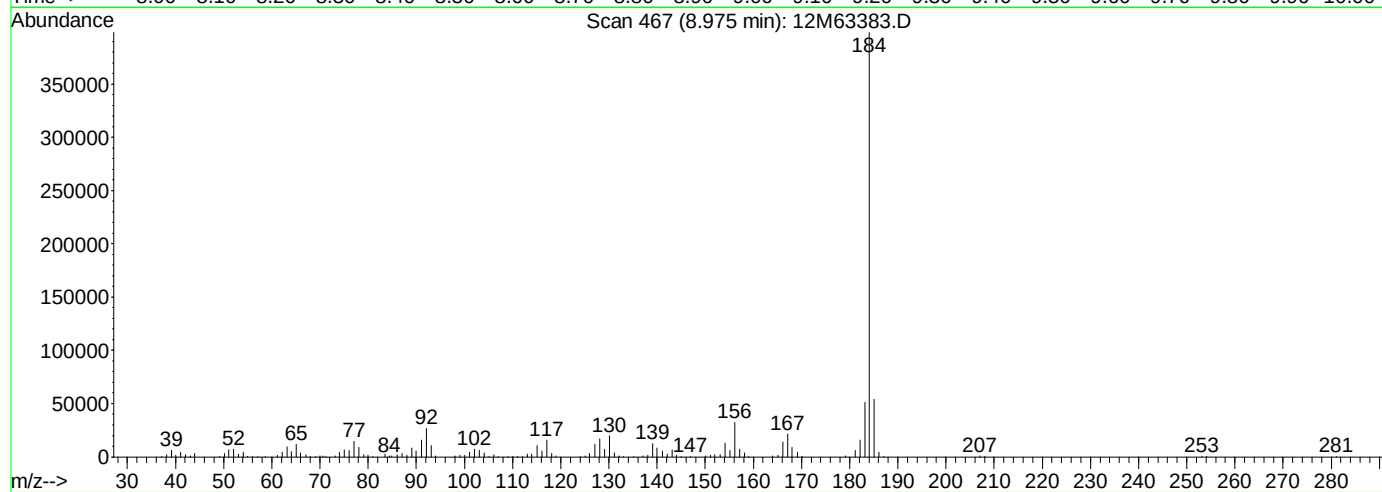
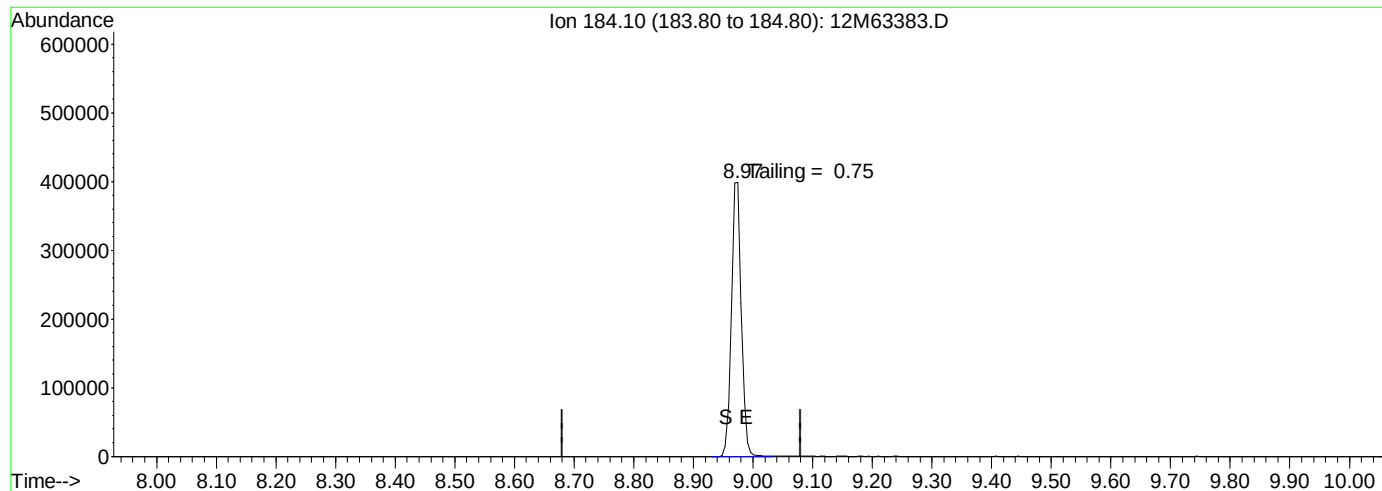
Ion	Exp%	Act%
265.80	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M63383.D DFTPP.M Mon Jul 17 11:03:19 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\071417\12M63383.D Vial: 1
 Acq On : 14 Jul 2017 4:06 pm Operator: SCB
 Sample : WG621882-01 50PPM DFTPP STD Inst : MSD12
 Misc : 1,1 STD80383 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 14 16:17 2017 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
 Title : DFTPP
 Last Update : Sat Jul 08 10:28:44 2017
 Response via : Single Level Calibration



TIC: 12M63383.D

(2) Benzidine

8.97min 0.00ug/ml

response 467165

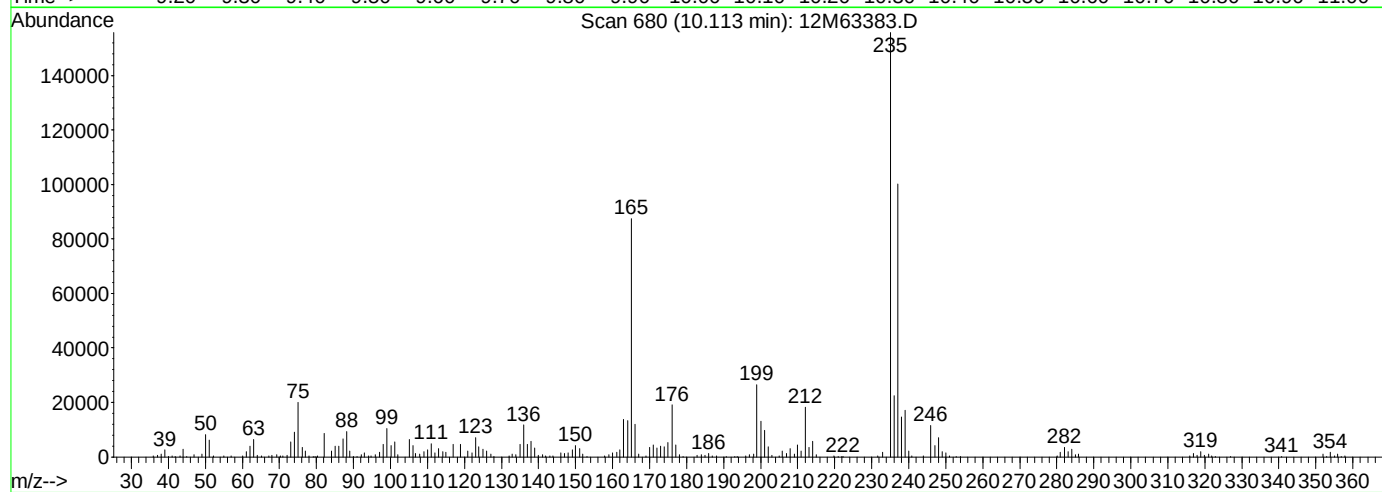
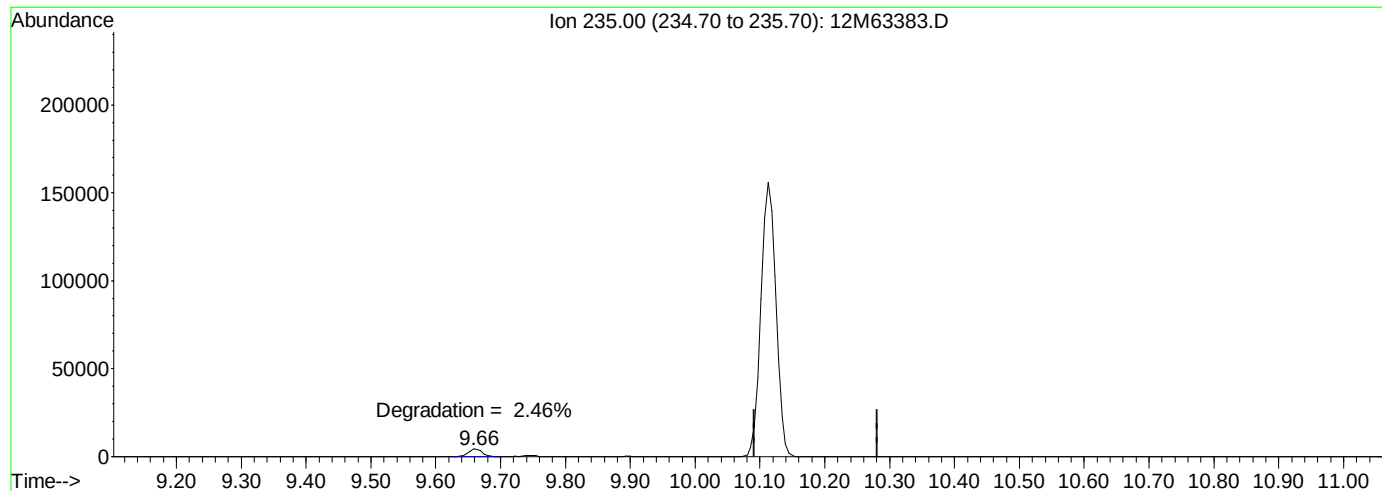
Ion	Exp%	Act%
184.10	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M63383.D DFTPP.M Mon Jul 17 11:03:29 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\071417\12M63383.D Vial: 1
 Acq On : 14 Jul 2017 4:06 pm Operator: SCB
 Sample : WG621882-01 50PPM DFTPP STD Inst : MSD12
 Misc : 1,1 STD80383 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Jul 14 16:17 2017 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
 Title : DFTPP
 Last Update : Sat Jul 08 10:28:44 2017
 Response via : Single Level Calibration



TIC: 12M63383.D

(3) DDT

10.11min 0.00ug/ml

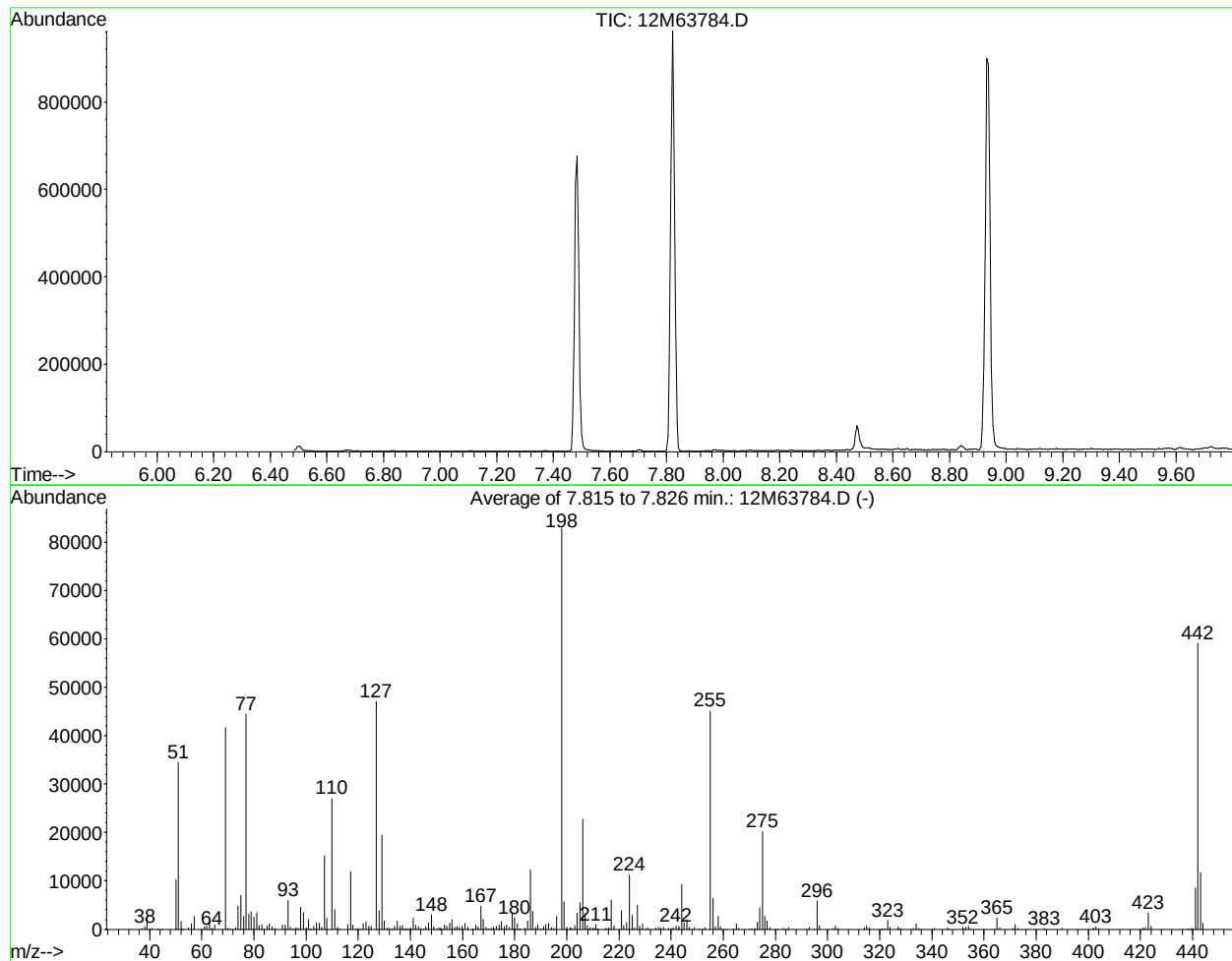
response 198949

Ion	Exp%	Act%
235.00	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M63383.D DFTPP.M Mon Jul 17 11:03:40 2017

DFTPP

Data File : I:\MSDCHEM\1\DATA\080317\12M63784.D Vial: 1
Acq On : 3 Aug 2017 9:00 am Operator: MES
Sample : WG624321-01 50PPM DFTPP STD Inst : MSD12
Misc : 1,1 STD80383 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP



AutoFind: Scans 250, 251, 252; Background Corrected with Scan 244

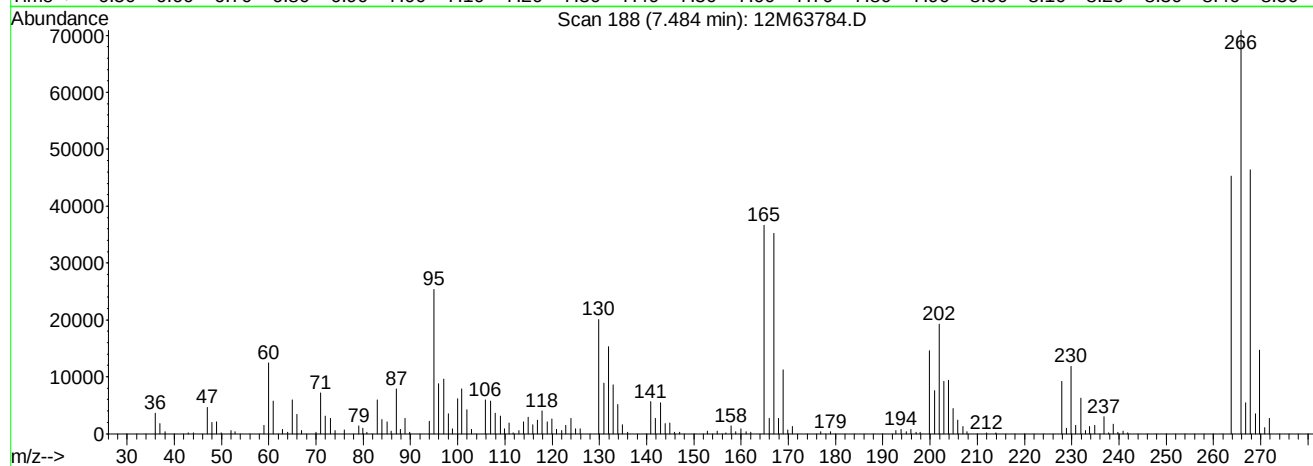
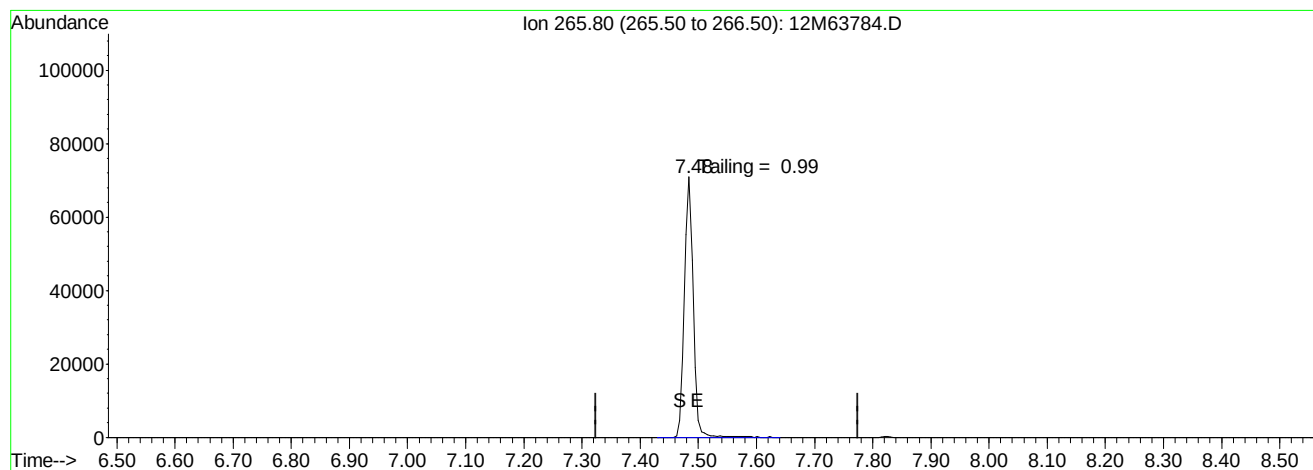
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	41.7	34533	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	50.4	41696	PASS
70	69	0.00	2	0.5	219	PASS
127	198	40	60	56.8	47008	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	82792	PASS
199	198	5	9	6.8	5652	PASS
275	198	10	30	24.4	20210	PASS
365	198	1	100	2.7	2252	PASS
441	443	0.01	100	72.7	8540	PASS
442	198	40	100	71.3	59042	PASS
443	442	17	23	19.9	11743	PASS

12M63784.D DFTPP.M Thu Aug 03 09:16:11 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63784.D Vial: 1
Acq On : 3 Aug 2017 9:00 am Operator: MES
Sample : WG624321-01 50PPM DFTPP STD Inst : MSD12
Misc : 1,1 STD80383 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 3 9:16 2017 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP
Last Update : Sat Jul 08 10:28:44 2017
Response via : Single Level Calibration



TIC: 12M63784.D

(1) Pentachlorophenol

7.48min 0.00ug/ml

response 73992

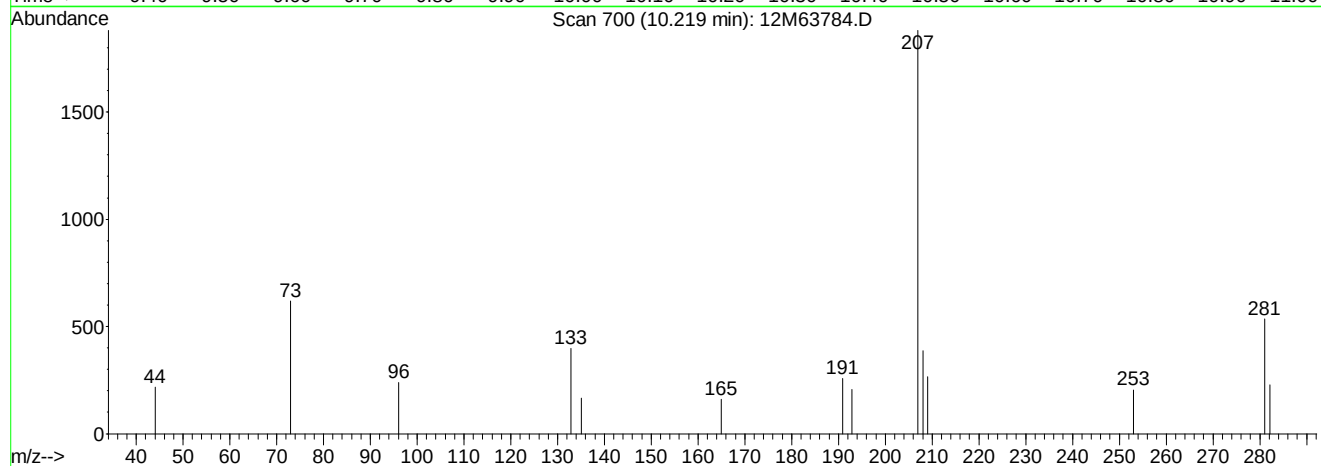
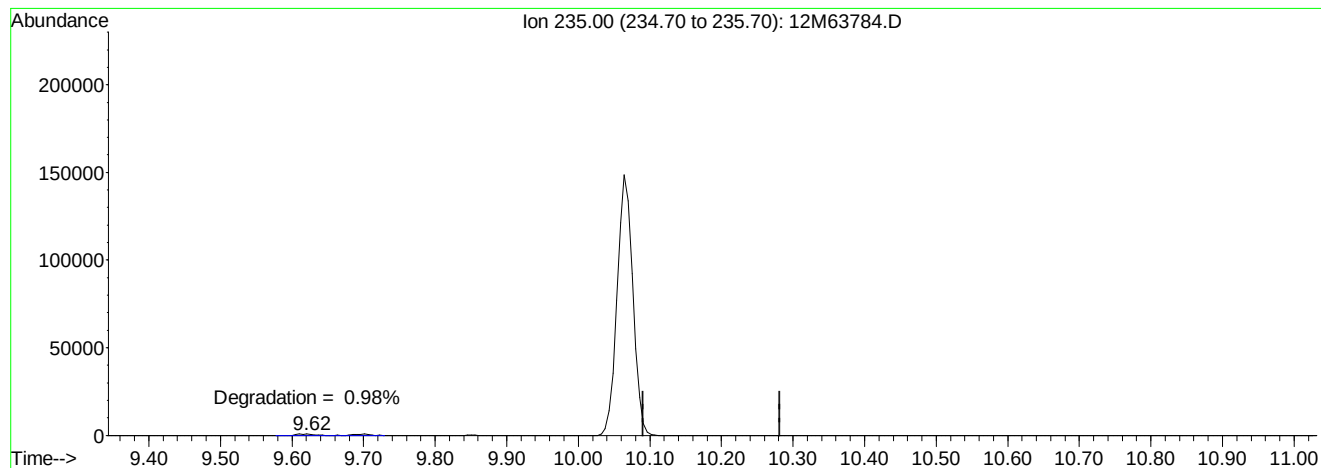
Ion	Exp%	Act%
265.80	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M63784.D DFTPP.M Thu Aug 03 09:16:22 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\080317\12M63784.D Vial: 1
Acq On : 3 Aug 2017 9:00 am Operator: MES
Sample : WG624321-01 50PPM DFTPP STD Inst : MSD12
Misc : 1,1 STD80383 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 3 9:16 2017 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP
Last Update : Sat Jul 08 10:28:44 2017
Response via : Single Level Calibration



TIC: 12M63784.D

(3) DDT

10.22min 0.00ug/ml

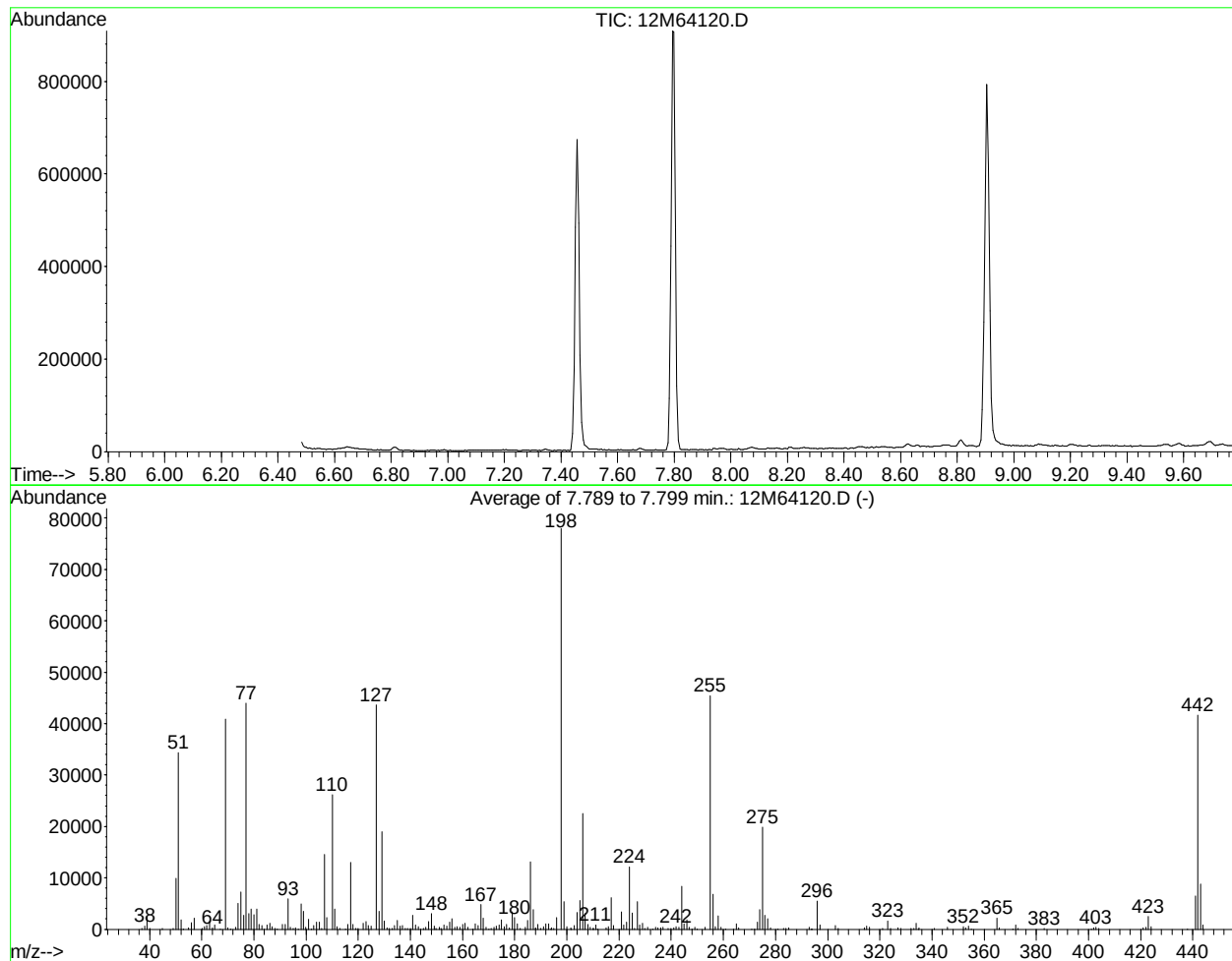
response 0

Ion	Exp%	Act%
235.00	100	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M63784.D DFTPP.M Thu Aug 03 09:16:42 2017

DFTPP

Data File : I:\MSDCHEM\1\DATA\082917\12M64120.D Vial: 1
Acq On : 29 Aug 2017 9:29 am Operator: scb
Sample : WG627594-01 50PPM DFTPP STD Inst : MSD12
Misc : 1,1 STD83235 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP



AutoFind: Scans 245, 246, 247; Background Corrected with Scan 240

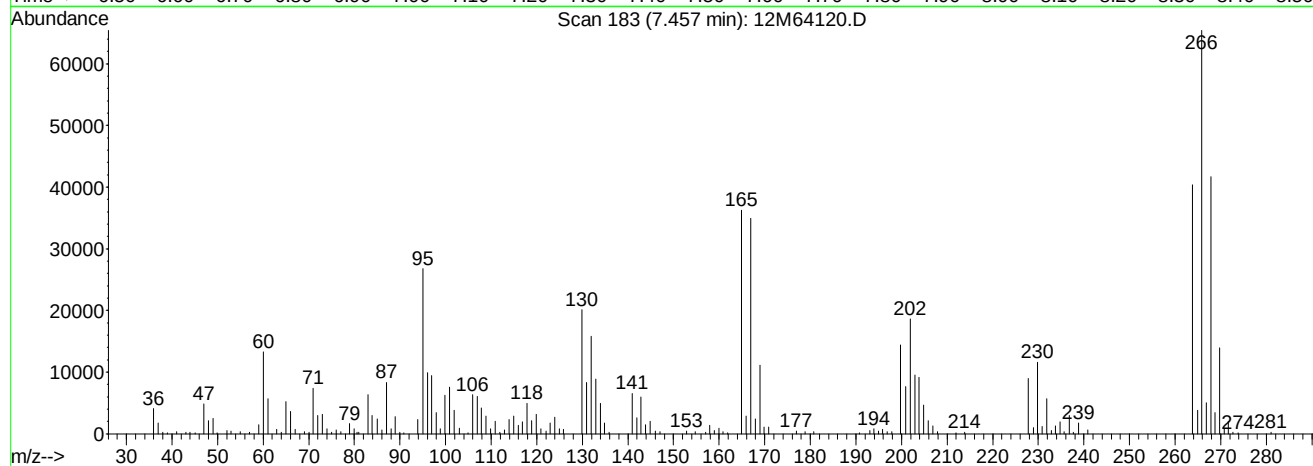
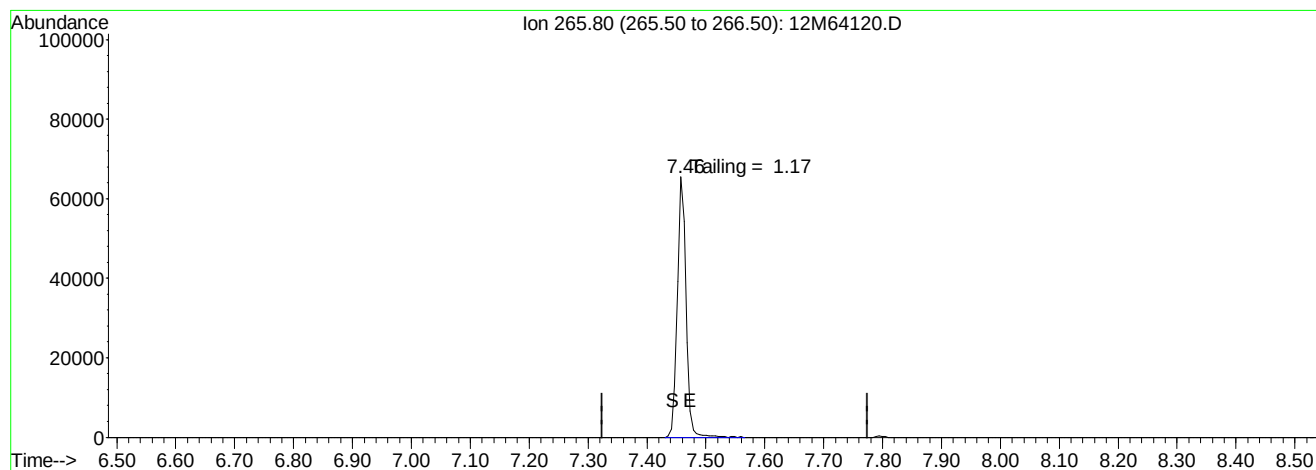
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.0	34301	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	52.5	40898	PASS
70	69	0.00	2	0.7	290	PASS
127	198	40	60	55.9	43610	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	77960	PASS
199	198	5	9	6.9	5385	PASS
275	198	10	30	25.5	19902	PASS
365	198	1	100	2.8	2204	PASS
441	443	0.01	100	74.0	6514	PASS
442	198	40	100	53.5	41683	PASS
443	442	17	23	21.1	8803	PASS

12M64120.D DFTPP.M Wed Aug 30 08:55:14 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\082917\12M64120.D Vial: 1
Acq On : 29 Aug 2017 9:29 am Operator: scb
Sample : WG627594-01 50PPM DFTPP STD Inst : MSD12
Misc : 1,1 STD83235 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 9:41 2017 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP
Last Update : Sat Jul 08 10:28:44 2017
Response via : Single Level Calibration



TIC: 12M64120.D

(1) Pentachlorophenol

7.46min 0.00ug/ml

response 67543

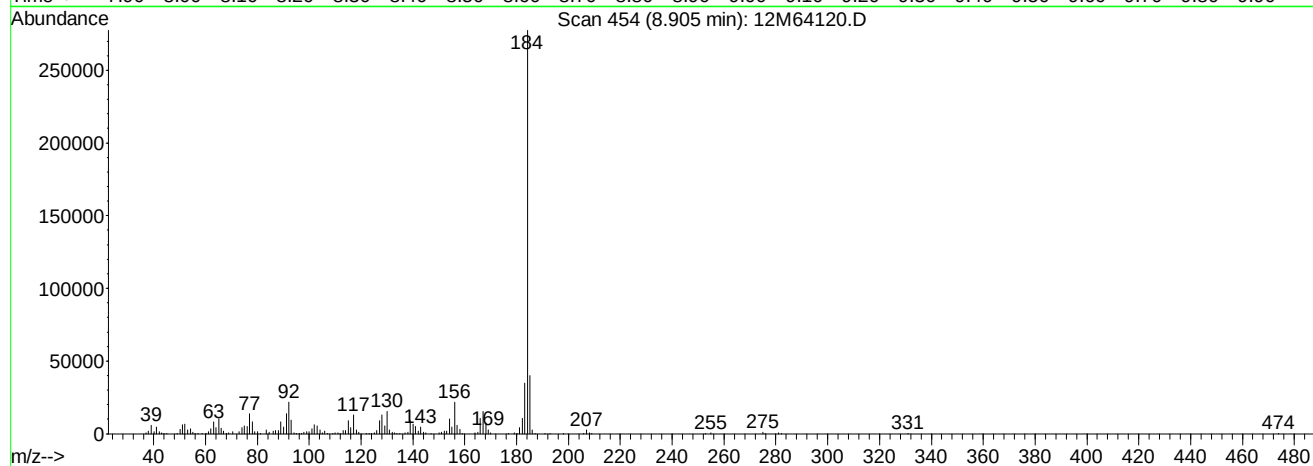
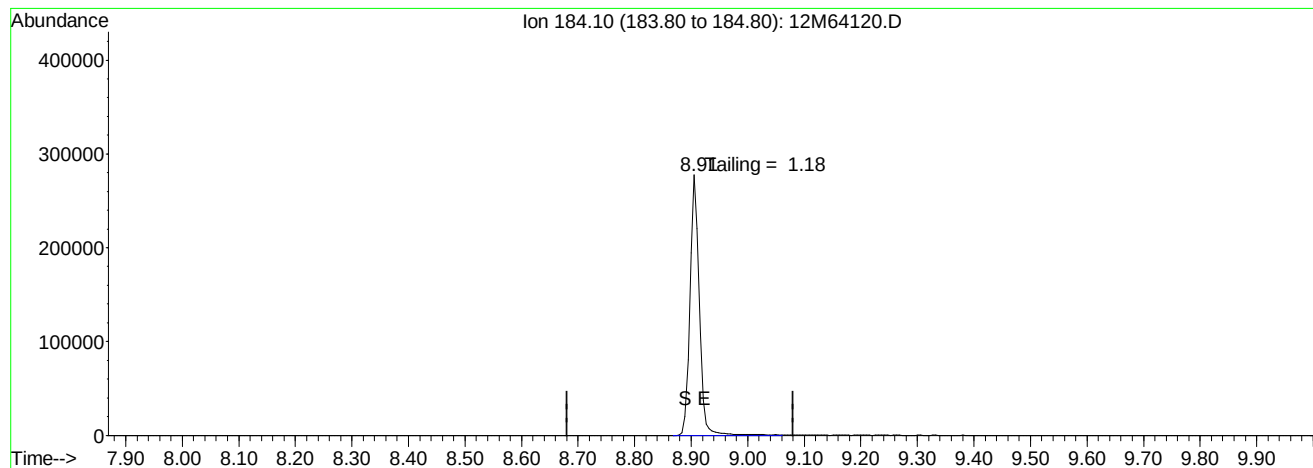
Ion	Exp%	Act%
265.80	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M64120.D DFTPP.M Wed Aug 30 08:55:25 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\082917\12M64120.D Vial: 1
 Acq On : 29 Aug 2017 9:29 am Operator: scb
 Sample : WG627594-01 50PPM DFTPP STD Inst : MSD12
 Misc : 1,1 STD83235 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 29 9:41 2017 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
 Title : DFTPP
 Last Update : Sat Jul 08 10:28:44 2017
 Response via : Single Level Calibration



TIC: 12M64120.D

(2) Benzidine

8.91min 0.00ug/ml

response 316172

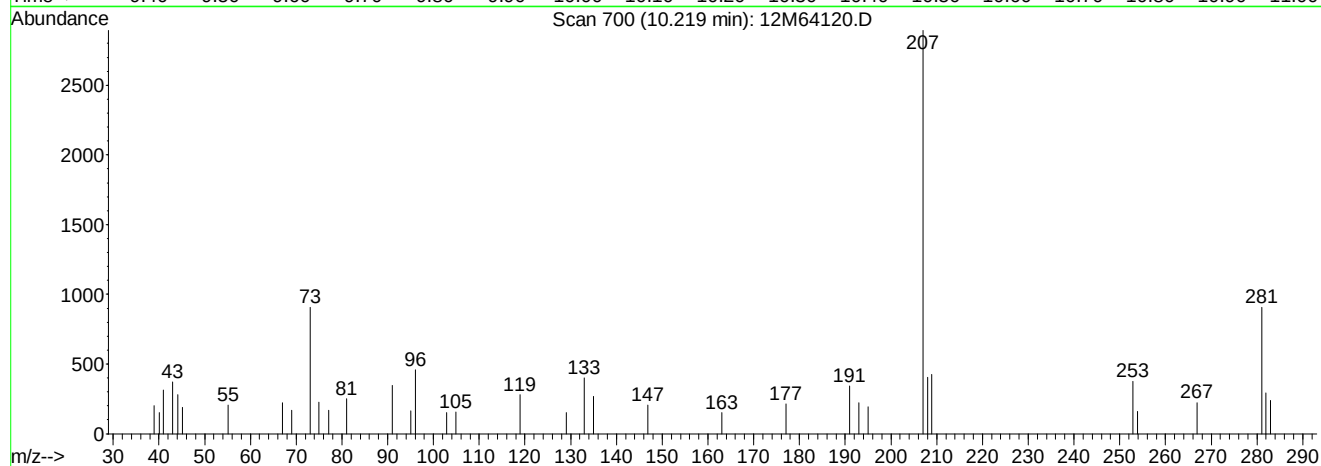
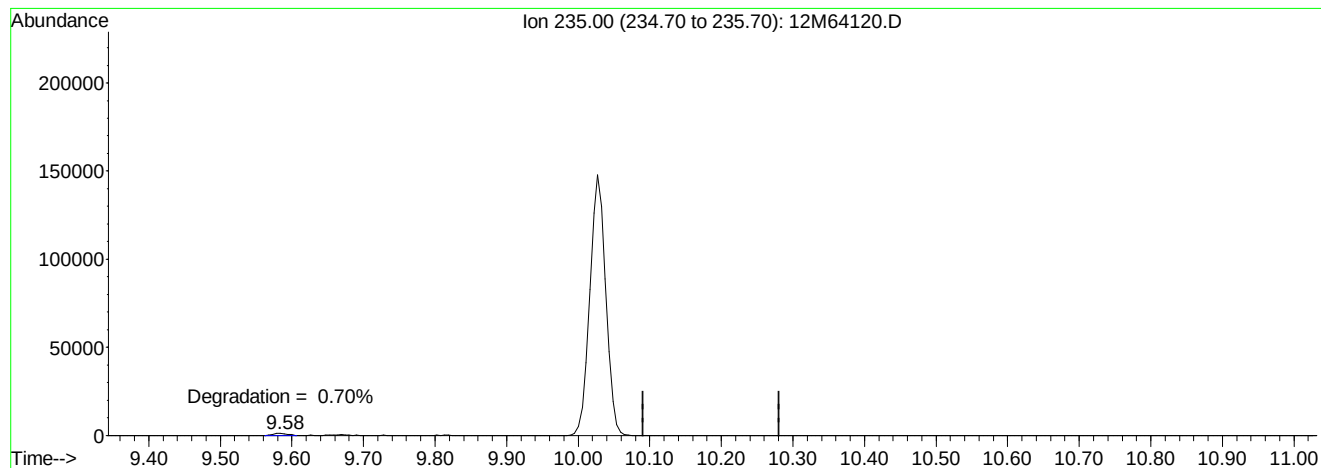
Ion	Exp%	Act%
184.10	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M64120.D DFTPP.M Wed Aug 30 08:55:34 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\082917\12M64120.D Vial: 1
Acq On : 29 Aug 2017 9:29 am Operator: scb
Sample : WG627594-01 50PPM DFTPP STD Inst : MSD12
Misc : 1,1 STD83235 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 29 9:41 2017 Quant Results File: temp.res

Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP
Last Update : Sat Jul 08 10:28:44 2017
Response via : Single Level Calibration



TIC: 12M64120.D

(3) DDT

10.22min 0.00ug/ml

response 0

Ion	Exp%	Act%
235.00	100	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

12M64120.D DFTPP.M Wed Aug 30 08:55:47 2017

Data File : I:\MSDCHEM\1\DATA\082917\12M64123.D Vial: 4
 Acq On : 29 Aug 2017 10:52 am Operator: scb
 Sample : WG627291-01 BLANK 8/28 Inst : MSD12
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 11:53:05 2017 Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Last Update : Mon Aug 21 08:23:38 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.829	152	119921	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.121	136	449564	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.932	164	244750	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.546	188	481544	40.0000	ug/ml	-0.011
113) Chrysene-d12	16.237	240	480285	40.0000	ug/ml	-0.011
128) Perylene-d12	19.085	264	469558	40.0000	ug/ml	-0.016
System Monitoring Compounds						
8) 2-Fluorophenol	6.573	112	149533	40.9431110	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	40.94%		
12) Phenol-d5	7.423	99	131939	28.2567150	ug/ml	-0.01
Spiked Amount 100.000	Range 10 - 94		Recovery =	28.26%		
31) Nitrobenzene-d5	8.395	82	131221	29.2491932	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	58.50%		
59) 2-Fluorobiphenyl	10.190	172	283451	33.3577601	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	66.72%		
86) 2,4,6-Tribromophenol	11.760	330	121954	94.6025450	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	94.60%		
117) p-Terphenyl-d14	14.581	244	593025	57.3550881	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	114.71%		
Target Compounds						
11) Aniline	7.43	66	8074	3.3221	ug/ml#	1
116) Aramite	14.59	185	1525	1.6595	ug/ml#	34

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M64123.D MEGAMIX.M Wed Aug 30 11:53:06 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\082917\12M64123.D

Vial: 4

Acq On : 29 Aug 2017 10:52 am

Operator: scb

Sample : WG627291-01 BLANK 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 11:53 2017

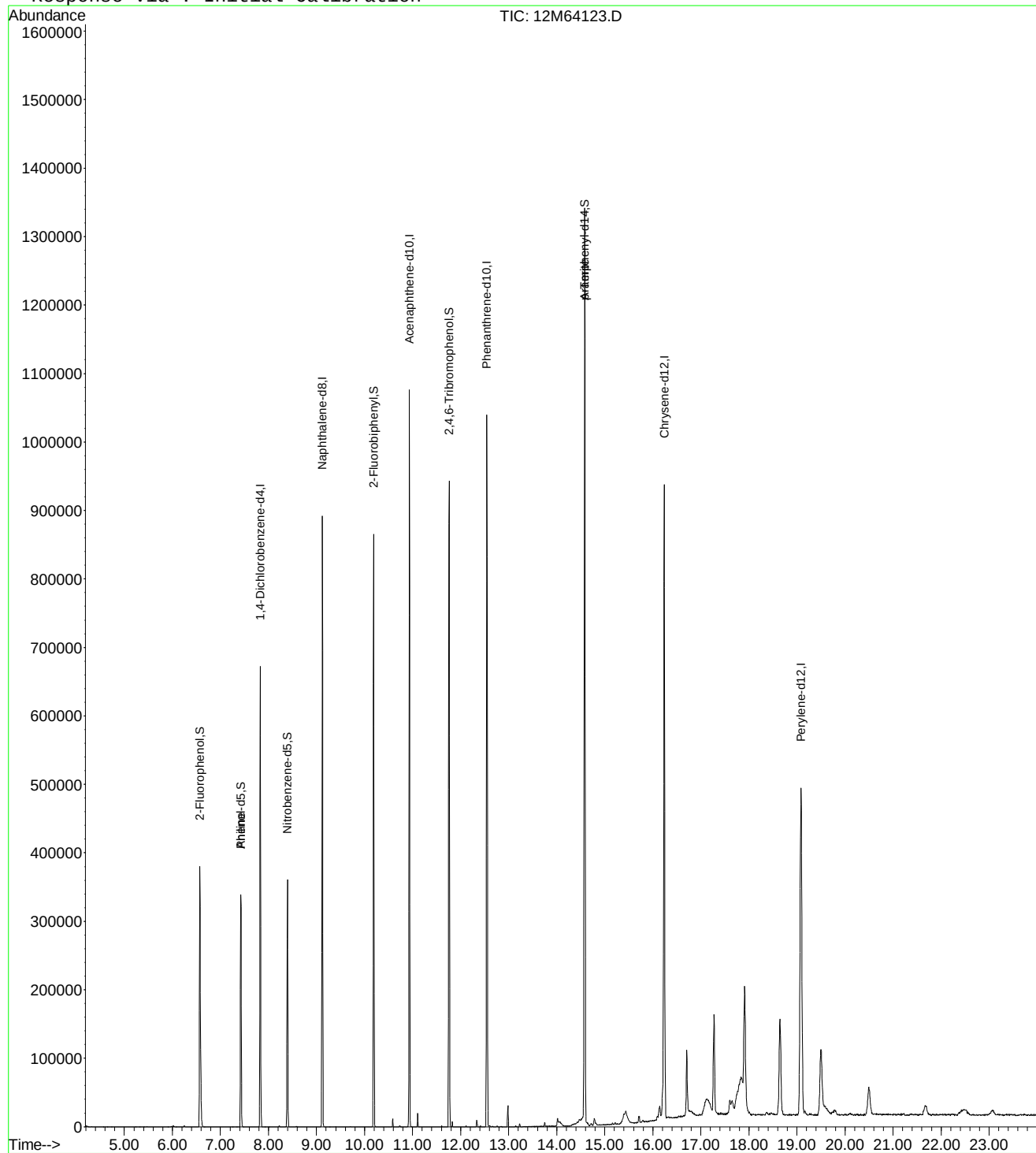
Quant Results File: MEGAMIX.RES

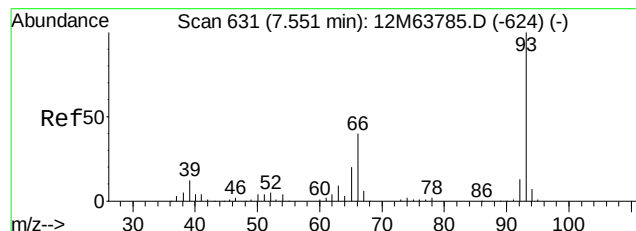
Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

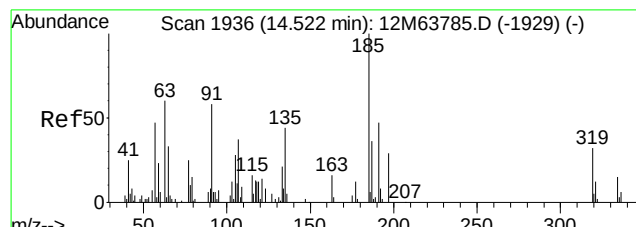
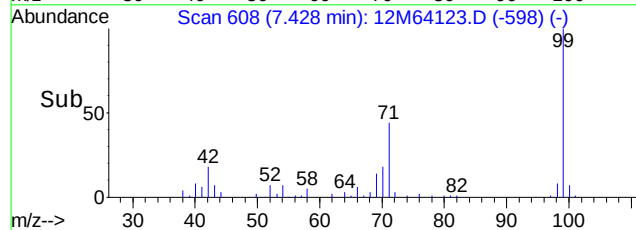
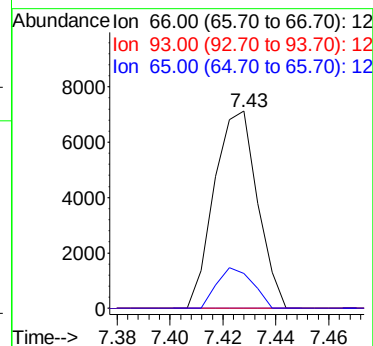
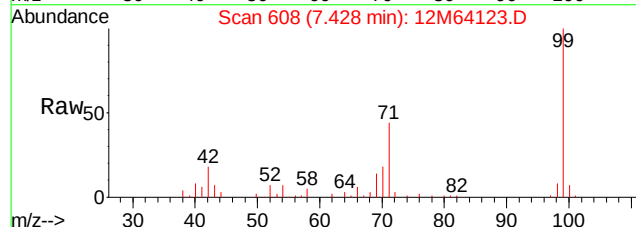
Response via : Initial Calibration





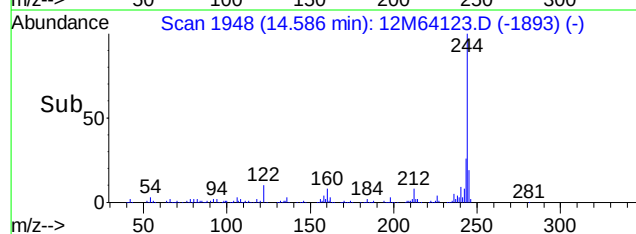
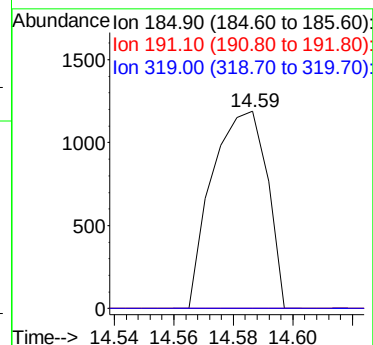
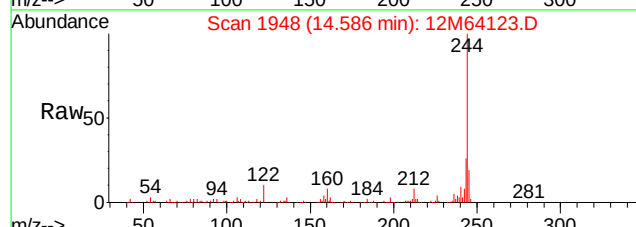
#11
Aniline
Concen: 3.3221 ug/ml
RT: 7.43 min Scan# 608
Delta R.T. -0.10 min
Lab File: 12M64123.D
Acq: 29 Aug 2017 10:52 am

Tgt Ion: 66 Resp: 8074
Ion Ratio Lower Upper
66 100
93 0.0 231.9 541.1#
65 17.0 48.5 113.1#



#116
Aramite
Concen: 1.6595 ug/ml
RT: 14.59 min Scan# 1948
Delta R.T. 0.10 min
Lab File: 12M64123.D
Acq: 29 Aug 2017 10:52 am

Tgt Ion: 185 Resp: 1525
Ion Ratio Lower Upper
185 100
191 0.0 38.6 57.8#
319 0.0 25.8 38.6#



Data File : I:\MSDCHEM\1\DATA\082917\12M64123.D Vial: 4
 Acq On : 29 Aug 2017 10:52 am Operator: scb
 Sample : WG627291-01 BLANK 8/28 Inst : MSD12
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 11:53:53 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
 Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
 Last Update : Thu Jul 27 11:09:54 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.829	152	119921	40.0000	ug/mL	-0.037
3) Naphthalene-d8	9.121	136	449564	40.0000	ug/mL	-0.037
6) Acenaphthene-d10	10.932	164	244750	40.0000	ug/mL	-0.037
8) Phenanthrene-d10	12.546	188	481544	40.0000	ug/mL	-0.048
Target Compounds						Qvalue
7) 1,1'-Biphenyl	10.19	154	209	0.0211	ug/L	# 1

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M64123.D TCL.M Wed Aug 30 11:53:54 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\082917\12M64123.D

Vial: 4

Acq On : 29 Aug 2017 10:52 am

Operator: scb

Sample : WG627291-01 BLANK 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 11:53 2017

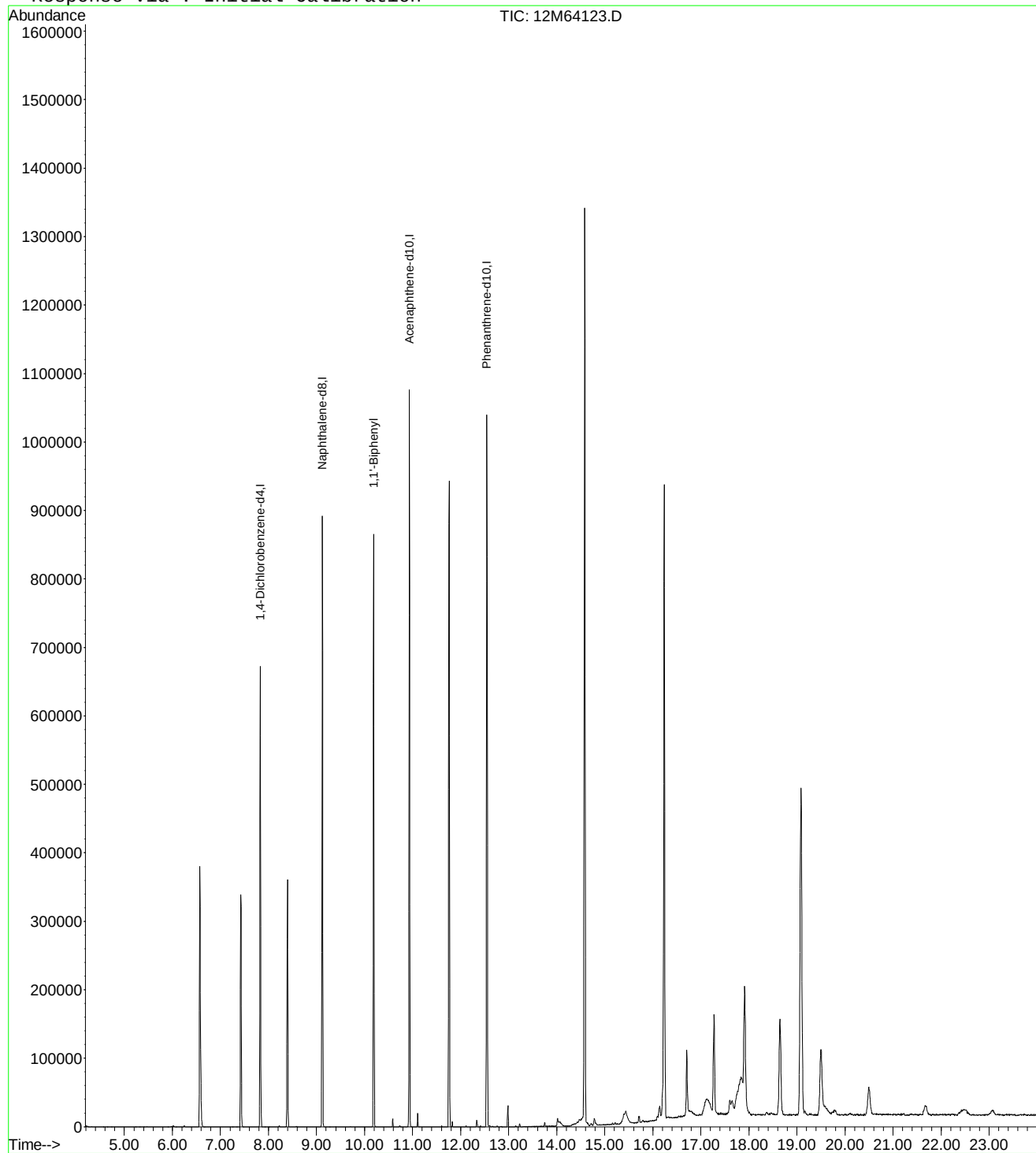
Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)

Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17

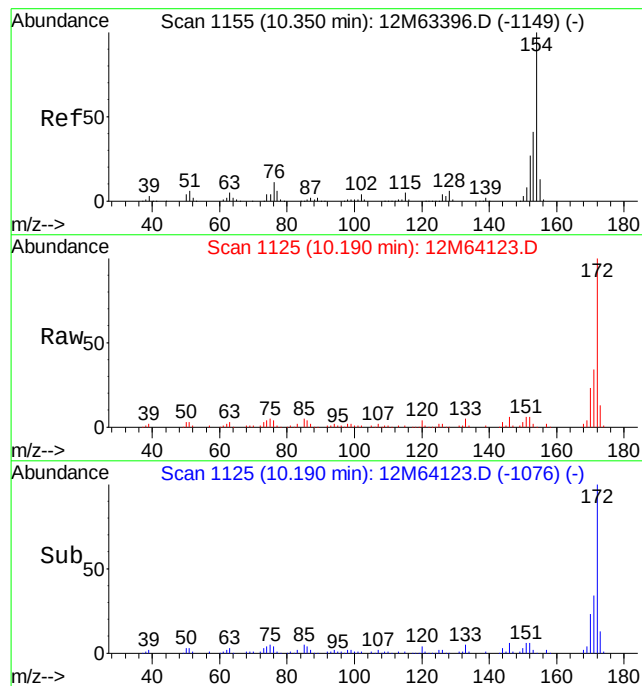
Last Update : Thu Jul 27 11:09:54 2017

Response via : Initial Calibration



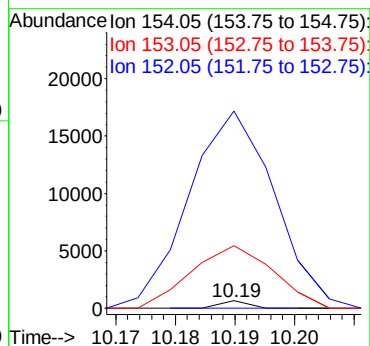
12M64123.D TCL.M Wed Aug 30 11:53:54 2017

Page 2



#7
 1,1'-Biphenyl
 Concen: 0.0211 ug/L
 RT: 10.19 min Scan# 1125
 Delta R.T. -0.14 min
 Lab File: 12M64123.D
 Acq: 29 Aug 2017 10:52 am

Tgt Ion:154 Resp: 209
 Ion Ratio Lower Upper
 154 100
 153 2507.2 32.8 49.2#
 152 8257.9 21.4 32.2#



Data File : I:\MSDCHEM\1\DATA\082917\12M64123.D Vial: 4
 Acq On : 29 Aug 2017 10:52 am Operator: scb
 Sample : WG627291-01 BLANK 8/28 Inst : MSD12
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: LSCINT.P

Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
 Title : OVD MSS01 8270/625 ICAL 08/3/17
 Smoothing : ON Filtering: 5
 Sampling : 1 Min Area: 1 % of largest Peak
 Start Thrs: 0.05 Max Peaks: 100
 Stop Thrs : 0 Peak Location: TOP

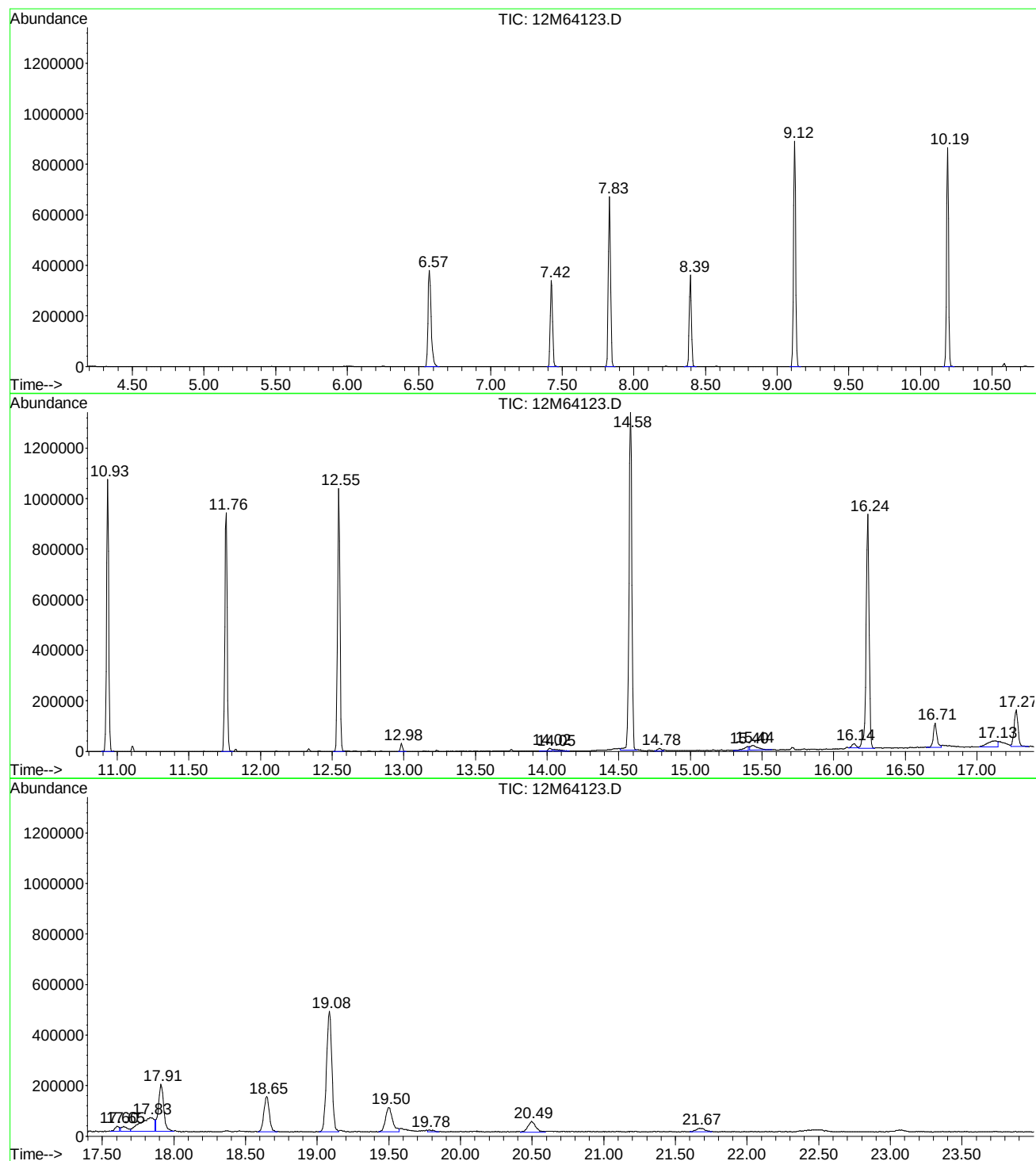
If leading or trailing edge < 100 prefer < Baseline drop else tangent >
 Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	6.573	442	448	460	rBB	380658	547983	30.05%	3.841%
2	7.423	602	607	616	rBB	339435	382105	20.95%	2.678%
3	7.829	677	683	690	rBB	672710	737991	40.47%	5.172%
4	8.395	781	789	796	rBB	361094	377549	20.70%	2.646%
5	9.121	919	925	932	rBB	892099	925173	50.73%	6.484%
6	10.190	1119	1125	1133	rBB	865463	834403	45.76%	5.848%
7	10.932	1256	1264	1271	rBB	1076460	1094593	60.02%	7.672%
8	11.760	1413	1419	1427	rBB	943307	1065434	58.42%	7.467%
9	12.546	1559	1566	1573	rBV	1039816	1209761	66.34%	8.479%
10	12.984	1644	1648	1653	rBB	31030	29233	1.60%	0.205%
11	14.020	1828	1842	1845	rBV3	12031	20473	1.12%	0.143%
12	14.052	1847	1848	1866	rVB3	7165	20333	1.11%	0.143%
13	14.581	1934	1947	1955	rVB	1336535	1823624	100.00%	12.781%
14	14.784	1979	1985	1990	rBV4	10479	18809	1.03%	0.132%
15	15.398	2082	2100	2101	rBV5	15478	38038	2.09%	0.267%
16	15.436	2103	2107	2131	rVB4	17638	65889	3.61%	0.462%
17	16.141	2232	2239	2244	rBV5	16445	33257	1.82%	0.233%
18	16.237	2245	2257	2265	rVB	925855	1359825	74.57%	9.531%
19	16.707	2334	2345	2353	rBV2	97394	167662	9.19%	1.175%
20	17.129	2403	2424	2427	rBV8	24275	117608	6.45%	0.824%
21	17.274	2444	2451	2466	rVB	144796	274333	15.04%	1.923%
22	17.605	2504	2513	2516	rBV5	20194	42334	2.32%	0.297%
23	17.648	2517	2521	2530	rVV6	19512	57131	3.13%	0.400%
24	17.835	2530	2556	2562	rVV6	53254	366646	20.11%	2.570%
25	17.909	2563	2570	2586	rVB	185601	475302	26.06%	3.331%
26	18.647	2697	2708	2721	rVB2	140594	368970	20.23%	2.586%
27	19.085	2777	2790	2802	rBV2	478131	1242945	68.16%	8.711%
28	19.501	2855	2868	2881	rBV3	96513	333483	18.29%	2.337%
29	19.779	2918	2920	2932	rVB8	8136	20208	1.11%	0.142%
30	20.495	3040	3054	3072	rBV4	41826	155028	8.50%	1.087%
31	21.670	3261	3274	3289	rVB10	14203	61794	3.39%	0.433%

Sum of corrected areas: 14267917

File : I:\MSDCHEM\1\DATA\082917\12M64123.D
Operator : scb
Acquired : 29 Aug 2017 10:52 am using AcqMethod BNARUN
Instrument : MSD12
Sample Name: WG627291-01 BLANK 8/28
Misc Info : 1,1
Vial Number: 4
Quant File : MEGAMIX.RES (RTE Integrator)



Data File : I:\MSDCHEM\1\DATA\082917\12M64123.D

Vial: 4

Acq On : 29 Aug 2017 10:52 am

Operator: scb

Sample : WG627291-01 BLANK 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: LSCINT.P

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

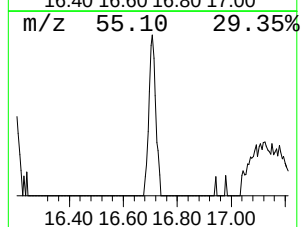
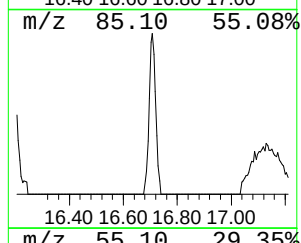
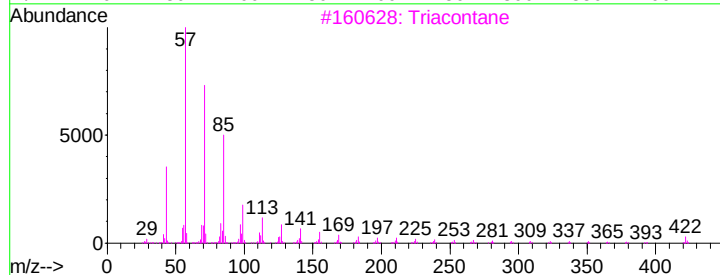
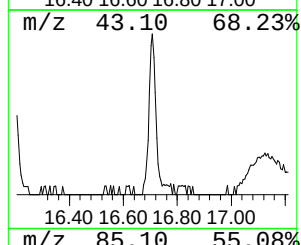
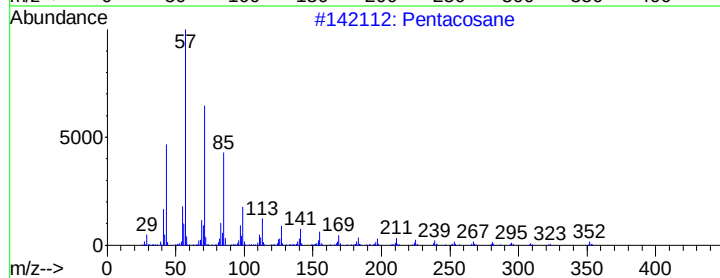
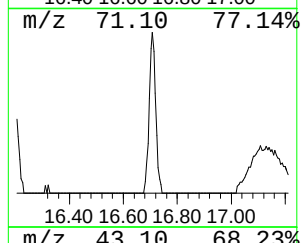
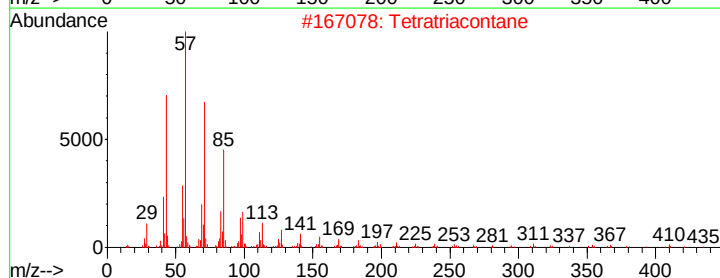
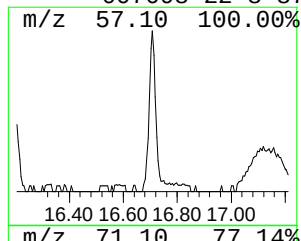
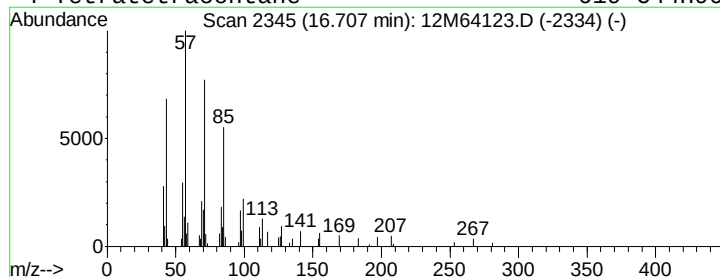
Library : I:\DATABASE\NIST02.L

Peak Number 1 Tetratriacontane

Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
16.71	4.93 ug/ml	167662	Chrysene-d12	16.24

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1			Tetratriacontane	479	C34H70	014167-59-0	90
2			Pentacosane	352	C25H52	000629-99-2	90
3			Triacotane	422	C30H62	000638-68-6	87
4			Tetratetracontane	619	C44H90	007098-22-8	87



Data File : I:\MSDCHEM\1\DATA\082917\12M64123.D

Vial: 4

Acq On : 29 Aug 2017 10:52 am

Operator: scb

Sample : WG627291-01 BLANK 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: LSCINT.P

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

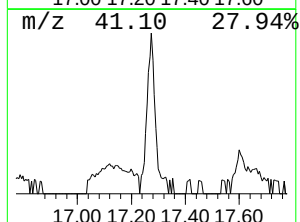
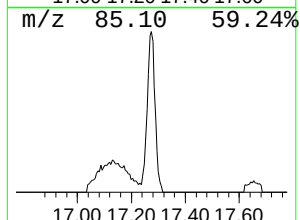
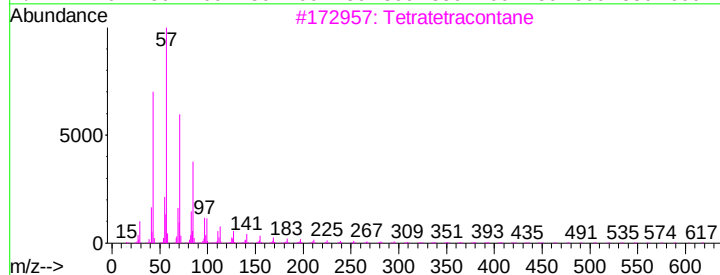
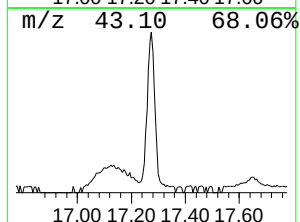
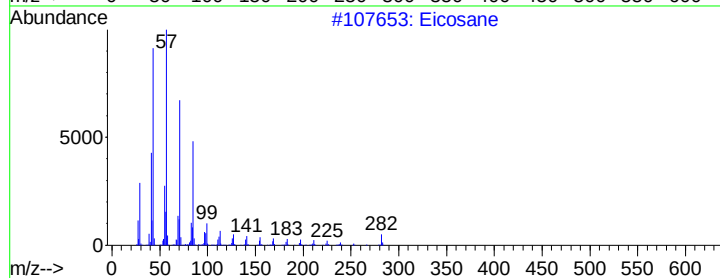
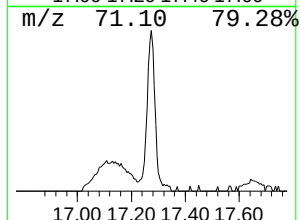
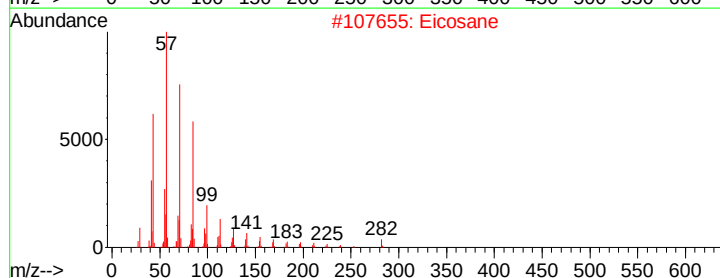
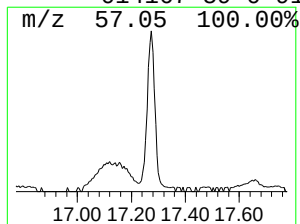
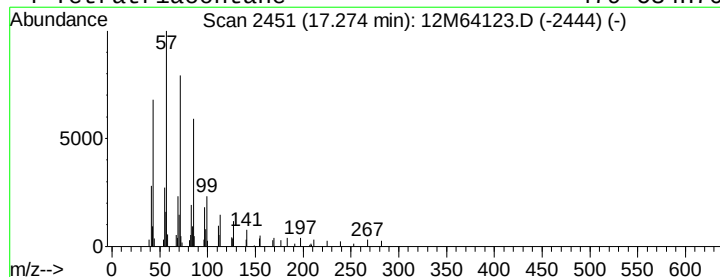
Title : OVD MSS01 8270/625 ICAL 08/3/17

Library : I:\DATABASE\NIST02.L

Peak Number 2 Eicosane

Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.	
17.27	8.07 ug/ml	274333	Chrysene-d12	16.24	
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Eicosane	282	C20H42	000112-95-8	96
2	Eicosane	282	C20H42	000112-95-8	95
3	Tetratetracontane	619	C44H90	007098-22-8	91
4	Tetratriacontane	479	C34H70	014167-59-0	91



Data File : I:\MSDCHEM\1\DATA\082917\12M64123.D
Acq On : 29 Aug 2017 10:52 am
Sample : WG627291-01 BLANK 8/28
Misc : 1,1
MS Integration Params: LSCINT.P

Vial: 4
Operator: scb
Inst : MSD12
Multiplr: 1.00

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

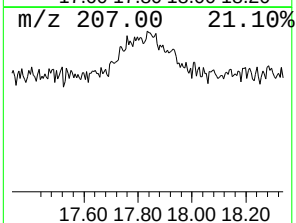
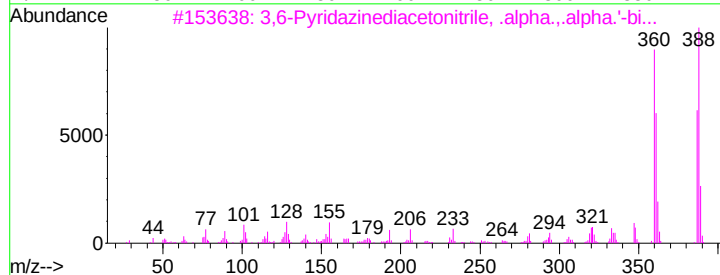
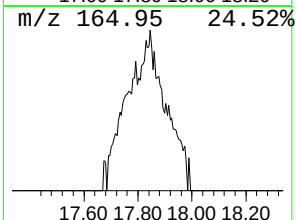
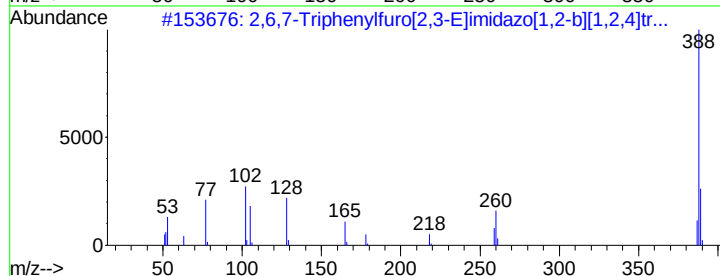
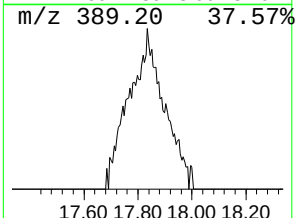
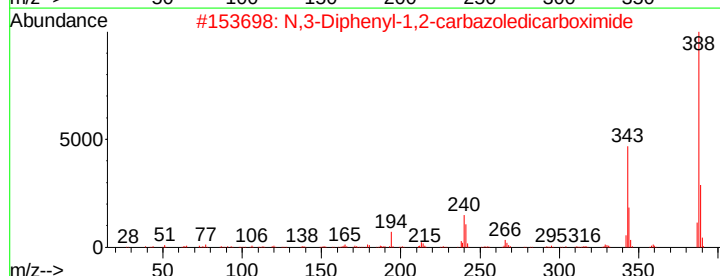
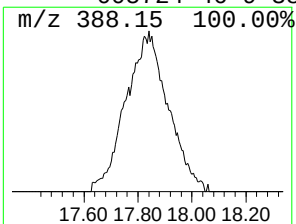
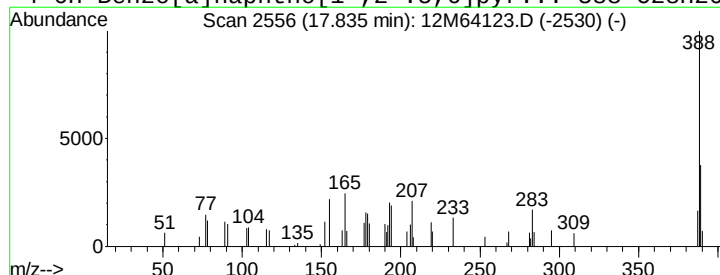
Title : OVD MSS01 8270/625 ICAL 08/3/17

Library : I:\DATABASE\NIST02.L

Peak Number 3 N,3-Diphenyl-1,2-carbazoled... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
17.83	11.80 ug/ml	366646	Perylene-d12	19.08

Hit#	of 5	Tentative ID	MW	MolForm	CAS#	Qual
1		N,3-Diphenyl-1,2-carbazoledicarboximide	388	C26H16N2O2	022315-13-5	47
2		2,6,7-Triphenylfuro[2,3-E]imidazole	388	C25H16N4O	214475-32-8	43
3		3,6-Pyridazinediacetonitrile, .alpha.,.alpha'-bis(phenyl)-	388	C24H16N6	134882-07-8	43
4		6H-Benzo[a]naphtho[1',2':5,6]pyridine	388	C28H20O2	005724-46-9	38



Data File : I:\MSDCHEM\1\DATA\082917\12M64123.D

Vial: 4

Acq On : 29 Aug 2017 10:52 am

Operator: scb

Sample : WG627291-01 BLANK 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: LSCINT.P

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

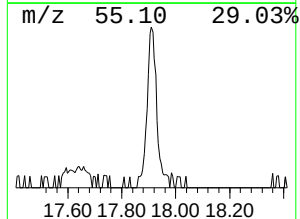
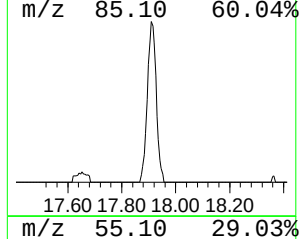
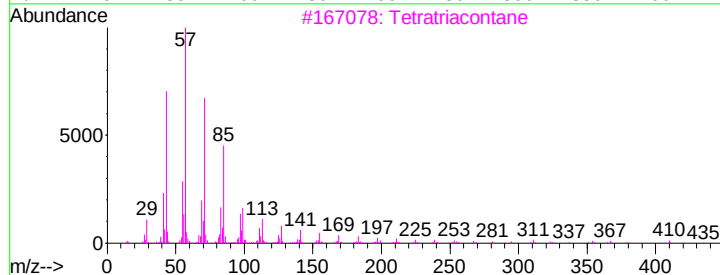
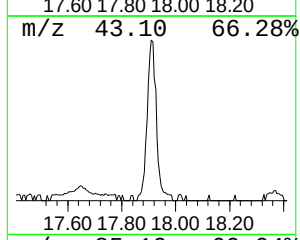
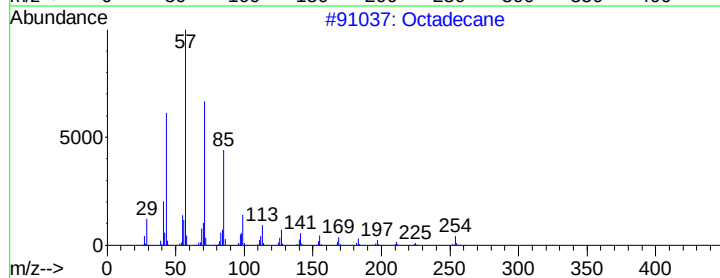
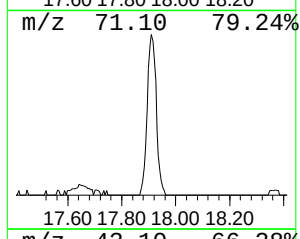
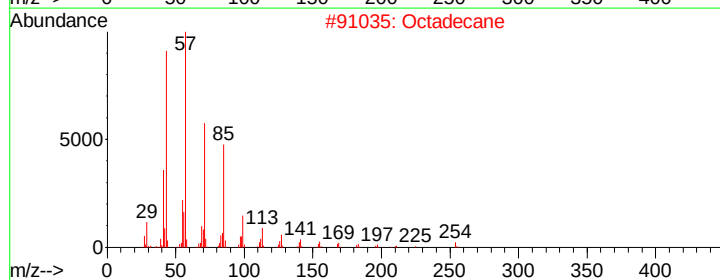
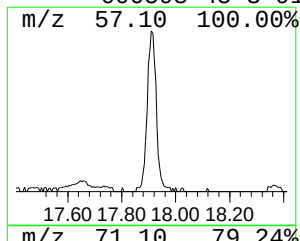
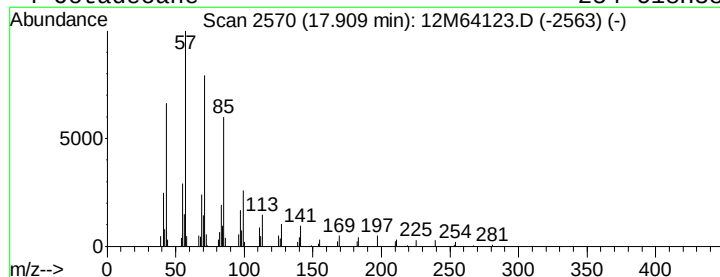
Library : I:\DATABASE\NIST02.L

Peak Number 4 Octadecane

Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
17.91	15.30 ug/ml	475302	Perylene-d12	19.08

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1			Octadecane	254	C18H38	000593-45-3	93
2			Octadecane	254	C18H38	000593-45-3	93
3			Tetratriacontane	479	C34H70	014167-59-0	91
4			Octadecane	254	C18H38	000593-45-3	91



Data File : I:\MSDCHEM\1\DATA\082917\12M64123.D

Vial: 4

Acq On : 29 Aug 2017 10:52 am

Operator: scb

Sample : WG627291-01 BLANK 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: LSCINT.P

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

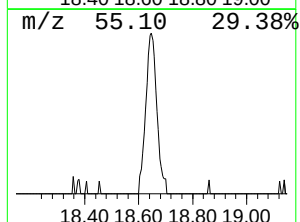
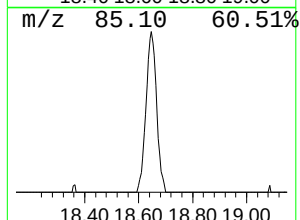
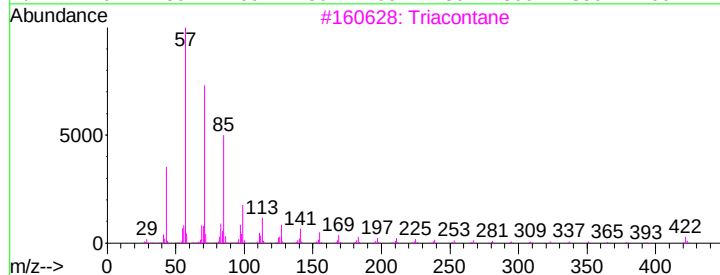
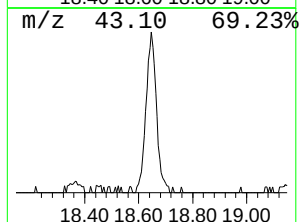
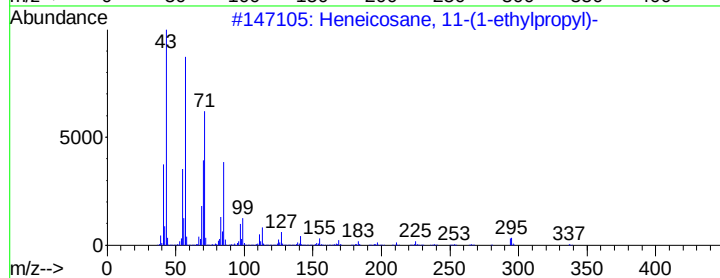
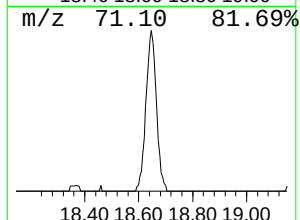
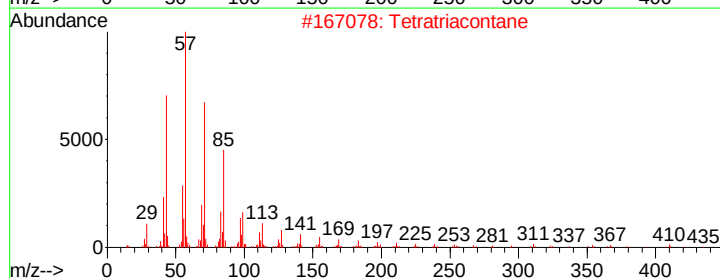
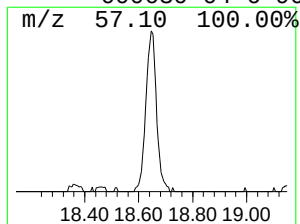
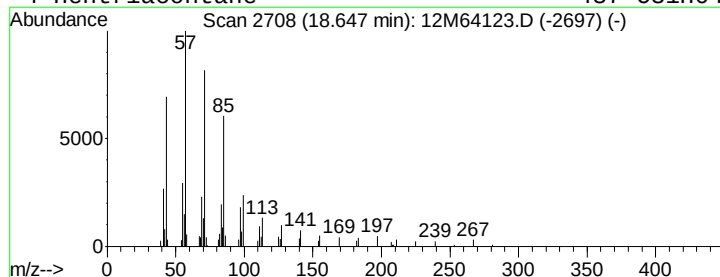
Title : OVD MSS01 8270/625 ICAL 08/3/17

Library : I:\DATABASE\NIST02.L

Peak Number 5 Tetratriacontane Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
18.65	11.87 ug/ml	368970	Perylene-d12	19.08

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Tetratriacontane	479	C34H70	014167-59-0	91
2	Heneicosane, 11-(1-ethylpropyl)-	366	C26H54	055282-11-6	91
3	Triacotane	422	C30H62	000638-68-6	90
4	Hentriacontane	437	C31H64	000630-04-6	90



Data File : I:\MSDCHEM\1\DATA\082917\12M64123.D

Vial: 4

Acq On : 29 Aug 2017 10:52 am

Operator: scb

Sample : WG627291-01 BLANK 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: LSCINT.P

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

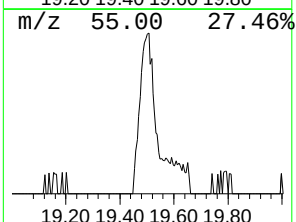
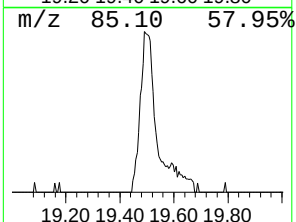
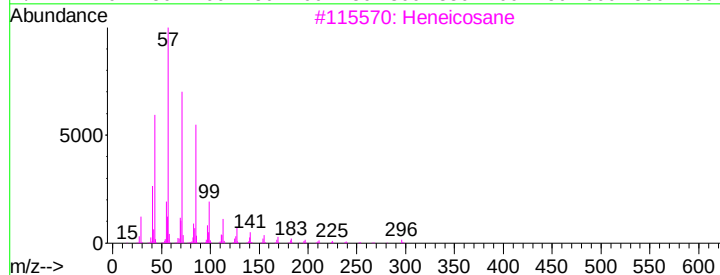
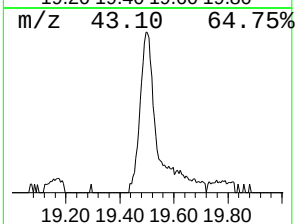
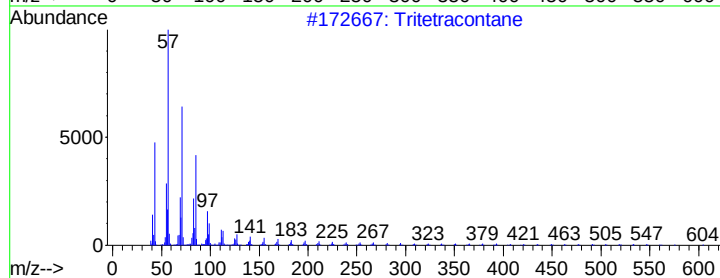
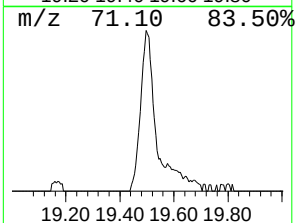
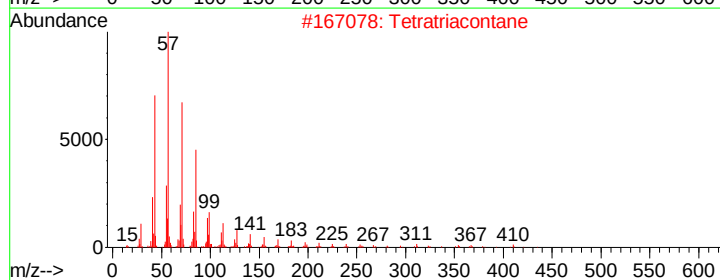
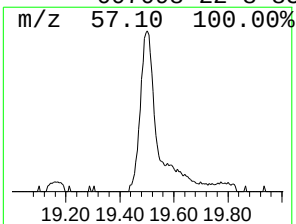
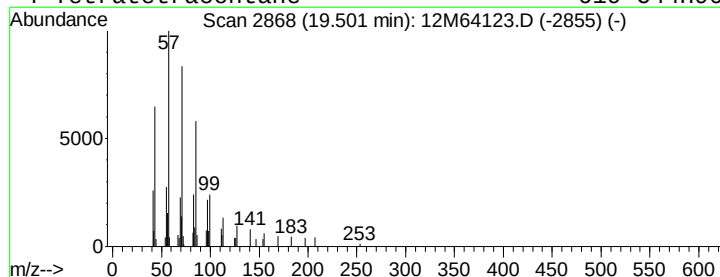
Title : OVD MSS01 8270/625 ICAL 08/3/17

Library : I:\DATABASE\NIST02.L

Peak Number 6 Tetratriacontane Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
19.50	10.73 ug/ml	333483	Perylene-d12	19.08

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1			Tetratriacontane	479	C34H70	014167-59-0	90
2			Tritetracontane	605	C43H88	007098-21-7	87
3			Heneicosane	296	C21H44	000629-94-7	83
4			Tetratetracontane	619	C44H90	007098-22-8	83



Data File : I:\MSDCHEM\1\DATA\082917\12M64123.D
Acq On : 29 Aug 2017 10:52 am
Sample : WG627291-01 BLANK 8/28
Misc : 1,1
MS Integration Params: LSCINT.P

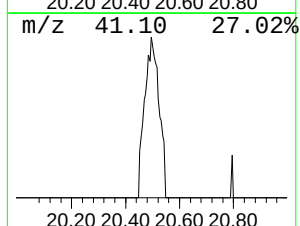
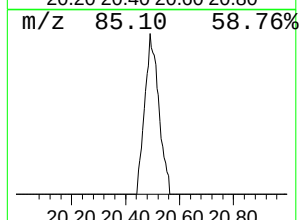
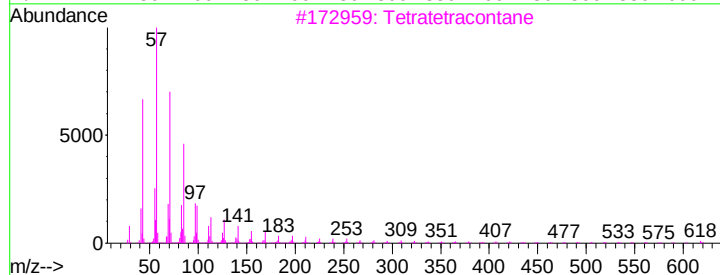
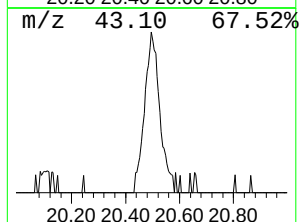
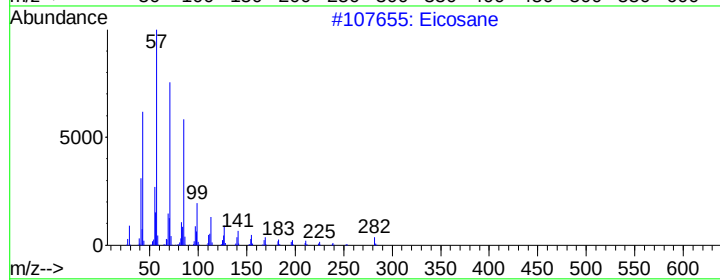
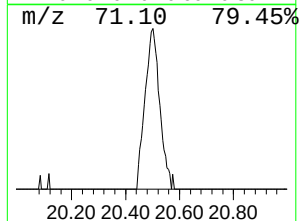
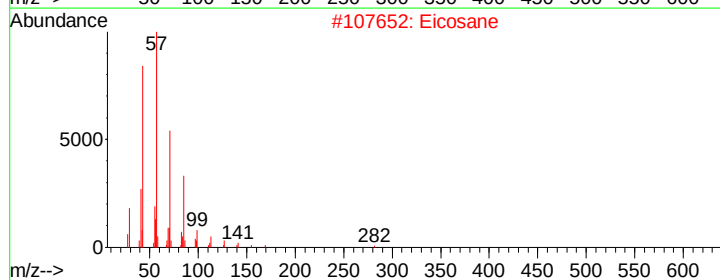
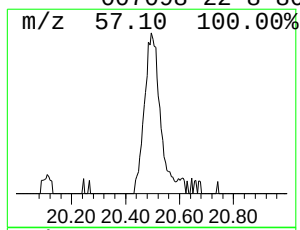
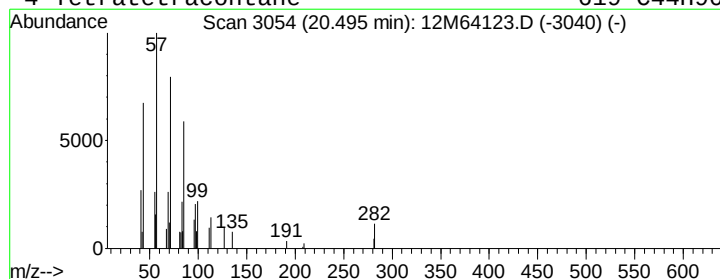
Vial: 4
Operator: scb
Inst : MSD12
Multiplr: 1.00

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

Peak Number 7 Eicosane

Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.	
20.50	4.99 ug/ml	155028	Perylene-d12	19.08	
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Eicosane	282	C20H42	000112-95-8	93
2	Eicosane	282	C20H42	000112-95-8	87
3	Tetratetracontane	619	C44H90	007098-22-8	86
4	Tetratetracontane	619	C44H90	007098-22-8	80



Tentatively Identified Compound (LSC) summary

Operator ID: scb Date Acquired: 29 Aug 2017 10:52 am
Data File: I:\MSDCHEM\1\DATA\082917\12M64123.D
Name: WG627291-01 BLANK 8/28
Misc: 1,1
Method: I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title: OVD MSS01 8270/625 ICAL 08/3/17
Library Searched: I:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--			
					#	RT	Resp	Conc
Tetratriacontane	16.71	4.9	ug/ml	167662	5	16.24	1359830	40.0
Eicosane	17.27	8.1	ug/ml	274333	5	16.24	1359830	40.0
N,3-Diphenyl-1,2-...	17.83	11.8	ug/ml	366646	6	19.08	1242950	40.0
Octadecane	17.91	15.3	ug/ml	475302	6	19.08	1242950	40.0
Tetratriacontane	18.65	11.9	ug/ml	368970	6	19.08	1242950	40.0
Tetratriacontane	19.50	10.7	ug/ml	333483	6	19.08	1242950	40.0
Eicosane	20.50	5.0	ug/ml	155028	6	19.08	1242950	40.0

Data File : I:\MSDCHEM\1\DATA\082917\12M64124.D

Vial: 5

Acq On : 29 Aug 2017 11:25 am

Operator: scb

Sample : WG627291-02 LCS 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 16:27:10 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.828	152	120438	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.121	136	460416	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.932	164	254221	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.551	188	509325	40.0000	ug/ml	0.000
113) Chrysene-d12	16.242	240	491117	40.0000	ug/ml	0.000
128) Perylene-d12	19.090	264	488466	40.0000	ug/ml	-0.011
System Monitoring Compounds						
8) 2-Fluorophenol	6.573	112	208590	56.8681347	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery	=	56.87%	
12) Phenol-d5	7.428	99	186781	39.8302365	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery	=	39.83%	
31) Nitrobenzene-d5	8.395	82	207334	45.1255174	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery	=	90.25%	
59) 2-Fluorobiphenyl	10.190	172	427270	48.4097195	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery	=	96.82%	
86) 2,4,6-Tribromophenol	11.760	330	154603	115.4611730	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery	=	115.46%	
117) p-Terphenyl-d14	14.581	244	663563	62.7617677	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery	=	125.52%	
Target Compounds						
					Qvalue	
2) 1,4-Dioxane	4.67	88	33504	21.2622	ug/ml	94
3) n-Nitrosodimethylamine	5.13	74	53543	24.5308	ug/ml	97
4) Pyridine	5.16	79	40668	10.1922	ug/ml	95
5) 2-Picoline	5.99	93	91650	21.2400	ug/ml	100
6) n-Nitrosomethylethylamine	6.11	88	67989	39.1179	ug/ml#	90
7) Methyl Methanesulfonate	6.41	80	89402	32.1059	ug/ml	99
9) n-Nitrosodiethylamine	6.81	102	73228	39.8929	ug/ml	99
10) Ethyl Methanesulfonate	7.07	79	115572	39.7480	ug/ml	98
11) Aniline	7.52	66	72346	29.6392	ug/ml	51
13) Phenol	7.44	94	92217	19.3481	ug/ml	91
14) bis(2-Chloroethyl)ether	7.54	63	104482	37.2732	ug/ml#	35
15) Pentachloroethane	7.56	167	38174	24.0068	ug/ml	97
16) 2-Chlorophenol	7.65	128	148019	36.9576	ug/ml	98
17) 1,3-Dichlorobenzene	7.80	146	102980	23.4839	ug/ml	99
18) 1,4-Dichlorobenzene	7.84	146	109525	24.5692	ug/ml	100
19) Benzyl Alcohol	7.94	108	104012	40.7820	ug/ml	96
20) 1,2-Dichlorobenzene	8.04	146	113053	26.6761	ug/ml	99
21) 2-Methylphenol	8.04	107	132293	38.6379	ug/ml	95
22) bis(2-Chloroisopropyl)ethe	8.08	45	122527	36.1009	ug/ml	97
23) 3-,4-Methylphenol	8.16	107	176057	40.6681	ug/ml	94
24) n-Nitrosopyrrolidine	8.22	100	84637	45.5554	ug/ml	97
25) n-Nitrosodipropylamine	8.22	70	136618	45.8998	ug/ml	99
26) Acetophenone	8.22	105	496166	84.5661	ug/ml	99
27) n-Nitrosomorpholine	8.22	56	102920	44.6437	ug/ml	98
28) o-Toluidine	8.27	106	216632	33.7769	ug/ml	99
29) Hexachloroethane	8.36	117	39203	20.9244	ug/ml	95
32) Nitrobenzene	8.42	77	193331	42.4928	ug/ml	95
33) n-Nitrosopiperidine	8.56	114	82424	41.8939	ug/ml	95
34) Isophorone	8.63	82	407558	51.6145	ug/ml	99
35) 2-Nitrophenol	8.74	139	90237	41.8167	ug/ml	98
36) 2,4-Dimethylphenol	8.70	122	158039	43.9559	ug/ml	95
38) bis(2-Chloroethoxy)methane	8.80	93	195141	31.4011	ug/ml	90
39) Benzoic Acid	8.74	105	22488	19.6910	ug/ml#	51

(#) = qualifier out of range (m) = manual integration
 12M64124.D MEGAMIX.M Tue Aug 29 16:27:12 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\082917\12M64124.D

Vial: 5

Acq On : 29 Aug 2017 11:25 am

Operator: scb

Sample : WG627291-02 LCS 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 16:27:10 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
40) 2,4-Dichlorophenol	8.96	162	147186	45.0389	ug/ml	100
41) a,a-Dimethylphenethylamine	8.97	58	41111	5.3630	ug/ml#	82
42) 1,2,4-Trichlorobenzene	9.06	180	107282	28.3866	ug/ml	98
43) Naphthalene	9.14	128	418291	34.2101	ug/ml#	98
44) 4-Chloroaniline	9.17	65	74651	44.1823	ug/ml	63
45) 2,6-Dichlorophenol	9.20	162	146110	48.5892	ug/ml	99
46) Hexachloropropene	9.26	213	70052	25.0380	ug/ml	98
47) Hexachlorobutadiene	9.29	225	60266	27.5353	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.48	84	158521	42.8978	ug/ml	90
49) p-Phenylenediamine	9.61	108	15440	5.6051	ug/ml#	1
50) 4-Chloro-3-Methylphenol	9.61	107	193611	47.4849	ug/ml	98
51) Safrole	9.70	162	113418	35.9850	ug/ml	97
52) 2-Methylnaphthalene	9.83	142	294989	35.5374	ug/ml	100
53) 1-Methylnaphthalene	9.95	142	317694	41.8438	ug/ml	99
55) 1,2,4,5-Tetrachlorobenzene	10.05	216	145164	35.8906	ug/ml	99
56) Hexachlorocyclopentadiene	10.05	237	44968	24.5033	ug/ml	99
57) 2,4,6-Trichlorophenol	10.12	196	123243	46.4780	ug/ml	99
58) 2,4,5-Trichlorophenol	10.17	196	132646	47.8327	ug/ml	100
60) Isosafrole	10.23	162	324711	101.2380	ug/ml	98
61) 2-Chloronaphthalene	10.34	162	359872	44.5606	ug/ml	98
62) 1-Chloronaphthalene	10.38	162	271460	35.0203	ug/ml	100
63) 2-Nitroaniline	10.44	65	127896	49.0116	ug/ml	98
64) 1,4-Naphthoquinone	10.50	158	139387	63.4807	ug/ml	99
65) Dimethylphthalate	10.60	163	492280	52.3845	ug/ml	100
66) 1,3-Dinitrobenzene	10.65	168	74818	46.7682	ug/ml	99
67) 2,6-Dinitrotoluene	10.69	165	106518	48.7582	ug/ml	98
68) Acenaphthylene	10.78	152	555160	43.4614	ug/ml	100
69) 3-Nitroaniline	10.85	138	102871	45.9025	ug/ml	99
70) 2,4-Dinitrophenol	10.95	184	66773	50.2851	ug/ml	82
71) Acenaphthene	10.96	154	381557	46.7813	ug/ml	99
72) 4-Nitrophenol	10.96	65	55477	27.3149	ug/ml	94
73) 2,4-Dinitrotoluene	11.10	165	148864	49.5906	ug/ml	99
74) Pentachlorobenzene	11.15	250	157676	48.3326	ug/ml	98
75) Dibenzofuran	11.12	168	517080	45.0120	ug/ml	98
76) 2,3,4,6-Tetrachlorophenol	11.27	232	113097	47.3686	ug/ml	98
77) 1-Naphthylamine	11.20	143	320536	39.8280	ug/ml	100
78) 2-Naphthylamine	11.27	143	321305	38.9232	ug/ml	99
79) Diethylphthalate	11.30	149	488849	50.4848	ug/ml	99
80) Thionazin	11.48	107	10568	6.6751	ug/ml#	1
81) Fluorene	11.48	166	471417	48.3516	ug/ml	100
82) 4-Chlorophenyl Phenyl Ethe	11.43	204	209843	43.4346	ug/ml	99
83) 4-Nitroaniline	11.49	138	123675	49.5805	ug/ml	97
84) 5-Nitro-o-Toluidine	11.48	152	148213	52.5672	ug/ml	96
85) 1,2-Diphenylhydrazine	11.60	77	471570	47.1960	ug/ml	99
88) 4,6-Dinitro-2-Methylphenol	11.53	198	94881	47.4454	ug/ml#	68
89) Diphenylamine/n-Nitrosodip	11.55	169	826105	97.0180	ug/ml	98
91) Sym-Trinitrobenzene	11.84	75	118104	36.3613	ug/ml	99
92) Diallate	11.87	86	301370	83.6876	ug/ml	85
93) Phenacetin	11.86	108	279041	52.2698	ug/ml	94
95) 4-Bromophenyl Phenyl Ether	11.96	248	126421	47.3440	ug/ml	98
96) Hexachlorobenzene	12.18	284	138170	49.8215	ug/ml	98
97) Dimethoate	12.10	87	9151	2.6948	ug/ml#	17
98) 4-Aminobiphenyl	12.26	169	346740	34.5011	ug/ml	100
99) Pentachlorophenol	12.36	266	95999	54.6409	ug/ml	100

(#) = qualifier out of range (m) = manual integration
 12M64124.D MEGAMIX.M Tue Aug 29 16:27:12 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\082917\12M64124.D

Vial: 5

Acq On : 29 Aug 2017 11:25 am

Operator: scb

Sample : WG627291-02 LCS 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 16:27:10 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
100) Pronamide	12.30	173	229620	52.3628	ug/ml	99
101) Pentachloronitrobenzene	12.45	237	72978	57.3075	ug/ml	96
103) Phenanthrene	12.58	178	674263	47.9641	ug/ml	99
104) Anthracene	12.63	178	675813	46.1962	ug/ml	99
105) Carbazole	12.79	167	637090	50.5222	ug/ml	100
107) Di-n-Butyl Phthalate	13.14	149	881621	52.8099	ug/ml	99
109) 4-Nitroquinoline 1-Oxide	13.54	190	40976	40.5922	ug/ml	96
111) Isodrin	13.96	193	79444	49.3691	ug/ml	98
112) Fluoranthene	14.13	202	752497	48.4920	ug/ml	99
114) Benzidine	14.22	184	38649	6.3093	ug/ml	100
115) Pyrene	14.46	202	766960	49.9513	ug/ml	99
116) Aramite	14.58	185	1916	2.0390	ug/ml#	34
118) p-(Dimethylamino)azobenzen	14.79	225	171039	56.7725	ug/ml	93
119) Chlorobenzilate	14.83	251	245427	58.3381	ug/ml	95
121) Butyl Benzyl Phthalate	15.25	149	391417	50.7864	ug/ml	100
122) 3,3'-Dimethylbenzidine	15.27	212	70092	5.2759	ug/ml#	90
123) 2-Acetylaminofluorene	15.69	181	361413	55.8516	ug/ml	99
124) bis(2-Ethylhexyl)phthalate	16.09	149	555949	56.1966	ug/ml	99
125) 3,3'-Dichlorobenzidine	16.11	252	265383	53.1618	ug/ml	98
126) Benzo[a]anthracene	16.21	228	759638	52.2651	ug/ml	100
127) Chrysene	16.28	228	730094	55.3640	ug/ml	100
129) Di-n-Octyl Phthalate	17.08	149	918256	50.3728	ug/ml	100
130) 7,12-Dimethylbenz[a]anthra	18.20	256	390720	52.2615	ug/ml	94
131) Benzo[b]fluoranthene	18.20	252	869573	53.4006	ug/ml	98
132) Benzo[k]fluoranthene	18.25	252	703976	51.5252	ug/ml	99
133) Benzo[a]pyrene	18.96	252	692525	51.4569	ug/ml	99
134) 3-Methylcholanthrene	19.86	268	398327	56.9846	ug/ml	98
135) Indeno[1,2,3-cd]pyrene	22.25	276	816085	55.3182	ug/ml	97
136) Dibenzo[ah]anthracene	22.25	278	679763	54.0184	ug/ml	98
137) Benzo[ghi]perylene	23.21	276	622978	53.2037	ug/ml	97

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M64124.D MEGAMIX.M Tue Aug 29 16:27:12 2017

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Data File : I:\MSDCHEM\1\DATA\082917\12M64124.D Vial: 5
 Acq On : 29 Aug 2017 11:25 am Operator: scb
 Sample : WG627291-02 LCS 8/28 Inst : MSD12
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 11:54:08 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
 Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
 Last Update : Thu Jul 27 11:09:54 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.828	152	120438	40.0000	ug/mL	-0.037
3) Naphthalene-d8	9.121	136	460416	40.0000	ug/mL	-0.037
6) Acenaphthene-d10	10.932	164	254221	40.0000	ug/mL	-0.037
8) Phenanthrene-d10	12.551	188	509325	40.0000	ug/mL	-0.043
Target Compounds						Qvalue
2) Benzaldehyde	7.41	105	126577	41.8989	ug/L	96
4) Alpha-Terpineol	9.25	59	1943	0.7103	ug/L #	1
5) Caprolactam	9.48	55	35939	28.0161	ug/L #	71
7) 1,1'-Biphenyl	10.30	154	452567	43.9748	ug/L	99
9) Atrazine	12.11	200	147959	50.7766	ug/L	98

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M64124.D TCL.M Wed Aug 30 11:54:08 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\082917\12M64124.D

Vial: 5

Acq On : 29 Aug 2017 11:25 am

Operator: scb

Sample : WG627291-02 LCS 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 11:54 2017

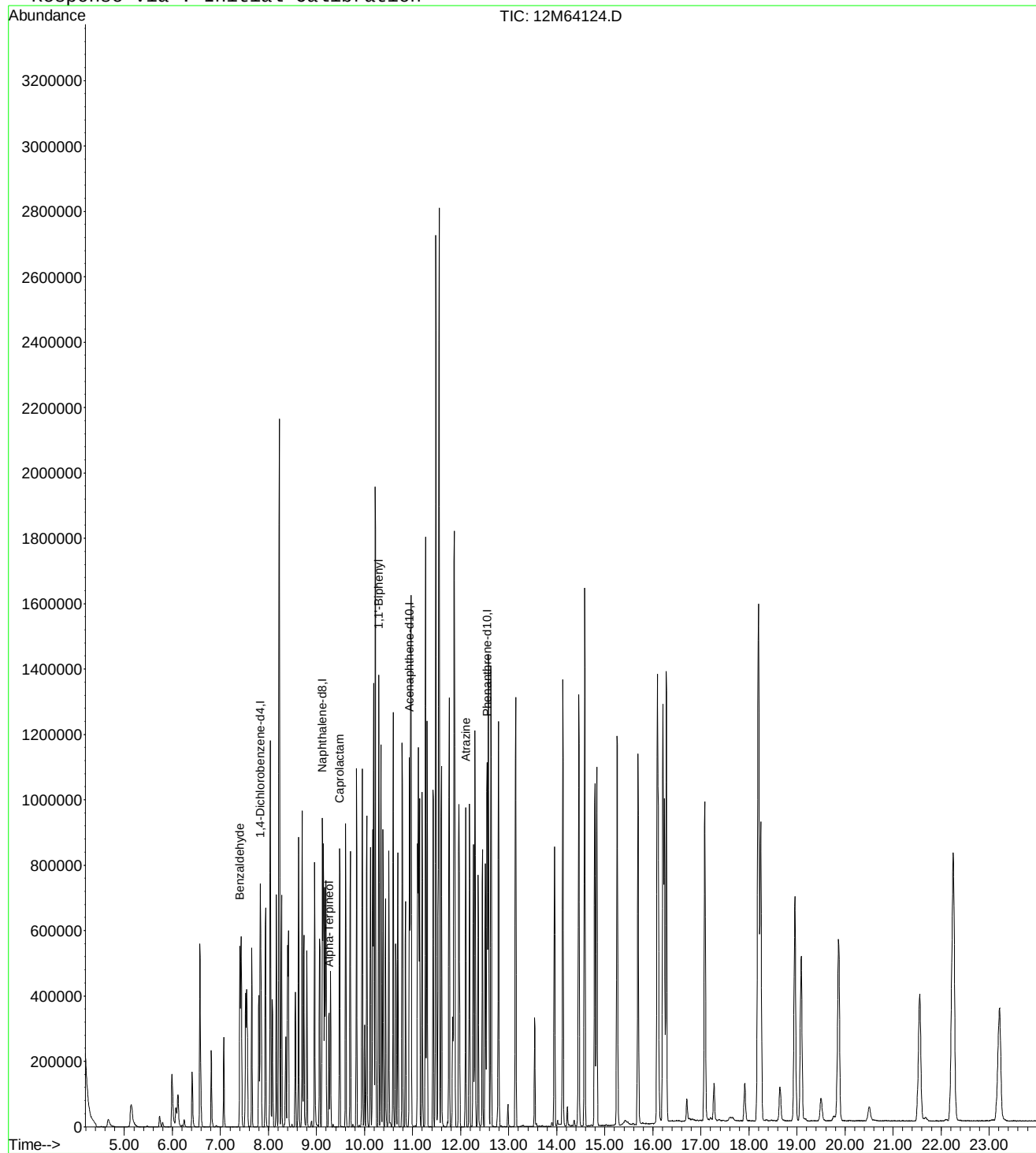
Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)

Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17

Last Update : Thu Jul 27 11:09:54 2017

Response via : Initial Calibration



12M64124.D TCL.M

Wed Aug 30 11:54:08 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\082917\12M64125.D

Vial: 6

Acq On : 29 Aug 2017 11:57 am

Operator: scb

Sample : WG627291-03 LCS2 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 16:27:13 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.829	152	115841	40.0000	ug/ml	0.000
30) Naphthalene-d8	9.121	136	448895	40.0000	ug/ml	0.000
54) Acenaphthene-d10	10.932	164	249347	40.0000	ug/ml	0.000
87) Phenanthrene-d10	12.551	188	494827	40.0000	ug/ml	0.000
113) Chrysene-d12	16.243	240	499030	40.0000	ug/ml	0.000
128) Perylene-d12	19.090	264	486700	40.0000	ug/ml	-0.011
System Monitoring Compounds						
8) 2-Fluorophenol	6.573	112	225843	64.0152389	ug/ml	0.00
Spiked Amount 100.000	Range 21 - 100		Recovery =	64.02%		
12) Phenol-d5	7.428	99	196393	43.5419054	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 94		Recovery =	43.54%		
31) Nitrobenzene-d5	8.395	82	224500	50.1156829	ug/ml	0.00
Spiked Amount 50.000	Range 35 - 114		Recovery =	100.23%		
59) 2-Fluorobiphenyl	10.190	172	436689	50.4440205	ug/ml	0.00
Spiked Amount 50.000	Range 43 - 116		Recovery =	100.89%		
86) 2,4,6-Tribromophenol	11.760	330	160163	121.9516045	ug/ml	0.00
Spiked Amount 100.000	Range 10 - 123		Recovery =	121.95%		
117) p-Terphenyl-d14	14.581	244	667412	62.1248465	ug/ml	0.00
Spiked Amount 50.000	Range 33 - 141		Recovery =	124.25%		
Target Compounds						
2) 1,4-Dioxane	4.67	88	35532	23.4441	ug/ml	95
3) n-Nitrosodimethylamine	5.13	74	57886	27.5730	ug/ml	99
4) Pyridine	5.15	79	90553	23.5950	ug/ml	96
5) 2-Picoline	5.99	93	133750	32.2269	ug/ml	99
6) n-Nitrosomethylethylamine	6.11	88	76118	45.5329	ug/ml#	91
7) Methyl Methanesulfonate	6.41	80	95457	35.6408	ug/ml	99
9) n-Nitrosodiethylamine	6.81	102	79406	44.9752	ug/ml	100
10) Ethyl Methanesulfonate	7.07	79	128982	46.1204	ug/ml	96
11) Aniline	7.52	66	104595	44.5517	ug/ml	98
13) Phenol	7.44	94	100534	21.9301	ug/ml	89
14) bis(2-Chloroethyl)ether	7.54	63	119854	44.4539	ug/ml	95
15) Pentachloroethane	7.56	167	38652	25.2720	ug/ml	99
16) 2-Chlorophenol	7.65	128	154960	40.2260	ug/ml	95
17) 1,3-Dichlorobenzene	7.80	146	101997	24.1828	ug/ml	98
18) 1,4-Dichlorobenzene	7.84	146	109855	25.6212	ug/ml	99
19) Benzyl Alcohol	7.94	108	110610	45.0900	ug/ml	91
20) 1,2-Dichlorobenzene	8.04	146	115393	28.3088	ug/ml	98
21) 2-Methylphenol	8.04	107	142902	43.3927	ug/ml	94
22) bis(2-Chloroisopropyl)ethe	8.08	45	135142	41.3978	ug/ml	96
23) 3-,4-Methylphenol	8.17	107	188909	45.3685	ug/ml	94
24) n-Nitrosopyrrolidine	8.22	100	94969	53.1450	ug/ml	94
25) n-Nitrosodipropylamine	8.22	70	155863	54.4436	ug/ml	99
26) Acetophenone	8.22	105	545579	96.6781	ug/ml	99
27) n-Nitrosomorpholine	8.22	56	117306	52.9032	ug/ml	98
28) o-Toluidine	8.27	106	252784	40.9777	ug/ml	98
29) Hexachloroethane	8.36	117	40773	22.6260	ug/ml	99
32) Nitrobenzene	8.42	77	210903	47.5447	ug/ml	93
33) n-Nitrosopiperidine	8.56	114	87372	45.5486	ug/ml	90
34) Isophorone	8.63	82	446834	58.0409	ug/ml	99
35) 2-Nitrophenol	8.74	139	91678	43.5749	ug/ml	93
36) 2,4-Dimethylphenol	8.70	122	172640	49.2493	ug/ml	94
38) bis(2-Chloroethoxy)methane	8.80	93	210106	34.6769	ug/ml	90
39) Benzoic Acid	8.70	105	7549	11.8343	ug/ml#	1

(#) = qualifier out of range (m) = manual integration
 12M64125.D MEGAMIX.M Tue Aug 29 16:27:14 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\082917\12M64125.D

Vial: 6

Acq On : 29 Aug 2017 11:57 am

Operator: scb

Sample : WG627291-03 LCS2 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 16:27:13 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
40) 2,4-Dichlorophenol	8.96	162	153818	48.2763	ug/ml	99
41) a,a-Dimethylphenethylamine	8.97	58	174690	23.3734	ug/ml#	91
42) 1,2,4-Trichlorobenzene	9.06	180	107810	29.2585	ug/ml	100
43) Naphthalene	9.14	128	423944	35.5623	ug/ml#	98
44) 4-Chloroaniline	9.17	65	85569	51.9439	ug/ml	60
45) 2,6-Dichlorophenol	9.20	162	149567	51.0153	ug/ml	100
46) Hexachloropropene	9.26	213	70065	25.6854	ug/ml	99
47) Hexachlorobutadiene	9.29	225	59862	28.0527	ug/ml	99
48) n-Nitrosodi-n-Butylamine	9.48	84	177436	49.2488	ug/ml	91
50) 4-Chloro-3-Methylphenol	9.61	107	209091	52.5976	ug/ml	99
51) Safrole	9.70	162	115987	37.7446	ug/ml	94
52) 2-Methylnaphthalene	9.83	142	300541	37.1355	ug/ml	99
53) 1-Methylnaphthalene	9.95	142	330812	44.6899	ug/ml	97
55) 1,2,4,5-Tetrachlorobenzene	10.05	216	146860	37.0197	ug/ml	99
56) Hexachlorocyclopentadiene	10.05	237	46234	25.5667	ug/ml	98
57) 2,4,6-Trichlorophenol	10.13	196	127455	49.0060	ug/ml	99
58) 2,4,5-Trichlorophenol	10.17	196	137226	50.4515	ug/ml	99
60) Isosafrole	10.23	162	342940	109.0114	ug/ml	99
61) 2-Chloronaphthalene	10.34	162	374919	47.3313	ug/ml	100
62) 1-Chloronaphthalene	10.38	162	276253	36.3352	ug/ml	99
63) 2-Nitroaniline	10.44	65	141782	55.3949	ug/ml	95
64) 1,4-Naphthoquinone	10.51	158	144579	67.1323	ug/ml	97
65) Dimethylphthalate	10.60	163	526908	57.1653	ug/ml	100
66) 1,3-Dinitrobenzene	10.65	168	78563	50.0691	ug/ml	91
67) 2,6-Dinitrotoluene	10.69	165	112016	52.2772	ug/ml	94
68) Acenaphthylene	10.78	152	586947	46.8481	ug/ml	100
69) 3-Nitroaniline	10.85	138	109339	49.7423	ug/ml	95
70) 2,4-Dinitrophenol	10.95	184	32762	29.4273	ug/ml#	1
71) Acenaphthene	10.96	154	389709	48.7148	ug/ml	96
72) 4-Nitrophenol	10.96	65	58632	29.4326	ug/ml	95
73) 2,4-Dinitrotoluene	11.10	165	162924	55.3353	ug/ml	97
74) Pentachlorobenzene	11.15	250	168856	52.7714	ug/ml	97
75) Dibenzofuran	11.12	168	553408	49.1161	ug/ml	100
76) 2,3,4,6-Tetrachlorophenol	11.27	232	121101	51.7123	ug/ml	98
77) 1-Naphthylamine	11.20	143	380391	48.1891	ug/ml	100
78) 2-Naphthylamine	11.27	143	412103	50.8984	ug/ml	98
79) Diethylphthalate	11.30	149	518558	54.5997	ug/ml	99
80) Thionazin	11.48	107	10600	6.8262	ug/ml#	1
81) Fluorene	11.48	166	491181	51.3635	ug/ml	99
82) 4-Chlorophenyl Phenyl Ethe	11.43	204	226252	47.7464	ug/ml	98
83) 4-Nitroaniline	11.49	138	132555	54.1792	ug/ml	96
84) 5-Nitro-o-Toluidine	11.48	152	157358	56.9017	ug/ml	93
85) 1,2-Diphenylhydrazine	11.60	77	476662	48.6382	ug/ml	98
88) 4,6-Dinitro-2-Methylphenol	11.54	198	97802	50.0384	ug/ml	72
89) Diphenylamine/n-Nitrosodip	11.55	169	888029	107.3460	ug/ml	98
91) Sym-Trinitrobenzene	11.84	75	112986	35.8256	ug/ml	96
92) Diallate	11.87	86	281172	80.3664	ug/ml#	80
93) Phenacetin	11.86	108	266692	51.4203	ug/ml	92
95) 4-Bromophenyl Phenyl Ether	11.96	248	134343	51.7848	ug/ml	94
96) Hexachlorobenzene	12.18	284	151608	56.2687	ug/ml	95
97) Dimethoate	12.10	87	8331	2.5252	ug/ml#	39
98) 4-Aminobiphenyl	12.26	169	446603	45.7396	ug/ml	100
99) Pentachlorophenol	12.36	266	80394	48.0836	ug/ml	98
100) Pronamide	12.30	173	235532	55.2847	ug/ml	99

(#) = qualifier out of range (m) = manual integration
 12M64125.D MEGAMIX.M Tue Aug 29 16:27:14 2017

Page 2

Data File : I:\MSDCHEM\1\DATA\082917\12M64125.D

Vial: 6

Acq On : 29 Aug 2017 11:57 am

Operator: scb

Sample : WG627291-03 LCS2 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 29 16:27:13 2017

Quant Results File: MEGAMIX.RES

Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)

Title : OVD MSS01 8270/625 ICAL 08/3/17

Last Update : Mon Aug 21 08:23:38 2017

Response via : Initial Calibration

DataAcq Meth : BNARUN

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
101) Pentachloronitrobenzene	12.45	237	73649	59.5289	ug/ml	96
103) Phenanthrene	12.58	178	704998	51.6198	ug/ml	100
104) Anthracene	12.63	178	713983	50.2353	ug/ml	99
105) Carbazole	12.79	167	663179	54.1320	ug/ml	98
107) Di-n-Butyl Phthalate	13.14	149	894119	55.1278	ug/ml	100
109) 4-Nitroquinoline 1-Oxide	13.54	190	49571	48.8778	ug/ml	91
111) Isodrin	13.96	193	83961	53.7048	ug/ml	98
112) Fluoranthene	14.13	202	797630	52.9064	ug/ml	99
114) Benzidine	14.22	184	335534	53.9061	ug/ml	100
115) Pyrene	14.46	202	824134	52.8239	ug/ml	99
116) Aramite	14.58	185	1843	1.9302	ug/ml#	34
118) p-(Dimethylamino)azobenzen	14.79	225	187396	61.2155	ug/ml	82
119) Chlorobenzilate	14.83	251	263978	61.7527	ug/ml	89
121) Butyl Benzyl Phthalate	15.26	149	407451	52.0285	ug/ml	95
122) 3,3'-Dimethylbenzidine	15.28	212	433639	32.1230	ug/ml	98
123) 2-Acetylaminofluorene	15.69	181	376761	57.3002	ug/ml	98
124) bis(2-Ethylhexyl)phthalate	16.09	149	565933	56.2987	ug/ml	99
125) 3,3'-Dichlorobenzidine	16.11	252	315040	62.1084	ug/ml	99
126) Benzo[a]anthracene	16.21	228	817792	55.3741	ug/ml	100
127) Chrysene	16.29	228	790077	58.9626	ug/ml	99
129) Di-n-Octyl Phthalate	17.08	149	957343	52.7076	ug/ml	98
130) 7,12-Dimethylbenz[a]anthra	18.20	256	423799	56.8918	ug/ml	94
131) Benzo[b]fluoranthene	18.20	252	937005	57.7504	ug/ml	98
132) Benzo[k]fluoranthene	18.25	252	764538	56.1609	ug/ml	99
133) Benzo[a]pyrene	18.96	252	747536	55.7459	ug/ml	98
134) 3-Methylcholanthrene	19.86	268	432564	62.1070	ug/ml	97
135) Indeno[1,2,3-cd]pyrene	22.26	276	877636	59.7063	ug/ml	97
136) Dibenz[ah]anthracene	22.26	278	730552	58.2651	ug/ml	98
137) Benzo[ghi]perylene	23.21	276	661733	56.7185	ug/ml	97

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M64125.D MEGAMIX.M Tue Aug 29 16:27:14 2017

Page 3

Data File : I:\MSDCHEM\1\DATA\082917\12M64125.D Vial: 6
 Acq On : 29 Aug 2017 11:57 am Operator: scb
 Sample : WG627291-03 LCS2 8/28 Inst : MSD12
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 11:54:09 2017 Quant Results File: TCL.RES

Quant Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)
 Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17
 Last Update : Thu Jul 27 11:09:54 2017
 Response via : Initial Calibration
 DataAcq Meth : BNARUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.829	152	115841	40.0000	ug/mL	-0.037
3) Naphthalene-d8	9.121	136	448895	40.0000	ug/mL	-0.037
6) Acenaphthene-d10	10.932	164	249347	40.0000	ug/mL	-0.037
8) Phenanthrene-d10	12.551	188	494827	40.0000	ug/mL	-0.043
Target Compounds						Qvalue
2) Benzaldehyde	7.41	105	125982	43.3568	ug/L	93
4) Alpha-Terpineol	9.20	59	163	0.0611	ug/L #	1
5) Caprolactam	9.48	55	39368	31.4768	ug/L #	68
7) 1,1'-Biphenyl	10.30	154	471905	46.7501	ug/L	99
9) Atrazine	12.10	200	155194	54.8200	ug/L	99

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
 12M64125.D TCL.M Wed Aug 30 11:54:09 2017

Page 1

Data File : I:\MSDCHEM\1\DATA\082917\12M64125.D

Vial: 6

Acq On : 29 Aug 2017 11:57 am

Operator: scb

Sample : WG627291-03 LCS2 8/28

Inst : MSD12

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 11:54 2017

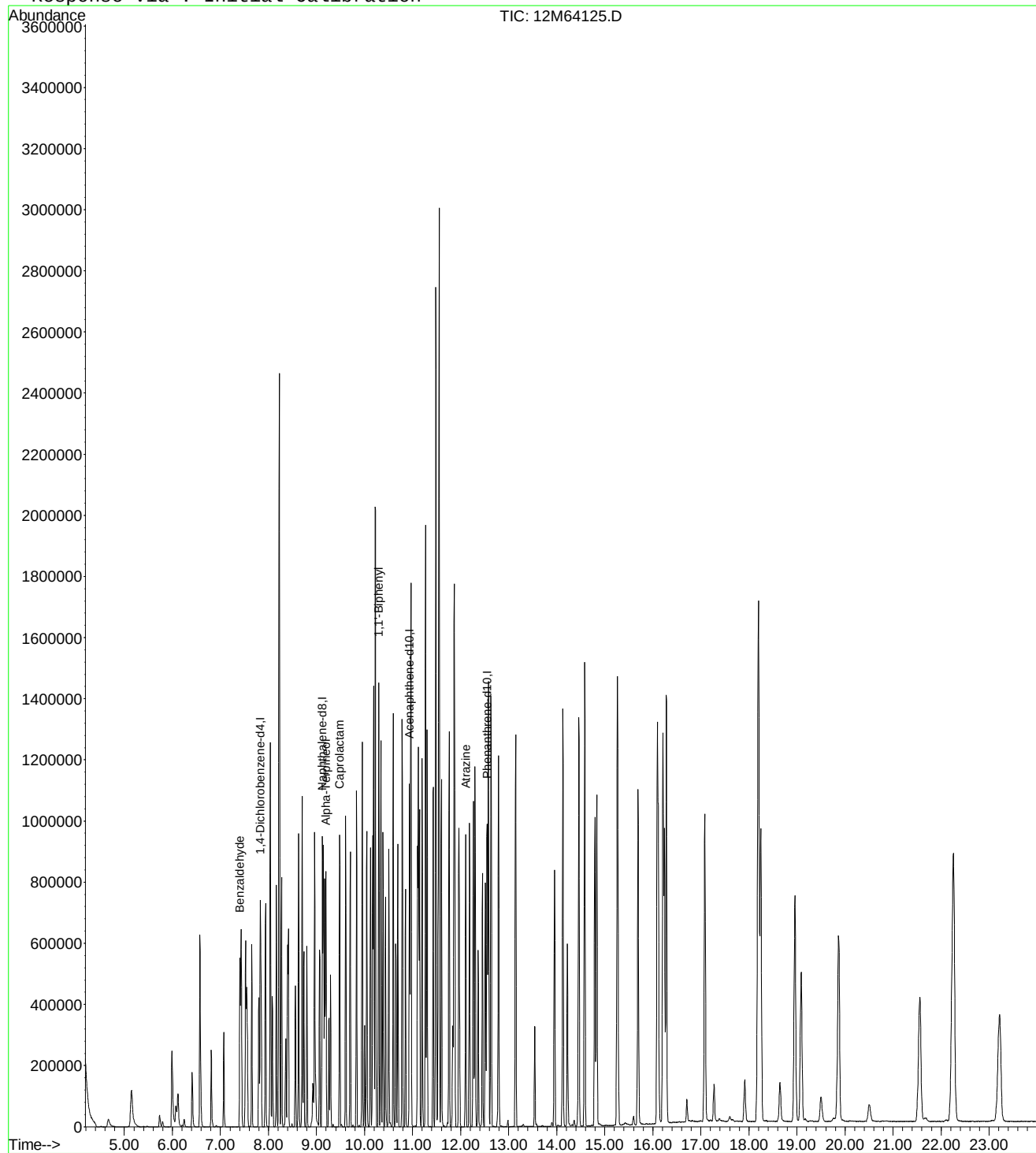
Quant Results File: TCL.RES

Method : I:\MSDCHEM\1\METHODS\TCL.M (RTE Integrator)

Title : OVD MSS01 827-TCL INITIAL CALIBRATION 07/14/17

Last Update : Thu Jul 27 11:09:54 2017

Response via : Initial Calibration



2.2.2 Semivolatiles GC/MS Data (827-PAHL)

2.2.2.1 Summary Data



Login Number: L17081366
Department: Semivolatiles
Analyst: Lacey Hendershot

METHOD

Preparation 3510C

Analysis SW-846 8270 SIM

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Surrogates: Recoveries out of range were observed for the following surrogates: 2-Fluorobiphenyl, Nitrobenzene-d5, p-Terphenyl-d14 all failed low in sample 07. Sample 07 was not re-extracted due to insufficient sample remaining; the second sample bottle was received broken. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type
L17081366-07	2-Fluorobiphenyl	2017-08-30 12:52:00	24.9	43	116	Recovery
L17081366-07	Nitrobenzene-d5	2017-08-30 12:52:00	29.7	35	114	Recovery
L17081366-07	p-Terphenyl-d14	2017-08-30 12:52:00	27.4	33	141	Recovery

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low areacounts for the target compound.

Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

Narrative ID: 128924

Approved By: Mary Schilling



Certificate of Analysis

Sample #: L17081366-01	PrePrep Method: N/A	Instrument: HPMS7
Client ID: MW17-082417	Prep Method: 3510C	Prep Date: 08/29/2017 09:30
Matrix: Water	Analytical Method: 8270D_SIM	Cal Date: 08/23/2017 18:40
Workgroup #: WG627710	Analyst: LJH	Run Date: 08/30/2017 11:32
Collect Date: 08/24/2017 10:22	Dilution: 1	File ID: 7M70231
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0575	0.0287
Acenaphthene	83-32-9		U	0.0575	0.0287
Acenaphthylene	208-96-8		U	0.0575	0.0287
Anthracene	120-12-7		U	0.0575	0.0287
Benzo(a)anthracene	56-55-3		U	0.0575	0.0287
Benzo(a)pyrene	50-32-8		U	0.0575	0.0287
Benzo(b)fluoranthene	205-99-2		U	0.0575	0.0287
Benzo(g,h,i)perylene	191-24-2		U	0.0575	0.0287
Benzo(k)fluoranthene	207-08-9		U	0.0575	0.0287
Chrysene	218-01-9		U	0.0575	0.0287
Dibenzo(a,h)anthracene	53-70-3		U	0.0575	0.0287
Fluoranthene	206-44-0		U	0.0575	0.0287
Fluorene	86-73-7		U	0.0575	0.0287
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0575	0.0287
Naphthalene	91-20-3		U	0.0575	0.0287
Phenanthrene	85-01-8		U	0.0575	0.0287
Pyrene	129-00-0		U	0.0575	0.0287
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	72.9	43	116		
Nitrobenzene-d5	80.5	35	114		
p-Terphenyl-d14	99.2	33	141		
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-03	PrePrep Method: N/A	Instrument: HPMS7
Client ID: DUP-GW-082417	Prep Method: 3510C	Prep Date: 08/29/2017 09:30
Matrix: Water	Analytical Method: 8270D_SIM	Cal Date: 08/23/2017 18:40
Workgroup #: WG627710	Analyst: LJH	Run Date: 08/30/2017 11:59
Collect Date: 08/24/2017 09:00	Dilution: 1	File ID: 7M70232
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0538	0.0269
Acenaphthene	83-32-9		U	0.0538	0.0269

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Acenaphthylene	208-96-8		U	0.0538	0.0269
Anthracene	120-12-7		U	0.0538	0.0269
Benzo(a)anthracene	56-55-3		U	0.0538	0.0269
Benzo(a)pyrene	50-32-8		U	0.0538	0.0269
Benzo(b)fluoranthene	205-99-2		U	0.0538	0.0269
Benzo(g,h,i)perylene	191-24-2		U	0.0538	0.0269
Benzo(k)fluoranthene	207-08-9		U	0.0538	0.0269
Chrysene	218-01-9		U	0.0538	0.0269
Dibenzo(a,h)anthracene	53-70-3		U	0.0538	0.0269
Fluoranthene	206-44-0		U	0.0538	0.0269
Fluorene	86-73-7		U	0.0538	0.0269
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0538	0.0269
Naphthalene	91-20-3		U	0.0538	0.0269
Phenanthrene	85-01-8		U	0.0538	0.0269
Pyrene	129-00-0		U	0.0538	0.0269
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	74.9	43	116		
Nitrobenzene-d5	83.4	35	114		
p-Terphenyl-d14	96.3	33	141		
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-05

PrePrep Method: N/A

Instrument: HPMS7

Client ID: MW18-082417

Prep Method: 3510C

Prep Date: 08/29/2017 09:30

Matrix: Water

Analytical Method: 8270D_SIM

Cal Date: 08/23/2017 18:40

Workgroup #: WG627710

Analyst: LJH

Run Date: 08/30/2017 12:25

Collect Date: 08/24/2017 11:50

Dilution: 1

File ID: 7M70233

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0521	0.0260
Acenaphthene	83-32-9		U	0.0521	0.0260
Acenaphthylene	208-96-8		U	0.0521	0.0260
Anthracene	120-12-7		U	0.0521	0.0260
Benzo(a)anthracene	56-55-3		U	0.0521	0.0260
Benzo(a)pyrene	50-32-8		U	0.0521	0.0260
Benzo(b)fluoranthene	205-99-2		U	0.0521	0.0260
Benzo(g,h,i)perylene	191-24-2		U	0.0521	0.0260
Benzo(k)fluoranthene	207-08-9		U	0.0521	0.0260
Chrysene	218-01-9		U	0.0521	0.0260
Dibenzo(a,h)anthracene	53-70-3		U	0.0521	0.0260

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Fluoranthene	206-44-0		U	0.0521	0.0260
Fluorene	86-73-7		U	0.0521	0.0260
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0521	0.0260
Naphthalene	91-20-3	0.0335	J	0.0521	0.0260
Phenanthrene	85-01-8		U	0.0521	0.0260
Pyrene	129-00-0		U	0.0521	0.0260
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	82.8	43	116		
Nitrobenzene-d5	94.2	35	114		
p-Terphenyl-d14	91.7	33	141		
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-07

PrePrep Method: N/A

Instrument: HPMS7

Client ID: TW01-082417

Prep Method: 3510C

Prep Date: 08/29/2017 09:30

Matrix: Water

Analytical Method: 8270D_SIM

Cal Date: 08/23/2017 18:40

Workgroup #: WG627710

Analyst: LJH

Run Date: 08/30/2017 12:52

Collect Date: 08/24/2017 14:12

Dilution: 1

File ID: 7M70234

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0543	0.0272
Acenaphthene	83-32-9		U	0.0543	0.0272
Acenaphthylene	208-96-8		U	0.0543	0.0272
Anthracene	120-12-7		U	0.0543	0.0272
Benzo(a)anthracene	56-55-3		U	0.0543	0.0272
Benzo(a)pyrene	50-32-8		U	0.0543	0.0272
Benzo(b)fluoranthene	205-99-2		U	0.0543	0.0272
Benzo(g,h,i)perylene	191-24-2		U	0.0543	0.0272
Benzo(k)fluoranthene	207-08-9		U	0.0543	0.0272
Chrysene	218-01-9		U	0.0543	0.0272
Dibenzo(a,h)anthracene	53-70-3		U	0.0543	0.0272
Fluoranthene	206-44-0		U	0.0543	0.0272
Fluorene	86-73-7		U	0.0543	0.0272
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0543	0.0272
Naphthalene	91-20-3		U	0.0543	0.0272
Phenanthrene	85-01-8		U	0.0543	0.0272
Pyrene	129-00-0		U	0.0543	0.0272
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	24.9	43	116	*	

Certificate of Analysis

Nitrobenzene-d5	29.7	35	114	*
p-Terphenyl-d14	27.4	33	141	*
U	Not detected at or above adjusted sample detection limit.			

Sample #: L17081366-10

PrePrep Method: N/A

Instrument: HPMS7

Client ID: MW26-082417

Prep Method: 3510C

Prep Date: 08/29/2017 09:30

Matrix: Water

Analytical Method: 8270D_SIM

Cal Date: 08/23/2017 18:40

Workgroup #: WG627710

Analyst: LJH

Run Date: 08/30/2017 13:19

Collect Date: 08/24/2017 10:55

Dilution: 1

File ID: 7M70235

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0500	0.0250
Acenaphthene	83-32-9		U	0.0500	0.0250
Acenaphthylene	208-96-8		U	0.0500	0.0250
Anthracene	120-12-7		U	0.0500	0.0250
Benzo(a)anthracene	56-55-3		U	0.0500	0.0250
Benzo(a)pyrene	50-32-8		U	0.0500	0.0250
Benzo(b)fluoranthene	205-99-2		U	0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2		U	0.0500	0.0250
Benzo(k)fluoranthene	207-08-9		U	0.0500	0.0250
Chrysene	218-01-9		U	0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3		U	0.0500	0.0250
Fluoranthene	206-44-0		U	0.0500	0.0250
Fluorene	86-73-7		U	0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0500	0.0250
Naphthalene	91-20-3	0.0269	J	0.0500	0.0250
Phenanthrene	85-01-8		U	0.0500	0.0250
Pyrene	129-00-0		U	0.0500	0.0250

Surrogate	Recovery	Lower Limit	Upper Limit	Q
2-Fluorobiphenyl	69.6	43	116	
Nitrobenzene-d5	79.2	35	114	
p-Terphenyl-d14	92.9	33	141	

J	The analyte was positively identified, but the quantitation was below the RL.
U	Not detected at or above adjusted sample detection limit.

Certificate of Analysis

Sample #: L17081366-12

PrePrep Method: N/A

Instrument: HPMS7

Client ID: MW26-082417 MS

Prep Method: 3510C

Prep Date: 08/29/2017 09:30

Matrix: Water

Analytical Method: 8270D_SIM

Cal Date: 08/23/2017 18:40

Workgroup #: WG627710

Analyst: LJH

Run Date: 08/30/2017 13:46

Collect Date: 08/24/2017 10:55

Dilution: 1

File ID: 7M70236

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6	0.841		0.0500	0.0250
Acenaphthene	83-32-9	0.880		0.0500	0.0250
Acenaphthylene	208-96-8	0.830		0.0500	0.0250
Anthracene	120-12-7	1.02		0.0500	0.0250
Benzo(a)anthracene	56-55-3	1.13		0.0500	0.0250
Benzo(a)pyrene	50-32-8	1.04		0.0500	0.0250
Benzo(b)fluoranthene	205-99-2	1.04		0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2	0.651		0.0500	0.0250
Benzo(k)fluoranthene	207-08-9	1.00		0.0500	0.0250
Chrysene	218-01-9	1.04		0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3	0.628		0.0500	0.0250
Fluoranthene	206-44-0	1.14		0.0500	0.0250
Fluorene	86-73-7	0.941		0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5	0.824		0.0500	0.0250
Naphthalene	91-20-3	0.807		0.0500	0.0250
Phenanthrene	85-01-8	1.01		0.0500	0.0250
Pyrene	129-00-0	1.12		0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	75.0	43	116		
Nitrobenzene-d5	83.7	35	114		
p-Terphenyl-d14	92.0	33	141		

Sample #: L17081366-13

PrePrep Method: N/A

Instrument: HPMS7

Client ID: MW26-082417 MSD

Prep Method: 3510C

Prep Date: 08/29/2017 09:30

Matrix: Water

Analytical Method: 8270D_SIM

Cal Date: 08/23/2017 18:40

Workgroup #: WG627710

Analyst: LJH

Run Date: 08/30/2017 14:13

Collect Date: 08/24/2017 10:55

Dilution: 1

File ID: 7M70237

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6	0.813		0.0500	0.0250
Acenaphthene	83-32-9	0.833		0.0500	0.0250
Acenaphthylene	208-96-8	0.786		0.0500	0.0250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Anthracene	120-12-7	0.974		0.0500	0.0250
Benzo(a)anthracene	56-55-3	1.13		0.0500	0.0250
Benzo(a)pyrene	50-32-8	1.02		0.0500	0.0250
Benzo(b)fluoranthene	205-99-2	1.08		0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2	0.631		0.0500	0.0250
Benzo(k)fluoranthene	207-08-9	0.918		0.0500	0.0250
Chrysene	218-01-9	1.04		0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3	0.601		0.0500	0.0250
Fluoranthene	206-44-0	1.12		0.0500	0.0250
Fluorene	86-73-7	0.881		0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5	0.807		0.0500	0.0250
Naphthalene	91-20-3	0.788		0.0500	0.0250
Phenanthrene	85-01-8	0.968		0.0500	0.0250
Pyrene	129-00-0	1.13		0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	71.8	43	116		
Nitrobenzene-d5	83.3	35	114		
p-Terphenyl-d14	93.2	33	141		

Sample #: L17081366-14

Client ID: MW16I-082417

Matrix: Water

Workgroup #: WG627710

Collect Date: 08/24/2017 13:30

Sample Tag: 01

PrePrep Method: N/A

Prep Method: 3510C

Analytical Method: 8270D_SIM

Analyst: LJH

Dilution: 1

Units: ug/L

Instrument: HPMS7

Prep Date: 08/29/2017 09:30

Cal Date: 08/23/2017 18:40

Run Date: 08/30/2017 14:39

File ID: 7M70238

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0500	0.0250
Acenaphthene	83-32-9		U	0.0500	0.0250
Acenaphthylene	208-96-8		U	0.0500	0.0250
Anthracene	120-12-7		U	0.0500	0.0250
Benzo(a)anthracene	56-55-3		U	0.0500	0.0250
Benzo(a)pyrene	50-32-8		U	0.0500	0.0250
Benzo(b)fluoranthene	205-99-2		U	0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2		U	0.0500	0.0250
Benzo(k)fluoranthene	207-08-9		U	0.0500	0.0250
Chrysene	218-01-9		U	0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3		U	0.0500	0.0250
Fluoranthene	206-44-0		U	0.0500	0.0250
Fluorene	86-73-7		U	0.0500	0.0250

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0500	0.0250
Naphthalene	91-20-3		U	0.0500	0.0250
Phenanthrene	85-01-8		U	0.0500	0.0250
Pyrene	129-00-0		U	0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	74.1	43	116		
Nitrobenzene-d5	83.9	35	114		
p-Terphenyl-d14	75.9	33	141		
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-17

PrePrep Method: N/A

Instrument: HPMS7

Client ID: MW05I-082417

Prep Method: 3510C

Prep Date: 08/29/2017 09:30

Matrix: Water

Analytical Method: 8270D_SIM

Cal Date: 08/23/2017 18:40

Workgroup #: WG627710

Analyst: LJH

Run Date: 08/30/2017 15:06

Collect Date: 08/24/2017 15:40

Dilution: 1

File ID: 7M70239

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	RL	MDL
2-Methylnaphthalene	91-57-6		U	0.0500	0.0250
Acenaphthene	83-32-9		U	0.0500	0.0250
Acenaphthylene	208-96-8		U	0.0500	0.0250
Anthracene	120-12-7		U	0.0500	0.0250
Benzo(a)anthracene	56-55-3		U	0.0500	0.0250
Benzo(a)pyrene	50-32-8		U	0.0500	0.0250
Benzo(b)fluoranthene	205-99-2		U	0.0500	0.0250
Benzo(g,h,i)perylene	191-24-2		U	0.0500	0.0250
Benzo(k)fluoranthene	207-08-9		U	0.0500	0.0250
Chrysene	218-01-9		U	0.0500	0.0250
Dibenzo(a,h)anthracene	53-70-3		U	0.0500	0.0250
Fluoranthene	206-44-0		U	0.0500	0.0250
Fluorene	86-73-7		U	0.0500	0.0250
Indeno(1,2,3-cd)pyrene	193-39-5		U	0.0500	0.0250
Naphthalene	91-20-3	0.0256	J	0.0500	0.0250
Phenanthrene	85-01-8		U	0.0500	0.0250
Pyrene	129-00-0		U	0.0500	0.0250
Surrogate	Recovery	Lower Limit	Upper Limit	Q	
2-Fluorobiphenyl	63.6	43	116		
Nitrobenzene-d5	70.0	35	114		
p-Terphenyl-d14	70.2	33	141		
J	The analyte was positively identified, but the quantitation was below the RL.				

Certificate of Analysis

U	Not detected at or above adjusted sample detection limit.

2.2.2.2 QC Summary Data

Example 8270 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

$$RF = [(Ax) (Cis)] / [(Ais) (Cx)]$$

where:

Ax = Area of the characteristic ion for the compound being measured:	1261197
Cis = Concentration of the specific internal standard (ug/mL)	40
Ais = Area of the characteristic ion of the specific internal standard	608044
Cx = Concentration of the compound in the standard being measured (ug/mL)	50
RF = Calculated Response Factor	1.65935

Example

2.0 Calculating the concentration (C) of a compound in water using the data from the prep log and quantitation report: *

$$Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Vi)]$$

where:

Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Vi = Initial volume of sample extracted from prep log (mL)	1021
Cx = Concentration of the compound in the sample being measured (ug/mL)	0.016947
Cx = Concentration of the compound in the sample being measured (ug/L)	16.947

Example

3.0 Calculating the concentration (C) of a compound in soil using the data from the prep log and quantitation report: *

$$Cx = [(Ax) (Cis) (Vf) (D)] / [(Ais) (RF) (Wi)]$$

where:

Ax = Area of the characteristic ion for the compound being measured	367250
Cis = Concentration of the specific internal standard (ug/mL)	40
Vf = Final volume of sample extract from prep log (mL)	1
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	511641
RF = Average RF from the ICAL	1.65935
Wi = Initial weight of sample extracted (g) from prep log	30
Cx = Concentration of the compound in the sample being measured (ug/g)	0.576763
Cx = Concentration of the compound in the sample being measured (ug/kg)	576.7627

Example

Dry weight correction:

Percent solids (PCT_S)	50
Cd = (Cx) (100)/PCT_S	1153.525 ug/kg

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, $y = mx + b$

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve plot

b = intercept from curve plot

Step 2: Calculate y from Quantitation Report

y = 16790/784838 = 0.02139

Step 3: Solve for x

$$x = (y - b)/m = [(0.02139 - (-0.0435))/0.0783] = 0.829$$

Step 4: Solve for analyte concentration Cx

$$Cx = Cis (x) = (25.0)(0.829) = 20.72 \text{ ug/L}$$

Example Spreadsheet Calculation:

Slope from curve, m:	0.0783
Intercept from curve, b:	-0.0435
Area of analyte, Ax:	16790
Area of Internal Standard, Ais:	784484
Concentration of IS, Cis	25.00 ug/L
Response Ratio (y) :	0.021403
Amount Ratio:	0.828897
Concentration (Cx):	20.72241 ug/L

5.0 Concentration from Quadratic Regression**Step 1 - Retrieve Curve Data from Plot, $y = Ax^2 + Bx + C$**

Where:

$$Ax^2 + Bx + (C - y) = 0$$

A, B, C = constants from the ICAL quadratic regression

y = Response ratio = Area of analyte/Area of internal standard (IS)

x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

$$y = Ax/Ais$$

Step 3: Solve for x using the quadratic formula

$$Ax^2 + Bx + C - y = 0$$

$$x = \frac{b \pm \sqrt{b^2 - 4a(c - y)}}{2a} \quad (\text{Two possible solutions})$$

Step 4: Solve for analyte concentration Cx

$$Cx = (Cis)(\text{Amount ratio})$$

Example Spreadsheet Calculation:

Value of A from plot:	0.0259
Value of B from plot:	0.0596
Value of C from plot:	-0.0165
Area of analyte from quantitation report:	203233
Area of IS from quantitation report:	1425653
Response ratio, y:	0.142554
C - y:	-0.15905
Root 1 - Computed amount ratio, X1:	-3.88278
Root 2 - Computed amount ratio, X2:	1.581623 use this solution
Concentration of IS, Cis:	40.00
Concentration of analyte, Cx:	63.26 ug/L

Microbac Laboratories Inc.
Sample Extract Log

Workgroup: WG627571
Analyst: CPD
Spike Analyst: CPD
Method: 3510C
Run Date: 08/29/2017 09:30
SOP: EXA01 Revision 19
Spike Witness: JLD
Surr Solution: STD81997

METHYLENE CHLORIDE Lot #: COA19844
Na2SO4, Anhydrous, Granular Lot #: COA19759

	SAMPLE #	Type	Reference	pH	Prod	Init Amnt	Surr Amnt	Spike Amnt	Spike Sol	Final Vol	Color
1	L17081366-01	SAMP		N	827-PAHL	870 mL	.25 mL			1 mL	Transparent
2	L17081366-03	SAMP		N	827-PAHL	930 mL	.25 mL			1 mL	Transparent
3	L17081366-05	SAMP		N	827-PAHL	960 mL	.25 mL			1 mL	Transparent
4	L17081366-07	SAMP		N	827-PAHL	920 mL	.25 mL			1 mL	Transparent
5	L17081366-10	RS01		N	827-PAHL	1000 mL	.25 mL			1 mL	Transparent
6	L17081366-12	MS01	L17081366-10	N	827-PAHL	1000 mL	.25 mL	1 mL	STD82773	1 mL	Transparent
7	L17081366-13	SD01	L17081366-10	N	827-PAHL	1000 mL	.25 mL	1 mL	STD82773	1 mL	Transparent
8	L17081366-14	SAMP		N	827-PAHL	1000 mL	.25 mL			1 mL	Transparent
9	L17081366-17	SAMP		N	827-PAHL	1000 mL	.25 mL			1 mL	Transparent
10	WG627571-01	BLANK		N	827-PAHL	1000 mL	.25 mL			1 mL	Transparent
11	WG627571-02	LCS		N	827-PAHL	1000 mL	.25 mL	1 mL	STD82773	1 mL	Transparent
12	WG627571-03	REF	L17081366-10	N	827-PAHL	1000 mL	.25 mL			1 mL	Transparent
13	WG627571-04	MS	L17081366-10	N	827-PAHL	1000 mL	.25 mL	1 mL	STD82773	1 mL	Transparent
14	WG627571-05	MSD	L17081366-10	N	827-PAHL	1000 mL	.25 mL	1 mL	STD82773	1 mL	Transparent

pH 0-13 Lot#209314
TV1P5

Analyst: *Robert Davis*

Reviewer: *Jessica DeLong*



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS7 Dataset: 082317
 Analyst1: LJH Analyst2: NA
 Method: 8270L SOP: MSS03 Rev: 14
 Method: OVAP SOP: MSS03 Rev: 0

Maintenance Log ID: _____ Syringe Filter Lot#: _____

Eluent ID#: _____

Workgroups: Column 1 ID: RXI-5MS Column 2 ID: NA
WG627017 (ICAL)

Internal STD: STD83480 Surrogate STD: NA Calibration STD: _____
 CCV STD: STD83209 LCS STD: _____ MS/MSD STD: _____

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	7M70160	BAKE OUT				08/23/17 14:35
2	7M70161	WG627001-01 5PPM DFTTP	1	1	STD83235	08/23/17 15:00
3	7M70162	WG627001-02 1PPM PAHL STD	1	1	STD83209	08/23/17 15:16
4	7M70163	WG627017-01 1PPM PAHL STD	1	1	STD83209	08/23/17 15:58
5	7M70164	WG627017-02 10PPM PAHL STD	1	1	STD83209	08/23/17 16:25
6	7M70165	WG627017-03 5PPM PAHL STD	1	1	STD83209	08/23/17 16:52
7	7M70166	WG627017-04 2.5PPM PAHL STD	1	1	STD83209	08/23/17 17:19
8	7M70167	WG627017-05 0.5PPM PAHL STD	1	1	STD83209	08/23/17 17:46
9	7M70168	WG627017-06 0.05 PPM PAHL STD	1	1	STD83209	08/23/17 18:13
10	7M70169	WG627017-07 0.1 PPM PAHL STD	1	1	STD83209	08/23/17 18:40
11	7M70170	WG627017-08 1PPM ALT PAHL STD	1	1	STD80988	08/23/17 19:06

Comments

Seq.	Rerun	Dil.	Reason	Analytes
3				
			WG627001-02 1PPM PAHL STD failed high for Nitrobenzene-d5. Run curve.	

Page: 1

Approved: 24-AUG-17

Mary Schelling



Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS7	Dataset: 083017	
Analyst1: LJH	Analyst2: NA	
Method: 8270L	SOP: MSS03	Rev: 14
Method: OVAP	SOP: MSS03	Rev: 0

Maintenance Log ID: _____ Syringe Filter Lot#: _____

Eluent ID#: _____

Workgroups: _____
 Column 1 ID: RXI-5MS Column 2 ID: NA
 WG627710

Internal STD: STD83574 Surrogate STD: NA Calibration STD: _____
 CCV STD: STD83583 LCS STD: _____ MS/MSD STD: _____

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	7M70226	BAKE OUT				08/30/17 09:12
2	7M70227	WG627760-01 5PPM DFTTP	1	1	STD83235	08/30/17 09:37
3	7M70228	WG627760-02 1PPM PAHL STD	1	1	STD83583	08/30/17 10:02
4	7M70229	WG627571-01 BLANK 827-PAHL	1	1		08/30/17 10:31
5	7M70230	WG627571-02 LCS 827-PAHL	1	1		08/30/17 10:58
6	7M70231	L17081366-01 827-PAHL	1	1		08/30/17 11:32
7	7M70232	L17081366-03 827-PAHL	1	1		08/30/17 11:59
8	7M70233	L17081366-05 827-PAHL	1	1		08/30/17 12:25
9	7M70234	L17081366-07 827-PAHL	1	1		08/30/17 12:52
10	7M70235	L17081366-10 REF 827-PAHL	1	1		08/30/17 13:19
11	7M70236	L17081366-12 MS 827-PAHL	1	1		08/30/17 13:46
12	7M70237	L17081366-13 MSD 827-PAHL	1	1		08/30/17 14:13
13	7M70238	L17081366-14 827-PAHL	1	1		08/30/17 14:39
14	7M70239	L17081366-17 827-PAHL	1	1		08/30/17 15:06

Comments

Seq.	Rerun	Dil.	Reason	Analytes
9				
			L17081366-07 827-PAHL Re-extraction is necessary. All surrogates failed low. Unable to re-extract. Sample bottle was received broken.	

Page: 1

Approved: 30-AUG-17

Eiv C. Zimm



Microbac Laboratories Inc.

Data Checklist

Date: 23-AUG-2017

Analyst: LJH

Analyst: NA

Method: 8270L

Instrument: HPMS7

Curve Workgroup: WG627001

Runlog ID: 84152

Analytical Workgroups: NA

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	X
Pentachlorophenol/benzidine tailing (MS)	X
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	X
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	NA
TCL hits	NA
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	NA
TCL hits	NA
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	
Check for completeness	X
Primary Reviewer	LJH
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MES

Primary Reviewer:
24-AUG-2017

Lacey L. Bendoric

Secondary Reviewer:
24-AUG-2017

Mary Schilling

CHECKLIST1 - Modified 03/05/2008

Generated: AUG-24-2017 11:07:33



Microbac Laboratories Inc.

Data Checklist

Date: 30-AUG-2017

Analyst: LJH

Analyst: NA

Method: 8270L

Instrument: HPMS7

Curve Workgroup: NA

Runlog ID: 84294

Analytical Workgroups: L17081366

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	X
Endrin/DDT breakdown (8081/MS)	X
Pentachlorophenol/benzidine tailing (MS)	X
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	X
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	X
Surrogate recoveries	X
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	X
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	X
Surrogate recoveries	X
Internal standard areas (MS)	X
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	
Check for completeness	X
Primary Reviewer	LJH
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
30-AUG-2017

Lacey J. Bendorshot

Secondary Reviewer:
30-AUG-2017

Erin C. Zimm

CHECKLIST1 - Modified 03/05/2008

Generated: AUG-30-2017 16:34:51



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8270D_SIM

AAB#: WG627710

Login Number: L17081366

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW17-082417	01	08/24/17					08/29/2017	5	7		08/30/17	1.1	40	
DUP-GW-082417	03	08/24/17					08/29/2017	5	7		08/30/17	1.1	40	
MW18-082417	05	08/24/17					08/29/2017	4.9	7		08/30/17	1.1	40	
TW01-082417	07	08/24/17					08/29/2017	4.8	7		08/30/17	1.1	40	
MW26-082417	10	08/24/17					08/29/2017	4.9	7		08/30/17	1.2	40	
MW26-082417 MS	12	08/24/17					08/29/2017	4.9	7		08/30/17	1.2	40	
MW26-082417 MSD	13	08/24/17					08/29/2017	4.9	7		08/30/17	1.2	40	
MW16I-082417	14	08/24/17					08/29/2017	4.8	7		08/30/17	1.2	40	
MW05I-082417	17	08/24/17					08/29/2017	4.7	7		08/30/17	1.2	40	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5455738
Report generated 09/01/2017 09:00



**Microbac Laboratories Inc.
SURROGATE STANDARDS**

Login Number: L17081366
Instrument Id: HPMS7
Workgroup (AAB#): WG627710

Method: 8270L
CAL ID: HPMS7 - 23-AUG-17
Matrix: Water

Sample Number	Dilution	Tag	1	2	3
L17081366-01	1.00	01	72.9	80.5	99.2
L17081366-03	1.00	01	74.9	83.4	96.3
L17081366-05	1.00	01	82.8	94.2	91.7
L17081366-07	1.00	01	<u>24.9</u>	<u>29.7</u>	<u>27.4</u>
L17081366-10	1.00	01	69.6	79.2	92.9
L17081366-12	1.00	01	75.0	83.7	92.0
L17081366-13	1.00	01	71.8	83.3	93.2
L17081366-14	1.00	01	74.1	83.9	75.9
L17081366-17	1.00	01	63.6	70.0	70.2
WG627571-01	1.00	01	85.0	85.7	101
WG627571-02	1.00	01	90.2	94.7	95.1

Surrogates	Surrogate Limits
1 - 2-Fluorobiphenyl	43 - 116
2 - Nitrobenzene-d5	35 - 114
3 - p-Terphenyl-d14	33 - 141

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 5455756
Report generated: 09/01/2017 09:00



METHOD BLANK SUMMARY

Login Number: L17081366
 Blank File ID: 7M70229
 Prep Date: 08/29/17 09:30
 Analyzed Date: 08/30/17 10:31
 Analyst: LJH

Work Group: WG627710
 Blank Sample ID: WG627571-01
 Instrument ID: HPMS7
 Method: 8270D SIM

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG627571-02	7M70230	08/30/17 10:58	01
MW17-082417	L17081366-01	7M70231	08/30/17 11:32	01
DUP-GW-082417	L17081366-03	7M70232	08/30/17 11:59	01
MW18-082417	L17081366-05	7M70233	08/30/17 12:25	01
TW01-082417	L17081366-07	7M70234	08/30/17 12:52	01
MW26-082417	L17081366-10	7M70235	08/30/17 13:19	01
MW26-082417 MS	L17081366-12	7M70236	08/30/17 13:46	01
MW26-082417 MSD	L17081366-13	7M70237	08/30/17 14:13	01
MW16I-082417	L17081366-14	7M70238	08/30/17 14:39	01
MW05I-082417	L17081366-17	7M70239	08/30/17 15:06	01

Report Name: BLANK_SUMMARY
 PDF File ID: 5455739
 Report generated 09/01/2017 09:00



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L17081366 Prep Date: 08/29/17 09:30 Sample ID: WG627571-01
 Instrument ID: HPMS7 Run Date: 08/30/17 10:31 Prep Method: 3510C
 File ID: 7M70229 Analyst: LJH Method: 8270D SIM
 Workgroup (AAB#): WG627710 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS7 - 23-AUG-17

Analytes	MDL	RL	Concentration	Dilution	Qualifier
2-Methylnaphthalene	0.0250	0.0500	0.0250	1	U
Acenaphthene	0.0250	0.0500	0.0250	1	U
Acenaphthylene	0.0250	0.0500	0.0250	1	U
Anthracene	0.0250	0.0500	0.0250	1	U
Benzo(a)anthracene	0.0250	0.0500	0.0250	1	U
Benzo(a)pyrene	0.0250	0.0500	0.0250	1	U
Benzo(b)fluoranthene	0.0250	0.0500	0.0250	1	U
Benzo(g,h,i)perylene	0.0250	0.0500	0.0250	1	U
Benzo(k)fluoranthene	0.0250	0.0500	0.0250	1	U
Chrysene	0.0250	0.0500	0.0250	1	U
Dibenzo(a,h)anthracene	0.0250	0.0500	0.0250	1	U
Fluoranthene	0.0250	0.0500	0.0250	1	U
Fluorene	0.0250	0.0500	0.0250	1	U
Indeno(1,2,3-cd)pyrene	0.0250	0.0500	0.0250	1	U
Naphthalene	0.0250	0.0500	0.0250	1	U
Phenanthrene	0.0250	0.0500	0.0250	1	U
Pyrene	0.0250	0.0500	0.0250	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
2-Fluorobiphenyl	85.0	43 - 116	PASS
Nitrobenzene-d5	85.7	35 - 114	PASS
p-Terphenyl-d14	101	33 - 141	PASS

MDL Method Detection Limit
 RL Reporting/Practical Quantitation Limit
 ND Analyte Not detected at or above reporting limit
 * |Analyte concentration| > RL

Report Name: BLANK
 PDF ID: 5455740
 01-SEP-2017 09:00



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17081366	Run Date: 08/30/2017	Sample ID: WG627571-02
Instrument ID: HPMS7	Run Time: 10:58	Prep Method: 3510C
File ID: 7M70230	Analyst: LJH	Method: 8270D SIM
Workgroup (AAB#): WG627710	Matrix: Water	Units: ug/L
QC Key: WATERLOO	Lot#: STD82773	Cal ID: HPMS7 - 23-AUG-17

Analytes	Expected	Found	% Rec	LCS Limits	Q
2-Methylnaphthalene	1.00	0.977	97.7	30 - 105	
Acenaphthene	1.00	0.959	95.9	30 - 110	
Acenaphthylene	1.00	1.06	106	30 - 115	
Anthracene	1.00	1.08	108	30 - 130	
Benzo(a)anthracene	1.00	1.14	114	50 - 150	
Benzo(a)pyrene	1.00	1.06	106	50 - 140	
Benzo(b)fluoranthene	1.00	1.07	107	40 - 150	
Benzo(g,h,i)perylene	1.00	0.824	82.4	30 - 150	
Benzo(k)fluoranthene	1.00	1.06	106	40 - 150	
Chrysene	1.00	1.06	106	45 - 145	
Dibenzo(a,h)anthracene	1.00	0.788	78.8	25 - 155	
Fluoranthene	1.00	1.16	116	40 - 150	
Fluorene	1.00	1.07	107	30 - 120	
Indeno(1,2,3-cd)pyrene	1.00	0.974	97.4	35 - 150	
Naphthalene	1.00	0.904	90.4	30 - 100	
Phenanthrene	1.00	1.08	108	30 - 130	
Pyrene	1.00	1.15	115	50 - 150	

Surrogates	% Recovery	Surrogate Limits	Qualifier
2-Fluorobiphenyl	90.2	43 - 116	PASS
Nitrobenzene-d5	94.7	35 - 114	PASS
p-Terphenyl-d14	95.1	33 - 141	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 5455741
Report generated: 09/01/2017 09:00



MS/MSD REPORT

Loginnum: L17081366Cal ID: HPMS7- 23-AUG-17Worknum: WG627710Instrument ID: HPMS7

Contract #: _____

Prep Method: 3510CParent ID: L17081366-10File ID: 7M70235Dil: 1Method: 8270D SIMSample ID: L17081366-12 MSFile ID: 7M70236Dil: 1Matrix: WaterSample ID: L17081366-13 MSDFile ID: 7M70237Dil: 1Units: ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
2-Methylnaphthalene	U	1.00	0.841	84.1	1.00	0.813	81.3	3.45	30 - 105	30	
Acenaphthene	U	1.00	0.880	88	1.00	0.833	83.3	5.57	30 - 110	30	
Acenaphthylene	U	1.00	0.830	83	1.00	0.786	78.6	5.39	30 - 115	30	
Anthracene	U	1.00	1.02	102	1.00	0.974	97.4	4.75	30 - 130	30	
Benzo(a)anthracene	U	1.00	1.13	113	1.00	1.13	113	0.599	50 - 150	30	
Benzo(a)pyrene	U	1.00	1.04	104	1.00	1.02	102	1.28	50 - 140	30	
Benzo(b)fluoranthene	U	1.00	1.04	104	1.00	1.08	108	3.69	40 - 150	30	
Benzo(g,h,i)perylene	U	1.00	0.651	65.1	1.00	0.631	63.1	3.23	30 - 150	30	
Benzo(k)fluoranthene	U	1.00	1.00	100	1.00	0.918	91.8	8.76	40 - 150	30	
Chrysene	U	1.00	1.04	104	1.00	1.04	104	0.521	45 - 145	30	
Dibenzo(a,h)anthracene	U	1.00	0.628	62.8	1.00	0.601	60.1	4.48	25 - 155	30	
Fluoranthene	U	1.00	1.14	114	1.00	1.12	112	1.54	40 - 150	30	
Fluorene	U	1.00	0.941	94.1	1.00	0.881	88.1	6.65	30 - 120	30	
Indeno(1,2,3-cd)pyrene	U	1.00	0.824	82.4	1.00	0.807	80.7	2.09	35 - 150	30	
Naphthalene	0.0269	1.00	0.807	78	1.00	0.788	76.1	2.33	30 - 100	30	
Phenanthrene	U	1.00	1.01	101	1.00	0.968	96.8	4.13	30 - 130	30	
Pyrene	U	1.00	1.12	112	1.00	1.13	113	1.37	50 - 150	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 5455742

Report generated 09/01/2017 09:00



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081366

Instrument: HPMS7

Analyst: LJH

Workgroup: WG627017

Tune ID: WG627017-09

Run Date: 08/23/2017

Run Time: 15:00

File ID: 7M70161

Cal ID: HPMS7 - 23-AUG-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	43.3	33192	PASS
68.0	69.0	0	2.00	0.820	292	PASS
69.0	198	0	100	46.5	35620	PASS
70.0	69.0	0	2.00	1.32	469	PASS
127	198	40.0	60.0	56.0	42909	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	76666	PASS
199	198	5.00	9.00	7.02	5382	PASS
275	198	10.0	30.0	23.0	17664	PASS
365	198	1.00	100	2.38	1826	PASS
441	443	0.0100	100	83.0	5843	PASS
442	198	40.0	100	46.6	35715	PASS
443	442	17.0	23.0	19.7	7040	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG627017-01	STD-CCV	01	08/23/2017 15:58	
WG627017-02	STD	01	08/23/2017 16:25	
WG627017-03	STD	01	08/23/2017 16:52	
WG627017-04	STD	01	08/23/2017 17:19	
WG627017-05	STD	01	08/23/2017 17:46	
WG627017-06	STD	01	08/23/2017 18:13	
WG627017-07	STD	01	08/23/2017 18:40	
WG627017-08	SSCV	01	08/23/2017 19:06	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5455753
Report generated 09/01/2017 09:00



Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081366
Instrument: HPMS7
Analyst: LJH
Workgroup: WG627760

Tune ID: WG627760-01
Run Date: 08/30/2017
Run Time: 09:37
File ID: 7M70227
Cal ID: HPMS7 - 23-AUG-17

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51.0	198	30.0	60.0	43.2	23405	PASS
68.0	69.0	0	2.00	0	0	PASS
69.0	198	0	100	47.9	25954	PASS
70.0	69.0	0	2.00	0	0	PASS
127	198	40.0	60.0	55.1	29848	PASS
197	198	0	1.00	0	0	PASS
198	198	100	100	100	54216	PASS
199	198	5.00	9.00	6.61	3586	PASS
275	198	10.0	30.0	22.6	12264	PASS
365	198	1.00	100	2.42	1310	PASS
441	443	0.0100	100	87.7	4373	PASS
442	198	40.0	100	48.2	26122	PASS
443	442	17.0	23.0	19.1	4985	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG627760-02	CCV	01	08/30/2017 10:02	
WG627571-01	BLANK	01	08/30/2017 10:31	
WG627571-02	LCS	01	08/30/2017 10:58	
L17081366-01	MW17-082417	01	08/30/2017 11:32	
L17081366-03	DUP-GW-082417	01	08/30/2017 11:59	
L17081366-05	MW18-082417	01	08/30/2017 12:25	
L17081366-07	TW01-082417	01	08/30/2017 12:52	
L17081366-10	MW26-082417	01	08/30/2017 13:19	
L17081366-12	MW26-082417 MS	01	08/30/2017 13:46	
L17081366-13	MW26-082417 MSD	01	08/30/2017 14:13	
L17081366-14	MW16I-082417	01	08/30/2017 14:39	
L17081366-17	MW05I-082417	01	08/30/2017 15:06	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5455753
Report generated 09/01/2017 09:00



Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L17081366
Analytical Method: 8270D SIM
ICAL Workgroup: WG627017

Instrument ID: HPMS7
Initial Calibration Date: 23-AUG-17 18:40
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Acenaphthene	CCC	1.322	3.60		
Benzo[a]pyrene	CCC	1.195	4.90		
Fluoranthene	CCC	1.224	3.48		
2-Methylnaphthalene		0.6888	2.34		
Acenaphthylene		2.139	9.49		
Anthracene		1.125	4.38		
Benzo[a]anthracene		1.150	2.60		
Benzo[b]fluoranthene		1.272	4.69		
Benzo[ghi]perylene		1.212	4.23		
Benzo[k]fluoranthene		1.268	3.38		
Chrysene		1.168	6.18		
Dibenz[ah]anthracene		1.162	3.94		
Fluorene		1.451	4.18		
Indeno[1,2,3-cd]pyrene		1.425	3.27		
Naphthalene		1.040	4.16		
Phenanthrene		1.167	4.93		
Pyrene		1.314	2.91		

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 5455747
Report generated 09/01/2017 09:00



Login Number: L17081366
Analytical Method: 8270D SIM

Instrument ID: HPMS7
Initial Calibration Date: 23-AUG-17 18:40
Column ID: F

Analyte	WG627017-01			WG627017-02			WG627017-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	1.00	123599.000	1.307	10.0	1126661.00	1.267	5.00	527894.000	1.368
Benzo[a]pyrene	1.00	219859.000	1.140	10.0	1948451.00	1.222	5.00	891357.000	1.256
Fluoranthene	1.00	235645.000	1.260	10.0	2028183.00	1.168	5.00	938034.000	1.239
2-Methylnaphthalene	1.00	127200.000	0.6881	10.0	1170269.00	0.6618	5.00	516417.000	0.6838
Acenaphthylene	1.00	212499.000	2.247	10.0	1933292.00	2.173	5.00	871742.000	2.259
Anthracene	1.00	217420.000	1.163	10.0	1905490.00	1.097	5.00	874030.000	1.154
Benzo[a]anthracene	1.00	231036.000	1.143	10.0	1981892.00	1.106	5.00	918587.000	1.152
Benzo[b]fluoranthene	1.00	226037.000	1.172	10.0	1984096.00	1.244	5.00	934813.000	1.317
Benzo[ghi]perylene	1.00	216597.000	1.123	10.0	1906641.00	1.196	5.00	860624.000	1.213
Benzo[k]fluoranthene	1.00	231205.000	1.198	10.0	1974287.00	1.238	5.00	883807.000	1.245
Chrysene	1.00	228843.000	1.133	10.0	1914150.00	1.068	5.00	892470.000	1.119
Dibenz[ah]anthracene	1.00	211273.000	1.095	10.0	1913368.00	1.200	5.00	855125.000	1.205
Fluorene	1.00	140888.000	1.490	10.0	1265977.00	1.423	5.00	571255.000	1.480
Indeno[1,2,3-cd]pyrene	1.00	260655.000	1.351	10.0	2333306.00	1.463	5.00	1046227.00	1.474
Naphthalene	1.00	190787.000	1.032	10.0	1721578.00	0.9736	5.00	765164.000	1.013
Phenanthrene	1.00	216250.000	1.156	10.0	1857943.00	1.070	5.00	855583.000	1.130
Pyrene	1.00	266202.000	1.317	10.0	2250008.00	1.255	5.00	1027647.00	1.288

INT_CAL - Modified 03/06/2008
PDF File ID: 5455747
Report generated 09/01/2017 09:00



Login Number: L17081366
Analytical Method: 8270D SIM

Instrument ID: HPMS7
Initial Calibration Date: 23-AUG-17 18:40
Column ID: F

Analyte	WG627017-04			WG627017-05			WG627017-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acenaphthene	2.50	262518.000	1.391	0.500	50213.0000	1.343	0.0500	5146.00000	1.313
Benzo[a]pyrene	2.50	438525.000	1.269	0.500	81283.0000	1.206	0.0500	7569.00000	1.158
Fluoranthene	2.50	470361.000	1.272	0.500	92001.0000	1.253	0.0500	8653.00000	1.200
2-Methylnaphthalene	2.50	256095.000	0.6963	0.500	51285.0000	0.6985	0.0500	5146.00000	0.7129
Acenaphthylene	2.50	431443.000	2.286	0.500	83085.0000	2.222	0.0500	8143.00000	2.078
Anthracene	2.50	438405.000	1.185	0.500	84302.0000	1.148	0.0500	7689.00000	1.067
Benzo[a]anthracene	2.50	457444.000	1.170	0.500	88735.0000	1.157	0.0500	8871.00000	1.198
Benzo[b]fluoranthene	2.50	462285.000	1.337	0.500	87896.0000	1.304	0.0500	8533.00000	1.306
Benzo[ghi]perylene	2.50	423567.000	1.225	0.500	81773.0000	1.213	0.0500	8478.00000	1.297
Benzo[k]fluoranthene	2.50	440935.000	1.276	0.500	87438.0000	1.297	0.0500	8636.00000	1.322
Chrysene	2.50	454075.000	1.161	0.500	91138.0000	1.188	0.0500	9531.00000	1.288
Dibenz[ah]anthracene	2.50	416868.000	1.206	0.500	78597.0000	1.166	0.0500	7534.00000	1.153
Fluorene	2.50	284885.000	1.509	0.500	56305.0000	1.506	0.0500	5437.00000	1.387
Indeno[1,2,3-cd]pyrene	2.50	506501.000	1.465	0.500	95727.0000	1.420	0.0500	9272.00000	1.419
Naphthalene	2.50	380596.000	1.035	0.500	77675.0000	1.058	0.0500	8042.00000	1.114
Phenanthrene	2.50	431761.000	1.167	0.500	87740.0000	1.195	0.0500	9004.00000	1.249
Pyrene	2.50	515132.000	1.317	0.500	104236.000	1.359	0.0500	10090.0000	1.363

INT_CAL - Modified 03/06/2008
PDF File ID: 5455747
Report generated 09/01/2017 09:00



Login Number: L17081366
Analytical Method: 8270D SIM

Instrument ID: HPMS7
Initial Calibration Date: 23-AUG-17 18:40
Column ID: F

Analyte	WG627017-07		
	CONC	RESP	RF
Acenaphthene	0.100	9386.00000	1.268
Benzo[a]pyrene	0.100	13916.0000	1.116
Fluoranthene	0.100	16087.0000	1.173
2-Methylnaphthalene	0.100	9391.00000	0.6804
Acenaphthylene	0.100	12628.0000	1.706
Anthracene	0.100	14564.0000	1.062
Benzo[a]anthracene	0.100	15855.0000	1.126
Benzo[b]fluoranthene	0.100	15296.0000	1.227
Benzo[ghi]perylene	0.100	15163.0000	1.216
Benzo[k]fluoranthene	0.100	16196.0000	1.299
Chrysene	0.100	17187.0000	1.221
Dibenz[ah]anthracene	0.100	13826.0000	1.109
Fluorene	0.100	10060.0000	1.359
Indeno[1,2,3-cd]pyrene	0.100	17213.0000	1.381
Naphthalene	0.100	14530.0000	1.053
Phenanthrene	0.100	16516.0000	1.205
Pyrene	0.100	18292.0000	1.300

INT_CAL - Modified 03/06/2008
PDF File ID: 5455747
Report generated 09/01/2017 09:00



Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 Curve: WG627017
 Calibration Files
 0.1 =7M70169.D 0.5 =7M70167.D 1 =7M70163.D
 2.5 =7M70166.D 5 =7M70165.D 10 =7M70164.D

Compound		0.1	0.5	1	2.5	5	10	Avg	%RSD

1) I	Naphthalene-d8	-----ISTD-----							
2) S	Nitrobenzene-d5	0.286	0.323	0.348	0.353	0.361	0.367	0.335	9.21
3) P	Naphthalene	1.053	1.058	1.032	1.035	1.013	0.974	1.040	4.16
4) P	2-Methylnaphthale	0.680	0.699	0.688	0.696	0.684	0.662	0.689	2.34
5)	1-Methylnaphthale	0.641	0.659	0.646	0.655	0.642	0.618	0.648	2.60
6) I	Acenaphthene-d10	-----ISTD-----							
7) S	2-Fluorobiphenyl	1.505	1.610	1.553	1.563	1.530	1.478	1.542	2.78
8) P	Acenaphthylene	1.706	2.222	2.247	2.286	2.259	2.173	2.139	9.49
9) C,P	Acenaphthene	1.268	1.343	1.307	1.391	1.368	1.266	1.322	3.60
10) P	Fluorene	1.359	1.506	1.490	1.509	1.480	1.423	1.451	4.18
11) I	Phenanthrene-d10	-----ISTD-----							
12) P	Phenanthrene	1.205	1.195	1.156	1.167	1.130	1.070	1.167	4.93
13) P	Anthracene	1.062	1.148	1.163	1.185	1.154	1.097	1.125	4.37
14) C,P	Fluoranthene	1.173	1.253	1.260	1.272	1.239	1.168	1.224	3.48
15) I	Chrysene-d12	-----ISTD-----							
16) P	Pyrene	1.300	1.359	1.317	1.317	1.288	1.255	1.314	2.91
17) S	p-Terphenyl-d14	0.890	0.905	0.858	0.876	0.857	0.830	0.880	4.24
18) P	Benzo[a]anthracen	1.126	1.157	1.143	1.170	1.151	1.106	1.150	2.60
19) P	Chrysene	1.221	1.188	1.132	1.162	1.119	1.068	1.168	6.18
20) I	Perylene-d12	-----ISTD-----							
21) P	Benzo[b]fluoranth	1.227	1.304	1.172	1.337	1.317	1.244	1.272	4.69
22) P	Benzo[k]fluoranth	1.299	1.297	1.198	1.275	1.245	1.238	1.268	3.37
23) C,P	Benzo[a]pyrene	1.116	1.205	1.140	1.268	1.256	1.222	1.195	4.90
24) P	Indeno[1,2,3-cd]p	1.381	1.420	1.351	1.465	1.474	1.463	1.425	3.27
25) P	Dibenz[ah]anthrac	1.109	1.166	1.095	1.206	1.205	1.200	1.162	3.94
26) P	Benzo[ghi]perylene	1.216	1.213	1.122	1.225	1.213	1.196	1.212	4.23

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

SIMPAHL.M

Thu Aug 24 09:01:30 2017

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081366	Run Date: 08/23/2017	Sample ID: WG627017-08
Instrument ID: HPMS7	Run Time: 19:06	Method: 8270D SIM
File ID: 7M70170	Analyst: LJH	QC Key: WATERLOO
ICal Workgroup: WG627017	Cal ID: HPMS7 - 23-AUG-17	

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Acenaphthene	CCC	1000	1020	ug/L	1.35	2.20	25	
Benzo[a]pyrene	CCC	1000	1050	ug/L	1.25	5.00	25	
Fluoranthene	CCC	1000	1050	ug/L	1.28	5.00	25	
2-Methylnaphthalene		1000	1060	ug/L	0.733	6.40	25	
Acenaphthylene		1000	994	ug/L	2.13	0.600	25	
Anthracene		1000	1070	ug/L	1.21	7.10	25	
Benzo[a]anthracene		1000	1030	ug/L	1.19	3.10	25	
Benzo[b]fluoranthene		1000	1090	ug/L	1.39	9.50	25	
Benzo[ghi]perylene		1000	1050	ug/L	1.27	4.80	25	
Benzo[k]fluoranthene		1000	1070	ug/L	1.35	6.70	25	
Chrysene		1000	1050	ug/L	1.22	4.60	25	
Dibenz[ah]anthracene		1000	1050	ug/L	1.22	4.90	25	
Fluorene		1000	1000	ug/L	1.45	0.100	25	
Indeno[1,2,3-cd]pyrene		1000	1050	ug/L	1.49	4.50	25	
Naphthalene		1000	1050	ug/L	1.09	5.20	25	
Phenanthrene		1000	1030	ug/L	1.21	3.40	25	
Pyrene		1000	1030	ug/L	1.36	3.40	25	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5455751
Report generated 09/01/2017 09:00



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L17081366</u>	Run Date: <u>08/30/2017</u>	Sample ID: <u>WG627760-02</u>
Instrument ID: <u>HPMS7</u>	Run Time: <u>10:02</u>	Method: <u>8270D_SIM</u>
File ID: <u>7M70228</u>	Analyst: <u>LJH</u>	QC Key: <u>WATERL00</u>
Workgroup (AAB#): <u>WG627710</u>	Cal ID: <u>HPMS7 - 23-AUG-17</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Acenaphthene	CCC	1000	875	ug/L	1.16	12.5	20	
Benzo[a]pyrene	CCC	1000	1010	ug/L	1.21	1.30	20	
Fluoranthene	CCC	1000	1020	ug/L	1.25	2.28	20	
2-Methylnaphthalene		1000	1020	ug/L	0.699	1.51	20	
Acenaphthylene		1000	966	ug/L	2.07	3.38	20	
Anthracene		1000	1010	ug/L	1.14	1.31	20	
Benzo[a]anthracene		1000	1000	ug/L	1.15	0.210	20	
Benzo[b]fluoranthene		1000	974	ug/L	1.24	2.60	20	
Benzo[ghi]perylene		1000	1000	ug/L	1.21	0.170	20	
Benzo[k]fluoranthene		1000	1000	ug/L	1.27	0.180	20	
Chrysene		1000	963	ug/L	1.12	3.74	20	
Dibenz[ah]anthracene		1000	1010	ug/L	1.18	1.46	20	
Fluorene		1000	936	ug/L	1.36	6.36	20	
Indeno[1,2,3-cd]pyrene		1000	1010	ug/L	1.43	0.610	20	
Naphthalene		1000	976	ug/L	1.02	2.39	20	
Phenanthrene		1000	975	ug/L	1.14	2.46	20	
Pyrene		1000	1020	ug/L	1.34	1.74	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5455754
Report generated 09/01/2017 09:00



Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L17081366
Instrument ID: HPMS7
Workgroup (AAB#): WG627710

CCV Number: WG627760-02
CAL ID: HPMS7 - 23-AUG-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG627760-02	NA	NA	72539	138649	130066	129706	131650
Upper Limit	NA	NA	145078	277298	260132	259412	263300
Lower Limit	NA	NA	36270	69325	65033	64853	65825
<u>L17081366-01</u>	<u>1.00</u>	<u>01</u>	<u>65655</u>	<u>135726</u>	<u>124253</u>	<u>130442</u>	<u>129585</u>
<u>L17081366-03</u>	<u>1.00</u>	<u>01</u>	<u>63422</u>	<u>132137</u>	<u>120095</u>	<u>126281</u>	<u>124878</u>
<u>L17081366-05</u>	<u>1.00</u>	<u>01</u>	<u>66749</u>	<u>139853</u>	<u>126123</u>	<u>135588</u>	<u>132434</u>
<u>L17081366-07</u>	<u>1.00</u>	<u>01</u>	<u>72364</u>	<u>152243</u>	<u>137045</u>	<u>146069</u>	<u>142010</u>
<u>L17081366-10</u>	<u>1.00</u>	<u>01</u>	<u>63797</u>	<u>133699</u>	<u>120374</u>	<u>130120</u>	<u>126906</u>
<u>L17081366-12</u>	<u>1.00</u>	<u>01</u>	<u>62229</u>	<u>130469</u>	<u>118273</u>	<u>125953</u>	<u>122594</u>
<u>L17081366-13</u>	<u>1.00</u>	<u>01</u>	<u>65930</u>	<u>136207</u>	<u>124826</u>	<u>132372</u>	<u>130324</u>
<u>L17081366-14</u>	<u>1.00</u>	<u>01</u>	<u>69715</u>	<u>142900</u>	<u>132674</u>	<u>141664</u>	<u>137654</u>
<u>L17081366-17</u>	<u>1.00</u>	<u>01</u>	<u>64927</u>	<u>132956</u>	<u>122553</u>	<u>129174</u>	<u>127174</u>
WG627571-01	1.00	01	63023	129974	119240	124170	124274
WG627571-02	1.00	01	69756	142860	131229	136593	137327

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number: L17081366
Instrument ID: HPMS7
Workgroup (AAB#): WG627710

CCV Number: WG627760-02
CAL ID: HPMS7 - 23-AUG-17
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3	IS-4	IS-5
WG627760-02	NA	NA	8.43	13.65	6.23	16.01	10.29
Upper Limit	NA	NA	8.93	14.15	6.73	16.51	10.79
Lower Limit	NA	NA	7.93	13.15	5.73	15.51	9.79
L17081366-01	1.00	01	8.43	13.65	6.23	16.02	10.28
L17081366-03	1.00	01	8.43	13.65	6.23	16.01	10.28
L17081366-05	1.00	01	8.43	13.65	6.23	16.01	10.28
L17081366-07	1.00	01	8.43	13.65	6.23	16.01	10.28
L17081366-10	1.00	01	8.43	13.65	6.23	16.01	10.28
L17081366-12	1.00	01	8.43	13.65	6.23	16.01	10.28
L17081366-13	1.00	01	8.43	13.65	6.23	16.01	10.28
L17081366-14	1.00	01	8.43	13.65	6.23	16.01	10.28
L17081366-17	1.00	01	8.43	13.65	6.23	16.01	10.29
WG627571-01	1.00	01	8.43	13.65	6.23	16.01	10.29
WG627571-02	1.00	01	8.42	13.65	6.23	16.01	10.28

IS-1 - Acenaphthene-d10
IS-2 - Chrysene-d12
IS-3 - Naphthalene-d8
IS-4 - Perylene-d12
IS-5 - Phenanthrene-d10

Underline = Response outside limits

INTERNAL_STD_RT - Modified 03/06/2008
PDF File ID: 5455757
Report generated 09/01/2017 09:00



2.2.2.3 Sample Data

Data File : C:\MSDCHEM\1\DATA\083017\7M70231.D Vial: 5
 Acq On : 30 Aug 2017 11:32 am Operator: LJH
 Sample : L17081366-01 827-PAHL Inst : hpms7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 15:32:41 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	124253	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	65655	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.28	188	129585	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	135726	1.00	ug/ml	0.00
20) Perylene-d12	16.02	264	130442	1.00	ug/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	83689	2.01	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	80.40%	
7) 2-Fluorobiphenyl	7.54	172	184486	1.82	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	72.80%	
17) p-Terphenyl-d14	12.26	244	296176	2.48	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	99.20%	
Target Compounds						
3) Naphthalene	6.26	128	2775	0.0215	ug/ml	Qvalue 98

 (#) = qualifier out of range (m) = manual integration
 7M70231.D SIMPAHL.M Wed Aug 30 15:32:42 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\083017\7M70231.D

Vial: 5

Acq On : 30 Aug 2017 11:32 am

Operator: LJH

Sample : L17081366-01 827-PAHL

Inst : hpms7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 15:32 2017

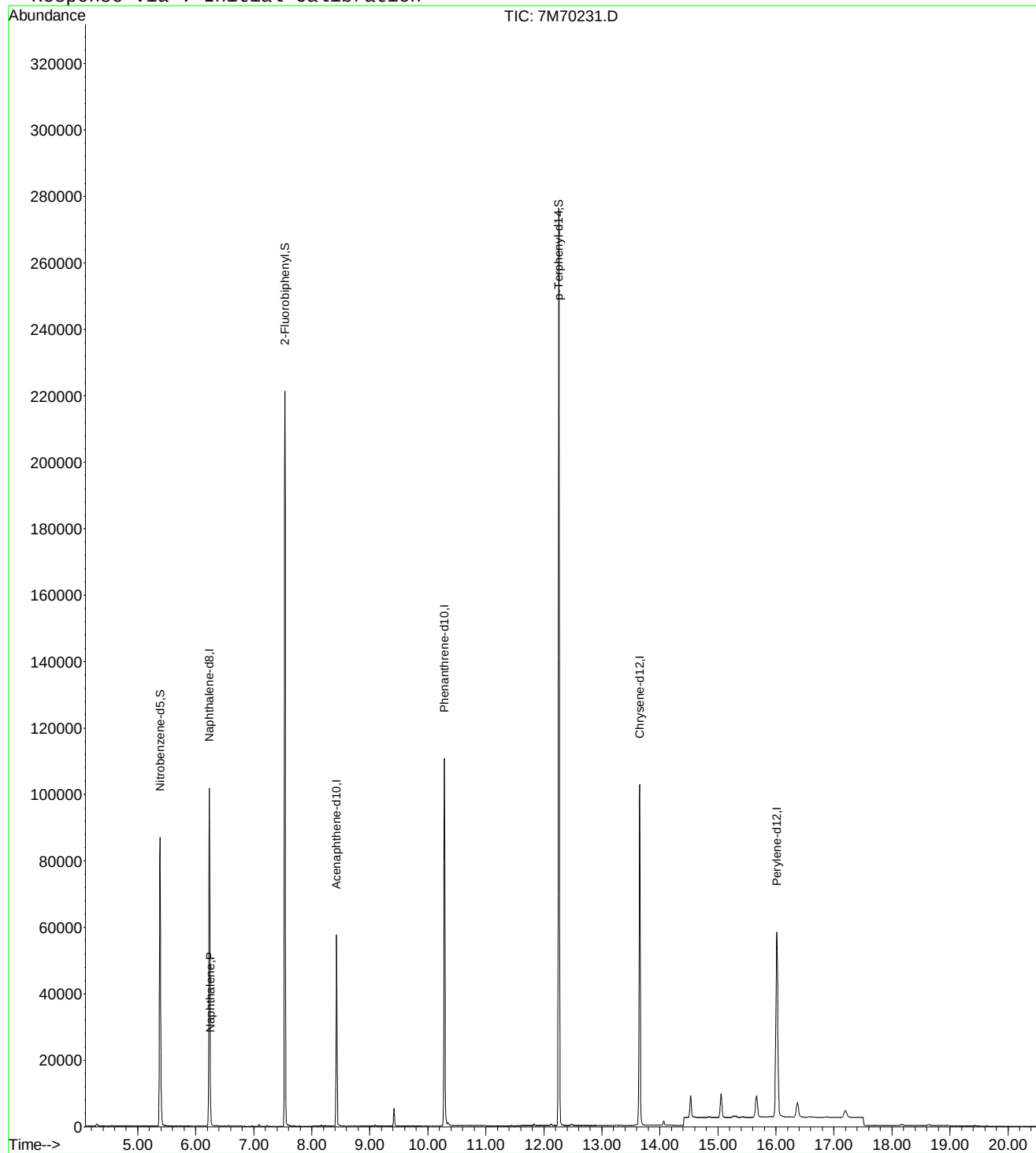
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

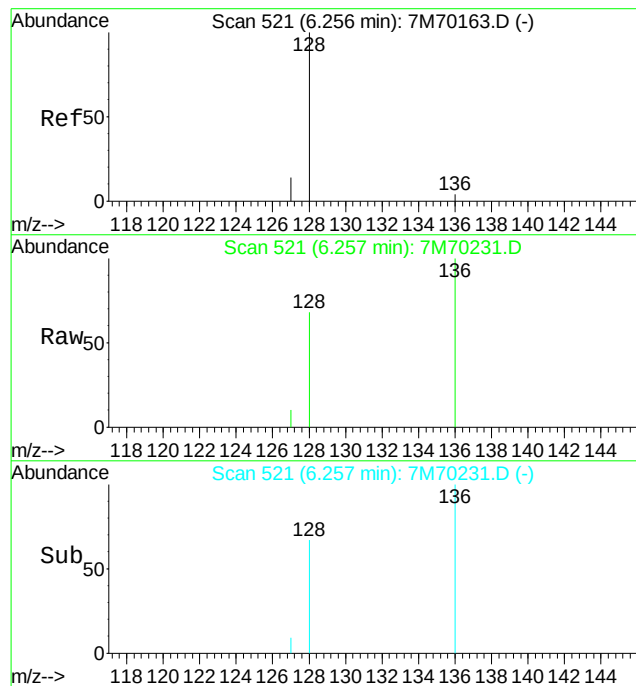
Response via : Initial Calibration



7M70231.D SIMPAHL.M

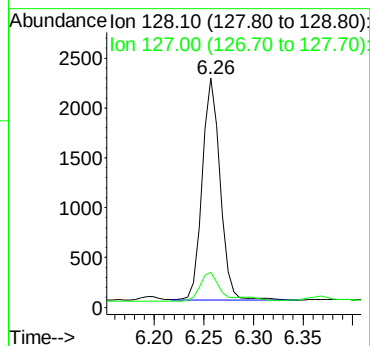
Wed Aug 30 15:32:42 2017

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#3
Naphthalene
Concen: 0.02 ug/ml
RT: 6.26 min Scan# 521
Delta R.T. 0.00 min
Lab File: 7M70231.D
Acq: 30 Aug 2017 11:32 am

Tgt Ion	Ratio	Lower	Upper
128	100		
127	14.2	8.0	18.6



Data File : C:\MSDCHEM\1\DATA\083017\7M70232.D Vial: 6
 Acq On : 30 Aug 2017 11:59 am Operator: LJH
 Sample : L17081366-03 827-PAHL Inst : hpms7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 15:32:43 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	120095	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	63422	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.28	188	124878	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	132137	1.00	ug/ml	0.00
20) Perylene-d12	16.01	264	126281	1.00	ug/ml	-0.02
System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	83807	2.09	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	83.60%	
7) 2-Fluorobiphenyl	7.53	172	183187	1.87	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	74.80%	
17) p-Terphenyl-d14	12.26	244	279909	2.41	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	96.40%	
Target Compounds						
3) Naphthalene	6.26	128	2580	0.0207	ug/ml	Qvalue 97

 (#) = qualifier out of range (m) = manual integration
 7M70232.D SIMPAHL.M Wed Aug 30 15:32:44 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\083017\7M70232.D

Vial: 6

Acq On : 30 Aug 2017 11:59 am

Operator: LJH

Sample : L17081366-03 827-PAHL

Inst : hpms7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 15:32 2017

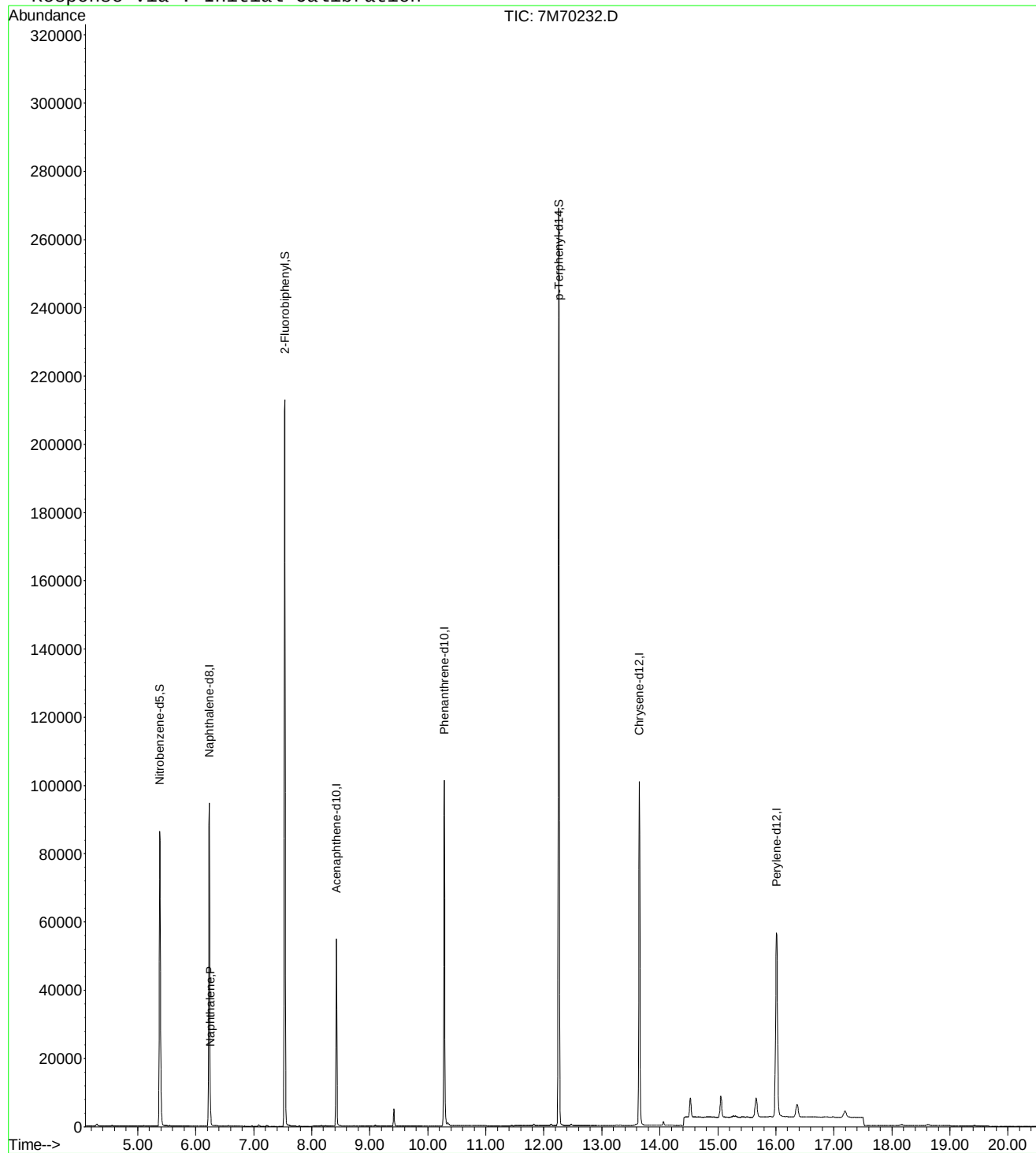
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

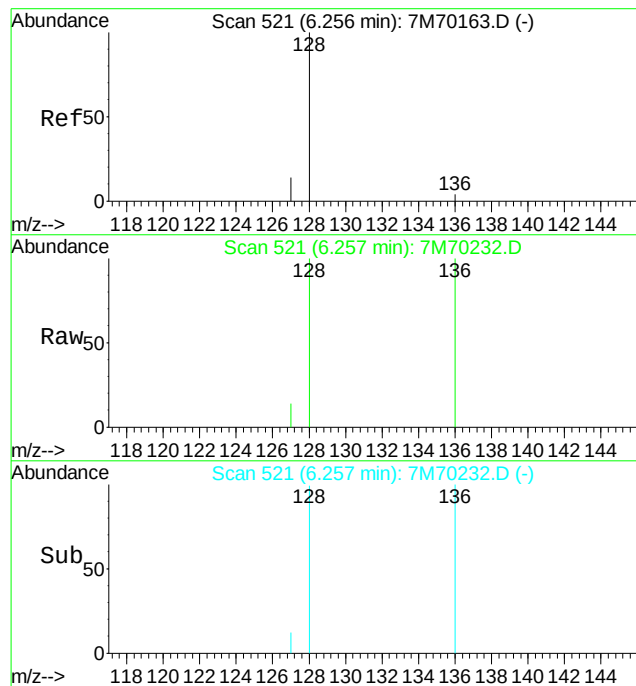
Response via : Initial Calibration



7M70232.D SIMPAHL.M

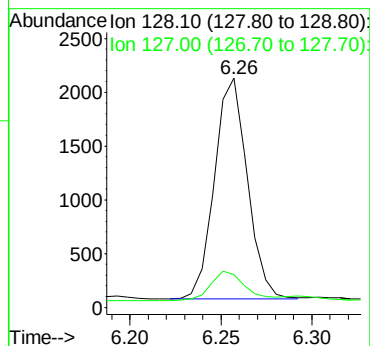
Wed Aug 30 15:32:45 2017

Page 2



#3
 Naphthalene
 Concen: 0.02 ug/ml
 RT: 6.26 min Scan# 521
 Delta R.T. 0.00 min
 Lab File: 7M70232.D
 Acq: 30 Aug 2017 11:59 am

Tgt Ion	Ratio	Lower	Upper
128	100		
127	14.5	8.0	18.6



Data File : C:\MSDCHEM\1\DATA\083017\7M70233.D Vial: 7
 Acq On : 30 Aug 2017 12:25 pm Operator: LJH
 Sample : L17081366-05 827-PAHL Inst : hpms7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 15:32:46 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	126123	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	66749	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.28	188	132434	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	139853	1.00	ug/ml	0.00
20) Perylene-d12	16.01	264	135588	1.00	ug/ml	-0.02
System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	99430	2.36	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	94.40%	
7) 2-Fluorobiphenyl	7.53	172	213163	2.07	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	82.80%	
17) p-Terphenyl-d14	12.26	244	281977	2.29	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	91.60%	
Target Compounds						
3) Naphthalene	6.26	128	4216	0.0321	ug/ml	Qvalue 95

 (#) = qualifier out of range (m) = manual integration
 7M70233.D SIMPAHL.M Wed Aug 30 15:32:47 2017

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Data File : C:\MSDCHEM\1\DATA\083017\7M70233.D

Vial: 7

Acq On : 30 Aug 2017 12:25 pm

Operator: LJH

Sample : L17081366-05 827-PAHL

Inst : hpms7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 15:32 2017

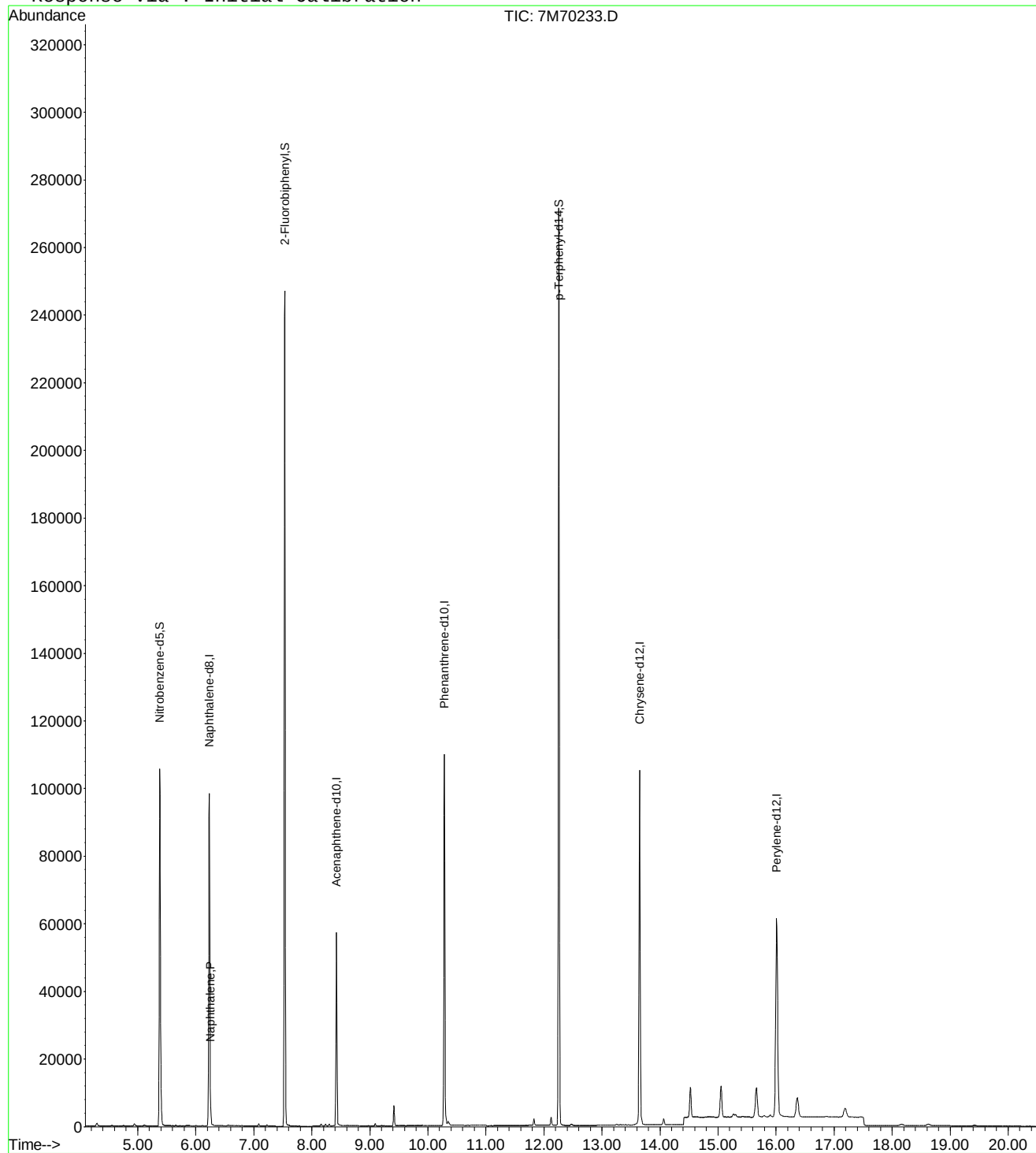
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

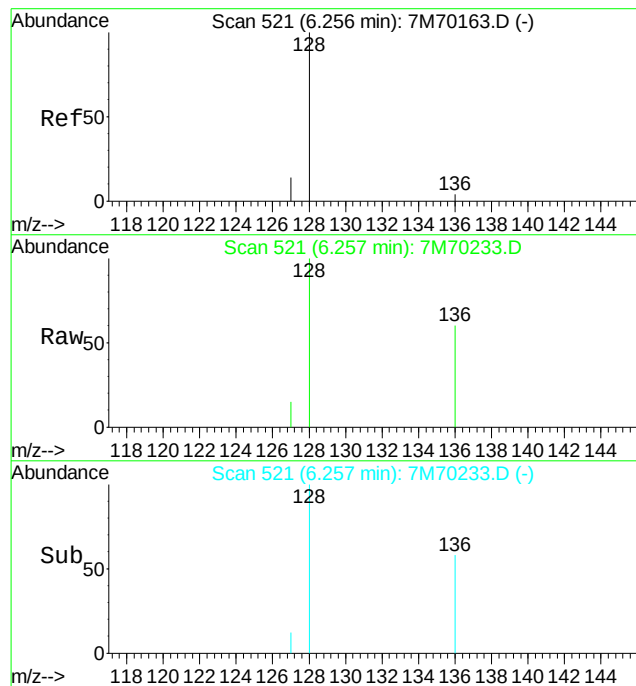
Response via : Initial Calibration



7M70233.D SIMPAHL.M

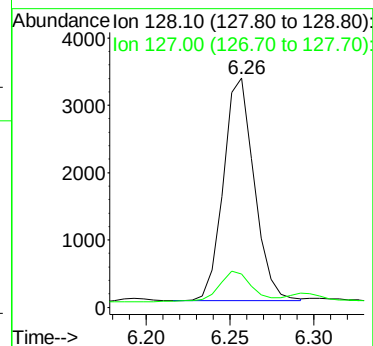
Wed Aug 30 15:32:47 2017

Page 2



#3
Naphthalene
Concen: 0.03 ug/ml
RT: 6.26 min Scan# 521
Delta R.T. 0.00 min
Lab File: 7M70233.D
Acq: 30 Aug 2017 12:25 pm

Tgt Ion	Ratio	Lower	Upper
128	100		
127	15.3	8.0	18.6



Data File : C:\MSDCHEM\1\DATA\083017\7M70234.D Vial: 8
 Acq On : 30 Aug 2017 12:52 pm Operator: LJH
 Sample : L17081366-07 827-PAHL Inst : hpms7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 15:32:48 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	137045	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	72364	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.28	188	142010	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	152243	1.00	ug/ml	0.00
20) Perylene-d12	16.01	264	146069	1.00	ug/ml	-0.02

System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	34094	0.74	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	29.60%#
7) 2-Fluorobiphenyl	7.53	172	69425	0.62	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	24.80%#
17) p-Terphenyl-d14	12.26	244	91779	0.69	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	27.60%#

Target Compounds	Qvalue

 (#) = qualifier out of range (m) = manual integration
 7M70234.D SIMPAHL.M Wed Aug 30 15:32:49 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\083017\7M70234.D

Vial: 8

Acq On : 30 Aug 2017 12:52 pm

Operator: LJH

Sample : L17081366-07 827-PAHL

Inst : hpms7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 15:32 2017

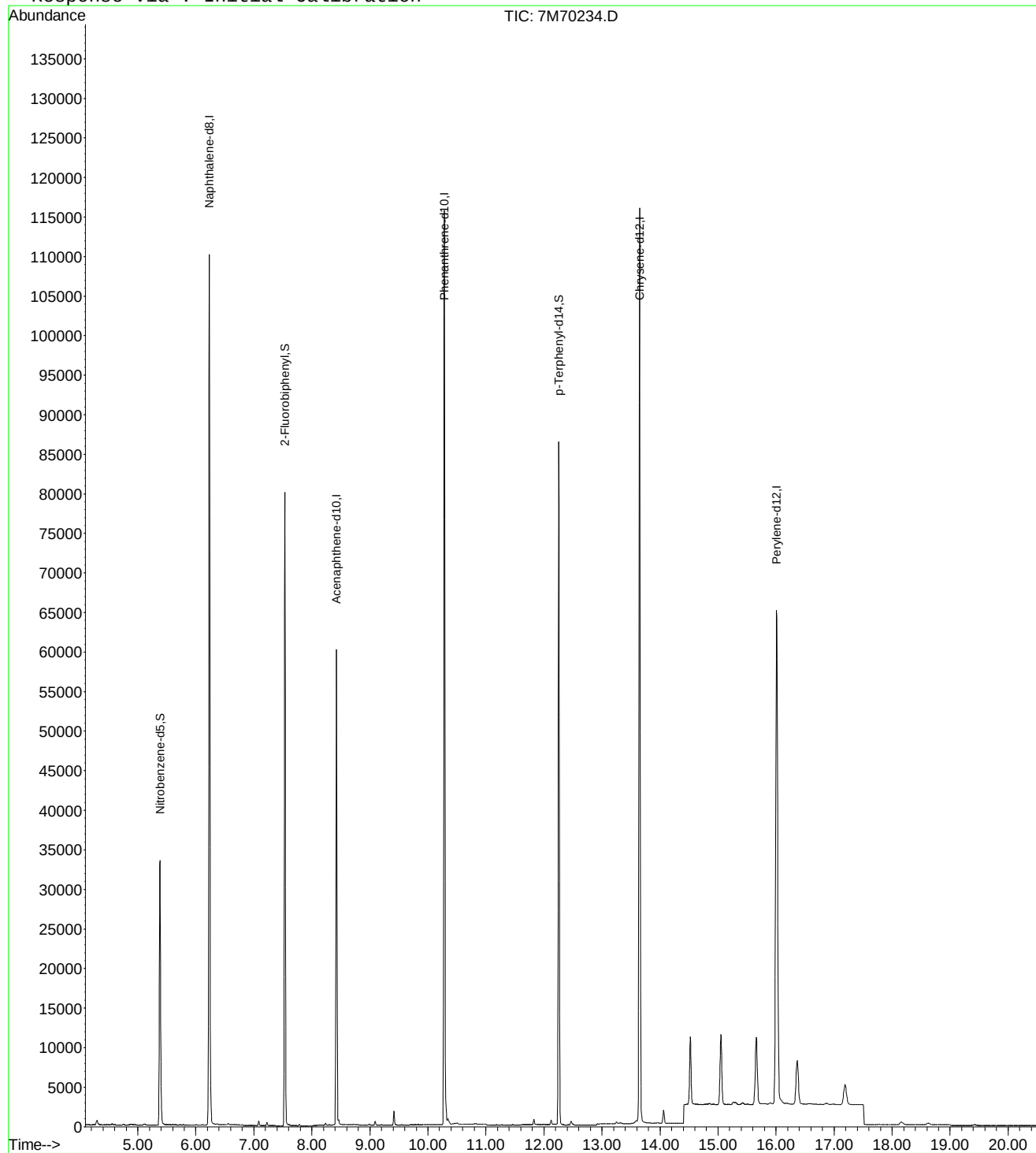
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70234.D SIMPAHL.M

Wed Aug 30 15:32:50 2017

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Data File : C:\MSDCHEM\1\DATA\083017\7M70235.D Vial: 9
 Acq On : 30 Aug 2017 1:19 pm Operator: LJH
 Sample : L17081366-10 REF 827-PAHL Inst : hpms7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 15:32:51 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	120374	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	63797	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.28	188	126906	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	133699	1.00	ug/ml	0.00
20) Perylene-d12	16.01	264	130120	1.00	ug/ml	-0.02

System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	79800	1.98	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	79.20%	
7) 2-Fluorobiphenyl	7.53	172	171119	1.74	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	69.60%	
17) p-Terphenyl-d14	12.26	244	273167	2.32	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	92.80%	

Target Compounds						Qvalue
3) Naphthalene	6.25	128	3367	0.0269	ug/ml	99
24) Indeno[1,2,3-cd]pyrene	18.62	276	4019	0.0217	ug/ml	99
25) Dibenz[ah]anthracene	18.62	278	3744	0.0248	ug/ml	94

 (#) = qualifier out of range (m) = manual integration
 7M70235.D SIMPAHL.M Wed Aug 30 15:32:52 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\083017\7M70235.D

Vial: 9

Acq On : 30 Aug 2017 1:19 pm

Operator: LJH

Sample : L17081366-10 REF 827-PAHL

Inst : hpms7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 15:32 2017

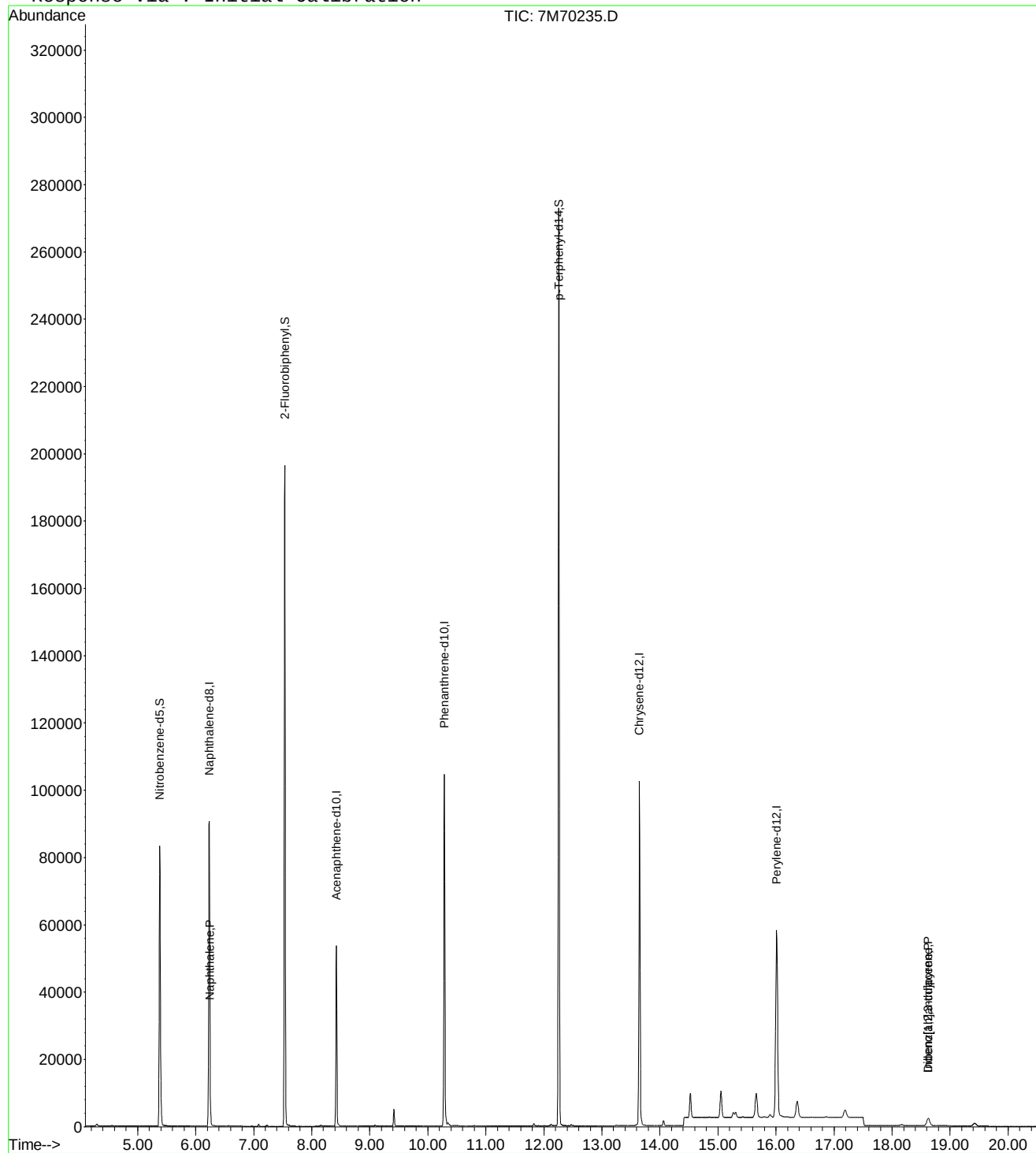
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

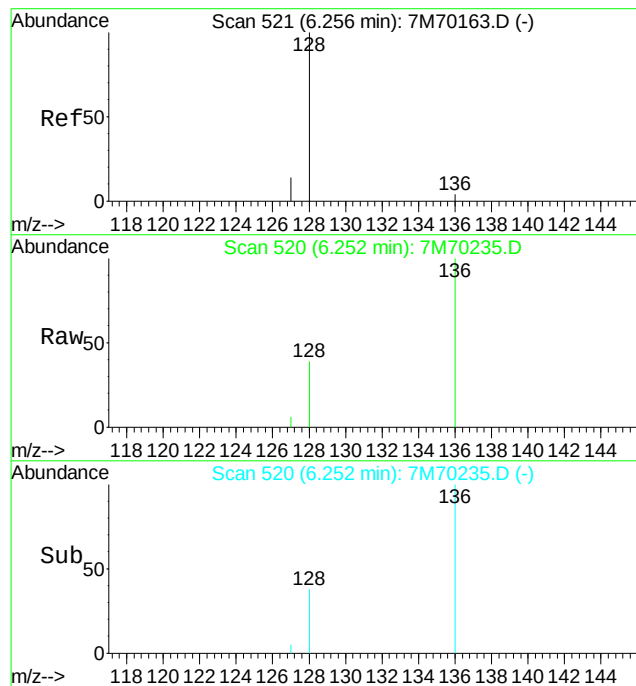
Response via : Initial Calibration



7M70235.D SIMPAHL.M

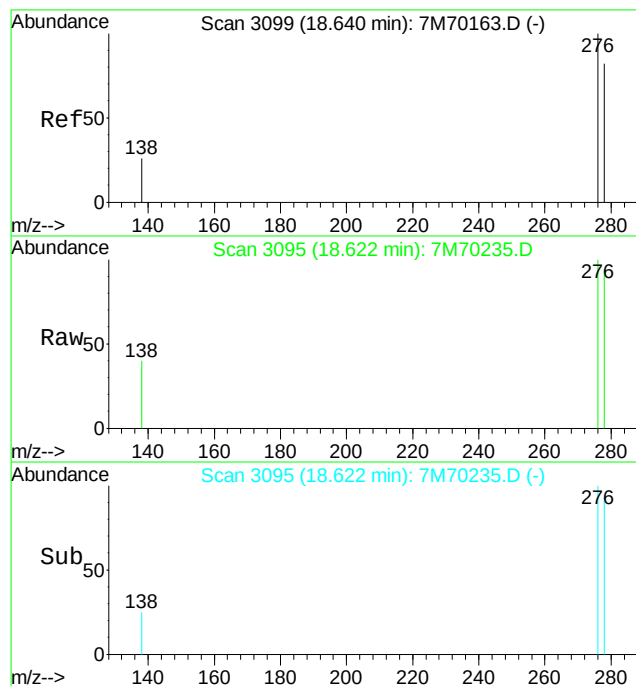
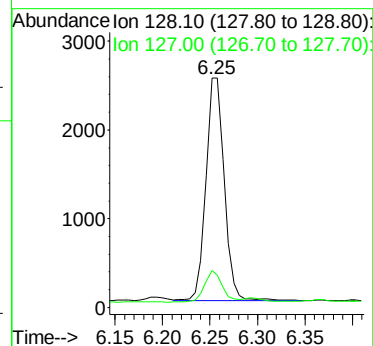
Wed Aug 30 15:32:52 2017

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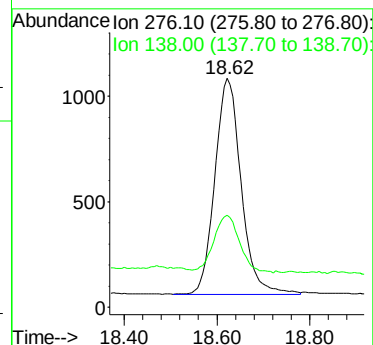
#3
Naphthalene
Concen: 0.03 ug/ml
RT: 6.25 min Scan# 520
Delta R.T. -0.00 min
Lab File: 7M70235.D
Acq: 30 Aug 2017 1:19 pm

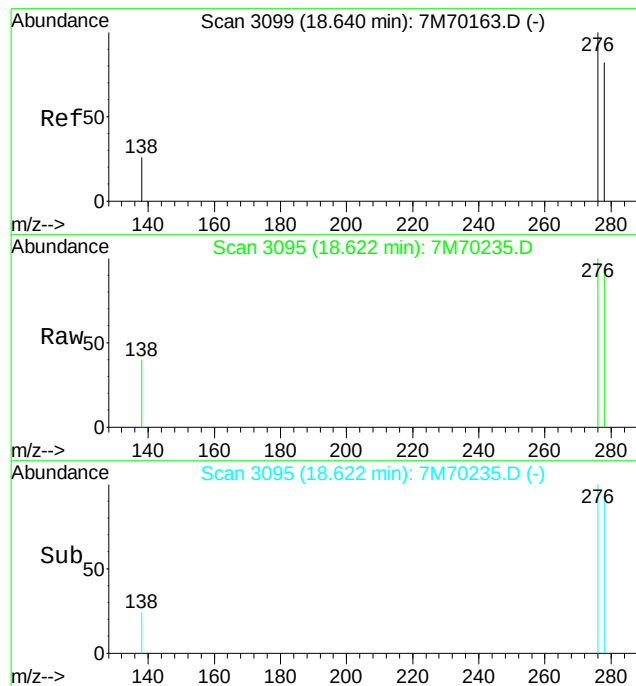
Tgt Ion:128 Resp: 3367
Ion Ratio Lower Upper
128 100
127 13.8 8.0 18.6



#24
Indeno[1,2,3-cd]pyrene
Concen: 0.02 ug/ml
RT: 18.62 min Scan# 3095
Delta R.T. -0.02 min
Lab File: 7M70235.D
Acq: 30 Aug 2017 1:19 pm

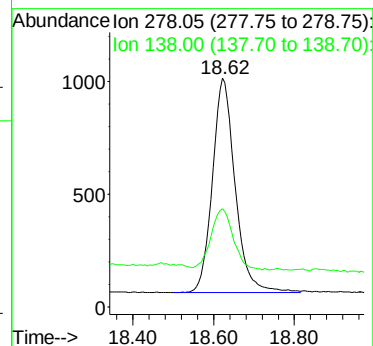
Tgt Ion:276 Resp: 4019
Ion Ratio Lower Upper
276 100
138 26.3 15.4 35.8





#25
 Dibenz[ah]anthracene
 Concen: 0.02 ug/ml
 RT: 18.62 min Scan# 3095
 Delta R.T. -0.02 min
 Lab File: 7M70235.D
 Acq: 30 Aug 2017 1:19 pm

Tgt Ion	Ratio	Lower	Upper
278	100		
138	28.5	19.0	44.2



Data File : C:\MSDCHEM\1\DATA\083017\7M70236.D Vial: 10
 Acq On : 30 Aug 2017 1:46 pm Operator: LJH
 Sample : L17081366-12 MS 827-PAHL Inst : hpms7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 15:33:20 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	118273	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	62229	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.28	188	122594	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	130469	1.00	ug/ml	0.00
20) Perylene-d12	16.01	264	125953	1.00	ug/ml	-0.02

System Monitoring Compounds						
2) Nitrobenzene-d5		5.38	82	82870	2.09	ug/ml 0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	83.60%
7) 2-Fluorobiphenyl		7.53	172	180025	1.88	ug/ml 0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	75.20%
17) p-Terphenyl-d14		12.26	244	263945	2.30	ug/ml 0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	92.00%

Target Compounds						Qvalue
3) Naphthalene		6.25	128	99194	0.8066	ug/ml 100
4) 2-Methylnaphthalene		7.08	142	68520	0.8410	ug/ml 99
5) 1-Methylnaphthalene		7.23	142	60851	0.7946	ug/ml 100
8) Acenaphthylene		8.23	152	110424	0.8297	ug/ml 99
9) Acenaphthene		8.46	154	72433	0.8803	ug/ml 94
10) Fluorene		9.09	166	84987	0.9415	ug/ml 99
12) Phenanthrene		10.31	178	144382	1.0089	ug/ml 100
13) Anthracene		10.37	178	140941	1.0218	ug/ml 99
14) Fluoranthene		11.83	202	171166	1.1411	ug/ml 100
16) Pyrene		12.12	202	191441	1.1166	ug/ml 97
18) Benzo[a]anthracene		13.62	228	169911	1.1322	ug/ml 99
19) Chrysene		13.68	228	158021	1.0368	ug/ml 100
21) Benzo[b]fluoranthene		15.26	252	167322	1.0441	ug/ml 100
22) Benzo[k]fluoranthene		15.30	252	160034	1.0022	ug/ml 99
23) Benzo[a]pyrene		15.90	252	156059	1.0367	ug/ml 100
24) Indeno[1,2,3-cd]pyrene		18.62	276	147847	0.8239	ug/ml 98
25) Dibenz[ah]anthracene		18.62	278	91969	0.6284	ug/ml 85
26) Benzo[ghi]perylene		19.42	276	99438	0.6515	ug/ml 100

 (#) = qualifier out of range (m) = manual integration
 7M70236.D SIMPAHL.M Wed Aug 30 15:33:21 2017

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Data File : C:\MSDCHEM\1\DATA\083017\7M70236.D

Vial: 10

Acq On : 30 Aug 2017 1:46 pm

Operator: LJH

Sample : L17081366-12 MS 827-PAHL

Inst : hpms7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 15:33 2017

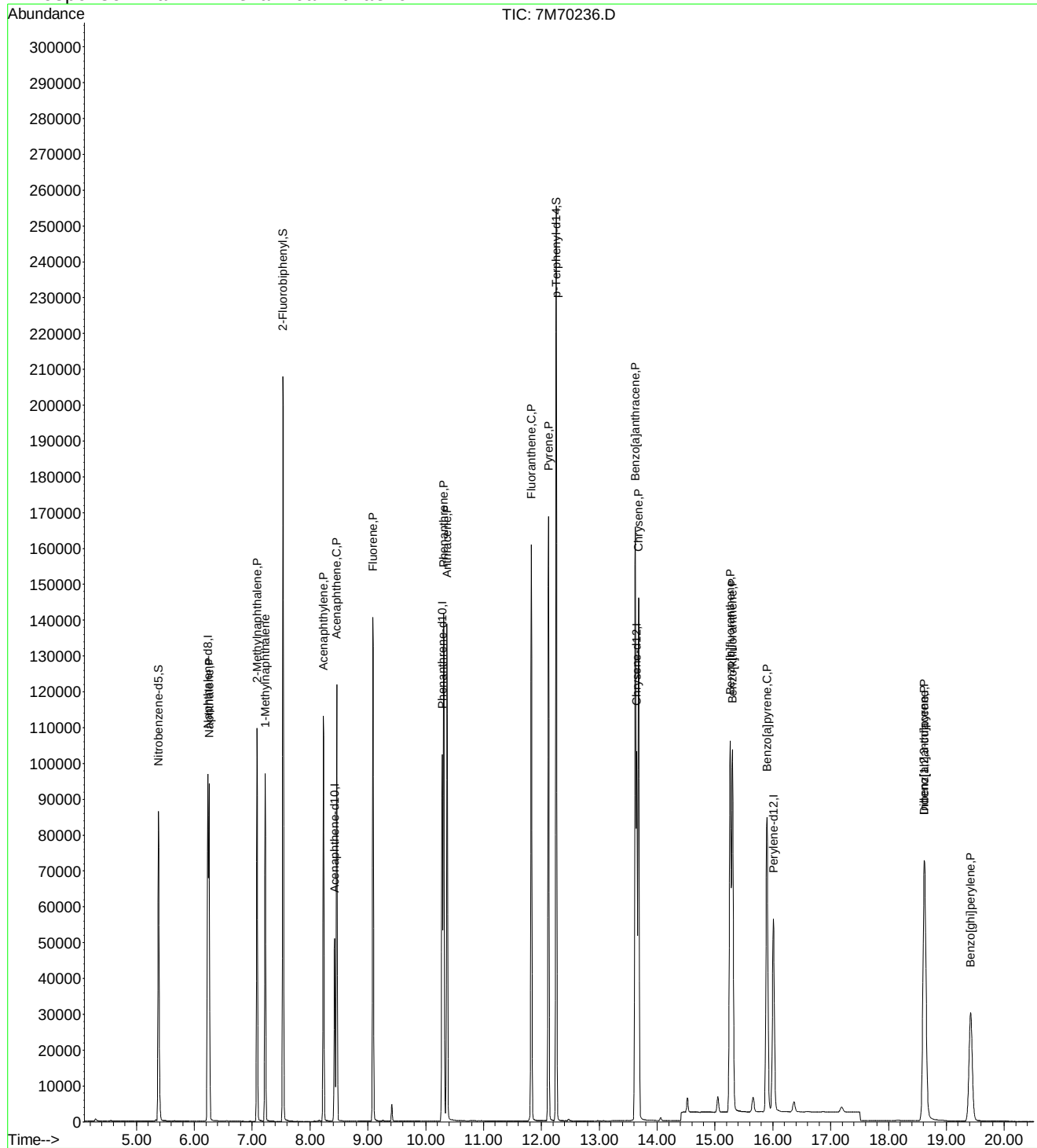
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70236.D SIMPAHL.M

Wed Aug 30 15:33:22 2017

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Data File : C:\MSDCHEM\1\DATA\083017\7M70237.D

Vial: 11

Acq On : 30 Aug 2017 2:13 pm

Operator: LJH

Sample : L17081366-13 MSD 827-PAHL

Inst : hpms7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 15:33:23 2017

Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration

DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	124826	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	65930	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.28	188	130324	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	136207	1.00	ug/ml	0.00
20) Perylene-d12	16.01	264	132372	1.00	ug/ml	-0.01

System Monitoring Compounds

2) Nitrobenzene-d5	5.38	82	86965	2.08	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	83.20%
7) 2-Fluorobiphenyl	7.53	172	182418	1.79	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	71.60%
17) p-Terphenyl-d14	12.26	244	279386	2.33	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	93.20%

Target Compounds

					Qvalue
3) Naphthalene	6.26	128	102279	0.7880	ug/ml 100
4) 2-Methylnaphthalene	7.09	142	69866	0.8125	ug/ml 99
5) 1-Methylnaphthalene	7.23	142	62067	0.7679	ug/ml 100
8) Acenaphthylene	8.24	152	110854	0.7862	ug/ml 99
9) Acenaphthene	8.46	154	72581	0.8326	ug/ml 94
10) Fluorene	9.09	166	84249	0.8809	ug/ml 100
12) Phenanthrene	10.31	178	147282	0.9681	ug/ml 100
13) Anthracene	10.37	178	142871	0.9743	ug/ml 100
14) Fluoranthene	11.83	202	179182	1.1237	ug/ml 100
16) Pyrene	12.12	202	202624	1.1320	ug/ml 99
18) Benzo[a]anthracene	13.62	228	176325	1.1255	ug/ml 99
19) Chrysene	13.68	228	165832	1.0422	ug/ml 100
21) Benzo[b]fluoranthene	15.26	252	182452	1.0833	ug/ml 97
22) Benzo[k]fluoranthene	15.30	252	154072	0.9180	ug/ml 96
23) Benzo[a]pyrene	15.90	252	161920	1.0235	ug/ml 100
24) Indeno[1,2,3-cd]pyrene	18.62	276	152174	0.8069	ug/ml 97
25) Dibenzo[ah]anthracene	18.62	278	92418	0.6009	ug/ml 85
26) Benzo[ghi]perylene	19.42	276	101183	0.6308	ug/ml 100

 (#) = qualifier out of range (m) = manual integration
 7M70237.D SIMPAHL.M Wed Aug 30 15:33:24 2017

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Data File : C:\MSDCHEM\1\DATA\083017\7M70237.D

Vial: 11

Acq On : 30 Aug 2017 2:13 pm

Operator: LJH

Sample : L17081366-13 MSD 827-PAHL

Inst : hpms7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 15:33 2017

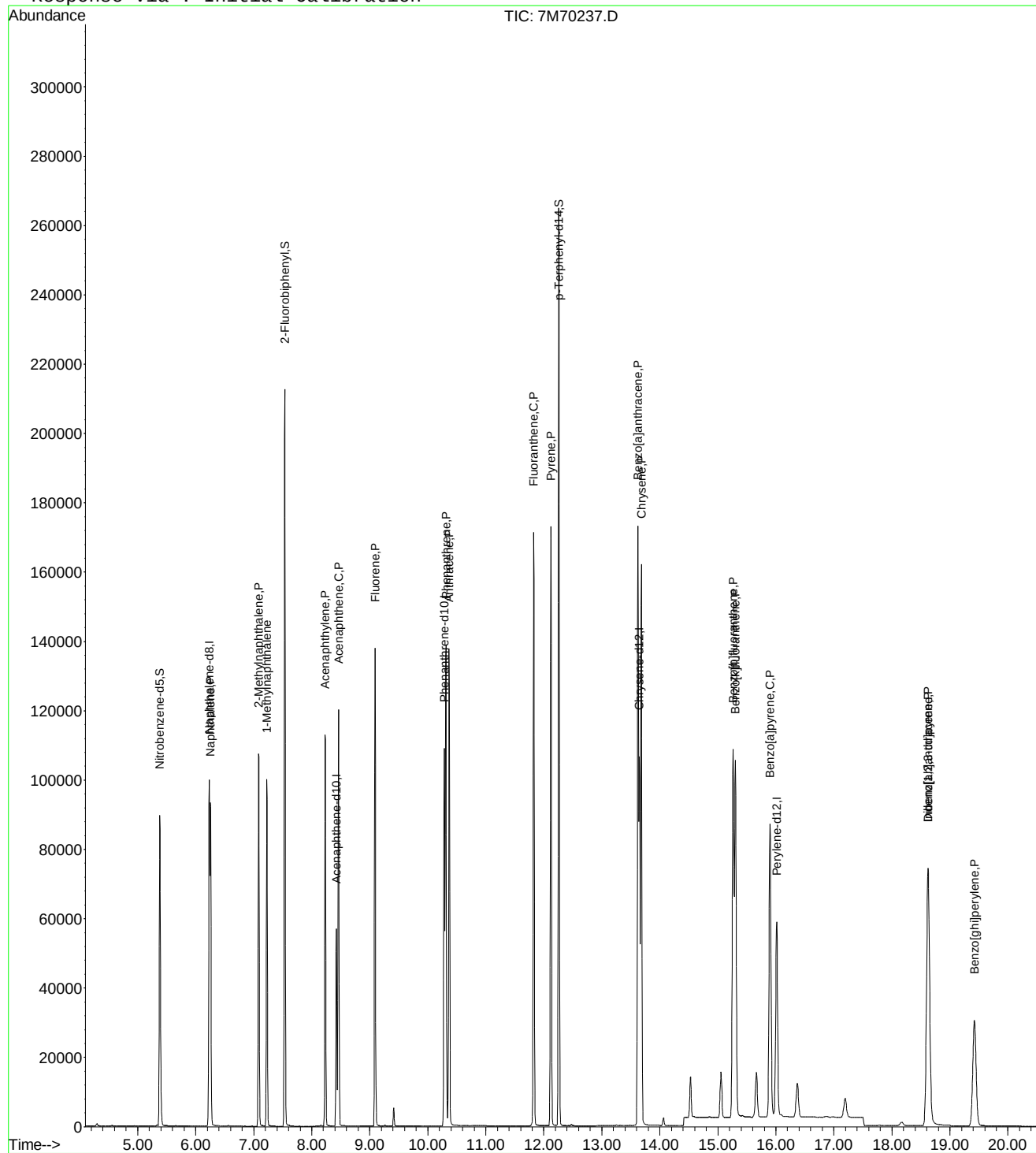
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70237.D SIMPAHL.M

Wed Aug 30 15:33:24 2017

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Data File : C:\MSDCHEM\1\DATA\083017\7M70238.D Vial: 12
 Acq On : 30 Aug 2017 2:39 pm Operator: LJH
 Sample : L17081366-14 827-PAHL Inst : hpms7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 15:32:54 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	132674	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	69715	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.28	188	137654	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	142900	1.00	ug/ml	0.00
20) Perylene-d12	16.01	264	141664	1.00	ug/ml	-0.01
System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	93168	2.10	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	84.00%	
7) 2-Fluorobiphenyl	7.53	172	199111	1.85	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	74.00%	
17) p-Terphenyl-d14	12.26	244	238721	1.90	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	76.00%	
Target Compounds						
3) Naphthalene	6.26	128	3175	0.0230	ug/ml	Qvalue 98

 (#) = qualifier out of range (m) = manual integration
 7M70238.D SIMPAHL.M Wed Aug 30 15:32:55 2017

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Data File : C:\MSDCHEM\1\DATA\083017\7M70238.D

Vial: 12

Acq On : 30 Aug 2017 2:39 pm

Operator: LJH

Sample : L17081366-14 827-PAHL

Inst : hpms7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 15:32 2017

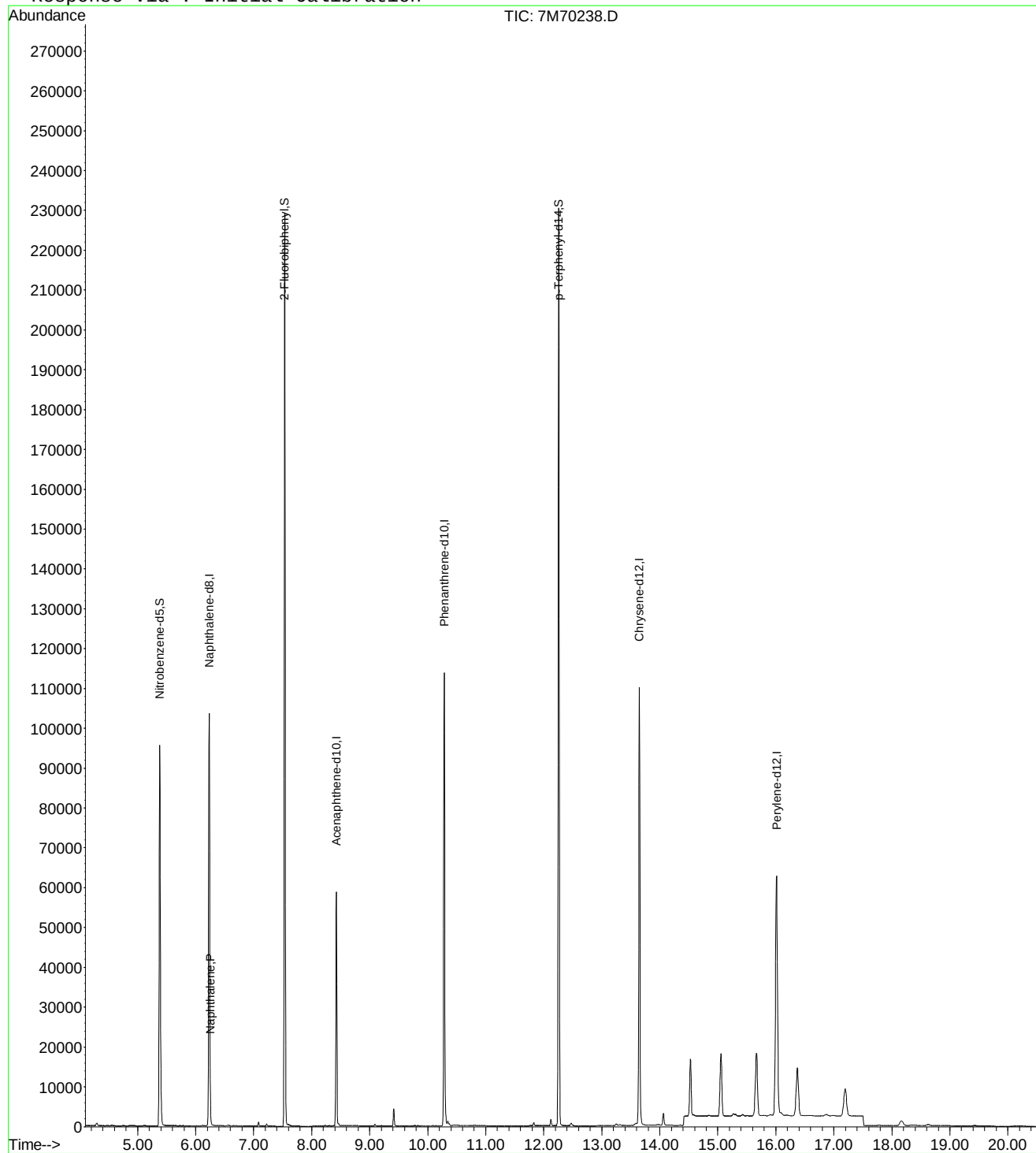
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

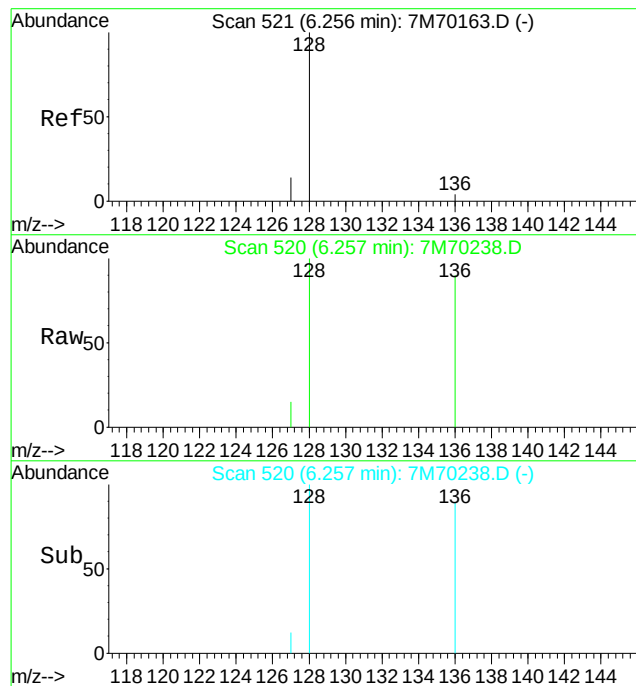
Response via : Initial Calibration



7M70238.D SIMPAHL.M

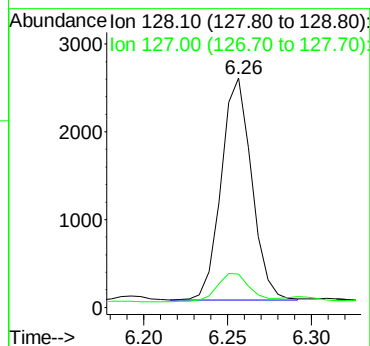
Wed Aug 30 15:32:55 2017

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#3
 Naphthalene
 Concen: 0.02 ug/ml
 RT: 6.26 min Scan# 520
 Delta R.T. 0.00 min
 Lab File: 7M70238.D
 Acq: 30 Aug 2017 2:39 pm

Tgt Ion:	128	Resp:	3175
Ion	Ratio	Lower	Upper
128	100		
127	14.3	8.0	18.6



Data File : C:\MSDCHEM\1\DATA\083017\7M70239.D Vial: 13
 Acq On : 30 Aug 2017 3:06 pm Operator: LJH
 Sample : L17081366-17 827-PAHL Inst : hpms7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 15:32:56 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	122553	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	64927	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.29	188	127174	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	132956	1.00	ug/ml	0.00
20) Perylene-d12	16.01	264	129174	1.00	ug/ml	-0.02
System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	71805	1.75	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	70.00%	
7) 2-Fluorobiphenyl	7.53	172	159082	1.59	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	63.60%	
17) p-Terphenyl-d14	12.26	244	205351	1.76	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	70.40%	
Target Compounds						
3) Naphthalene	6.26	128	3256	0.0256	ug/ml	Qvalue 99

 (#) = qualifier out of range (m) = manual integration
 7M70239.D SIMPAHL.M Wed Aug 30 15:32:57 2017

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Data File : C:\MSDCHEM\1\DATA\083017\7M70239.D

Vial: 13

Acq On : 30 Aug 2017 3:06 pm

Operator: LJH

Sample : L17081366-17 827-PAHL

Inst : hpms7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 15:32 2017

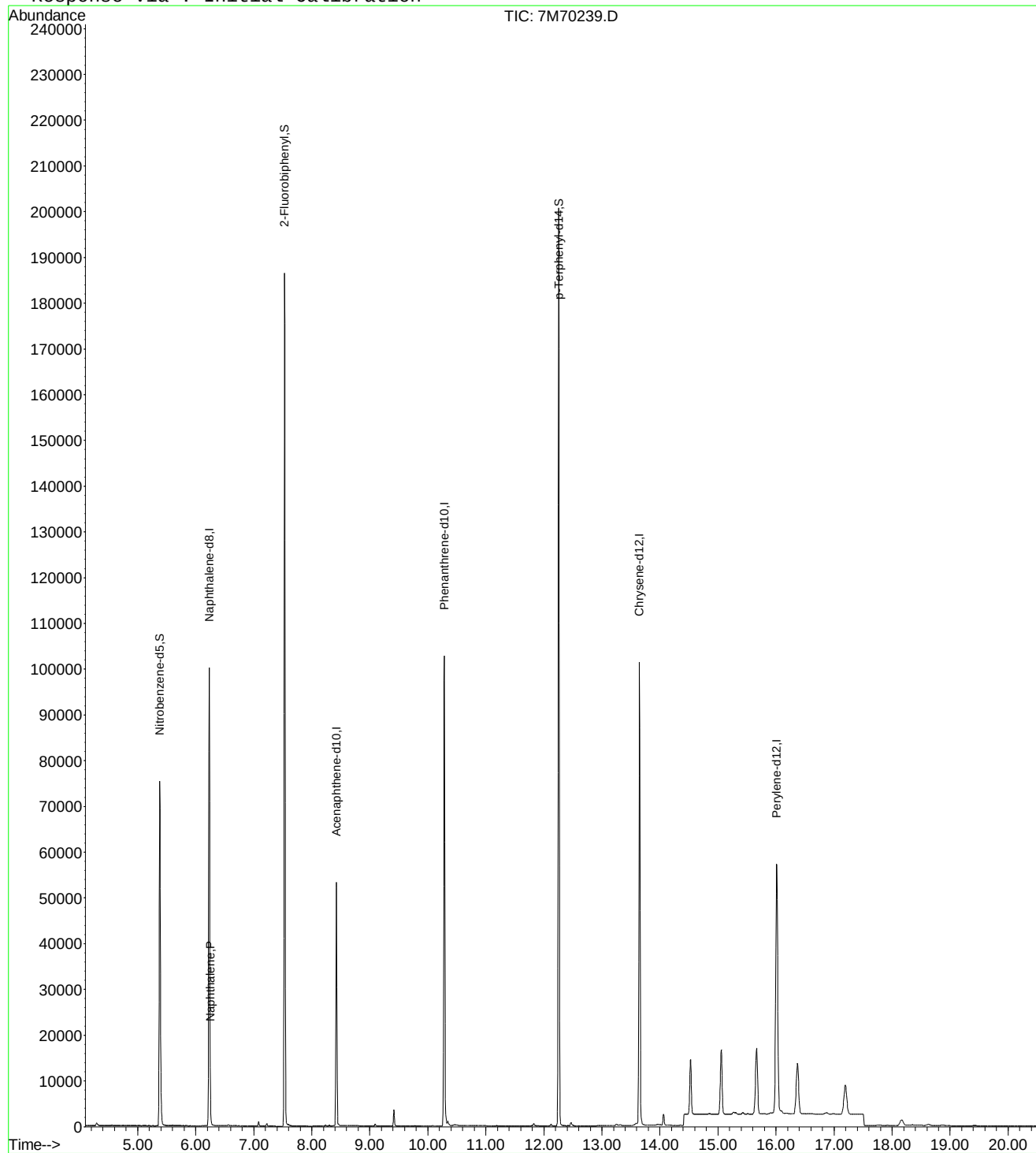
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

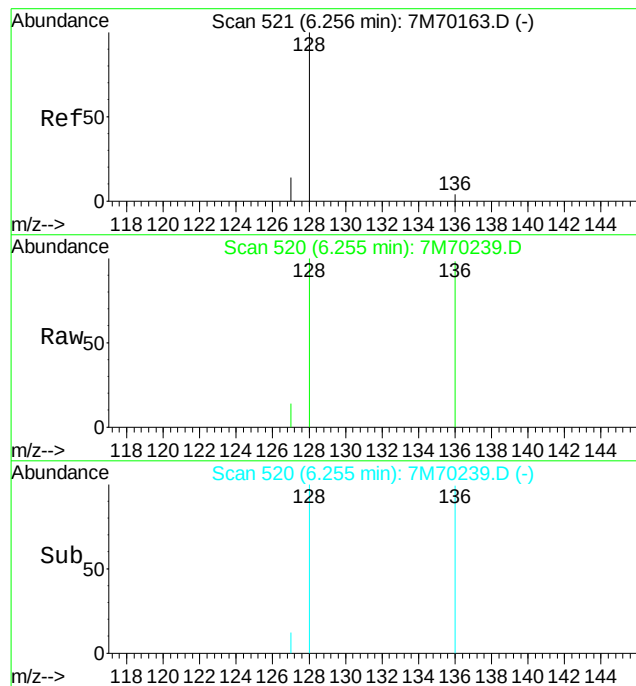
Response via : Initial Calibration



7M70239.D SIMPAHL.M

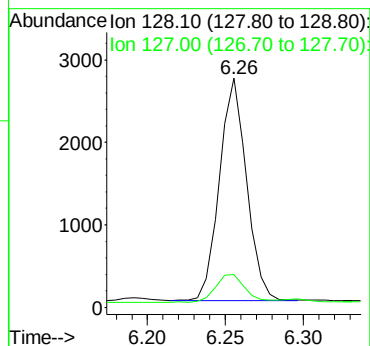
Wed Aug 30 15:32:58 2017

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#3
 Naphthalene
 Concen: 0.03 ug/ml
 RT: 6.26 min Scan# 520
 Delta R.T. 0.00 min
 Lab File: 7M70239.D
 Acq: 30 Aug 2017 3:06 pm

Tgt Ion:	128	Resp:	3256
Ion	Ratio	Lower	Upper
128	100		
127	13.8	8.0	18.6



2.2.2.4 Standards Data

Data File : C:\MSDCHEM\1\DATA\082317\7M70163.D Vial: 2
 Acq On : 23 Aug 2017 3:58 pm Operator: LJH
 Sample : WG627017-01 1PPM PAHL STD Inst : hpms7
 Misc : 1,1 STD83209 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 24 09:00:59 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	184858	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	94579	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.29	188	187008	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	202061	1.00	ug/ml	0.00
20) Perylene-d12	16.03	264	192936	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	64247	1.04	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	41.60%
7) 2-Fluorobiphenyl	7.54	172	146853	1.01	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	40.40%#
17) p-Terphenyl-d14	12.26	244	173561	0.98	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	39.20%

Target Compounds						Qvalue
3) Naphthalene	6.26	128	190787	0.9926	ug/ml	100
4) 2-Methylnaphthalene	7.09	142	127200	0.9989	ug/ml	100
5) 1-Methylnaphthalene	7.23	142	119383	0.9974	ug/ml	100
8) Acenaphthylene	8.24	152	212499	1.0506	ug/ml	100
9) Acenaphthene	8.47	154	123599	0.9883	ug/ml	100
10) Fluorene	9.10	166	140888	1.0269	ug/ml	100
12) Phenanthrene	10.32	178	216250	0.9906	ug/ml	100
13) Anthracene	10.37	178	217420	1.0333	ug/ml	100
14) Fluoranthene	11.83	202	235645	1.0299	ug/ml	100
16) Pyrene	12.13	202	266202	1.0025	ug/ml	100
18) Benzo[a]anthracene	13.63	228	231036	0.9941	ug/ml	100
19) Chrysene	13.69	228	228843	0.9695	ug/ml	100
21) Benzo[b]fluoranthene	15.27	252	226037	0.9208	ug/ml	100
22) Benzo[k]fluoranthene	15.31	252	231205	0.9452	ug/ml	100
23) Benzo[a]pyrene	15.91	252	219859	0.9535	ug/ml	100
24) Indeno[1,2,3-cd]pyrene	18.64	276	260655	0.9482	ug/ml	100
25) Dibenz[ah]anthracene	18.64	278	211273	0.9424	ug/ml	100
26) Benzo[ghi]perylene	19.44	276	216597	0.9264	ug/ml	100

 (#) = qualifier out of range (m) = manual integration
 7M70163.D SIMPAHL.M Thu Aug 24 09:00:59 2017

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Data File : C:\MSDCHEM\1\DATA\082317\7M70163.D

Vial: 2

Acq On : 23 Aug 2017 3:58 pm

Operator: LJH

Sample : WG627017-01 1PPM PAHL STD

Inst : hpms7

Misc : 1,1 STD83209

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 24 9:00 2017

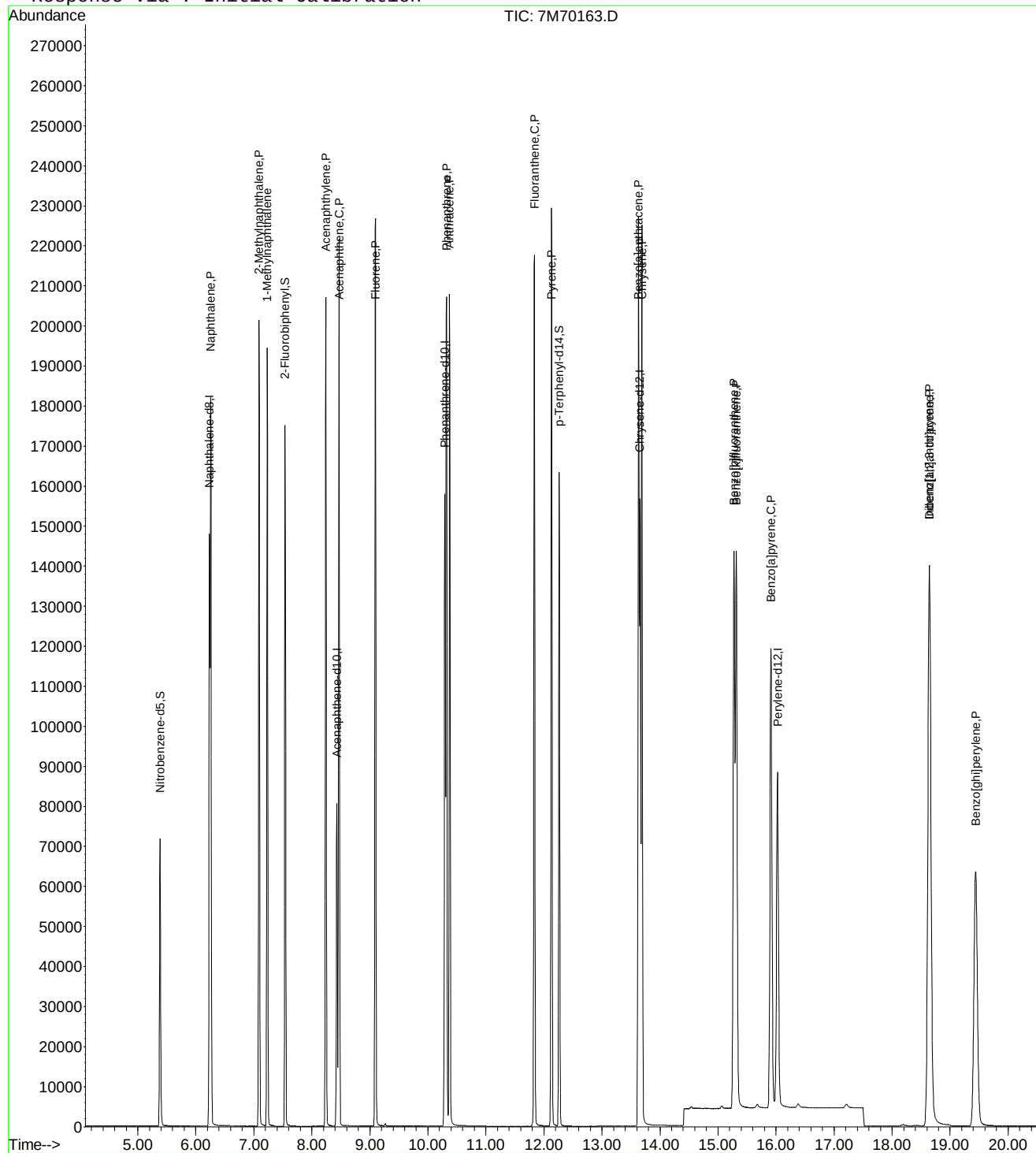
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70163.D SIMPAHL.M

Thu Aug 24 09:01:00 2017

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Data File : C:\MSDCHEM\1\DATA\082317\7M70164.D Vial: 3
 Acq On : 23 Aug 2017 4:25 pm Operator: LJH
 Sample : WG627017-02 10PPM PAHL STD Inst : hpms7
 Misc : 1,1 STD83209 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 24 09:01:01 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	176829	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	88961	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.29	188	173667	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	179268	1.00	ug/ml	0.00
20) Perylene-d12	16.02	264	159454	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	649450	10.97	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	438.80%#
7) 2-Fluorobiphenyl	7.53	172	1314405	9.58	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	383.20%#
17) p-Terphenyl-d14	12.26	244	1487432	9.43	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	377.20%#

Target Compounds						Qvalue
3) Naphthalene	6.26	128	1721578	9.3631	ug/ml	98
4) 2-Methylnaphthalene	7.09	142	1170269	9.6076	ug/ml	99
5) 1-Methylnaphthalene	7.23	142	1093313	9.5486	ug/ml	99
8) Acenaphthylene	8.24	152	1933292	10.1617	ug/ml	98
9) Acenaphthene	8.47	154	1126661	9.5780	ug/ml	99
10) Fluorene	9.09	166	1265977	9.8101	ug/ml	100
12) Phenanthrene	10.31	178	1857943	9.1644	ug/ml	98
13) Anthracene	10.37	178	1905490	9.7517	ug/ml	98
14) Fluoranthene	11.83	202	2028183	9.5450	ug/ml	98
16) Pyrene	12.13	202	2250008	9.5507	ug/ml	98
18) Benzo[a]anthracene	13.63	228	1981892	9.6118	ug/ml	98
19) Chrysene	13.69	228	1914150	9.1402	ug/ml	98
21) Benzo[b]fluoranthene	15.27	252	1984096	9.7792	ug/ml	99
22) Benzo[k]fluoranthene	15.32	252	1974287	9.7658	ug/ml	98
23) Benzo[a]pyrene	15.91	252	1948451	10.2242	ug/ml	99
24) Indeno[1,2,3-cd]pyrene	18.65	276	2333306	10.2708	ug/ml	97
25) Dibenz[ah]anthracene	18.65	278	1913368	10.3272	ug/ml	98
26) Benzo[ghi]perylene	19.45	276	1906641	9.8672	ug/ml	99

 (#) = qualifier out of range (m) = manual integration
 7M70164.D SIMPAHL.M Thu Aug 24 09:01:01 2017

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Data File : C:\MSDCHEM\1\DATA\082317\7M70164.D

Vial: 3

Acq On : 23 Aug 2017 4:25 pm

Operator: LJH

Sample : WG627017-02 10PPM PAHL STD

Inst : hpms7

Misc : 1,1 STD83209

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 24 9:01 2017

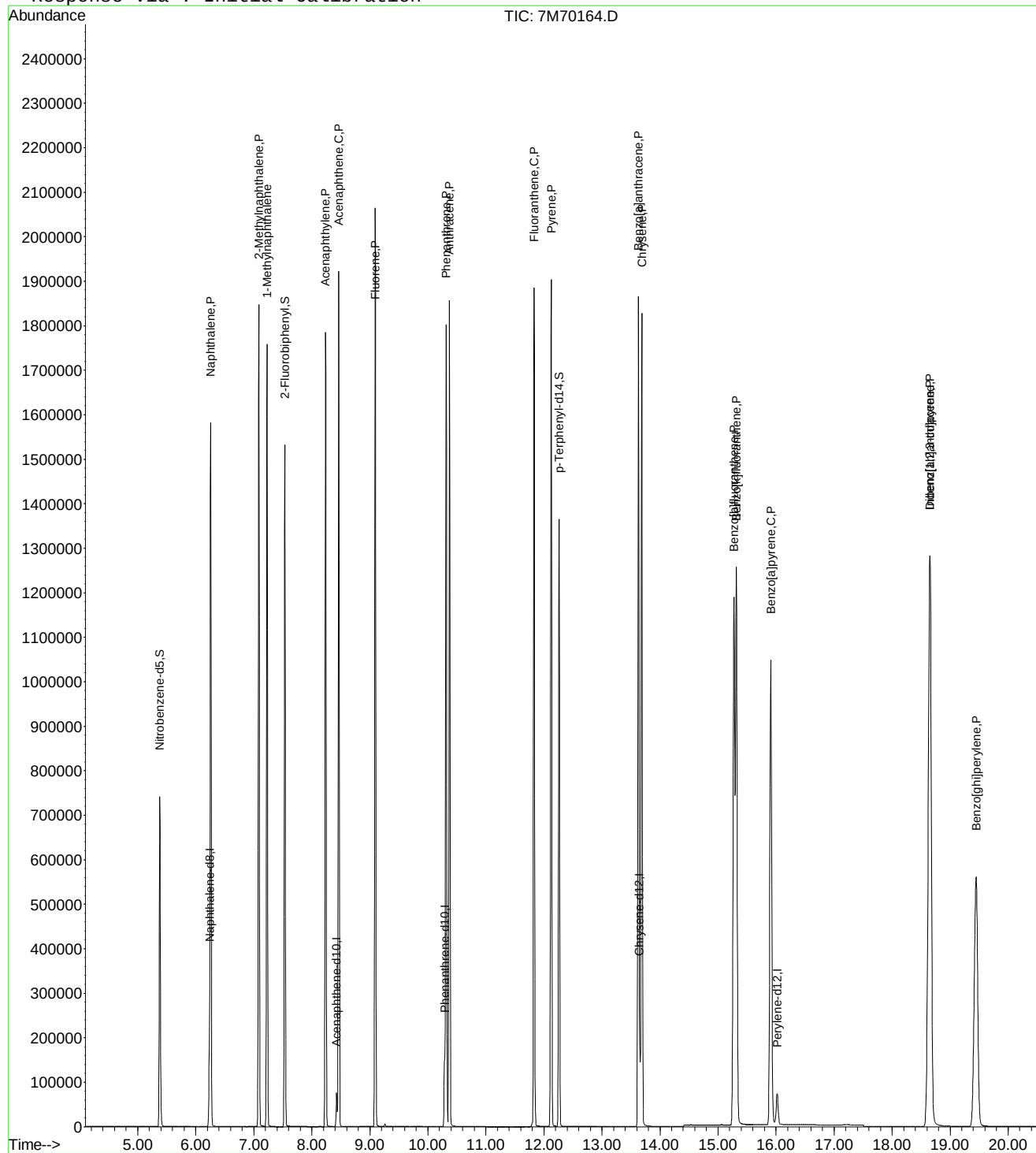
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70164.D SIMPAHL.M

Thu Aug 24 09:01:02 2017

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Data File : C:\MSDCHEM\1\DATA\082317\7M70165.D Vial: 4
 Acq On : 23 Aug 2017 4:52 pm Operator: LJH
 Sample : WG627017-03 5PPM PAHL STD Inst : hpms7
 Misc : 1,1 STD83209 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 24 09:01:02 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	151050	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	77177	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.29	188	151442	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	159553	1.00	ug/ml	0.00
20) Perylene-d12	16.02	264	141933	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	272881	5.40	ug/ml	0.00
Spiked Amount	2.500	Range 35 - 114	Recovery	=	216.00%#	
7) 2-Fluorobiphenyl	7.54	172	590379	4.96	ug/ml	0.00
Spiked Amount	2.500	Range 43 - 116	Recovery	=	198.40%#	
17) p-Terphenyl-d14	12.26	244	684056	4.87	ug/ml	0.00
Spiked Amount	2.500	Range 33 - 141	Recovery	=	194.80%#	

Target Compounds						Qvalue
3) Naphthalene	6.26	128	765164	4.8717	ug/ml	99
4) 2-Methylnaphthalene	7.08	142	516417	4.9632	ug/ml	100
5) 1-Methylnaphthalene	7.23	142	484742	4.9561	ug/ml	100
8) Acenaphthylene	8.24	152	871742	5.2816	ug/ml	99
9) Acenaphthene	8.47	154	527894	5.1730	ug/ml	95
10) Fluorene	9.09	166	571255	5.1026	ug/ml	100
12) Phenanthrene	10.31	178	855583	4.8395	ug/ml	99
13) Anthracene	10.37	178	874030	5.1295	ug/ml	99
14) Fluoranthene	11.83	202	938034	5.0624	ug/ml	99
16) Pyrene	12.12	202	1027647	4.9011	ug/ml	100
18) Benzo[a]anthracene	13.63	228	918587	5.0054	ug/ml	99
19) Chrysene	13.68	228	892470	4.7882	ug/ml	99
21) Benzo[b]fluoranthene	15.27	252	934813	5.1763	ug/ml	97
22) Benzo[k]fluoranthene	15.31	252	883807	4.9114	ug/ml	96
23) Benzo[a]pyrene	15.91	252	891357	5.2546	ug/ml	100
24) Indeno[1,2,3-cd]pyrene	18.64	276	1046227	5.1738	ug/ml	97
25) Dibenz[ah]anthracene	18.64	278	855125	5.1852	ug/ml	98
26) Benzo[ghi]perylene	19.44	276	860624	5.0037	ug/ml	100

 (#) = qualifier out of range (m) = manual integration
 7M70165.D SIMPAHL.M Thu Aug 24 09:01:03 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\082317\7M70165.D

Vial: 4

Acq On : 23 Aug 2017 4:52 pm

Operator: LJH

Sample : WG627017-03 5PPM PAHL STD

Inst : hpms7

Misc : 1,1 STD83209

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 24 9:01 2017

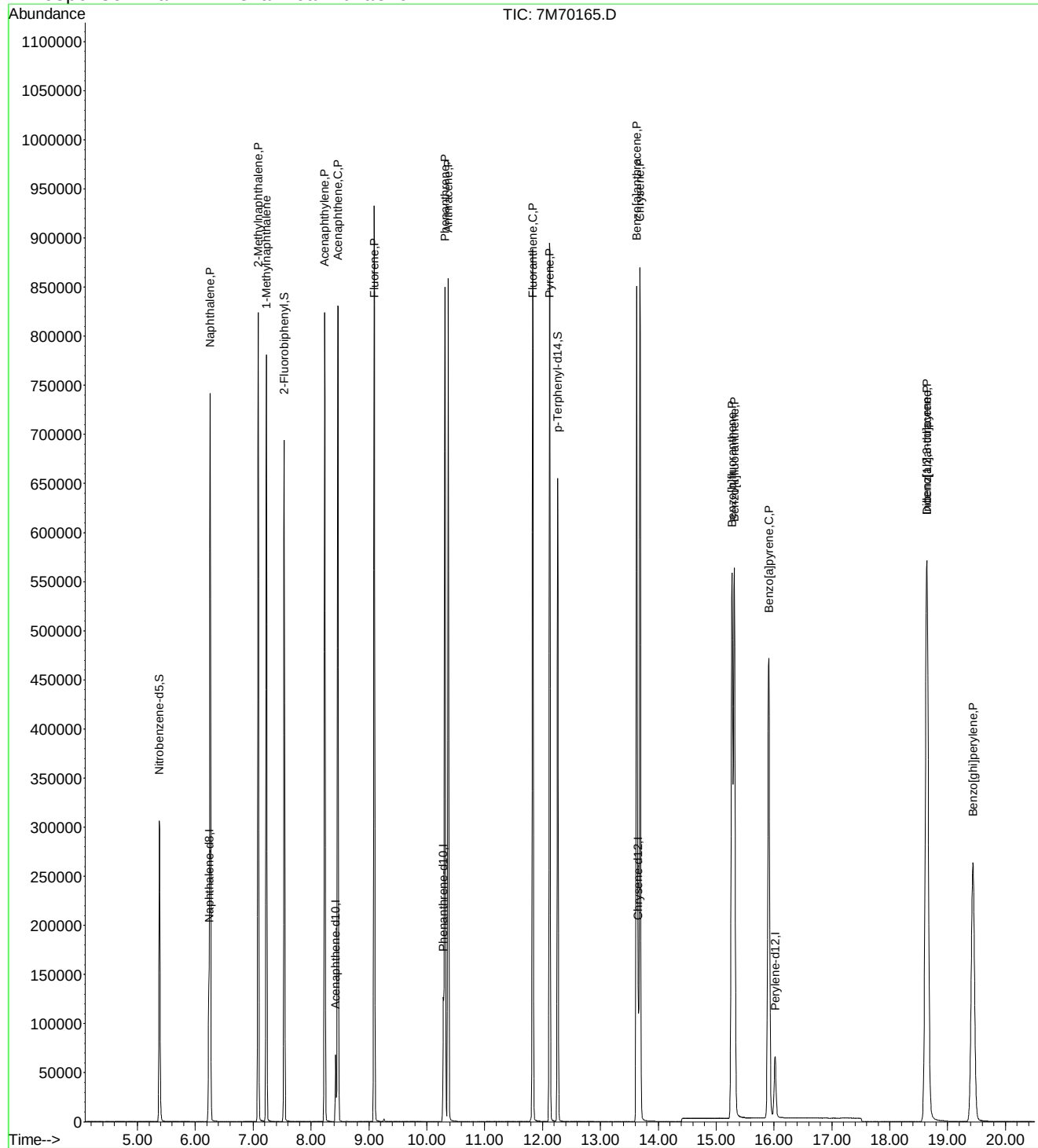
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\082317\7M70166.D Vial: 5
 Acq On : 23 Aug 2017 5:19 pm Operator: LJH
 Sample : WG627017-04 2.5PPM PAHL STD Inst : hpms7
 Misc : 1,1 STD83209 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 24 09:01:04 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	147112	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	75509	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.29	188	147947	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	156435	1.00	ug/ml	0.00
20) Perylene-d12	16.02	264	138282	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	129910	2.64	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	105.60%
7) 2-Fluorobiphenyl	7.54	172	295062	2.53	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	101.20%
17) p-Terphenyl-d14	12.26	244	342768	2.49	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	99.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Naphthalene	6.26	128	380596	2.4881	ug/ml	100
4) 2-Methylnaphthalene	7.08	142	256095	2.5272	ug/ml	100
5) 1-Methylnaphthalene	7.23	142	240796	2.5278	ug/ml	100
8) Acenaphthylene	8.24	152	431443	2.6717	ug/ml	100
9) Acenaphthene	8.47	154	262518	2.6293	ug/ml	95
10) Fluorene	9.09	166	284885	2.6009	ug/ml	100
12) Phenanthrene	10.31	178	431761	2.4999	ug/ml	100
13) Anthracene	10.37	178	438405	2.6337	ug/ml	100
14) Fluoranthene	11.83	202	470361	2.5984	ug/ml	100
16) Pyrene	12.13	202	515132	2.5058	ug/ml	100
18) Benzo[a]anthracene	13.62	228	457444	2.5423	ug/ml	100
19) Chrysene	13.68	228	454075	2.4847	ug/ml	100
21) Benzo[b]fluoranthene	15.27	252	462285	2.6274	ug/ml	97
22) Benzo[k]fluoranthene	15.31	252	440935	2.5150	ug/ml	96
23) Benzo[a]pyrene	15.90	252	438525	2.6534	ug/ml	100
24) Indeno[1,2,3-cd]pyrene	18.63	276	506501	2.5709	ug/ml	96
25) Dibenz[ah]anthracene	18.63	278	416868	2.5945	ug/ml	98
26) Benzo[ghi]perylene	19.43	276	423567	2.5276	ug/ml	100

 (#) = qualifier out of range (m) = manual integration
 7M70166.D SIMPAHL.M Thu Aug 24 09:01:05 2017

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Data File : C:\MSDCHEM\1\DATA\082317\7M70166.D

Vial: 5

Acq On : 23 Aug 2017 5:19 pm

Operator: LJH

Sample : WG627017-04 2.5PPM PAHL STD

Inst : hpms7

Misc : 1,1 STD83209

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 24 9:01 2017

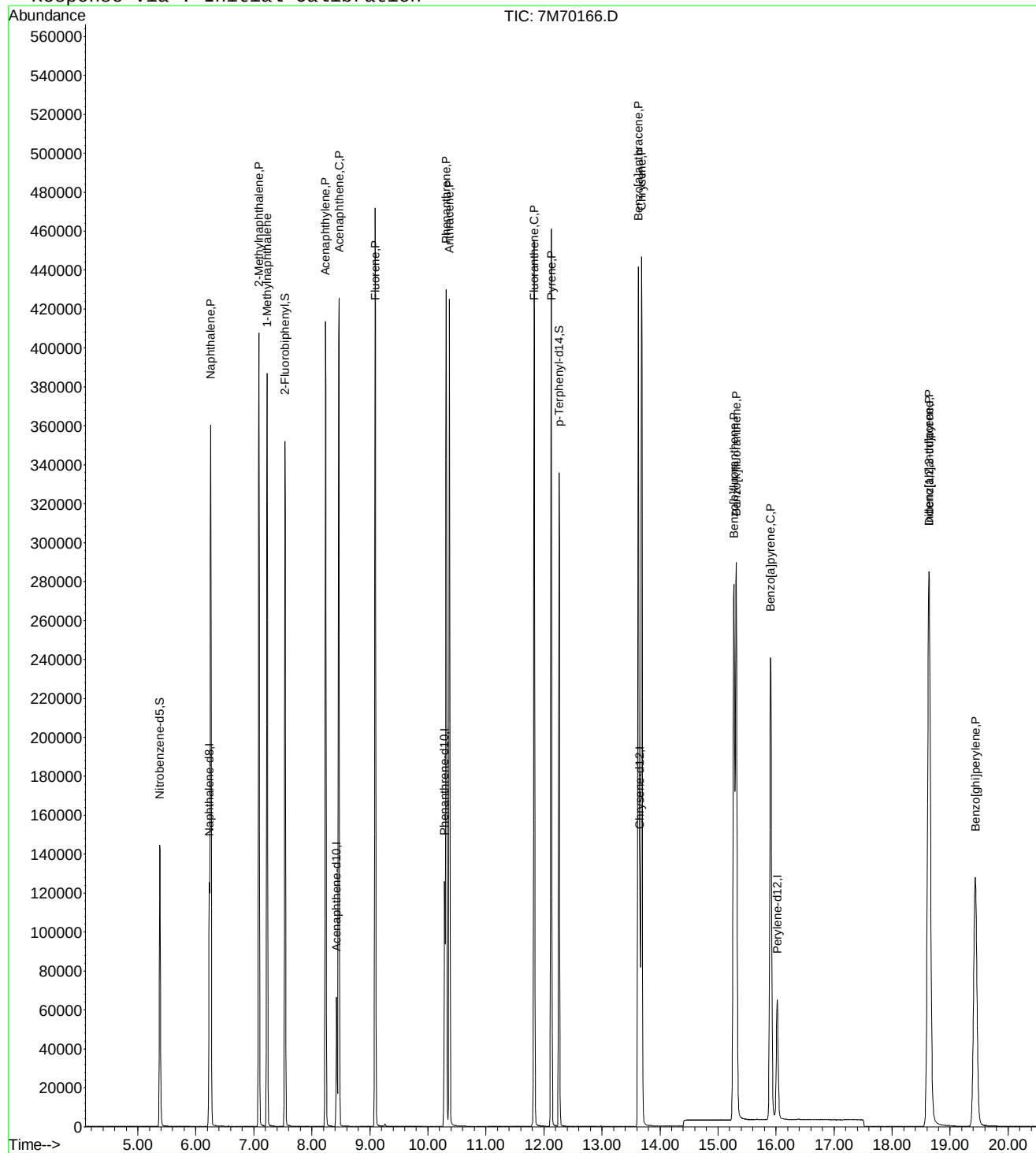
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70166.D SIMPAHL.M

Thu Aug 24 09:01:05 2017

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Data File : C:\MSDCHEM\1\DATA\082317\7M70167.D Vial: 6
 Acq On : 23 Aug 2017 5:46 pm Operator: LJH
 Sample : WG627017-05 0.5PPM PAHL STD Inst : hpms7
 Misc : 1,1 STD83209 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 24 09:01:06 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	146835	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	74778	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.29	188	146906	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	153439	1.00	ug/ml	0.00
20) Perylene-d12	16.02	264	134856	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	23681	0.48	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	19.20%#
7) 2-Fluorobiphenyl	7.54	172	60192	0.52	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	20.80%#
17) p-Terphenyl-d14	12.26	244	69407	0.51	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	20.40%#

Target Compounds						Qvalue
3) Naphthalene	6.26	128	77675	0.5087	ug/ml	100
4) 2-Methylnaphthalene	7.09	142	51285	0.5070	ug/ml	100
5) 1-Methylnaphthalene	7.23	142	48361	0.5086	ug/ml	100
8) Acenaphthylene	8.23	152	83085	0.5195	ug/ml	99
9) Acenaphthene	8.47	154	50213	0.5078	ug/ml	100
10) Fluorene	9.09	166	56305	0.5191	ug/ml	100
12) Phenanthrene	10.31	178	87740	0.5116	ug/ml	100
13) Anthracene	10.37	178	84302	0.5100	ug/ml	100
14) Fluoranthene	11.83	202	92001	0.5118	ug/ml	100
16) Pyrene	12.12	202	104236	0.5169	ug/ml	100
18) Benzo[a]anthracene	13.63	228	88735	0.5028	ug/ml	100
19) Chrysene	13.68	228	91138	0.5085	ug/ml	100
21) Benzo[b]fluoranthene	15.27	252	87896	0.5122	ug/ml	100
22) Benzo[k]fluoranthene	15.31	252	87438	0.5114	ug/ml	100
23) Benzo[a]pyrene	15.90	252	81283	0.5043	ug/ml	100
24) Indeno[1,2,3-cd]pyrene	18.63	276	95727	0.4982	ug/ml	99
25) Dibenz[ah]anthracene	18.63	278	78597	0.5016	ug/ml	99
26) Benzo[ghi]perylene	19.43	276	81773	0.5004	ug/ml	100

 (#) = qualifier out of range (m) = manual integration
 7M70167.D SIMPAHL.M Thu Aug 24 09:01:06 2017

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Data File : C:\MSDCHEM\1\DATA\082317\7M70167.D

Vial: 6

Acq On : 23 Aug 2017 5:46 pm

Operator: LJH

Sample : WG627017-05 0.5PPM PAHL STD

Inst : hpms7

Misc : 1,1 STD83209

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 24 9:01 2017

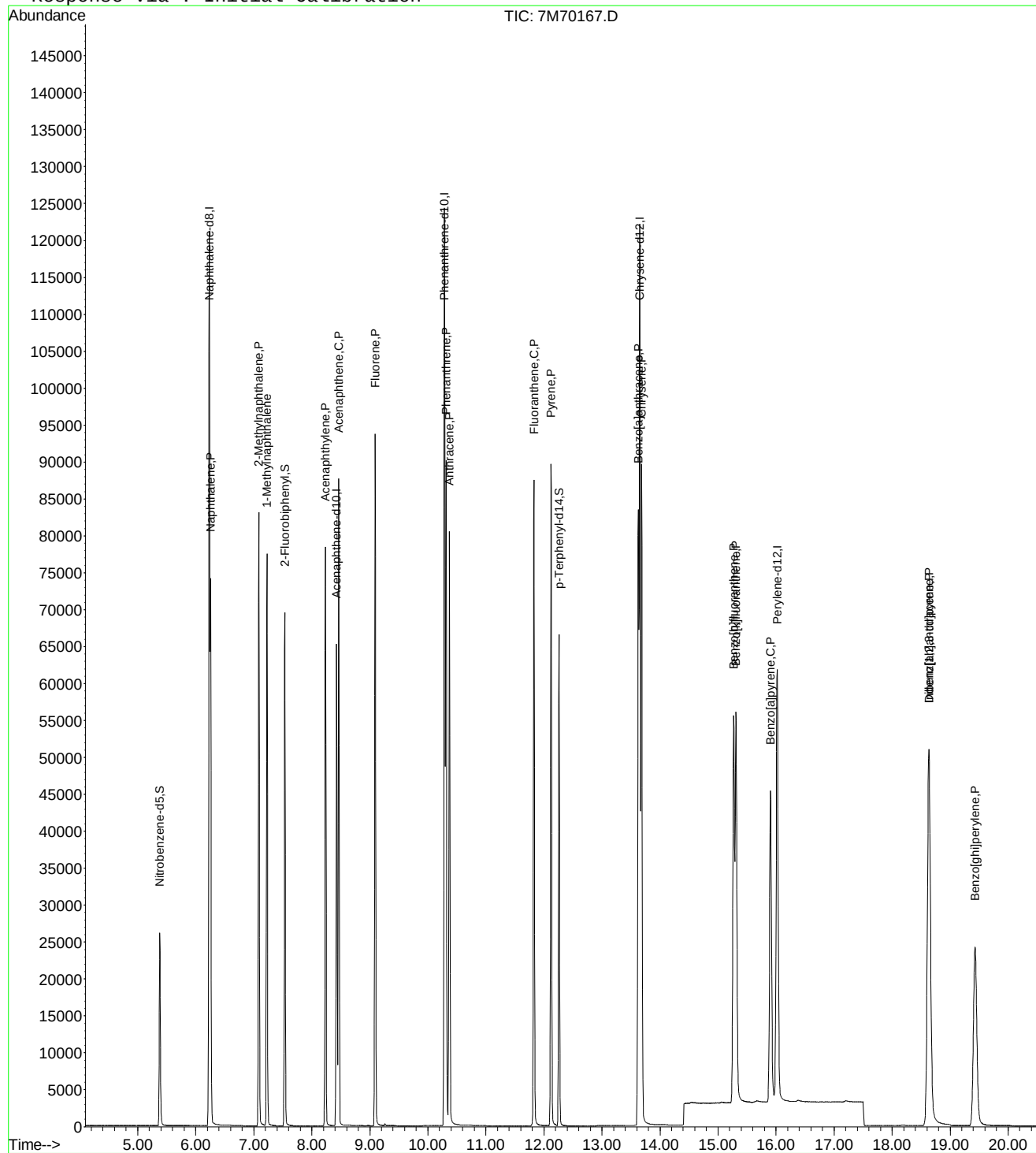
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70167.D SIMPAHL.M

Thu Aug 24 09:01:07 2017

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Data File : C:\MSDCHEM\1\DATA\082317\7M70168.D Vial: 7
 Acq On : 23 Aug 2017 6:13 pm Operator: LJH
 Sample : WG627017-06 0.05PPM PAHL ST Inst : hpms7
 Misc : 1,1 STD83209 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 24 09:01:07 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	144364	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	78379	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.28	188	144177	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	148050	1.00	ug/ml	0.00
20) Perylene-d12	16.02	264	130689	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5		5.38	82	2201	0.05 ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	2.00%#
7) 2-Fluorobiphenyl		7.54	172	6095	0.05 ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	2.00%#
17) p-Terphenyl-d14		12.26	244	6988	0.05 ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	2.00%#

Target Compounds						Qvalue
3) Naphthalene	6.26	128	8042	0.0536	ug/ml	99
4) 2-Methylnaphthalene	7.09	142	5146	0.0517	ug/ml	100
5) 1-Methylnaphthalene	7.23	142	4850	0.0519	ug/ml	100
8) Acenaphthylene	8.23	152	8143	0.0486	ug/ml	92
9) Acenaphthene	8.47	154	5146	0.0497	ug/ml	98
10) Fluorene	9.09	166	5437	0.0478	ug/ml	100
12) Phenanthrene	10.31	178	9004	0.0535	ug/ml	99
13) Anthracene	10.37	178	7689	0.0474	ug/ml	100
14) Fluoranthene	11.83	202	8653	0.0491	ug/ml	99
16) Pyrene	12.12	202	10090	0.0519	ug/ml	95
18) Benzo[a]anthracene	13.63	228	8871	0.0521	ug/ml	98
19) Chrysene	13.68	228	9531	0.0551	ug/ml	100
21) Benzo[b]fluoranthene	15.27	252	8533	0.0513	ug/ml	100
22) Benzo[k]fluoranthene	15.31	252	8636	0.0521	ug/ml	97
23) Benzo[a]pyrene	15.90	252	7569	0.0485	ug/ml	96
24) Indeno[1,2,3-cd]pyrene	18.64	276	9272	0.0498	ug/ml	99
25) Dibenz[ah]anthracene	18.64	278	7534	0.0496	ug/ml	100
26) Benzo[ghi]perylene	19.43	276	8478	0.0535	ug/ml	99

 (#) = qualifier out of range (m) = manual integration
 7M70168.D SIMPAHL.M Thu Aug 24 11:11:48 2017

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Data File : C:\MSDCHEM\1\DATA\082317\7M70168.D

Vial: 7

Acq On : 23 Aug 2017 6:13 pm

Operator: LJH

Sample : WG627017-06 0.05PPM PAHL ST

Inst : hpms7

Misc : 1,1 STD83209

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 24 9:01 2017

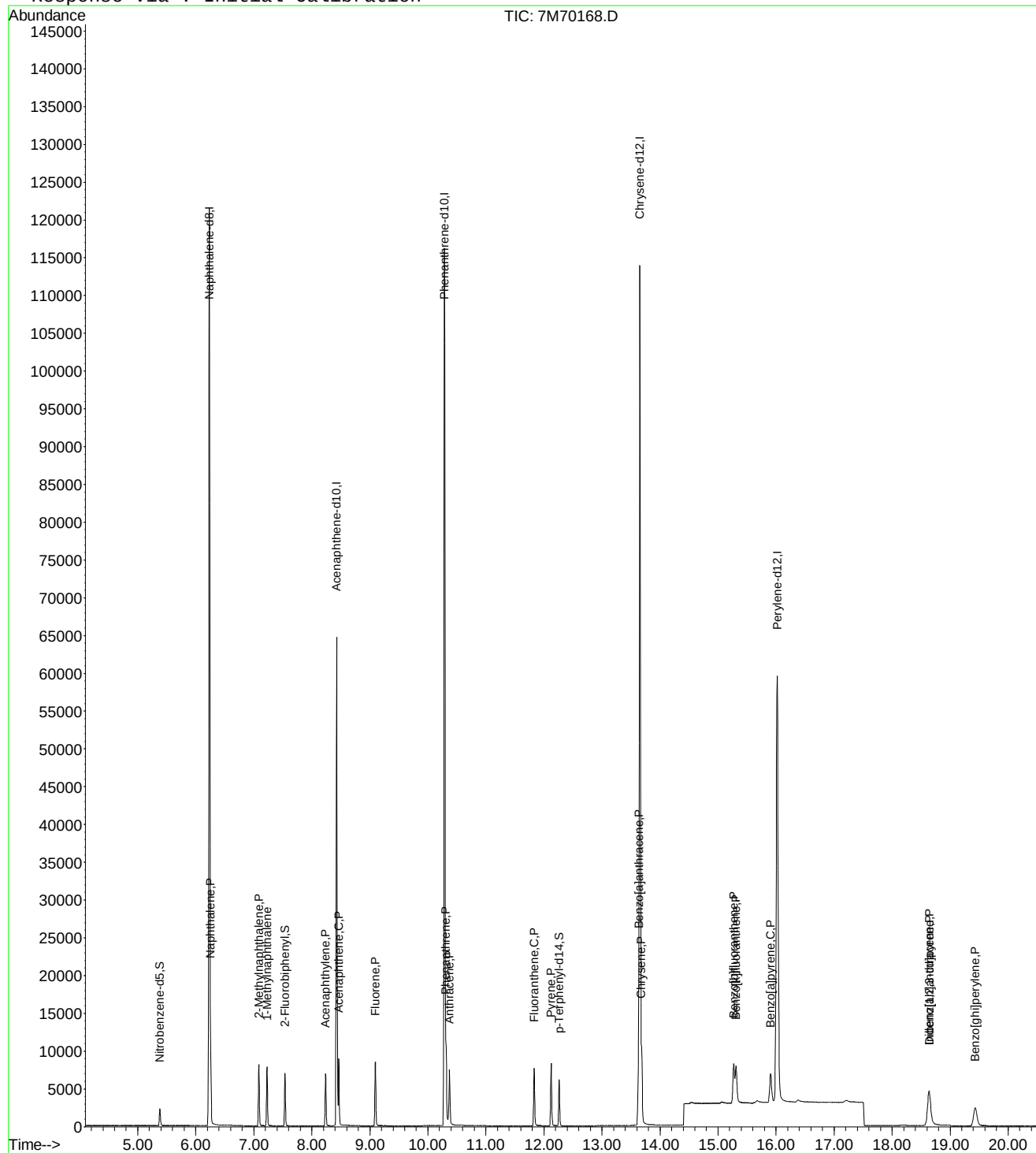
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70168.D SIMPAHL.M

Thu Aug 24 11:11:48 2017

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Data File : C:\MSDCHEM\1\DATA\082317\7M70169.D Vial: 8
 Acq On : 23 Aug 2017 6:40 pm Operator: LJH
 Sample : WG627017-07 0.1PPM PAHL STD Inst : hpms7
 Misc : 1,1 STD83209 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 24 09:01:09 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	138024	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	74035	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.29	188	137098	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	140753	1.00	ug/ml	0.00
20) Perylene-d12	16.02	264	124661	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5		5.38	82	3945	0.09 ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	3.60%#
7) 2-Fluorobiphenyl		7.54	172	11144	0.10 ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	4.00%#
17) p-Terphenyl-d14		12.26	244	12521	0.10 ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	4.00%#

Target Compounds						Qvalue
3) Naphthalene	6.26	128	14530	0.1012 ug/ml		100
4) 2-Methylnaphthalene	7.08	142	9391	0.0988 ug/ml		100
5) 1-Methylnaphthalene	7.23	142	8851	0.0990 ug/ml		100
8) Acenaphthylene	8.24	152	12628	0.0798 ug/ml		99
9) Acenaphthene	8.46	154	9386	0.0959 ug/ml		98
10) Fluorene	9.09	166	10060	0.0937 ug/ml		100
12) Phenanthrene	10.31	178	16516	0.1032 ug/ml		99
13) Anthracene	10.37	178	14564	0.0944 ug/ml		99
14) Fluoranthene	11.83	202	16087	0.0959 ug/ml		99
16) Pyrene	12.12	202	18292	0.0989 ug/ml		96
18) Benzo[a]anthracene	13.63	228	15855	0.0979 ug/ml		99
19) Chrysene	13.68	228	17187	0.1045 ug/ml		100
21) Benzo[b]fluoranthene	15.27	252	15296	0.0964 ug/ml		99
22) Benzo[k]fluoranthene	15.31	252	16196	0.1025 ug/ml		99
23) Benzo[a]pyrene	15.90	252	13916	0.0934 ug/ml		98
24) Indeno[1,2,3-cd]pyrene	18.63	276	17213	0.0969 ug/ml		100
25) Dibenzo[ah]anthracene	18.63	278	13826	0.0955 ug/ml		99
26) Benzo[ghi]perylene	19.43	276	15163	0.1004 ug/ml		100

 (#) = qualifier out of range (m) = manual integration
 7M70169.D SIMPAHL.M Thu Aug 24 11:12:07 2017

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Data File : C:\MSDCHEM\1\DATA\082317\7M70169.D

Vial: 8

Acq On : 23 Aug 2017 6:40 pm

Operator: LJH

Sample : WG627017-07 0.1PPM PAHL STD

Inst : hpms7

Misc : 1,1 STD83209

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 24 9:01 2017

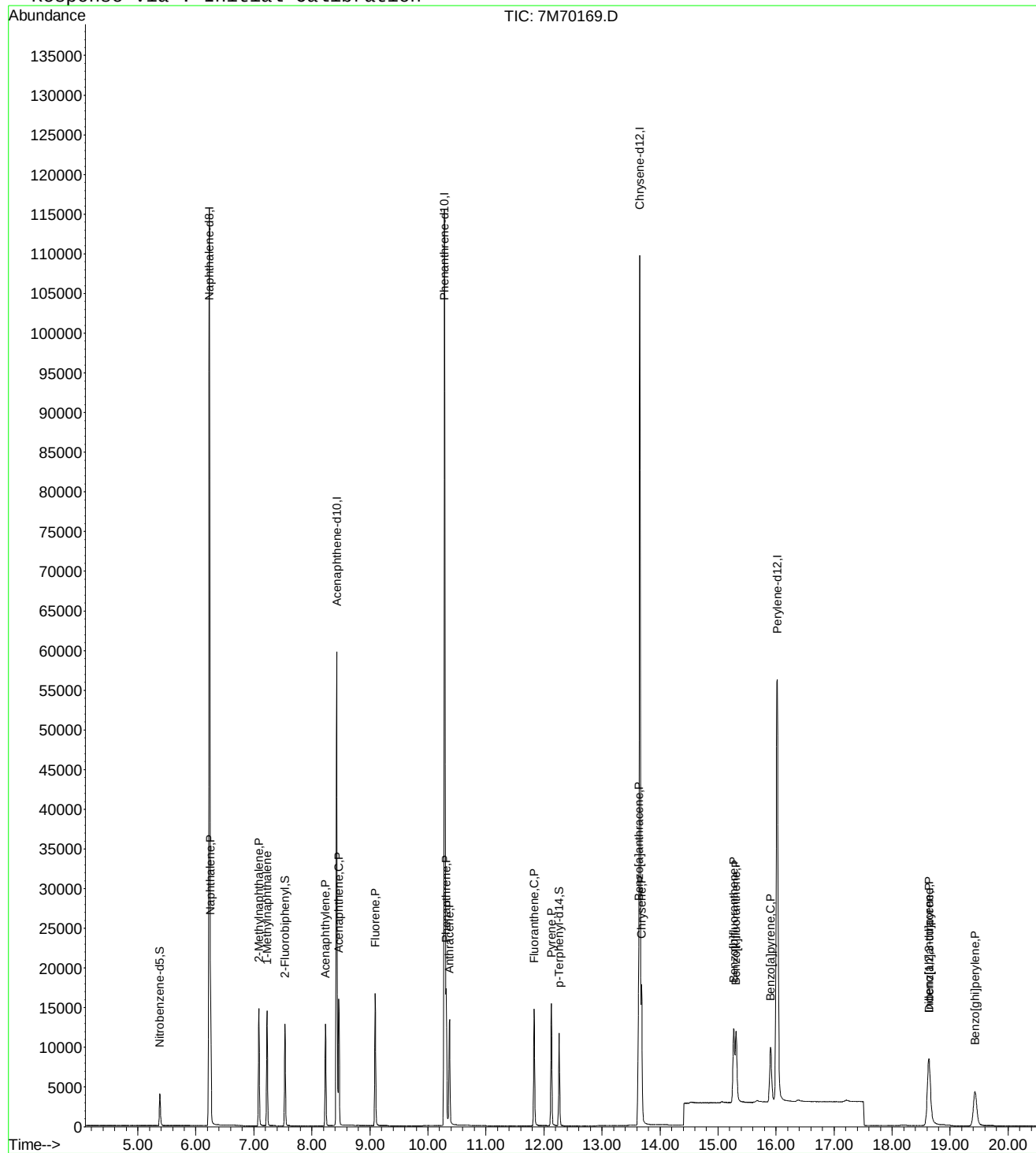
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70169.D SIMPAHL.M

Thu Aug 24 11:12:07 2017

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Data File : C:\MSDCHEM\1\DATA\082317\7M70170.D Vial: 9
 Acq On : 23 Aug 2017 7:06 pm Operator: LJH
 Sample : WG627017-08 1PPM ALT PAHL STD Inst : hpms7
 Misc : 1,1 STD80988 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 24 09:01:11 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	133725	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	72590	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.29	188	133994	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	141449	1.00	ug/ml	0.00
20) Perylene-d12	16.02	264	124318	1.00	ug/ml	0.00

System Monitoring Compounds						
2) Nitrobenzene-d5		5.39	82	15	0.00 ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	0.00%#
7) 2-Fluorobiphenyl		7.54	172	11	0.00 ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	0.00%#
17) p-Terphenyl-d14		12.26	244	341	0.00 ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	0.00%#

Target Compounds						Qvalue
3) Naphthalene	6.26	128	146334	1.0524	ug/ml	100
4) 2-Methylnaphthalene	7.09	142	98020	1.0641	ug/ml	100
5) 1-Methylnaphthalene	7.23	142	90589	1.0462	ug/ml	100
8) Acenaphthylene	8.24	152	154286	0.9938	ug/ml	100
9) Acenaphthene	8.47	154	98121	1.0223	ug/ml	94
10) Fluorene	9.09	166	105412	1.0011	ug/ml	100
12) Phenanthrene	10.31	178	161787	1.0343	ug/ml	100
13) Anthracene	10.37	178	161467	1.0710	ug/ml	100
14) Fluoranthene	11.83	202	172170	1.0502	ug/ml	99
16) Pyrene	12.12	202	192241	1.0342	ug/ml	99
18) Benzo[a]anthracene	13.62	228	167720	1.0309	ug/ml	100
19) Chrysene	13.68	228	172909	1.0464	ug/ml	100
21) Benzo[b]fluoranthene	15.27	252	173136	1.0945	ug/ml	97
22) Benzo[k]fluoranthene	15.31	252	168215	1.0672	ug/ml	97
23) Benzo[a]pyrene	15.90	252	155982	1.0498	ug/ml	100
24) Indeno[1,2,3-cd]pyrene	18.63	276	185122	1.0452	ug/ml	98
25) Dibenzo[ah]anthracene	18.63	278	151493	1.0488	ug/ml	99
26) Benzo[ghi]perylene	19.43	276	157810	1.0475	ug/ml	100

 (#) = qualifier out of range (m) = manual integration
 7M70170.D SIMPAHL.M Thu Aug 24 09:01:12 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\082317\7M70170.D

Vial: 9

Acq On : 23 Aug 2017 7:06 pm

Operator: LJH

Sample : WG627017-08 1PPM ALT PAHL STD

Inst : hpms7

Misc : 1,1 STD80988

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 24 9:01 2017

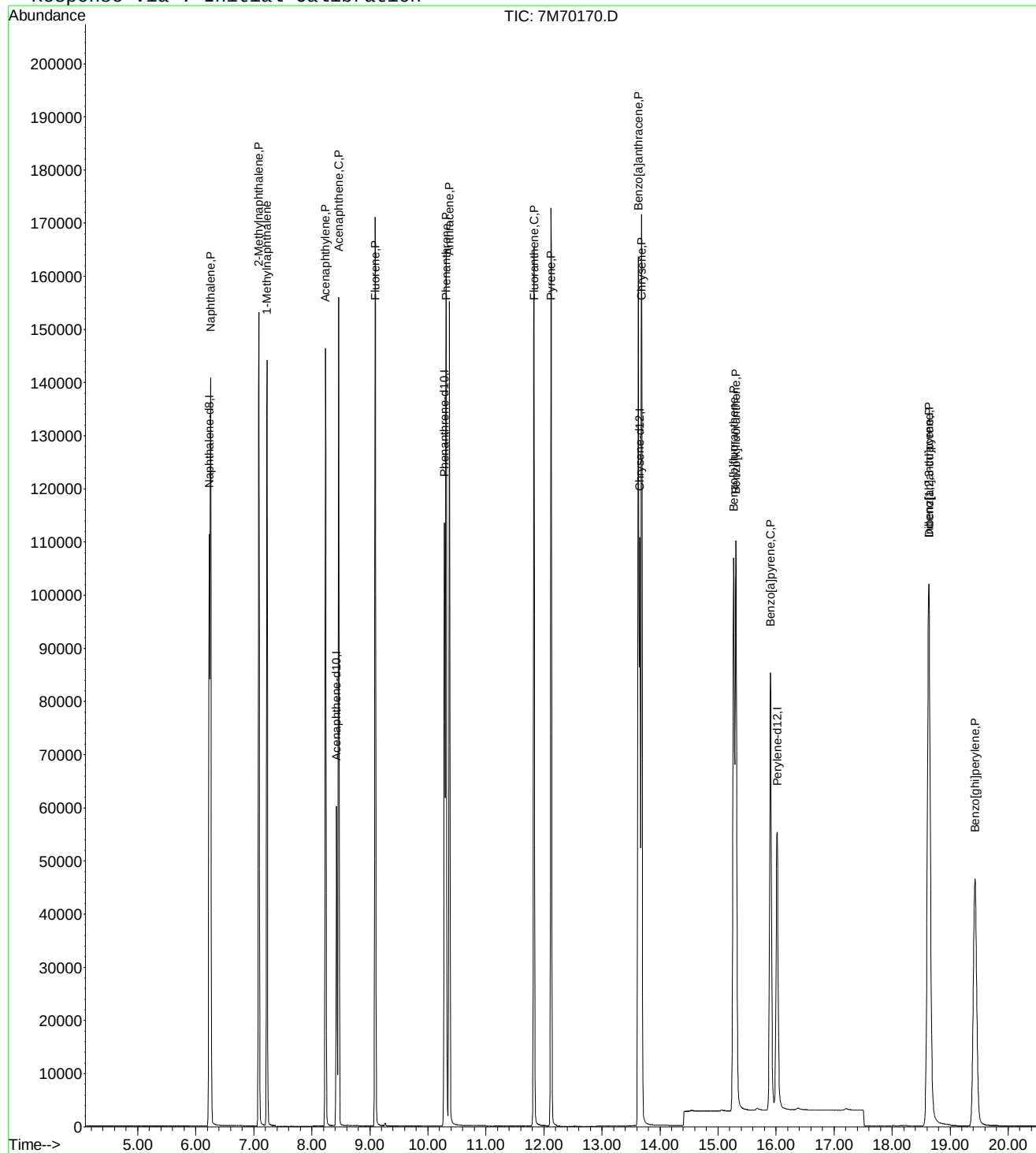
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70170.D SIMPAHL.M

Thu Aug 24 09:01:12 2017

Page 2

Data File : C:\MSDCHEM\1\DATA\082317\7M70170.D

Vial: 9

Acq On : 23 Aug 2017 7:06 pm

Operator: LJH

Sample : WG627017-08 1PPM ALT PAHL STD

Inst : hpms7

Misc : 1,1 STD80988

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Naphthalene-d8	1.000	1.000	0.0	72	0.00
2 S	Nitrobenzene-d5	0.335	0.000	100.0#	0#	0.00
3 P	Naphthalene	1.040	1.094	-5.2	77	0.00
4 P	2-Methylnaphthalene	0.689	0.733	-6.4	77	0.00
5	1-Methylnaphthalene	0.648	0.677	-4.5	76	0.00
6 I	Acenaphthene-d10	1.000	1.000	0.0	77	0.00
7 S	2-Fluorobiphenyl	1.542	0.000	100.0#	0#	0.00
8 P	Acenaphthylene	2.139	2.125	0.7	73	0.00
9 C,P	Acenaphthene	1.322	1.352	-2.3	79	0.00
10 P	Fluorene	1.451	1.452	-0.1	75	0.00
11 I	Phenanthrene-d10	1.000	1.000	0.0	72	0.00
12 P	Phenanthrene	1.167	1.207	-3.4	75	0.00
13 P	Anthracene	1.125	1.205	-7.1	74	0.00
14 C,P	Fluoranthene	1.224	1.285	-5.0	73	0.00
15 I	Chrysene-d12	1.000	1.000	0.0	70	0.00
16 P	Pyrene	1.314	1.359	-3.4	72	0.00
17 S	p-Terphenyl-d14	0.880	0.002	99.8#	0#	0.00
18 P	Benzo[a]anthracene	1.150	1.186	-3.1	73	0.00
19 P	Chrysene	1.168	1.222	-4.6	76	0.00
20 I	Perylene-d12	1.000	1.000	0.0	64	0.00
21 P	Benzo[b]fluoranthene	1.272	1.393	-9.5	77	0.00
22 P	Benzo[k]fluoranthene	1.268	1.353	-6.7	73	0.00
23 C,P	Benzo[a]pyrene	1.195	1.255	-5.0	71	0.00
24 P	Indeno[1,2,3-cd]pyrene	1.425	1.489	-4.5	71	0.00
25 P	Dibenz[ah]anthracene	1.162	1.219	-4.9	72	0.00
26 P	Benzo[ghi]perylene	1.212	1.269	-4.7	73	0.00

(#) = Out of Range
 7M70170.D SIMPAHL.M

SPCC's out = 0 CCC's out = 0
 Thu Aug 24 10:22:08 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\082317\7M70170.D

Vial: 9

Acq On : 23 Aug 2017 7:06 pm

Operator: LJH

Sample : WG627017-08 1PPM ALT PAHL STD

Inst : hpms7

Misc : 1,1 STD80988

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Multiple Level Calibration

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

Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Naphthalene-d8	1.000	1.000	0.0	72	0.00
2 S	Nitrobenzene-d5	1.000	0.000	100.0#	0	0.00
3 P	Naphthalene	1.000	1.052	-5.2	77	0.00
4 P	2-Methylnaphthalene	1.000	1.064	-6.4	77	0.00
5	1-Methylnaphthalene	1.000	1.046	-4.6	76	0.00
6 I	Acenaphthene-d10	1.000	1.000	0.0	77	0.00
7 S	2-Fluorobiphenyl	1.000	0.000	100.0#	0	0.00
8 P	Acenaphthylene	1.000	0.994	0.6	73	0.00
9 C,P	Acenaphthene	1.000	1.022	-2.2	79	0.00
10 P	Fluorene	1.000	1.001	-0.1	75	0.00
11 I	Phenanthrene-d10	1.000	1.000	0.0	72	0.00
12 P	Phenanthrene	1.000	1.034	-3.4	75	0.00
13 P	Anthracene	1.000	1.071	-7.1	74	0.00
14 C,P	Fluoranthene	1.000	1.050	-5.0	73	0.00
15 I	Chrysene-d12	1.000	1.000	0.0	70	0.00
16 P	Pyrene	1.000	1.034	-3.4	72	0.00
17 S	p-Terphenyl-d14	1.000	0.003	99.7#	0	0.00
18 P	Benzo[a]anthracene	1.000	1.031	-3.1	73	0.00
19 P	Chrysene	1.000	1.046	-4.6	76	0.00
20 I	Perylene-d12	1.000	1.000	0.0	64	0.00
21 P	Benzo[b]fluoranthene	1.000	1.095	-9.5	77	0.00
22 P	Benzo[k]fluoranthene	1.000	1.067	-6.7	73	0.00
23 C,P	Benzo[a]pyrene	1.000	1.050	-5.0	71	0.00
24 P	Indeno[1,2,3-cd]pyrene	1.000	1.045	-4.5	71	0.00
25 P	Dibenz[ah]anthracene	1.000	1.049	-4.9	72	0.00
26 P	Benzo[ghi]perylene	1.000	1.048	-4.8	73	0.00

(#) = Out of Range
7M70170.D SIMPAHL.M

SPCC's out = 0 CCC's out = 0
Thu Aug 24 10:21:57 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\083017\7M70228.D Vial: 2
 Acq On : 30 Aug 2017 10:02 am Operator: LJH
 Sample : WG627760-02 1PPM PAHL STD Inst : hpms7
 Misc : 1,1 STD83583 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 10:24:10 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	130066	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	72539	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.29	188	131650	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	138649	1.00	ug/ml	0.00
20) Perylene-d12	16.01	264	129706	1.00	ug/ml	-0.01

System Monitoring Compounds						
2) Nitrobenzene-d5		5.38	82	46252	1.06	ug/ml 0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	42.40%
7) 2-Fluorobiphenyl		7.54	172	101381	0.91	ug/ml 0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	36.40%#
17) p-Terphenyl-d14		12.26	244	121079	0.99	ug/ml 0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	39.60%

Target Compounds						Qvalue
3) Naphthalene		6.26	128	132014	0.9761	ug/ml 100
4) 2-Methylnaphthalene		7.09	142	90946	1.0151	ug/ml 100
5) 1-Methylnaphthalene		7.23	142	83197	0.9879	ug/ml 100
8) Acenaphthylene		8.24	152	149892	0.9662	ug/ml 100
9) Acenaphthene		8.47	154	83945	0.8752	ug/ml 99
10) Fluorene		9.09	166	98532	0.9364	ug/ml 100
12) Phenanthrene		10.31	178	149901	0.9754	ug/ml 100
13) Anthracene		10.37	178	150072	1.0131	ug/ml 100
14) Fluoranthene		11.83	202	164743	1.0228	ug/ml 100
16) Pyrene		12.12	202	185371	1.0174	ug/ml 100
18) Benzo[a]anthracene		13.62	228	159810	1.0021	ug/ml 100
19) Chrysene		13.68	228	155917	0.9626	ug/ml 100
21) Benzo[b]fluoranthene		15.26	252	160740	0.9740	ug/ml 100
22) Benzo[k]fluoranthene		15.31	252	164737	1.0018	ug/ml 100
23) Benzo[a]pyrene		15.90	252	157034	1.0130	ug/ml 100
24) Indeno[1,2,3-cd]pyrene		18.63	276	185925	1.0061	ug/ml 99
25) Dibenz[ah]anthracene		18.63	278	152916	1.0146	ug/ml 99
26) Benzo[ghi]perylene		19.43	276	157447	1.0017	ug/ml 100

(#) = qualifier out of range (m) = manual integration
 7M70228.D SIMPAHL.M Wed Aug 30 10:25:44 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\083017\7M70228.D

Vial: 2

Acq On : 30 Aug 2017 10:02 am

Operator: LJH

Sample : WG627760-02 1PPM PAHL STD

Inst : hpms7

Misc : 1,1 STD83583

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 10:24 2017

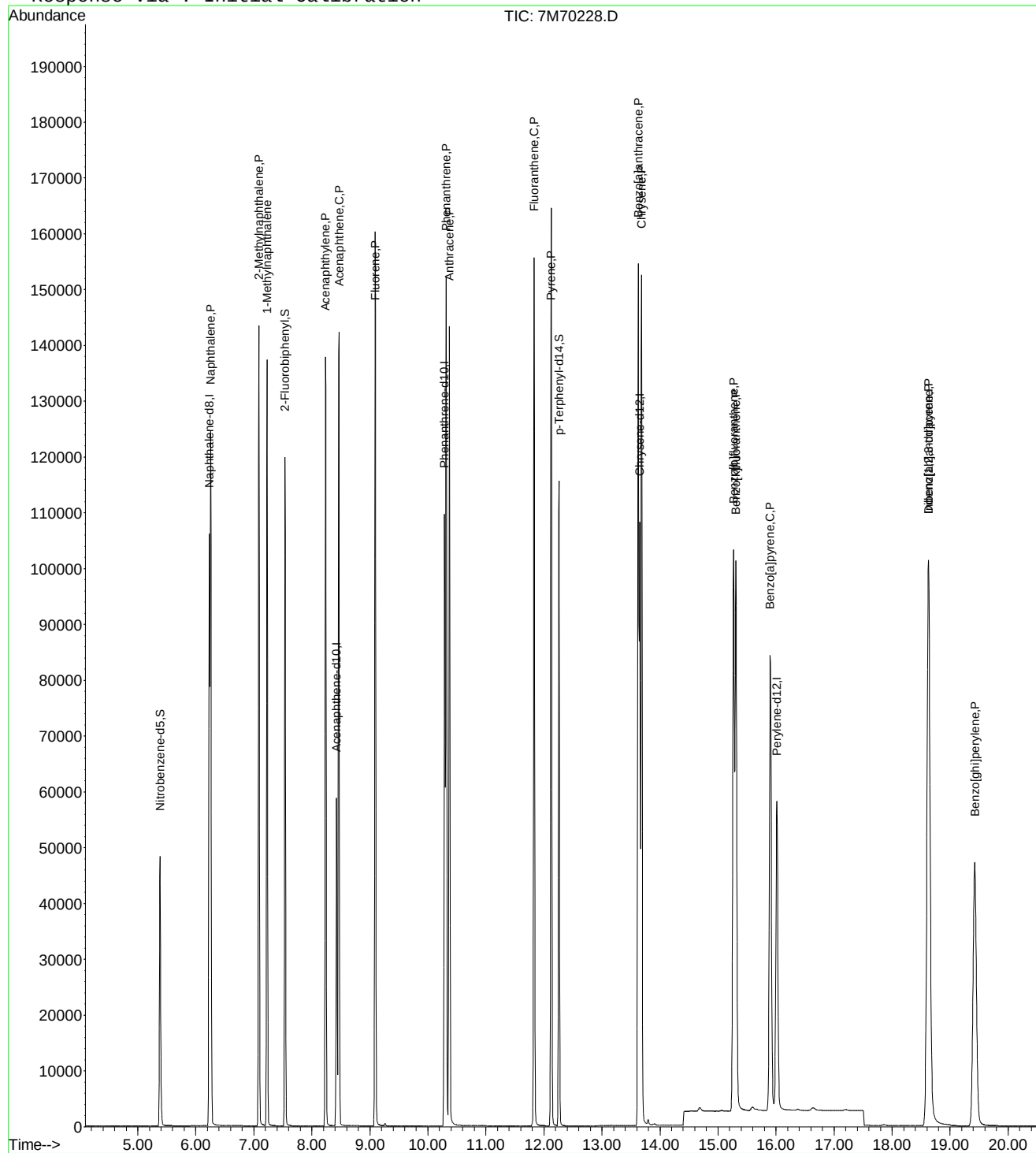
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70228.D SIMPAHL.M

Wed Aug 30 10:25:45 2017

Page 2

Data File : C:\MSDCHEM\1\DATA\083017\7M70228.D

Vial: 2

Acq On : 30 Aug 2017 10:02 am

Operator: LJH

Sample : WG627760-02 1PPM PAHL STD

Inst : hpms7

Misc : 1,1 STD83583

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Naphthalene-d8	1.000	1.000	0.0	70	0.00
2 S	Nitrobenzene-d5	0.335	0.356	-6.3	72	0.00
3 P	Naphthalene	1.040	1.015	2.4	69	0.00
4 P	2-Methylnaphthalene	0.689	0.699	-1.5	71	0.00
5	1-Methylnaphthalene	0.648	0.640	1.2	70	0.00
6 I	Acenaphthene-d10	1.000	1.000	0.0	77	0.00
7 S	2-Fluorobiphenyl	1.542	1.398	9.3	69	0.00
8 P	Acenaphthylene	2.139	2.066	3.4	71	0.00
9 C,P	Acenaphthene	1.322	1.157	12.5	68	0.00
10 P	Fluorene	1.451	1.358	6.4	70	0.00
11 I	Phenanthrene-d10	1.000	1.000	0.0	70	0.00
12 P	Phenanthrene	1.167	1.139	2.4	69	0.00
13 P	Anthracene	1.125	1.140	-1.3	69	0.00
14 C,P	Fluoranthene	1.224	1.251	-2.2	70	0.00
15 I	Chrysene-d12	1.000	1.000	0.0	69	0.00
16 P	Pyrene	1.314	1.337	-1.8	70	0.00
17 S	p-Terphenyl-d14	0.880	0.873	0.8	70	0.00
18 P	Benzo[a]anthracene	1.150	1.153	-0.3	69	0.00
19 P	Chrysene	1.168	1.125	3.7	68	0.00
20 I	Perylene-d12	1.000	1.000	0.0	67	-0.01
21 P	Benzo[b]fluoranthene	1.272	1.239	2.6	71	0.00
22 P	Benzo[k]fluoranthene	1.268	1.270	-0.2	71	0.00
23 C,P	Benzo[a]pyrene	1.195	1.211	-1.3	71	-0.01
24 P	Indeno[1,2,3-cd]pyrene	1.425	1.433	-0.6	71	-0.01
25 P	Dibenz[ah]anthracene	1.162	1.179	-1.5	72	-0.01
26 P	Benzo[ghi]perylene	1.212	1.214	-0.2	73	-0.01

(#) = Out of Range
 7M70228.D SIMPAHL.M

SPCC's out = 0 CCC's out = 0
 Wed Aug 30 10:24:48 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\083017\7M70228.D

Vial: 2

Acq On : 30 Aug 2017 10:02 am

Operator: LJH

Sample : WG627760-02 1PPM PAHL STD

Inst : hpms7

Misc : 1,1 STD83583

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 25% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Naphthalene-d8	1.000	1.000	0.0	70	0.00
2 S	Nitrobenzene-d5	1.000	1.063	-6.3	72	0.00
3 P	Naphthalene	1.000	0.976	2.4	69	0.00
4 P	2-Methylnaphthalene	1.000	1.015	-1.5	71	0.00
5	1-Methylnaphthalene	1.000	0.988	1.2	70	0.00
6 I	Acenaphthene-d10	1.000	1.000	0.0	77	0.00
7 S	2-Fluorobiphenyl	1.000	0.906	9.4	69	0.00
8 P	Acenaphthylene	1.000	0.966	3.4	71	0.00
9 C,P	Acenaphthene	1.000	0.875	12.5	68	0.00
10 P	Fluorene	1.000	0.936	6.4	70	0.00
11 I	Phenanthrene-d10	1.000	1.000	0.0	70	0.00
12 P	Phenanthrene	1.000	0.975	2.5	69	0.00
13 P	Anthracene	1.000	1.013	-1.3	69	0.00
14 C,P	Fluoranthene	1.000	1.023	-2.3	70	0.00
15 I	Chrysene-d12	1.000	1.000	0.0	69	0.00
16 P	Pyrene	1.000	1.017	-1.7	70	0.00
17 S	p-Terphenyl-d14	1.000	0.992	0.8	70	0.00
18 P	Benzo[a]anthracene	1.000	1.002	-0.2	69	0.00
19 P	Chrysene	1.000	0.963	3.7	68	0.00
20 I	Perylene-d12	1.000	1.000	0.0	67	-0.01
21 P	Benzo[b]fluoranthene	1.000	0.974	2.6	71	0.00
22 P	Benzo[k]fluoranthene	1.000	1.002	-0.2	71	0.00
23 C,P	Benzo[a]pyrene	1.000	1.013	-1.3	71	-0.01
24 P	Indeno[1,2,3-cd]pyrene	1.000	1.006	-0.6	71	-0.01
25 P	Dibenz[ah]anthracene	1.000	1.015	-1.5	72	-0.01
26 P	Benzo[ghi]perylene	1.000	1.002	-0.2	73	-0.01

(#) = Out of Range
 7M70228.D SIMPAHL.M

SPCC's out = 0 CCC's out = 0
 Wed Aug 30 10:24:50 2017

Page 1

2.2.2.5 Raw QC Data

DFTPP

Data File : C:\MSDCHEM\1\DATA\082317\7M70161.D

Vial: 1

Acq On : 23 Aug 2017 3:00 pm

Operator: LJH

Sample : WG627017-09 5PPM DFTPP

Inst : hpms7

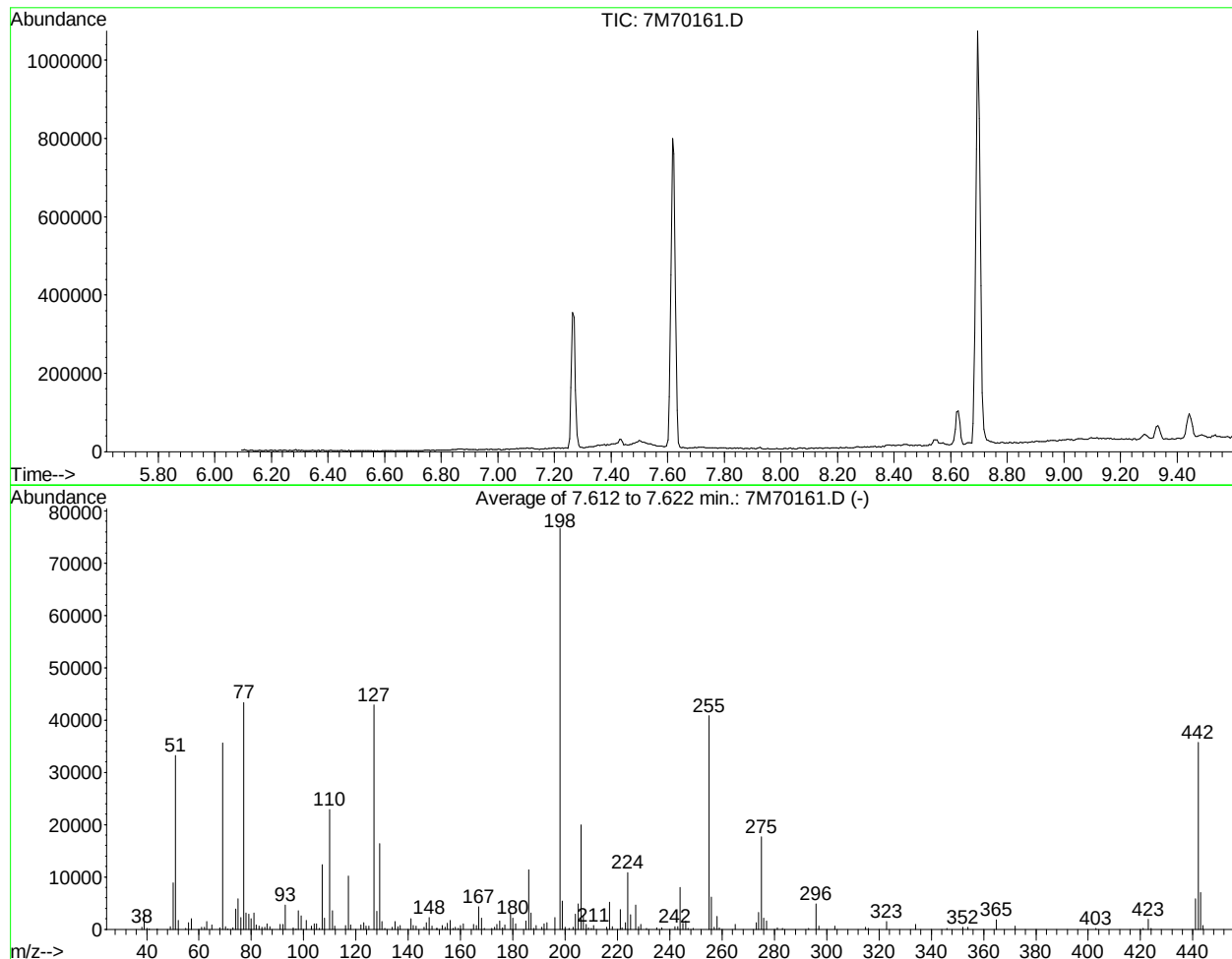
Misc : 1,1 STD83235

Multiplr: 1.00

MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17



AutoFind: Scans 285, 286, 287; Background Corrected with Scan 280

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	43.3	33192	PASS
68	69	0.00	2	0.8	292	PASS
69	198	0.00	100	46.5	35620	PASS
70	69	0.00	2	1.3	469	PASS
127	198	40	60	56.0	42909	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	76666	PASS
199	198	5	9	7.0	5382	PASS
275	198	10	30	23.0	17664	PASS
365	198	1	100	2.4	1826	PASS
441	443	0.01	100	83.0	5843	PASS
442	198	40	100	46.6	35715	PASS
443	442	17	23	19.7	7040	PASS

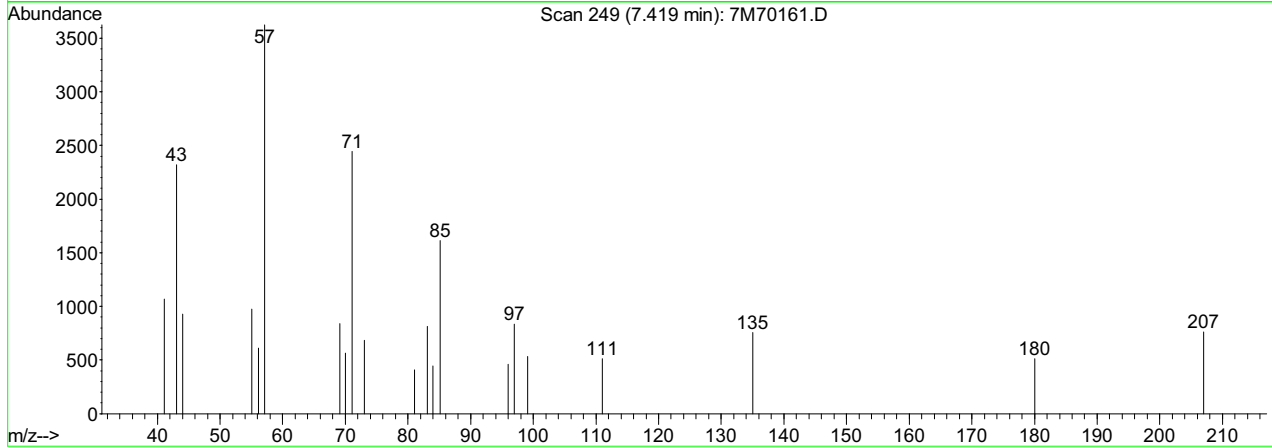
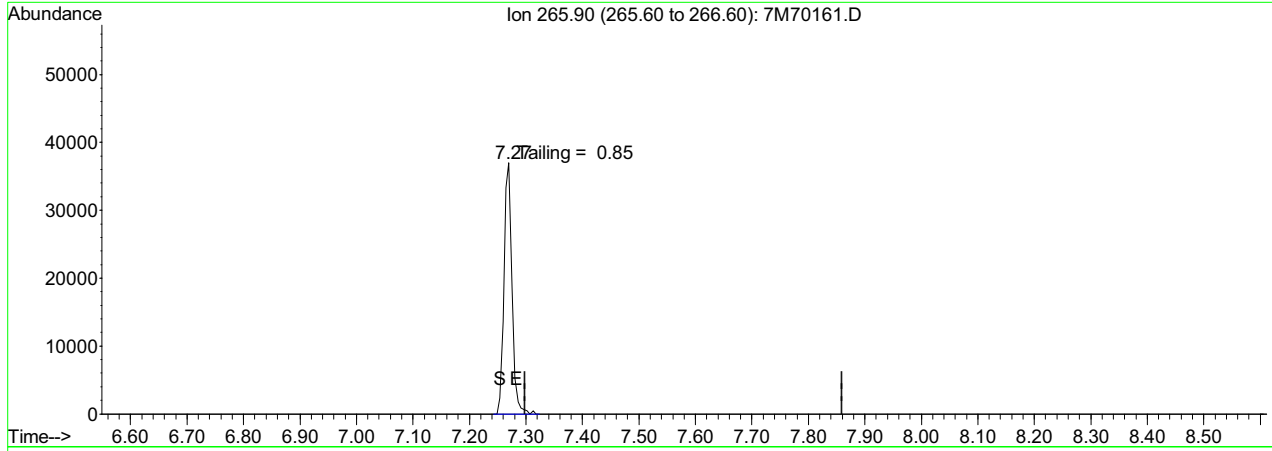
7M70161.D SIMPAHL.M

Wed Aug 30 08:42:38 2017

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\082317\7M70161.D Vial: 1
 Acq On : 23 Aug 2017 3:00 pm : Operator: LJH
 Sample WG627017-09 5PPM DFTPP : Inst : hpms7
 Misc 1,1 STD83235 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 23 15:11 2017 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
 Title : DFTPP
 Last Update : Fri Mar 17 11:43:44 2017
 Response via : Single Level Calibration



TIC: 7M70161.D

(1) Pentachlorophenol

7.42min 0.00

response 0

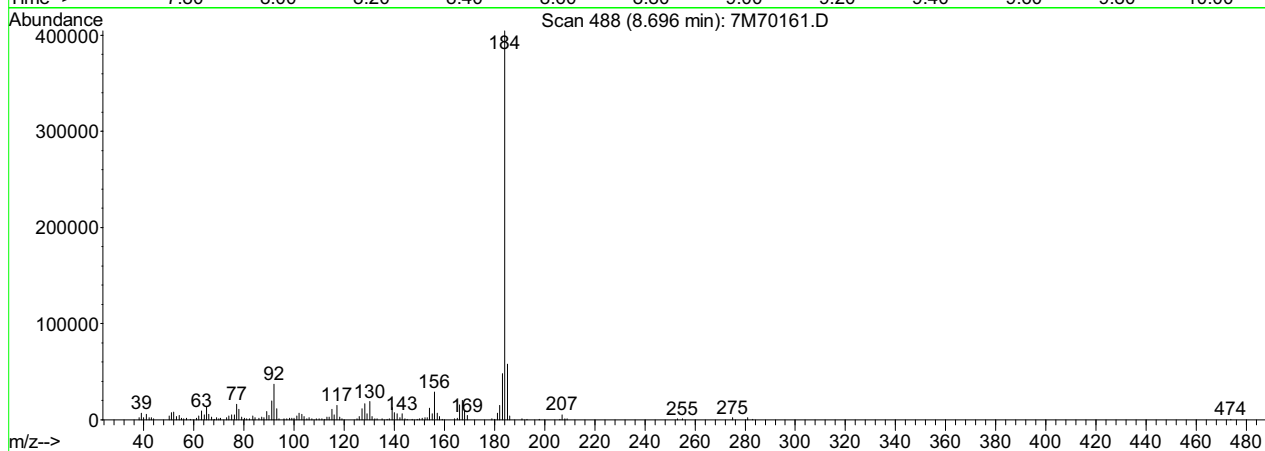
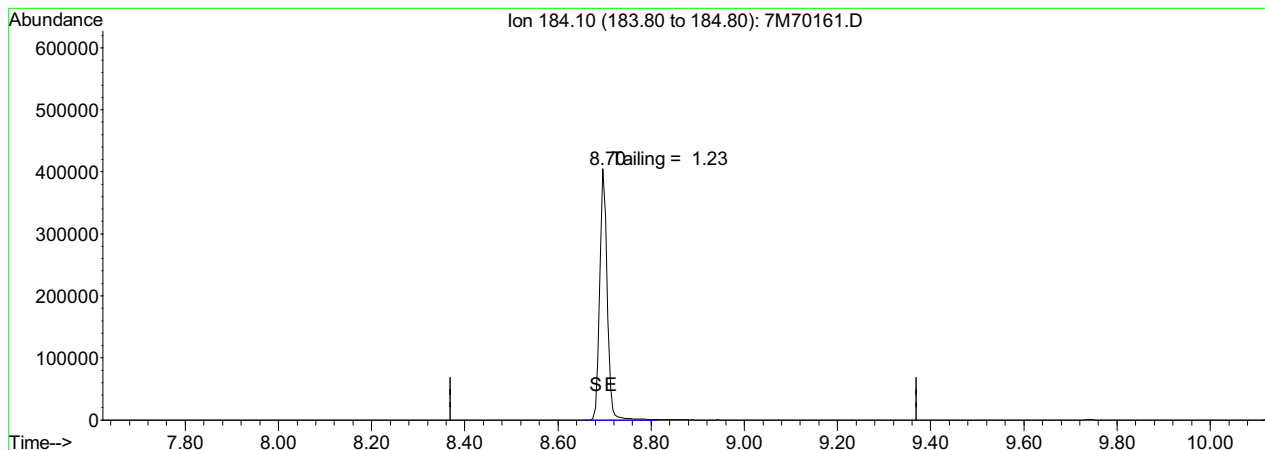
Ion	Exp%	Act%
265.90	100	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

7M70161.D DFTPP.M Thu Aug 24 10:25:02 2017

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\082317\7M70161.D Vial: 1
Acq On : 23 Aug 2017 3:00 pm : Operator: LJH
Sample WG627017-09 5PPM DFTPP : Inst : hpms7
Misc 1,1 STD83235 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 23 15:11 2017 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP
Last Update : Fri Mar 17 11:43:44 2017
Response via : Single Level Calibration



TIC: 7M70161.D

(2) Benzidine

8.70min 0.00

response 447879

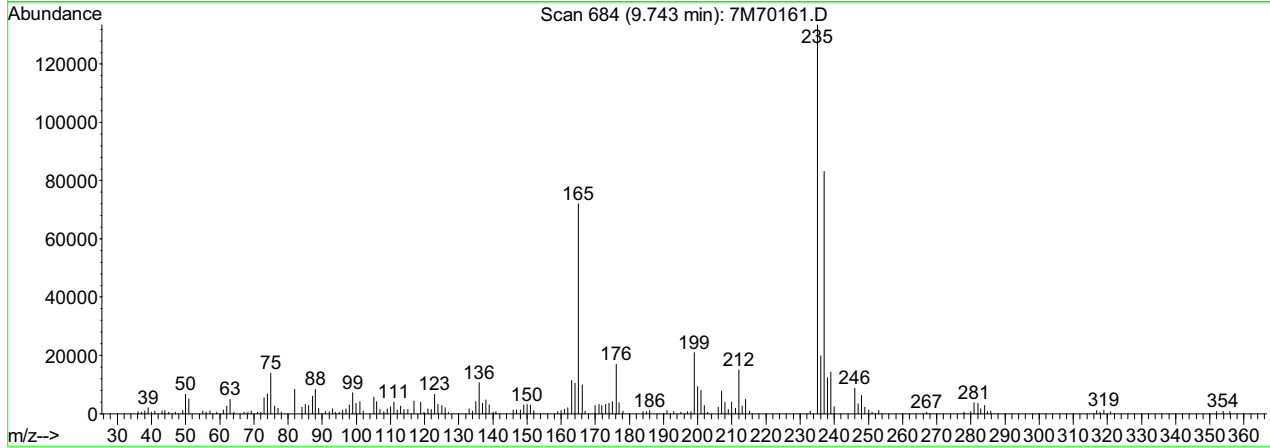
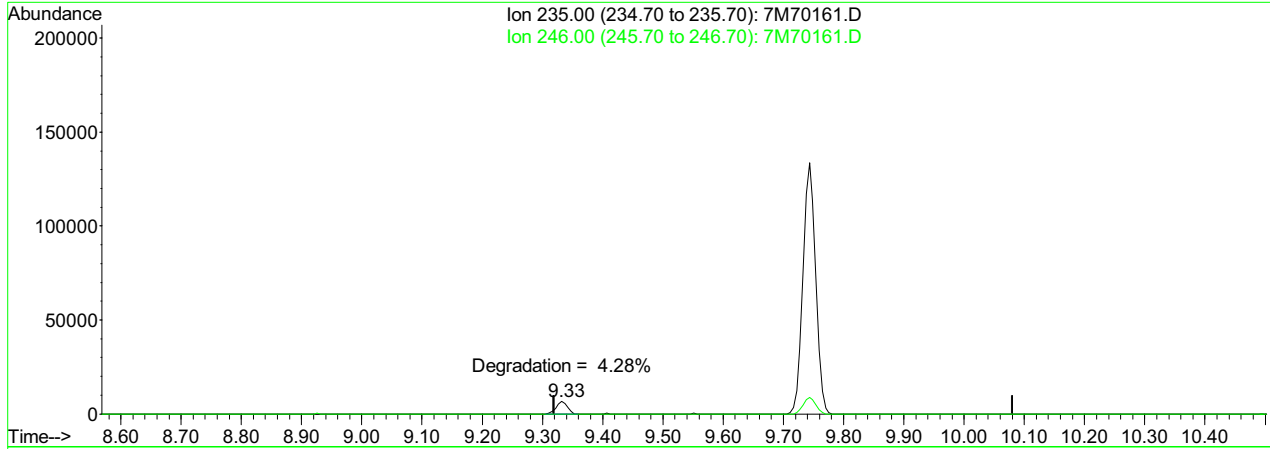
Ion	Exp%	Act%
184.10	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

7M70161.D DFTPP.M Thu Aug 24 10:25:11 2017

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\082317\7M70161.D Vial: 1
 Acq On : 23 Aug 2017 3:00 pm : Operator: LJH
 Sample WG627017-09 5PPM DFTPP : Inst : hpms7
 Misc 1,1 STD83235 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 23 15:11 2017 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
 Title : DFTPP
 Last Update : Fri Mar 17 11:43:44 2017
 Response via : Single Level Calibration



TIC: 7M70161.D

(3) DDT

9.74min 0.00

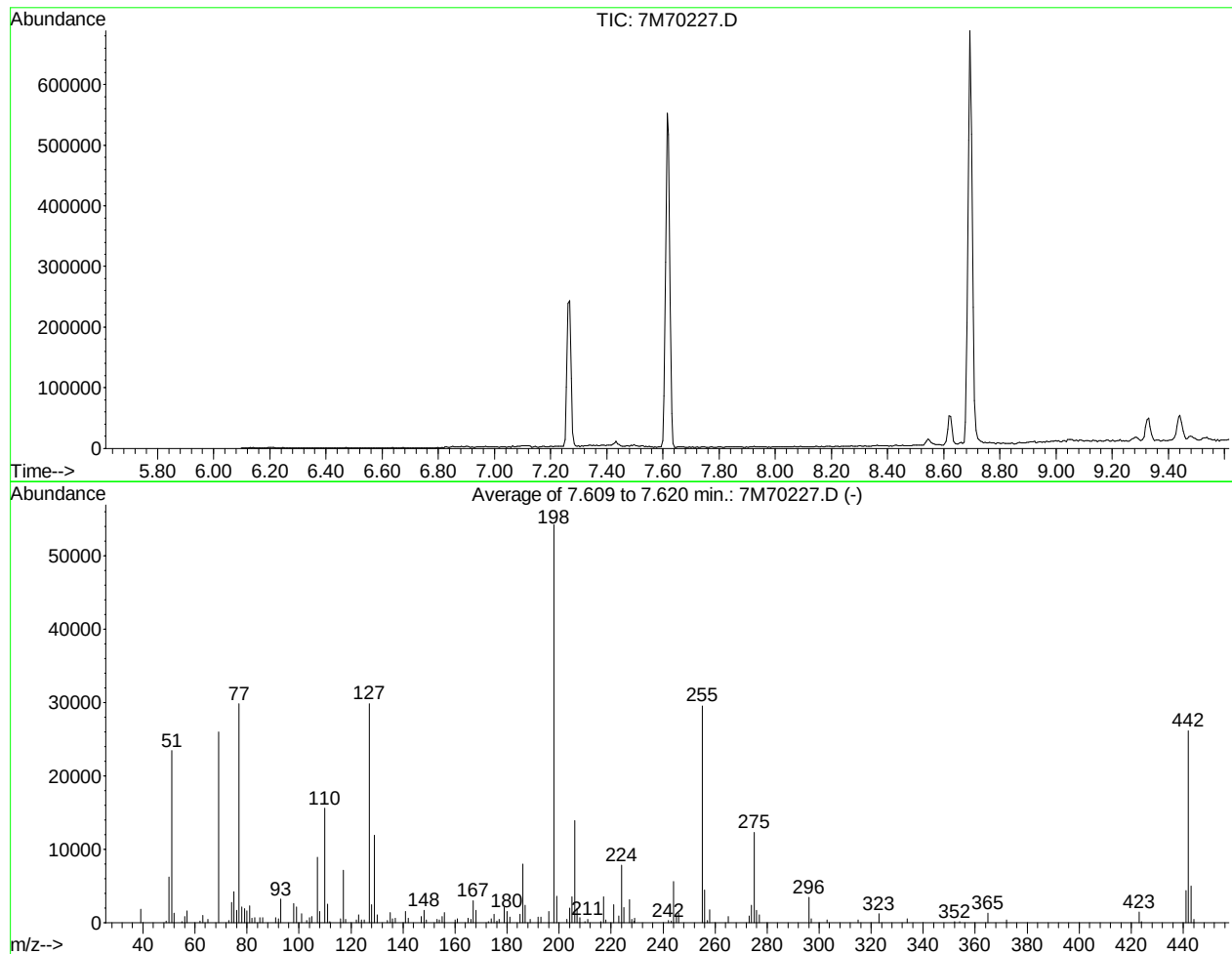
response 196351

Ion	Exp%	Act%
235.00	100	100
246.00	8.00	6.48
0.00	0.00	0.00
0.00	0.00	0.00

7M70161.D DFTPP.M Thu Aug 24 10:25:22 2017

DFTPP

Data File : C:\MSDCHEM\1\DATA\083017\7M70227.D Vial: 1
Acq On : 30 Aug 2017 9:37 am Operator: LJH
Sample : WG627760-01 5PPM DFTPP Inst : hpms7
Misc : 1,1 STD83235 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP



AutoFind: Scans 284, 285, 286; Background Corrected with Scan 279

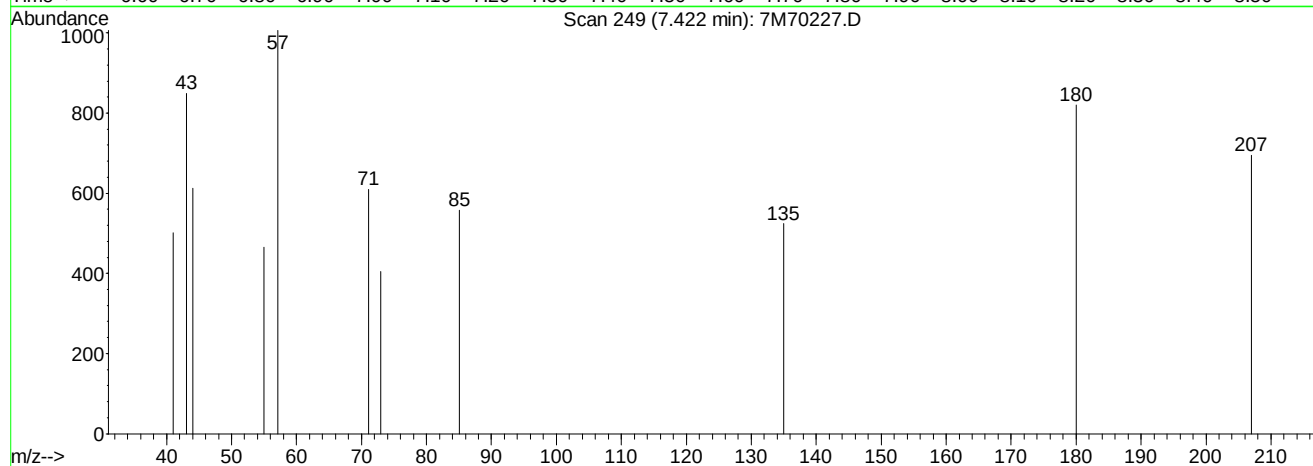
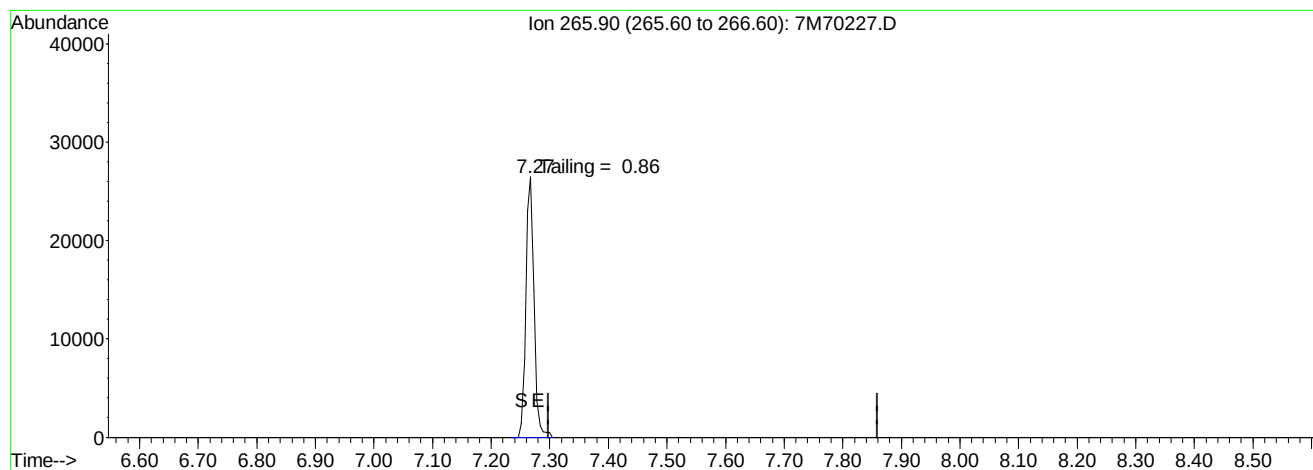
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	43.2	23405	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	47.9	25954	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	55.1	29848	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	54216	PASS
199	198	5	9	6.6	3586	PASS
275	198	10	30	22.6	12264	PASS
365	198	1	100	2.4	1310	PASS
441	443	0.01	100	87.7	4373	PASS
442	198	40	100	48.2	26122	PASS
443	442	17	23	19.1	4985	PASS

7M70227.D DFTPP.M Wed Aug 30 12:15:28 2017

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\083017\7M70227.D Vial: 1
 Acq On : 30 Aug 2017 9:37 am Operator: LJH
 Sample : WG627760-01 5PPM DFTPP Inst : hpms7
 Misc : 1,1 STD83235 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Aug 30 10:00 2017 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
 Title : DFTPP
 Last Update : Fri Mar 17 11:43:44 2017
 Response via : Single Level Calibration



TIC: 7M70227.D

(1) Pentachlorophenol

7.42min 0.00

response 0

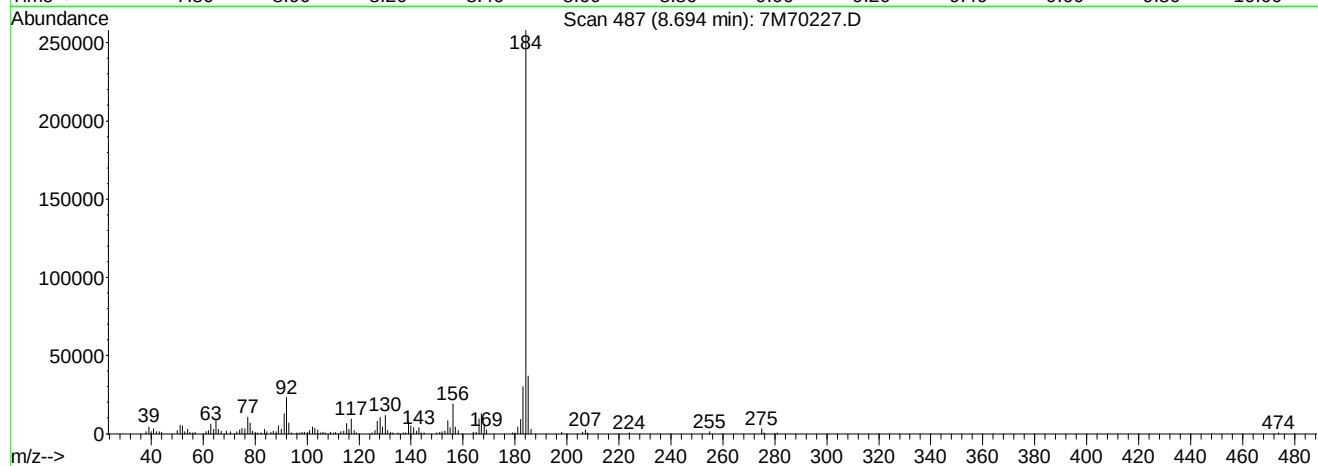
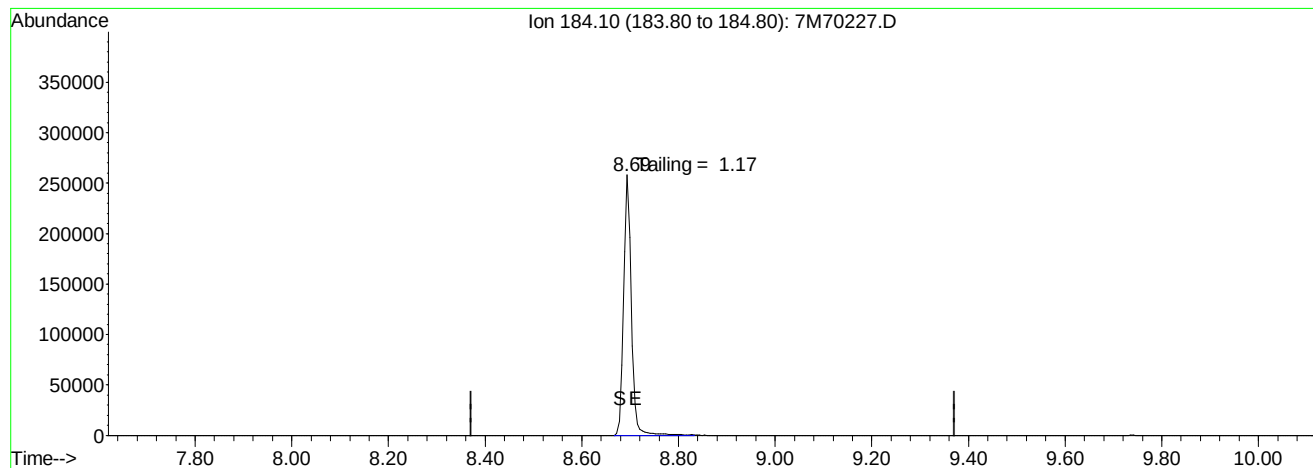
Ion	Exp%	Act%
265.90	100	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

7M70227.D DFTPP.M Wed Aug 30 12:15:45 2017

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\083017\7M70227.D Vial: 1
Acq On : 30 Aug 2017 9:37 am Operator: LJH
Sample : WG627760-01 5PPM DFTPP Inst : hpms7
Misc : 1,1 STD83235 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 30 10:00 2017 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP
Last Update : Fri Mar 17 11:43:44 2017
Response via : Single Level Calibration



TIC: 7M70227.D

(2) Benzidine

8.69min 0.00

response 285080

Ion	Exp%	Act%
184.10	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

7M70227.D DFTPP.M

Wed Aug 30 12:15:52 2017

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\083017\7M70227.D

Vial: 1

Acq On : 30 Aug 2017 9:37 am

Operator: LJH

Sample : WG627760-01 5PPM DFTPP

Inst : hpms7

Misc : 1,1 STD83235

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Aug 30 10:00 2017

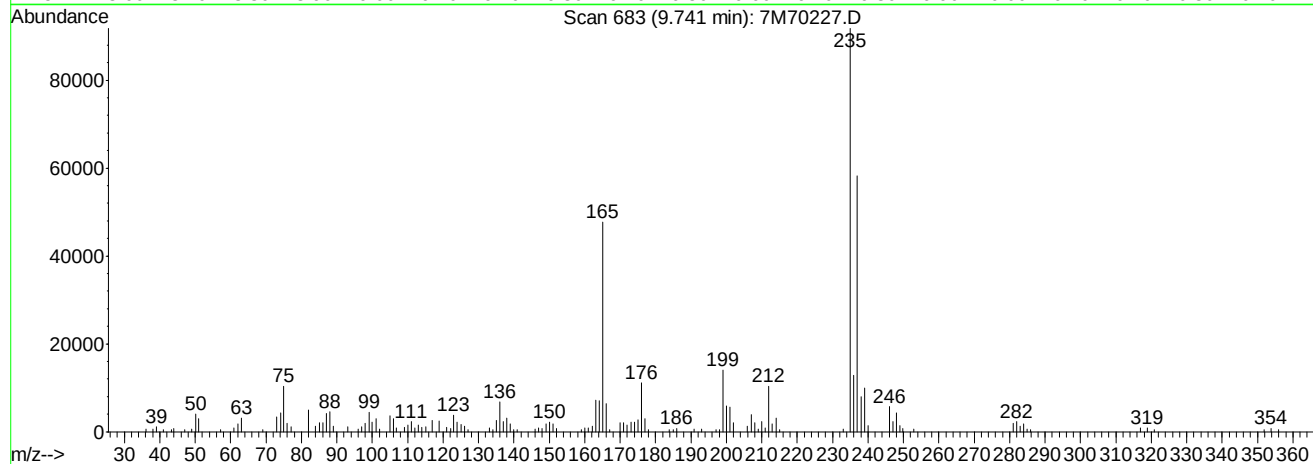
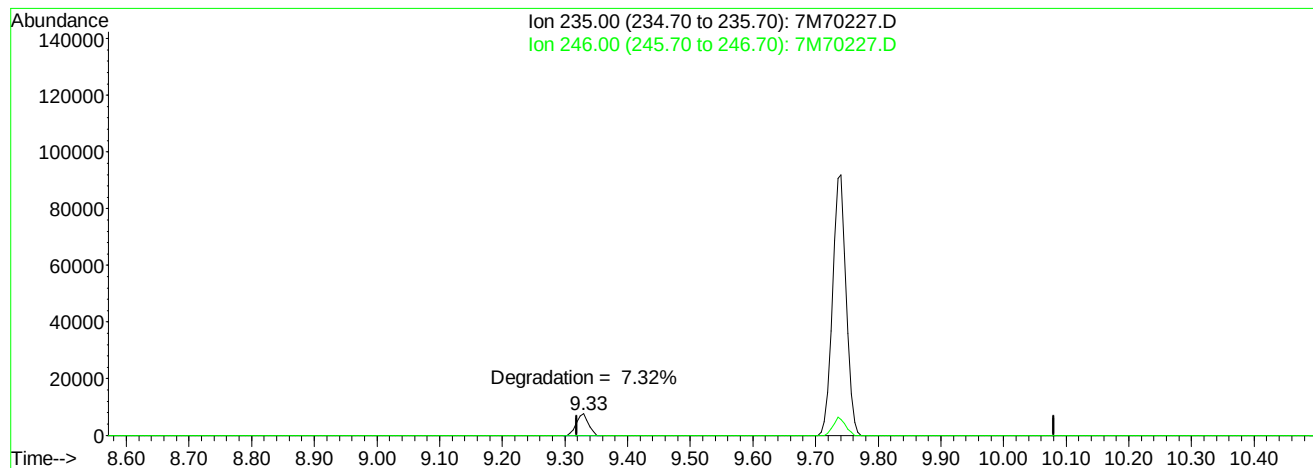
Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)

Title : DFTPP

Last Update : Fri Mar 17 11:43:44 2017

Response via : Single Level Calibration



TIC: 7M70227.D

(3) DDT

9.74min 0.00

response 137816

Ion	Exp%	Act%
235.00	100	100
246.00	8.00	6.30#
0.00	0.00	0.00
0.00	0.00	0.00

7M70227.D DFTPP.M

Wed Aug 30 12:16:03 2017

Data File : C:\MSDCHEM\1\DATA\083017\7M70229.D Vial: 3
 Acq On : 30 Aug 2017 10:31 am Operator: LJH
 Sample : WG627571-01 BLANK 827-PAHL Inst : hpms7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 15:32:39 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	119240	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.43	164	63023	1.00	ug/ml	0.00
11) Phenanthrene-d10	10.29	188	124274	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	129974	1.00	ug/ml	0.00
20) Perylene-d12	16.01	264	124170	1.00	ug/ml	-0.01

System Monitoring Compounds						
2) Nitrobenzene-d5	5.38	82	85544	2.14	ug/ml	0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	85.60%
7) 2-Fluorobiphenyl	7.54	172	206586	2.13	ug/ml	0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	85.20%
17) p-Terphenyl-d14	12.26	244	289247	2.53	ug/ml	0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	101.20%

Target Compounds	Qvalue

 (#) = qualifier out of range (m) = manual integration
 7M70229.D SIMPAHL.M Wed Aug 30 15:32:40 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\083017\7M70229.D

Vial: 3

Acq On : 30 Aug 2017 10:31 am

Operator: LJH

Sample : WG627571-01 BLANK 827-PAHL

Inst : hpms7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 15:32 2017

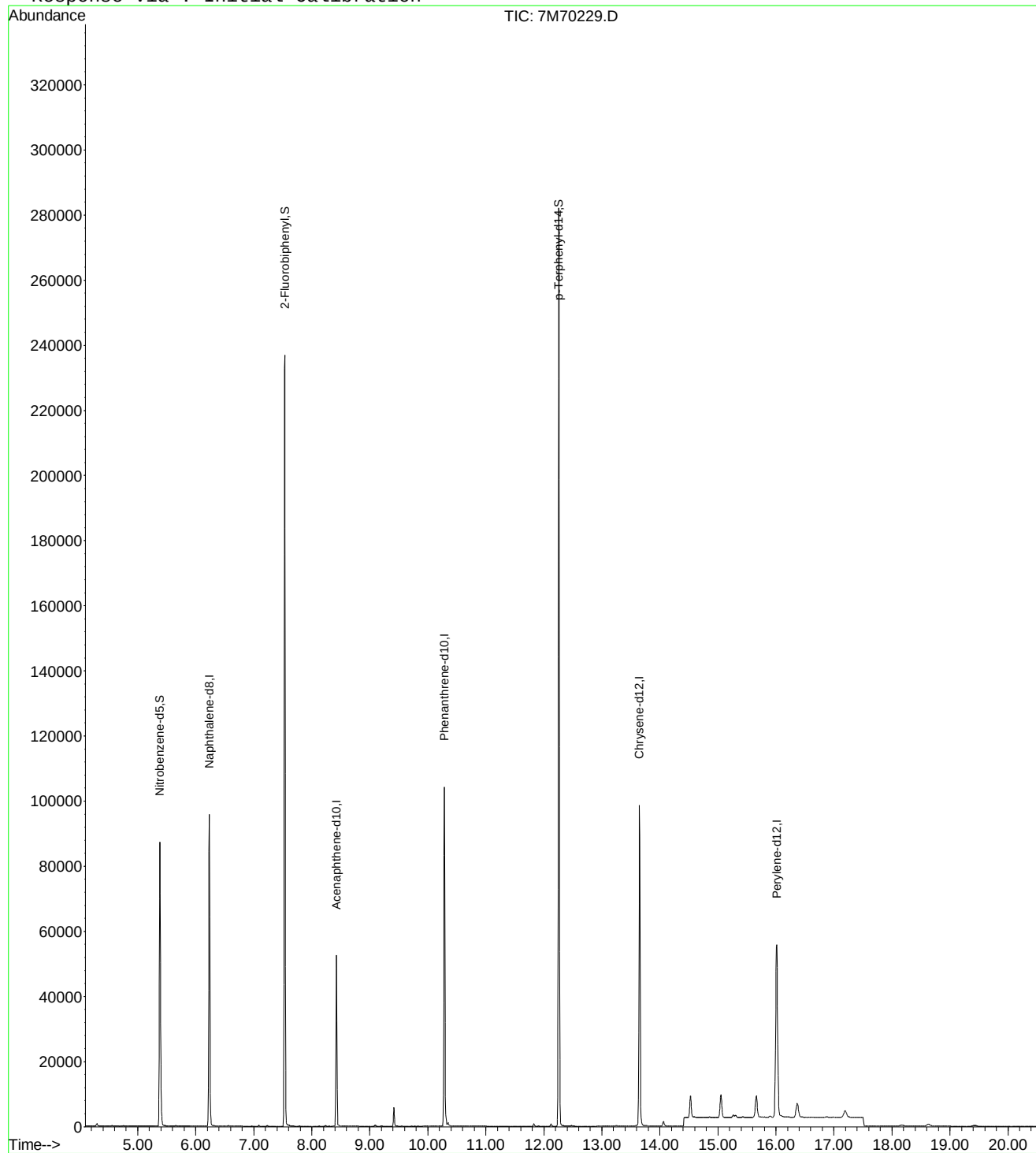
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70229.D SIMPAHL.M

Wed Aug 30 15:32:40 2017

Page 2

Data File : C:\MSDCHEM\1\DATA\083017\7M70230.D Vial: 4
 Acq On : 30 Aug 2017 10:58 am Operator: LJH
 Sample : WG627571-02 LCS 827-PAHL Inst : hpms7
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Aug 30 15:33:18 2017 Quant Results File: SIMPAHL.RES

Quant Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)
 Title : OVD MSS03 SIMPAHL ICAL 08/23/17
 Last Update : Thu Aug 24 08:58:21 2017
 Response via : Initial Calibration
 DataAcq Meth : PAHRUN

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	6.23	136	131229	1.00	ug/ml	0.00
6) Acenaphthene-d10	8.42	164	69756	1.00	ug/ml	-0.01
11) Phenanthrene-d10	10.28	188	137327	1.00	ug/ml	0.00
15) Chrysene-d12	13.65	240	142860	1.00	ug/ml	0.00
20) Perylene-d12	16.01	264	136593	1.00	ug/ml	-0.02

System Monitoring Compounds						
2) Nitrobenzene-d5		5.38	82	103979	2.37	ug/ml 0.00
Spiked Amount	2.500	Range	35 - 114	Recovery	=	94.80%
7) 2-Fluorobiphenyl		7.53	172	242456	2.25	ug/ml 0.00
Spiked Amount	2.500	Range	43 - 116	Recovery	=	90.00%
17) p-Terphenyl-d14		12.26	244	298761	2.38	ug/ml 0.00
Spiked Amount	2.500	Range	33 - 141	Recovery	=	95.20%

Target Compounds						Qvalue
3) Naphthalene		6.26	128	123392	0.9043	ug/ml 100
4) 2-Methylnaphthalene		7.09	142	88300	0.9768	ug/ml 100
5) 1-Methylnaphthalene		7.23	142	79123	0.9312	ug/ml 100
8) Acenaphthylene		8.23	152	157448	1.0554	ug/ml 95
9) Acenaphthene		8.46	154	88493	0.9594	ug/ml 100
10) Fluorene		9.09	166	108217	1.0695	ug/ml 99
12) Phenanthrene		10.31	178	173784	1.0840	ug/ml 100
13) Anthracene		10.37	178	167534	1.0843	ug/ml 100
14) Fluoranthene		11.82	202	195702	1.1647	ug/ml 100
16) Pyrene		12.12	202	216306	1.1522	ug/ml 100
18) Benzo[a]anthracene		13.62	228	186839	1.1371	ug/ml 99
19) Chrysene		13.68	228	176400	1.0570	ug/ml 100
21) Benzo[b]fluoranthene		15.26	252	185220	1.0657	ug/ml 100
22) Benzo[k]fluoranthene		15.30	252	183014	1.0568	ug/ml 100
23) Benzo[a]pyrene		15.90	252	173437	1.0624	ug/ml 100
24) Indeno[1,2,3-cd]pyrene		18.62	276	189511	0.9738	ug/ml 99
25) Dibenz[ah]anthracene		18.62	278	125067	0.7880	ug/ml 89
26) Benzo[ghi]perylene		19.42	276	136461	0.8244	ug/ml 100

 (#) = qualifier out of range (m) = manual integration
 7M70230.D SIMPAHL.M Wed Aug 30 15:33:19 2017

Page 1

Data File : C:\MSDCHEM\1\DATA\083017\7M70230.D

Vial: 4

Acq On : 30 Aug 2017 10:58 am

Operator: LJH

Sample : WG627571-02 LCS 827-PAHL

Inst : hpms7

Misc : 1,1

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Aug 30 15:33 2017

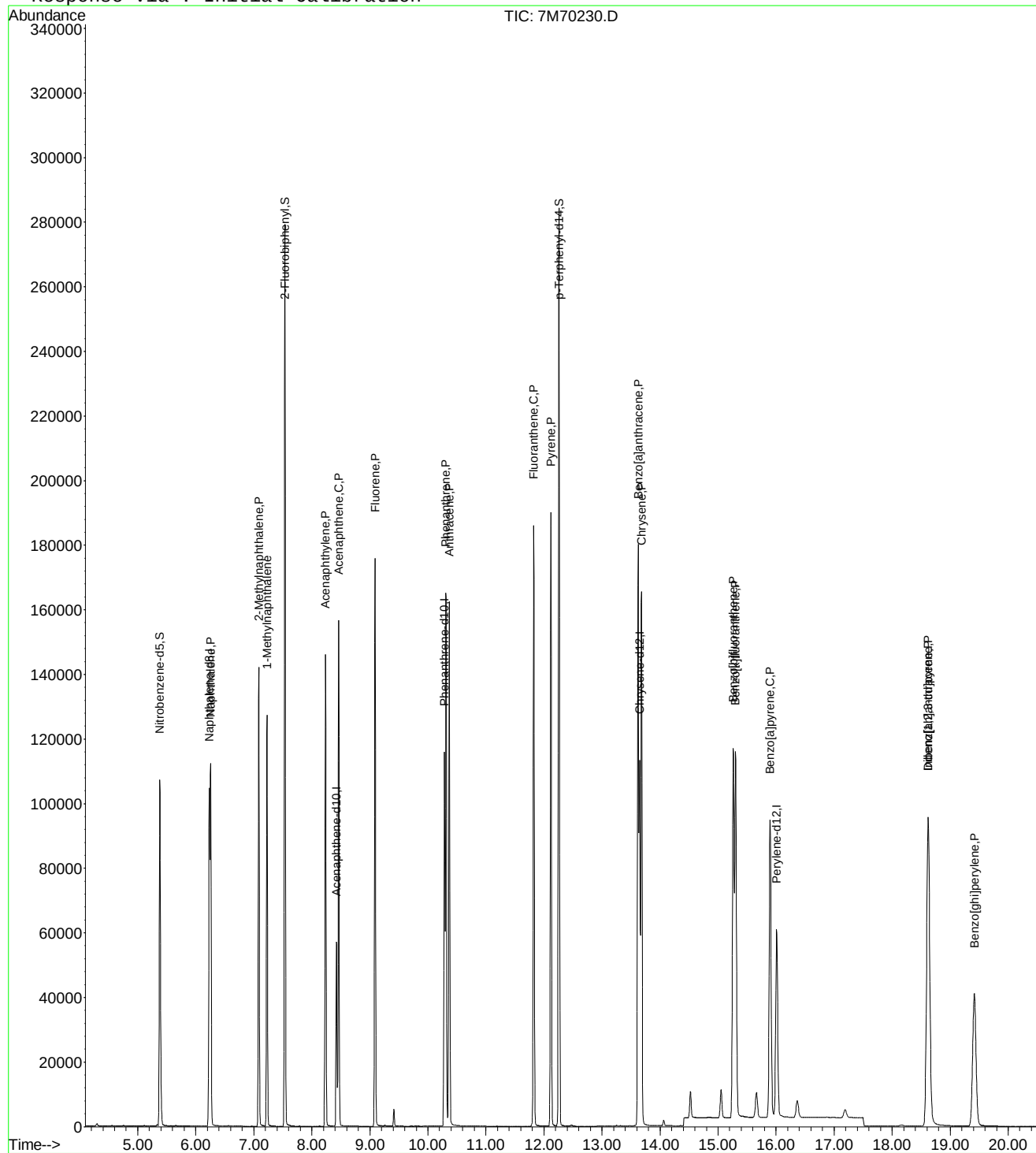
Quant Results File: SIMPAHL.RES

Method : C:\MSDCHEM\1\METHODS\SIMPAHL.M (RTE Integrator)

Title : OVD MSS03 SIMPAHL ICAL 08/23/17

Last Update : Thu Aug 24 08:58:21 2017

Response via : Initial Calibration



7M70230.D SIMPAHL.M

Wed Aug 30 15:33:20 2017

Page 2

2.3 Metals Data

2.3.1 Metals I C P Data

2.3.1.1 Summary Data



Login Number: L17081366
Department: Metals
Analyst: Kerri Buck

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG627813 - All acceptance criteria were met.

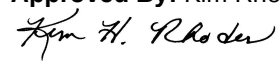
Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 128861

Approved By: Kim Rhodes



Certificate of Analysis

Certificate of Analysis

Sample #: L17081366-01	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW17-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 15:44
Collect Date: 08/24/2017 10:22	Dilution: 1	File ID: T4.083017.154414
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100
Calcium, Total	7440-70-2	146		0.500	0.250
Iron, Total	7439-89-6	3.33		0.100	0.0500
Magnesium, Total	7439-95-4	28.3		0.500	0.250
Manganese, Total	7439-96-5	0.624		0.0100	0.00500
Potassium, Total	7440-09-7	7.94		1.00	0.500
Sodium, Total	7440-23-5	91.0		0.500	0.250
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-02	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW17-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 15:47
Collect Date: 08/24/2017 10:22	Dilution: 1	File ID: T4.083017.154758
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	3.26		0.100	0.0500
Manganese, Dissolved	7439-96-5	0.620		0.0100	0.00500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-03	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: DUP-GW-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 15:51
Collect Date: 08/24/2017 09:00	Dilution: 1	File ID: T4.083017.155142
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100
Calcium, Total	7440-70-2	147		0.500	0.250
Iron, Total	7439-89-6	3.30		0.100	0.0500

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Magnesium, Total	7439-95-4	28.3		0.500	0.250
Manganese, Total	7439-96-5	0.630		0.0100	0.00500
Potassium, Total	7440-09-7	7.97		1.00	0.500
Sodium, Total	7440-23-5	91.0		0.500	0.250
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-04	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: DUP-GW-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 15:55
Collect Date: 08/24/2017 09:00	Dilution: 1	File ID: T4.083017.155526
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	3.28		0.100	0.0500
Manganese, Dissolved	7439-96-5	0.629		0.0100	0.00500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-05	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW18-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:13
Collect Date: 08/24/2017 11:50	Dilution: 1	File ID: T4.083017.161349
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5	0.182	J	0.200	0.100
Calcium, Total	7440-70-2	141		0.500	0.250
Iron, Total	7439-89-6	22.0		0.100	0.0500
Magnesium, Total	7439-95-4	21.1		0.500	0.250
Manganese, Total	7439-96-5	0.911		0.0100	0.00500
Potassium, Total	7440-09-7	9.02		1.00	0.500
Sodium, Total	7440-23-5	145		0.500	0.250
J	The analyte was positively identified, but the quantitation was below the RL.				

Certificate of Analysis

Sample #: L17081366-06	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW18-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:17
Collect Date: 08/24/2017 11:50	Dilution: 1	File ID: T4.083017.161732
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	21.5		0.100	0.0500
Manganese, Dissolved	7439-96-5	0.920		0.0100	0.00500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-07	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: TW01-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:21
Collect Date: 08/24/2017 14:12	Dilution: 1	File ID: T4.083017.162115
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100
Calcium, Total	7440-70-2	168		0.500	0.250
Iron, Total	7439-89-6	48.9		0.100	0.0500
Magnesium, Total	7439-95-4	38.6		0.500	0.250
Manganese, Total	7439-96-5	0.374		0.0100	0.00500
Potassium, Total	7440-09-7	10.8		1.00	0.500
Sodium, Total	7440-23-5	92.2		0.500	0.250
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-08	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: TW01-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:24
Collect Date: 08/24/2017 14:12	Dilution: 1	File ID: T4.083017.162459
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	48.6		0.100	0.0500
Manganese, Dissolved	7439-96-5	0.376		0.0100	0.00500

Certificate of Analysis

U	Not detected at or above adjusted sample detection limit.

Sample #: L17081366-10	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW26-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:28
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: T4.083017.162842
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100
Calcium, Total	7440-70-2	67.1		0.500	0.250
Iron, Total	7439-89-6	0.509		0.100	0.0500
Magnesium, Total	7439-95-4	13.2		0.500	0.250
Manganese, Total	7439-96-5	0.381		0.0100	0.00500
Potassium, Total	7440-09-7	3.54		1.00	0.500
Sodium, Total	7440-23-5	69.9		0.500	0.250
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-11	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW26-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:32
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: T4.083017.163227
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	0.465		0.100	0.0500
Manganese, Dissolved	7439-96-5	0.376		0.0100	0.00500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-14	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW16I-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:36
Collect Date: 08/24/2017 13:30	Dilution: 1	File ID: T4.083017.163611
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100

Certificate of Analysis

Analyte	CAS #	Result	Qual	RL	MDL
Calcium, Total	7440-70-2	106		0.500	0.250
Iron, Total	7439-89-6	8.15		0.100	0.0500
Magnesium, Total	7439-95-4	18.7		0.500	0.250
Manganese, Total	7439-96-5	0.338		0.0100	0.00500
Potassium, Total	7440-09-7	4.82		1.00	0.500
Sodium, Total	7440-23-5	71.3		0.500	0.250
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-15	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW16I-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:39
Collect Date: 08/24/2017 13:30	Dilution: 1	File ID: T4.083017.163955
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	9.11		0.100	0.0500
Manganese, Dissolved	7439-96-5	0.356		0.0100	0.00500
U	Not detected at or above adjusted sample detection limit.				

Sample #: L17081366-17	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW05I-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:43
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: T4.083017.164339
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Total	7429-90-5		U	0.200	0.100
Calcium, Total	7440-70-2	69.1		0.500	0.250
Iron, Total	7439-89-6	0.0635	J	0.100	0.0500
Magnesium, Total	7439-95-4	19.4		0.500	0.250
Manganese, Total	7439-96-5	0.0543		0.0100	0.00500
Potassium, Total	7440-09-7	3.39		1.00	0.500
Sodium, Total	7440-23-5	70.9		0.500	0.250
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

Certificate of Analysis

Sample #: L17081366-18	PrePrep Method: N/A	Instrument: ICP-THERMO4
Client ID: MW05I-082417	Prep Method: 3015A	Prep Date: 08/30/2017 09:19
Matrix: Water	Analytical Method: 6010C	Cal Date: 08/30/2017 13:22
Workgroup #: WG627813	Analyst: KKB	Run Date: 08/30/2017 16:47
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: T4.083017.164725
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Aluminum, Dissolved	7429-90-5		U	0.200	0.100
Iron, Dissolved	7439-89-6	0.0567	J	0.100	0.0500
Manganese, Dissolved	7439-96-5	0.0559		0.0100	0.00500
J	The analyte was positively identified, but the quantitation was below the RL.				
U	Not detected at or above adjusted sample detection limit.				

2.3.1.2 QC Summary Data

Example 6010 Calculations
Thermo Scientific iCAP

1.0 Initial Calibration (ICAL) Parameters

For a multi-point calibration, the system performs linear regression from data consisting of a blank and four standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system in ug/mL (ppm)

Vf = Final volume (mL)

Vi = Initial volume (mL)

D = Dilution factor as a multiplier (10X = 10)

Example:

0.1

50

50

1

Cx = Concentration of element in ug/mL (mg/L)

0.1

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (mg/L) (ppm)

Vf = Final volume (mL)

Vi = Initial weight (g)

D = Dilution factor as a multiplier (10X = 10)

Example:

0.1

50

1

1

Cx = Concentration of element in ug/g (mg/kg)

5

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

Example:

5

80

$Cdry$ = Concentration calculated as dry weight (mg/kg)

6.25

Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG627765
Analyst: ERP
Spike Analyst: ERP
Run Date: 08/30/2017 09:19
Method: 3015A
Balance: BAL019
Instrument: MW-1
Instrument Start: 08/30/2017 09:37

SOP: ME407 Revision 19
Spike Solution: STD83370
Spike Witness: VC
HNO3 Lot #: COA19940
HCL Lot #: COA19849
40 & 50 ML. DIGESTION TUCOA19932
ICP FILTERS LOT#r7ha2443RGT40684

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG627765-02	BLANK	1	40 mL	50 mL	202.68 g	202.664 g		
2	WG627607-02	FBLK1	17	5 mL	50 mL	204.826 g	204.807 g		
3	WG627607-01	FBLK2	17	5 mL	50 mL	205.283 g	205.267 g		
4	WG627765-03	LCS	1	40 mL	50 mL	210.926 g	210.91 g	5 mL	
5	L17081366-01	SAMP	1	40 mL	50 mL	206.711 g	206.68 g		09/08/17
6	L17081366-02	SAMP	1	40 mL	50 mL	204.983 g	204.956 g		09/08/17
7	L17081366-03	SAMP	1	40 mL	50 mL	206.004 g	205.979 g		09/08/17
8	L17081366-04	SAMP	1	40 mL	50 mL	205.067 g	205.033 g		09/08/17
9	L17081366-05	SAMP	1	40 mL	50 mL	203.621 g	203.591 g		09/08/17
10	L17081366-06	SAMP	1	40 mL	50 mL	204.169 g	204.14 g		09/08/17
11	L17081366-07	SAMP	1	40 mL	50 mL	205.487 g	205.438 g		09/08/17
12	L17081366-08	SAMP	1	40 mL	50 mL	206.091 g	206.056 g		09/08/17
13	L17081366-10	RS01	1	40 mL	50 mL	205.193 g	205.167 g		09/08/17
14	L17081366-11	SAMP	1	40 mL	50 mL	203.537 g	203.512 g		09/08/17
15	L17081366-14	SAMP	1	40 mL	50 mL	206.376 g	206.346 g		09/08/17
16	L17081366-15	SAMP	1	40 mL	50 mL	205.579 g	205.547 g		09/08/17
17	L17081366-17	SAMP	1	40 mL	50 mL	205.368 g	205.342 g		09/08/17
18	L17081366-18	SAMP	1	40 mL	50 mL	204.086 g	204.055 g		09/08/17
19	WG627765-01	REF	17	5 mL	50 mL	205.112 g	205.087 g		
20	L17081454-01	SAMP	17	5 mL	50 mL	205.112 g	205.087 g		09/05/17
21	L17081483-01	SAMP	17	5 mL	50 mL	206.222 g	206.195 g		08/31/17
22	L17081493-01	SAMP	1	40 mL	50 mL	206.177 g	206.155 g		09/08/17
23	L17081541-01	SAMP	17	5 mL	50 mL	206.921 g	206.905 g		08/31/17
24	WG627765-04	MS	1	5 mL	50 mL	210.672 g	210.653 g	5 mL	
25	WG627765-05	MSD	1	5 mL	50 mL	207.953 g	207.932 g	5 mL	

Analyst: Eun Pottin

Reviewer: Vicki Collier

Analyst(s): BAB
Date: 8-29-17
Filter Lot #: 94870030
Microbac SOP: TCLP01 Rev #: 12

Balance ID:
BAL020
pH Probe ID:
15
Temp probe ID:
☒ 1025 ☐ 1023

Analyst / Date		Analyst / Date	
BNB 8-29-17		BNB 8-30-17	
Time On	Temp On °C	Time Off	Temp Off °C
15:35	23.6	7:40	22.0

Agitator Speed 30 ± 2 rpm ☒

[illegible]

*Matrix Code: (S = solid, sand, soil or sludge) (P = paint) (O = organic) (W = water or aqueous waste)
D = Dissolvable plastic

D = Disposable plastic jug

TCLP Pretest weight will be 5.0 g (± 0.1) unless otherwise noted.

Temperature shall be maintained at $23^{\circ} \pm 2$ for 18 ± 2 hours unless otherwise noted.

Comments: NA

Peer Review By:

Microbac Laboratories Inc. **Instrument Run Log**

Instrument: ICP-THERMO4 Dataset: 083017T4.1R.TXT
 Analyst1: KKB Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____

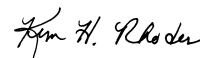
Calibration Std: STD83373 ICV Std: STD83372 Post Spike: STD83126
 ICSA: STD83620 ICSAB: STD83467 Int. Std: RG40895
 CCV: STD83374 LLCCV: COA19621 Tuning Sol: _____
 Stannous: _____ Hydroxylamine: _____

Workgroups: 627650,627813,627848

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	T4.083017.130745	WG627973-01	Calibration Point		1		08/30/17 13:07
2	T4.083017.131132	WG627973-02	Calibration Point		1		08/30/17 13:11
3	T4.083017.131520	WG627973-03	Calibration Point		1		08/30/17 13:15
4	T4.083017.131908	WG627973-04	Calibration Point		1		08/30/17 13:19
5	T4.083017.132236	WG627973-05	Calibration Point		1		08/30/17 13:22
6	T4.083017.132604	WG627973-06	Initial Calibration Verification		1		08/30/17 13:26
7	T4.083017.132934	WG627973-07	Initial Calib Blank		1		08/30/17 13:29
8	T4.083017.133322	WG627973-08	Low Level Initial Calibration V		1		08/30/17 13:33
9	T4.083017.133708	WG627973-09	Low Level Initial Calibration V		1		08/30/17 13:37
10	T4.083017.134054	WG627973-10	LLICV		1		08/30/17 13:40
11	T4.083017.134439	WG627973-11	Interference Check		1		08/30/17 13:44
12	T4.083017.134822	WG627973-12	Interference Check		1		08/30/17 13:48
13	T4.083017.135157	WG627973-13	CCV		1		08/30/17 13:51
14	T4.083017.135525	WG627973-14	CCB		1		08/30/17 13:55
15	T4.083017.141922	WG627573-02	Method/Prep Blank	40/50	1		08/30/17 14:19
16	T4.083017.142310	WG627573-03	Laboratory Control S	40/50	1		08/30/17 14:23
17	T4.083017.142641	WG627573-04	Filter Blank		1		08/30/17 14:26
18	T4.083017.143029	L17081326-01	FRN SALTCAKE	5/50	5		08/30/17 14:30
19	T4.083017.143414	L17081326-02	FRN FURNACE BAGHOUSE	5/50	2		08/30/17 14:34
20	T4.083017.143800	L17081326-03	FRN MILL FINES (SCREW 1	5/50	5		08/30/17 14:38
21	T4.083017.144146	L17081326-04	FRN MILL FINES (SCREW 8	5/50	5		08/30/17 14:41
22	T4.083017.144531	WG627573-01	Reference Sample		1	L17081405-03	08/30/17 14:45
23	T4.083017.144917	WG627573-05	Matrix Spike	5/50	1	L17081405-03	08/30/17 14:49
24	T4.083017.145249	WG627573-06	Matrix Spike Duplica	5/50	1	L17081405-03	08/30/17 14:52
25	T4.083017.145622	WG627973-15	CCV		1		08/30/17 14:56
26	T4.083017.145951	WG627973-16	CCB		1		08/30/17 14:59
27	T4.083017.150341	L17081460-01	INS-WL01-082514	40/50	1		08/30/17 15:03
28	T4.083017.150722	L17081464-01	INS-WL02-082517	40/50	1		08/30/17 15:07
29	T4.083017.151103	L17081466-01	INS-WL03-082517	40/50	1		08/30/17 15:11
30	T4.083017.151445	WG627650-03	Post Digestion Spike		1	L17081466-01	08/30/17 15:14
31	T4.083017.151816	WG627650-04	Serial Dilution		5	L17081466-01	08/30/17 15:18
32	T4.083017.152203	WG627973-17	CCV		1		08/30/17 15:22
33	T4.083017.152531	WG627973-18	CCB		1		08/30/17 15:25
34	T4.083017.152921	WG627765-02	Method/Prep Blank	40/50	1		08/30/17 15:29

Page: 1 Approved: August 31, 2017




Microbac Laboratories Inc. **Instrument Run Log**

Instrument: ICP-THERMO4 Dataset: 083017T4.1R.TXT
 Analyst1: KKB Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____

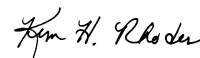
Calibration Std: STD83373 ICV Std: STD83372 Post Spike: STD83126
 ICSA: STD83620 ICSAB: STD83467 Int. Std: RG40895
 CCV: STD83374 LLCCV: COA19621 Tuning Sol: _____
 Stannous: _____ Hydroxylamine: _____

Workgroups: 627650,627813,627848

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	T4.083017.153307	WG627765-03	Laboratory Control S	40/50	1		08/30/17 15:33
36	T4.083017.153640	WG627607-01	Fluid Blank 2		1		08/30/17 15:36
37	T4.083017.154027	WG627607-02	Fluid Blank 1		1		08/30/17 15:40
38	T4.083017.154414	L17081366-01	MW17-082417	40/50	1		08/30/17 15:44
39	T4.083017.154758	L17081366-02	MW17-082417	40/50	1		08/30/17 15:47
40	T4.083017.155142	L17081366-03	DUP-GW-082417	40/50	1		08/30/17 15:51
41	T4.083017.155526	L17081366-04	DUP-GW-082417	40/50	1		08/30/17 15:55
42	T4.083017.155911	WG627813-01	Post Digestion Spike		1	L17081366-04	08/30/17 15:59
43	T4.083017.160243	WG627813-02	Serial Dilution		5	L17081366-04	08/30/17 16:02
44	T4.083017.160629	WG627973-19	CCV		1		08/30/17 16:06
45	T4.083017.160958	WG627973-20	CCB		1		08/30/17 16:09
46	T4.083017.161349	L17081366-05	MW18-082417	40/50	1		08/30/17 16:13
47	T4.083017.161732	L17081366-06	MW18-082417	40/50	1		08/30/17 16:17
48	T4.083017.162115	L17081366-07	TW01-082417	40/50	1		08/30/17 16:21
49	T4.083017.162459	L17081366-08	TW01-082417	40/50	1		08/30/17 16:24
50	T4.083017.162842	L17081366-10	MW26-082417	40/50	1		08/30/17 16:28
51	T4.083017.163227	L17081366-11	MW26-082417	40/50	1		08/30/17 16:32
52	T4.083017.163611	L17081366-14	MW16I-082417	40/50	1		08/30/17 16:36
53	T4.083017.163955	L17081366-15	MW16I-082417	40/50	1		08/30/17 16:39
54	T4.083017.164339	L17081366-17	MW05I-082417	40/50	1		08/30/17 16:43
55	T4.083017.164725	L17081366-18	MW05I-082417	40/50	1		08/30/17 16:47
56	T4.083017.165110	WG627973-21	CCV		1		08/30/17 16:51
57	T4.083017.165439	WG627973-22	CCB		1		08/30/17 16:54
58	T4.083017.165830	WG627765-01	Reference Sample		1	L17081454-01	08/30/17 16:58
59	T4.083017.170213	WG627765-04	Matrix Spike	5/50	1	L17081454-01	08/30/17 17:02
60	T4.083017.170545	WG627765-05	Matrix Spike Duplica	5/50	1	L17081454-01	08/30/17 17:05
61	T4.083017.170915	L17081483-01	K7H1192-01	5/50	1		08/30/17 17:09
62	T4.083017.171302	L17081493-01	AAB9030	40/50	1		08/30/17 17:13
63	T4.083017.171644	L17081541-01	SKEET-PTPS-01	5/50	1		08/30/17 17:16
64	T4.083017.172029	WG627973-23	Interference Check		1		08/30/17 17:20
65	T4.083017.172412	WG627973-24	Interference Check		1		08/30/17 17:24
66	T4.083017.172746	WG627973-25	CCV		1		08/30/17 17:27
67	T4.083017.173115	WG627973-26	CCB		1		08/30/17 17:31
68	T4.083017.173504	WG627973-27	LLCCV		1		08/30/17 17:35

Page: 2 Approved: August 31, 2017




Microbac Laboratories Inc.
Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 083017T4.1R.TXT
 Analyst1: KKB Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____
 Calibration Std: STD83373 ICV Std: STD83372 Post Spike: STD83126
 ICSA: STD83620 ICSAB: STD83467 Int. Std: RG40895
 CCV: STD83374 LLCCV: COA19621 Tuning Sol : _____
 Stannous : _____ Hydroxylamine : _____

Workgroups: 627650,627813,627848

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	T4.083017.173850	WG627973-28	Low Level Continuing Calibra		1		08/30/17 17:38
70	T4.083017.174236	WG627973-29	Low Level Continuing Calibra		1		08/30/17 17:42
71	T4.083017.174621	L170812-65	L17081265		1		08/30/17 17:46
72	T4.083017.175010	WG627973-30	CCV		1		08/30/17 17:50
73	T4.083017.175338	WG627973-31	CCB		1		08/30/17 17:53
74	T4.083017.175728	200ppm Fe	200ppm Fe		1		08/30/17 17:57
75	T4.083017.180112	20ppm Co	20ppm Co		1		08/30/17 18:01
76	T4.083017.180458	20ppm Cr	20ppm Cr		1		08/30/17 18:04
77	T4.083017.180844	20ppm Mo	20ppm Mo		1		08/30/17 18:08
78	T4.083017.181231	WG627973-32	CCV		1		08/30/17 18:12
79	T4.083017.181559	WG627973-33	CCB		1		08/30/17 18:15

Page: 3 Approved: August 31, 2017

Kim H. Rhodes



Microbac Laboratories Inc.

Data Checklist

Date: 30-AUG-2017

Analyst: KKB

Analyst: NA

Method: 6010B/6010C/200.7

Instrument: ICP-THERMO4

Curve Workgroup: 627973

Runlog ID: 84289

Analytical Workgroups: 627650,627813,627848

STD ID#s on Runlog	X
Calibration/Linearity	X
ICV/CCV	X
ICV RSD < 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	X
Client Forms	X
Level X	
Level 3	1460,1464,1466
Level 4	1366,1493
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	KKB
Secondary Reviewer	KHR
Comments	

Primary Reviewer:
31-AUG-2017

Secondary Reviewer:
31-AUG-2017

Ki K Buck

Lyn H. Rhodes

CHECKLIST1 - Modified 03/05/2008

Generated: AUG-31-2017 12:10:39



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010C

AAB#: WG627813

Login Number: L17081366

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW17-082417	01	08/24/17					08/30/2017	6	180		08/30/17	6.2	180	
MW17-082417	02	08/24/17					08/30/2017	6	180		08/30/17	6.2	180	
DUP-GW-082417	03	08/24/17					08/30/2017	6	180		08/30/17	6.3	180	
DUP-GW-082417	04	08/24/17					08/30/2017	6	180		08/30/17	6.3	180	
MW18-082417	05	08/24/17					08/30/2017	5.9	180		08/30/17	6.2	180	
MW18-082417	06	08/24/17					08/30/2017	5.9	180		08/30/17	6.2	180	
TW01-082417	07	08/24/17					08/30/2017	5.8	180		08/30/17	6.1	180	
TW01-082417	08	08/24/17					08/30/2017	5.8	180		08/30/17	6.1	180	
MW26-082417	10	08/24/17					08/30/2017	5.9	180		08/30/17	6.2	180	
MW26-082417	11	08/24/17					08/30/2017	5.9	180		08/30/17	6.2	180	
MW16I-082417	14	08/24/17					08/30/2017	5.8	180		08/30/17	6.1	180	
MW16I-082417	15	08/24/17					08/30/2017	5.8	180		08/30/17	6.1	180	
MW05I-082417	17	08/24/17					08/30/2017	5.7	180		08/30/17	6	180	
MW05I-082417	18	08/24/17					08/30/2017	5.7	180		08/30/17	6	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5456533
Report generated 08/31/2017 11:48



METHOD BLANK SUMMARY

Login Number: <u>L17081366</u>	Work Group: <u>WG627813</u>
Blank File ID: <u>T4.083017.152921</u>	Blank Sample ID: <u>WG627765-02</u>
Prep Date: <u>08/30/17 09:19</u>	Instrument ID: <u>ICP-THERM04</u>
Analyzed Date: <u>08/30/17 15:29</u>	Method: <u>6010C</u>
Analyst: <u>KKB</u>	

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG627765-03	T4.083017.153307	08/30/17 15:33	01
MW17-082417	L17081366-01	T4.083017.154414	08/30/17 15:44	01
MW17-082417	L17081366-02	T4.083017.154758	08/30/17 15:47	01
DUP-GW-082417	L17081366-03	T4.083017.155142	08/30/17 15:51	01
DUP-GW-082417	L17081366-04	T4.083017.155526	08/30/17 15:55	01
MW18-082417	L17081366-05	T4.083017.161349	08/30/17 16:13	01
MW18-082417	L17081366-06	T4.083017.161732	08/30/17 16:17	01
TW01-082417	L17081366-07	T4.083017.162115	08/30/17 16:21	01
TW01-082417	L17081366-08	T4.083017.162459	08/30/17 16:24	01
MW26-082417	L17081366-10	T4.083017.162842	08/30/17 16:28	01
MW26-082417	L17081366-11	T4.083017.163227	08/30/17 16:32	01
MW16I-082417	L17081366-14	T4.083017.163611	08/30/17 16:36	01
MW16I-082417	L17081366-15	T4.083017.163955	08/30/17 16:39	01
MW05I-082417	L17081366-17	T4.083017.164339	08/30/17 16:43	01
MW05I-082417	L17081366-18	T4.083017.164725	08/30/17 16:47	01

Report Name: BLANK_SUMMARY
 PDF File ID: 5456549
 Report generated 08/31/2017 11:50



METHOD BLANK REPORT

Login Number: L17081366 Prep Date: 08/30/17 09:19 Sample ID: WG627765-02
Instrument ID: ICP-THERM04 Run Date: 08/30/17 15:29 Prep Method: 3015A
File ID: T4.083017.152921 Analyst: KKB Method: 6010C
Workgroup (AAB#): WG627813 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: ICP-TH - 30-AUG-17

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Aluminum, Total	0.100	0.200	0.100	1	U
Calcium, Total	0.250	0.500	0.250	1	U
Iron, Total	0.0500	0.100	0.0500	1	U
Magnesium, Total	0.250	0.500	0.250	1	U
Manganese, Total	0.00500	0.0100	0.00500	1	U
Potassium, Total	0.500	1.00	0.500	1	U
Sodium, Total	0.250	0.500	0.250	1	U

MDL Method Detection Limit

RL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 5456550

31-AUG-2017 11:47



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: <u>L17081366</u>	Run Date: <u>08/30/2017</u>	Sample ID: <u>WG627765-03</u>
Instrument ID: <u>ICP-THERM04</u>	Run Time: <u>15:33</u>	Prep Method: <u>3015A</u>
File ID: <u>T4.083017.153307</u>	Analyst: <u>KKB</u>	Method: <u>6010C</u>
Workgroup (AAB#): <u>WG627813</u>	Matrix: <u>Water</u>	Units: <u>mg/L</u>
QC Key: <u>WATERLOO</u>	Lot#: <u>STD83370</u>	Cal ID: <u>ICP-TH - 30-AUG-17</u>

Analytes	Expected	Found	% Rec	LCS Limits			Q
Aluminum, Total	6.25	6.26	100	85	-	115	
Calcium, Total	6.25	6.16	98.6	85	-	115	
Iron, Total	2.50	2.46	98.5	85	-	115	
Magnesium, Total	6.25	6.25	100	85	-	115	
Manganese, Total	0.313	0.315	101	85	-	115	
Potassium, Total	31.3	31.0	99.2	85	-	115	
Sodium, Total	31.3	31.3	100	85	-	115	

LCS - Modified 03/06/2008
 PDF File ID: 5456551
 Report generated: 08/31/2017 11:47



Loginnum: <u>L17081366</u>	Cal ID: <u>ICP-THERM04 -</u>	Worknum: <u>WG627813</u>
Instrument ID: <u>ICP-THERM04</u>	Contract #: _____	Method: <u>6010C</u>
Parent ID: <u>WG627765-01</u>	File ID: <u>T4.083017.165830</u> Dil: <u>1</u>	Matrix: <u>WATER</u>
Sample ID: <u>WG627765-04 MS</u>	File ID: <u>T4.083017.170213</u> Dil: <u>1</u>	Units: <u>mg/L</u>
Sample ID: <u>WG627765-05 MSD</u>	File ID: <u>T4.083017.170545</u> Dil: <u>1</u>	

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Aluminum, TCLP	1.24	50.0	51.3	100	50.0	51.2	100	0.201	85 - 115	20	
Calcium, TCLP	563	50.0	608	90.5	50.0	603	81.1	0.776	85 - 115	20	*
Iron, TCLP	18.1	20.0	37.8	98.4	20.0	37.4	96.5	1.04	85 - 115	20	
Magnesium, TCLP	389	50.0	429	79.8	50.0	426	73.5	0.730	85 - 115	20	*
Manganese, TCLP	16.2	2.50	18.4	87.3	2.50	18.4	84.8	0.343	85 - 115	20	*
Potassium, TCLP	11.7	250	267	102	250	265	101	0.489	85 - 115	20	
Sodium, TCLP	79.6	250	335	102	250	332	101	0.870	85 - 115	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
Serial Dilution Report

Login: L17081366 Worknum: WG627813
Instrument: ICP-THERMO4 Method: 6010C
Serial Dil: WG627813-02 File ID: T4.083017.160243 Dil: 5 Units: ug/L
Sample: L17081366-04 File ID: T4.083017.155526 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Aluminum	28.1		66.9		138.00	E
Calcium	117000		120000		2.55	
Iron	2620		2670		1.88	
Magnesium	22900		23500		2.78	
Manganese	503		517		2.67	
Potassium	6460		6750		4.61	
Sodium	72900		74400		2.02	

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 25 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 25 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 5456547

08/31/2017 11:47



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L17081366
Instrument ID: ICP-THERM04
Post Spike ID: WG627813-01
Sample ID: L17081366-04

Worknum: WG627813
Method: 6010C
File ID: T4.083017.155911 Dil: 1 Units: ug/L
File ID: T4.083017.155526 Dil: 1 Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ALUMINUM	4890		0	U	5000	97.8	75 - 125	
CALCIUM	110000		117000		5000	98.6	75 - 125	
IRON	4320		2620		2000	98.3	75 - 125	
MAGNESIUM	25400		22900		5000	95.2	75 - 125	
MANGANESE	699		503		250	98.3	75 - 125	
POTASSIUM	30800		6460		25000	100.1	75 - 125	
SODIUM	90100		72900		25000	98.1	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 5456548
Report generated: 08/31/2017 11:47



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L17081366</u>	Workgroup (AAB#):	<u>WG627813</u>
Analytical Method:	<u>6010C</u>	Instrument ID:	<u>ICP-THERM04</u>
ICAL Worknum:	<u>WG627973</u>	Initial Calibration Date:	<u>30-AUG-2017 13:22</u>

	WG627973-01		WG627973-02		WG627973-03		WG627973-04		WG627973-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ALUMINUM	0	0.00154	.1	0.00228	.2	0.00311	10	0.0896	20	0.174	.999911	
CALCIUM	0	-0.000630	.1	0.000930	.2	0.00342	10	0.238	20	0.477	.999946	
IRON	0	0.000130	.04	0.000680	.08	0.00135	4	0.0663	8	0.133	.999938	
MAGNESIUM	0	-0.000350	NA	NA	.2	0.000480	10	0.0427	20	0.0849	.999877	
MANGANESE	0	0.00134	.005	0.00192	.01	0.00273	.5	0.0844	1	0.167	.999973	
POTASSIUM	0	0.00590	.5	0.0201	1	0.0333	50	1.52	100	3.02	.999913	
SODIUM	0	-0.0365	.5	-0.00289	1	0.0337	50	4.29	100	8.58	.999996	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 5456553
Report generated: 31-AUG-2017 11:47



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L17081366 Run Date: 08/30/2017 Sample ID: WG627973-07
Instrument ID: ICP-THERM04 Run Time: 13:29 Method: 6010C
File ID: T4.083017.132934 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG627813 Cal ID: ICP-THERI - 30-AUG-17
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ALUMINUM	.08	.16	.08	U
CALCIUM	.2	.4	.2	U
IRON	.04	.08	.04	U
MAGNESIUM	.2	.4	.2	U
MANGANESE	.004	.008	.004	U
POTASSIUM	.4	.8	.4	U
SODIUM	.2	.4	.2	U

ICB - Modified 07/14/2009
PDF File ID: 5456555
Report generated 08/31/2017 11:47



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081366 Run Date: 08/30/2017 Sample ID: WG627973-14
Instrument ID: ICP-THERM04 Run Time: 13:55 Method: 6010C
File ID: T4.083017.135525 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG627813 Cal ID: ICP-TH - 30-AUG-17
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0800	0.160	0.0800	U
Calcium	0.200	0.400	0.200	U
Iron	0.0400	0.0800	0.0400	U
Magnesium	0.200	0.400	0.200	U
Manganese	0.00400	0.00800	0.00400	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5456545
Report generated 08/31/2017 11:49



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081366 Run Date: 08/30/2017 Sample ID: WG627973-18
Instrument ID: ICP-THERM04 Run Time: 15:25 Method: 6010C
File ID: T4.083017.152531 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG627813 Cal ID: ICP-TH - 30-AUG-17
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0800	0.160	0.0800	U
Calcium	0.200	0.400	0.200	U
Iron	0.0400	0.0800	0.0400	U
Magnesium	0.200	0.400	0.200	U
Manganese	0.00400	0.00800	0.00400	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5456545
Report generated 08/31/2017 11:49



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081366 Run Date: 08/30/2017 Sample ID: WG627973-20
Instrument ID: ICP-THERM04 Run Time: 16:09 Method: 6010C
File ID: T4.083017.160958 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG627813 Cal ID: ICP-TH - 30-AUG-17
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0800	0.160	0.0800	U
Calcium	0.200	0.400	0.200	U
Iron	0.0400	0.0800	0.0400	U
Magnesium	0.200	0.400	0.200	U
Manganese	0.00400	0.00800	0.00400	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5456545
Report generated 08/31/2017 11:49



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081366 Run Date: 08/30/2017 Sample ID: WG627973-22
Instrument ID: ICP-THERM04 Run Time: 16:54 Method: 6010C
File ID: T4.083017.165439 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG627813 Cal ID: ICP-TH - 30-AUG-17
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0800	0.160	0.0800	U
Calcium	0.200	0.400	0.200	U
Iron	0.0400	0.0800	0.0400	U
Magnesium	0.200	0.400	0.200	U
Manganese	0.00400	0.00800	0.00400	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5456545
Report generated 08/31/2017 11:49



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081366 Run Date: 08/30/2017 Sample ID: WG627973-26
Instrument ID: ICP-THERM04 Run Time: 17:31 Method: 6010C
File ID: T4.083017.173115 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG627813 Cal ID: ICP-TH - 30-AUG-17
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Aluminum	0.0800	0.160	0.0800	U
Calcium	0.200	0.400	0.200	U
Iron	0.0400	0.0800	0.0400	U
Magnesium	0.200	0.400	0.200	U
Manganese	0.00400	0.00800	0.00400	U
Potassium	0.400	0.800	0.400	U
Sodium	0.200	0.400	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5456545
Report generated 08/31/2017 11:49



Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L17081366 Run Date: 08/30/2017 Sample ID: WG627973-06
Instrument ID: ICP-THERM04 Run Time: 13:26 Method: 6010C
File ID: T4.083017.132604 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG627813 Cal ID: ICP-TH - 30-AUG-17
QC Key: WATERL00

Analyte	Expected	Found	%REC	LIMITS	Q
Aluminum	10	10.1	101	90 - 110	
Calcium	10	9.94	99.4	90 - 110	
Iron	4	3.96	98.9	90 - 110	
Magnesium	10	10.1	101	90 - 110	
Manganese	.5	0.508	102	90 - 110	
Potassium	50	49.8	99.5	90 - 110	
Sodium	50	49.7	99.5	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 5456554
Report generated 08/31/2017 11:47



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L17081366</u>	Run Date: <u>08/30/2017</u>	Sample ID: <u>WG627973-13</u>
Instrument ID: <u>ICP-THERM04</u>	Run Time: <u>13:51</u>	Method: <u>6010C</u>
File ID: <u>T4.083017.135157</u>	Analyst: <u>KKB</u>	QC Key: <u>WATERL00</u>
Workgroup (AAB#): <u>WG627813</u>	Cal ID: <u>ICP-TH - 30-AUG-17</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.3	mg/L	103	90 - 110		
Calcium		10.0	9.98	mg/L	99.8	90 - 110		
Iron		4.00	4.02	mg/L	100	90 - 110		
Magnesium		10.0	10.1	mg/L	101	90 - 110		
Manganese		0.500	0.506	mg/L	101	90 - 110		
Potassium		50.0	50.4	mg/L	101	90 - 110		
Sodium		50.0	50.5	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 5456544
Report generated 08/31/2017 11:48



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L17081366</u>	Run Date: <u>08/30/2017</u>	Sample ID: <u>WG627973-17</u>
Instrument ID: <u>ICP-THERM04</u>	Run Time: <u>15:22</u>	Method: <u>6010C</u>
File ID: <u>T4.083017.152203</u>	Analyst: <u>KKB</u>	QC Key: <u>WATERL00</u>
Workgroup (AAB#): <u>WG627813</u>	Cal ID: <u>ICP-TH - 30-AUG-17</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.2	mg/L	102	90 - 110		
Calcium		10.0	10.0	mg/L	100	90 - 110		
Iron		4.00	3.99	mg/L	99.7	90 - 110		
Magnesium		10.0	10.0	mg/L	100	90 - 110		
Manganese		0.500	0.504	mg/L	101	90 - 110		
Potassium		50.0	50.4	mg/L	101	90 - 110		
Sodium		50.0	50.5	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 5456544
Report generated 08/31/2017 11:48



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L17081366</u>	Run Date: <u>08/30/2017</u>	Sample ID: <u>WG627973-19</u>
Instrument ID: <u>ICP-THERM04</u>	Run Time: <u>16:06</u>	Method: <u>6010C</u>
File ID: <u>T4.083017.160629</u>	Analyst: <u>KKB</u>	QC Key: <u>WATERL00</u>
Workgroup (AAB#): <u>WG627813</u>	Cal ID: <u>ICP-TH - 30-AUG-17</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.2	mg/L	102	90 - 110		
Calcium		10.0	9.99	mg/L	99.9	90 - 110		
Iron		4.00	4.01	mg/L	100	90 - 110		
Magnesium		10.0	10.0	mg/L	100	90 - 110		
Manganese		0.500	0.500	mg/L	100	90 - 110		
Potassium		50.0	50.3	mg/L	101	90 - 110		
Sodium		50.0	50.5	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L17081366</u>	Run Date: <u>08/30/2017</u>	Sample ID: <u>WG627973-21</u>
Instrument ID: <u>ICP-THERM04</u>	Run Time: <u>16:51</u>	Method: <u>6010C</u>
File ID: <u>T4.083017.165110</u>	Analyst: <u>KKB</u>	QC Key: <u>WATERL00</u>
Workgroup (AAB#): <u>WG627813</u>	Cal ID: <u>ICP-TH - 30-AUG-17</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.2	mg/L	102	90 - 110		
Calcium		10.0	9.98	mg/L	99.8	90 - 110		
Iron		4.00	3.98	mg/L	99.5	90 - 110		
Magnesium		10.0	9.98	mg/L	99.8	90 - 110		
Manganese		0.500	0.498	mg/L	99.6	90 - 110		
Potassium		50.0	50.5	mg/L	101	90 - 110		
Sodium		50.0	50.5	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: <u>L17081366</u>	Run Date: <u>08/30/2017</u>	Sample ID: <u>WG627973-25</u>
Instrument ID: <u>ICP-THERM04</u>	Run Time: <u>17:27</u>	Method: <u>6010C</u>
File ID: <u>T4.083017.172746</u>	Analyst: <u>KKB</u>	QC Key: <u>WATERL00</u>
Workgroup (AAB#): <u>WG627813</u>	Cal ID: <u>ICP-TH - 30-AUG-17</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		10.0	10.2	mg/L	102	90 - 110		
Calcium		10.0	10.0	mg/L	100	90 - 110		
Iron		4.00	4.01	mg/L	100	90 - 110		
Magnesium		10.0	9.98	mg/L	99.8	90 - 110		
Manganese		0.500	0.500	mg/L	100	90 - 110		
Potassium		50.0	50.8	mg/L	102	90 - 110		
Sodium		50.0	50.8	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

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Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: <u>L17081366</u>	Run Date: <u>08/30/2017</u>	Sample ID: <u>WG627973-08</u>
Instrument ID: <u>ICP-THERM04</u>	Run Time: <u>13:33</u>	Method: <u>6010C</u>
File ID: <u>T4.083017.133322</u>	Analyst: <u>KKB</u>	QC Key: <u>WATERL00</u>
Workgroup (AAB#): <u>WG627813</u>	Cal ID: <u>ICP-TH - 30-AUG-17</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		0.160	0.175	mg/L	109	70 - 130		
Calcium		0.400	0.386	mg/L	96.6	70 - 130		
Iron		0.0800	0.0899	mg/L	112	70 - 130		
Magnesium		0.400	0.490	mg/L	122	70 - 130		
Manganese		0.00800	0.00962	mg/L	120	70 - 130		
Potassium		0.800	0.903	mg/L	113	70 - 130		
Sodium		0.400	0.395	mg/L	98.7	70 - 130		

* Exceeds LIMITS Criteria



Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: <u>L17081366</u>	Run Date: <u>08/30/2017</u>	Sample ID: <u>WG627973-28</u>
Instrument ID: <u>ICP-THERM04</u>	Run Time: <u>17:38</u>	Method: <u>6010C</u>
File ID: <u>T4.083017.173850</u>	Analyst: <u>KKB</u>	QC Key: <u>WATERL00</u>
Workgroup (AAB#): <u>WG627813</u>	Cal ID: <u>ICP-TH - 30-AUG-17</u>	
Matrix: <u>WATER</u>		

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Aluminum		0.160	0.173	mg/L	108	70 - 130		
Calcium		0.400	0.414	mg/L	104	70 - 130		
Iron		0.0800	0.0724	mg/L	90.6	70 - 130		
Magnesium		0.400	0.428	mg/L	107	70 - 130		
Manganese		0.00800	0.00961	mg/L	120	70 - 130		
Potassium		0.800	0.906	mg/L	113	70 - 130		
Sodium		0.400	0.418	mg/L	104	70 - 130		

* Exceeds LIMITS Criteria



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L17081366
Instrument ID: ICP-THERMO4
Sol. A : WG627973-11
Sol. AB : WG627973-12

File ID: T4.083017.134439
File ID: T4.083017.134822

Workgroup (AAB#): WG627813
Method: 6010C
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	249	99.6	250	246	98.4	
Calcium	250	239	95.6	250	237	94.8	
Iron	100	95.9	95.9	100	95.1	95.1	
Magnesium	250	243	97.2	250	240	96.0	
Manganese	NS	-0.00104	NS	0.250	0.239	95.6	
Potassium	NS	0.00269	NS	5.00	5.15	103	
Sodium	NS	0.0448	NS	5.00	5.02	100	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
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Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L17081366
Instrument ID: ICP-THERM04
Sol. A : WG627973-23
Sol. AB : WG627973-24

File ID: T4.083017.172029
File ID: T4.083017.172412

Workgroup (AAB#): WG627813
Method: 6010C
Units: mg/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Aluminum	250	251	100	250	246	98.4	
Calcium	250	242	96.8	250	237	94.8	
Iron	100	96.6	96.6	100	94.8	94.8	
Magnesium	250	245	98.0	250	241	96.4	
Manganese	NS	0.000250	NS	0.250	0.235	94.0	
Potassium	NS	0.121	NS	5.00	5.15	103	
Sodium	NS	0.208	NS	5.00	5.10	102	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
PDF File ID: 5456543
Report generated 08/31/2017 11:48



Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17081366
Instrument ID: ICP-THERM04

Date: 01/04/2017
Method: 6010C

Analyte	Wave Length	AG	AL	AS	B	BA
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0.0000410	0	0	0
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0.0145	0	-0.0000800
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0	0	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	0.000378	0	0	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	-0.000289	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0.0000140	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	-0.0000120	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	0
ZINC	206.20	0	0.0000320	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17081366
Instrument ID: ICP-THERM04

Date: 01/04/2017
Method: 6010C

Analyte	Wave Length	BE	CA	CD	CO	CR
ALUMINUM	308.20	0	0	0	-0.000820	0
ANTIMONY	206.80	0	0	0	0	0.0260
ARSENIC	189.00	0	0	0	0	-0.00730
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0	0	0.00343	0
CADMIUM	228.80	0	0	0	-0.00390	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	-0.000200
COPPER	224.70	0	0	0	0.0000770	-0.00100
IRON	261.10	0	0	0	0	-0.00100
LEAD	220.30	0	0	0	-0.0000130	-0.000132
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0.0000500
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	-0.000860	0
PHOSPHORUS	214.90	0	0	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0.00000500	0	0	0
THALLIUM	190.80	0	0	0	0.00240	0.000276
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	-0.00350
ZINC	206.20	0	0	0	0	-0.00180
ZIRCONIUM	339.10	0	0	0	0	0

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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17081366
Instrument ID: ICP-THERM04

Date: 01/04/2017
Method: 6010C

Analyte	Wave Length	CU	FE	K	LI	MG
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0.0000560	0	0	0
ARSENIC	189.00	0	-0.0000490	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0.000648	0	0	0
CADMIUM	228.80	0	-0.00000500	0	0	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0.0000400	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0	0.00139	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0.000609	0	0	0	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0.0000220
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0.0000420	0	0	0
PHOSPHORUS	214.90	0.0390	0.000900	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	-0.000118	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	-0.000200	0	0	0
VANADIUM	292.40	0	0.0000700	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17081366
Instrument ID: ICP-THERM04

Date: 01/04/2017
Method: 6010C

Analyte	Wave Length	MN	MO	NA	NI	P
ALUMINUM	308.20	0	0.0163	0	0	0
ANTIMONY	206.80	0	0.000910	0	-0.00190	0
ARSENIC	189.00	0	0.000139	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	-0.00190	0	0	0
CADMIUM	228.80	0	0.0000320	0	-0.000770	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0.000360	0	0	0	0
COBALT	228.60	0	-0.00200	0	0.000100	0
COPPER	224.70	0	0.00160	0	-0.0123	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	-0.000610	0	0.000110	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	-0.00290	-0.0230	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0.0000300	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0.00710	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0.000600	0.000580	0	0	0
SILICON	212.40	0	-0.354	0	0	0
SILVER	328.10	0	-0.0000100	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0.00100	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	-0.000153	0	0	0
VANADIUM	292.40	-0.000200	-0.00160	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17081366
Instrument ID: ICP-THERM04

Date: 01/04/2017
Method: 6010C

Analyte	Wave Length	PB	SB	SE	SI	SN
ALUMINUM	308.20	0	0	0	0	0
ANTIMONY	206.80	0	0	0	0	-0.0320
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0	0	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0.00440	0	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	0	0	0	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	0	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	0	0	0	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	0	0	0	0
TIN	189.90	0	0	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17081366
Instrument ID: ICP-THERM04

Date: 01/04/2017
Method: 6010C

Analyte	Wave Length	SR	TI	TL	V	ZN
ALUMINUM	308.20	0	0	0	0.0720	0
ANTIMONY	206.80	0	0.000500	0	-0.00360	0
ARSENIC	189.00	0	0	0	0.000107	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	-0.00000700	0	0.000990	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0	0.000102	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0.0000550	0	0	0
COBALT	228.60	0	0.00170	0	0.0000200	0
COPPER	224.70	0	0.000269	0	0	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	0	0	-0.000126	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	0	-0.00290	0	0	0
MANGANESE	257.60	0	0	0	0	0
MOLYBDENUM	202.00	0	0	0	-0.000110	0
NICKEL	231.60	0	0	0	0	0
PHOSPHORUS	214.90	0	0	0	-0.00100	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	0	0	0	0
SILICON	212.40	0	0	0	0	0
SILVER	328.10	0	-0.000720	0	-0.000260	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	-0.00100	0	-0.0420	0
TIN	189.90	0	-0.00190	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0.000820	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L17081366
Instrument ID: ICP-THERM04

Date: 01/04/2017
Method: 6010C

Analyte	Wave Length	ZR
ALUMINUM	308.20	0
ANTIMONY	206.80	0
ARSENIC	189.00	0
BARIUM	455.40	0
BERYLLIUM	313.10	0
BORON	249.60	0
CADMIUM	228.80	0
CALCIUM	422.60	0
CHROMIUM	267.70	0
COBALT	228.60	0
COPPER	224.70	0
IRON	261.10	0
LEAD	220.30	0
LITHIUM	670.70	0
MAGNESIUM	279.10	0
MANGANESE	257.60	0
MOLYBDENUM	202.00	0
NICKEL	231.60	0
PHOSPHORUS	214.90	0
POTASSIUM	766.40	0
SELENIUM	196.10	0
SILICON	212.40	0
SILVER	328.10	0
SODIUM	589.50	0
STRONTIUM	407.70	0
THALLIUM	190.80	0
TIN	189.90	0
TITANIUM	337.20	0
VANADIUM	292.40	0
ZINC	206.20	0
ZIRCONIUM	339.10	0

CORR_FACTORS - Modified 03/05/2008
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Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L17081366
Instrument ID: ICP-THERM04

Date: 07/17/2017
Method: 6010C

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Aluminum	10.00	900.0
Antimony	20.00	45.0
Arsenic	10.00	45.0
Barium	10.00	45.0
Beryllium	10.00	1.8
Boron	20.00	45.0
Cadmium	20.00	4.5
Calcium	8.00	270.0
Chromium	20.00	36.0
Cobalt	20.00	45.0
Copper	20.00	180.0
Iron	8.00	720.0
Lead	20.00	225.0
Lithium	8.00	36.0
Magnesium	8.00	900.0
Manganese	10.00	36.0
Molybdenum	20.00	18.0
Nickel	20.00	90.0
Phosphorus	20.00	180.0
Potassium	8.00	360.0
Selenium	20.00	90.0
Silicon	20.00	36.0
Silver	10.00	3.6
Sodium	8.00	270.0
Strontium	8.00	9.0
Thallium	20.00	18.0
Tin	20.00	45.0
Titanium	8.00	45.0
Vanadium	20.00	27.0
Zinc	20.00	45.0
Zirconium	10.00	45.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 5456538
Report generated: 08/31/2017 11:48



2.3.1.3 Raw Data

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	-0.000210	0.034763	0.000000	1.000000
Al 308.215 {109}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.001543	0.008626	0.000000	1.000000
As 189.042 {478}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.000029	0.023481	0.000000	1.000000
B 249.678 {135}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	-0.000136	0.015387	0.000000	1.000000
Ba 455.403 { 74}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.016004	1.186244	0.000000	1.000000
Be 313.107 {108}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.000100	0.818834	0.000000	1.000000
Ca 422.673 { 80}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	-0.000627	0.023878	0.000000	1.000000
Cd 228.802 {447}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.000374	0.320982	0.000000	1.000000
Co 228.616 {447}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.000113	0.267501	0.000000	1.000000
Cr 267.716 {126}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.000062	0.045296	0.000000	1.000000
Cu 224.700 {450}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	-0.000495	0.085643	0.000000	1.000000
Fe 261.187 {129}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.000126	0.016594	0.000000	1.000000
K 766.490 { 44}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.005905	0.030180	0.000000	1.000000
Li 670.784 { 50}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	-0.004454	0.590696	0.000000	1.000000
Mg 279.079 {121}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	-0.000348	0.004295	0.000000	1.000000
Mn 257.610 {131}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.001339	0.165893	0.000000	1.000000
Mo 202.030 {467}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.000039	0.114990	0.000000	1.000000
Na 589.592 { 57}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	-0.036539	0.086261	0.000000	1.000000
Ni 231.604 {446}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	-0.000777	0.069305	0.000000	1.000000
P 214.914 {457}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.000069	0.009825	0.000000	1.000000
Pb 220.353 {453}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	-0.000273	0.048474	0.000000	1.000000
Sb 206.833 {463}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.000519	0.021550	0.000000	1.000000
Se 196.090 {472}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	-0.000033	0.007165	0.000000	1.000000
Si 212.412 {459}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.000355	0.025381	0.000000	1.000000
Sn 189.989 {477}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.000121	0.068897	0.000000	1.000000
Sr 407.771 { 83}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.003179	1.960108	0.000000	1.000000
Ti 337.280 {100}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	-0.000818	0.087510	0.000000	1.000000
Tl 190.856 {477}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	-0.000188	0.018364	0.000000	1.000000
V 292.402 {115}	8/30/2017 13:25:59	8/30/2017 13:25:59	Linear	1/Conc	0.000006	0.055284	0.000000	1.000000
Y 224.306 {450}* Y 360.073 { 94}* Y 377.433 { 89}* Zn 206.200 {463} Zr 339.198 { 99}	<not fit> <not fit> <not fit> 8/30/2017 13:25:59 8/30/2017 13:25:59	<Never Calibrated> <Never Calibrated> <Never Calibrated> 8/30/2017 13:25:59 8/30/2017 13:25:59	Linear Linear Linear Linear Linear	1/Conc 1/Conc 1/Conc 1/Conc 1/Conc	0.000000 0.000000 0.000000 0.000182 0.002316	0.000000 0.000000 0.000000 0.464432 0.001640	0.000000 0.000000 0.000000 0.000000 0.000000	1.000000 1.000000 1.000000 1.000000 1.000000

Approved: August 31, 2017

K: K Buck

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-Int	Slope factor	Offset
Ag 328.068 {103}	0.999920	0.000001	0.002577	0.008590	OK.	1.000000	0.000000	1	0
Al 308.215 {109}	0.999911	0.000007	0.008175	0.027250	OK.	1.000000	0.000000	1	0
As 189.042 {478}	0.999662	0.000002	0.003464	0.011545	OK.	1.000000	0.000000	1	0
B 249.678 {135}	0.999927	0.000001	0.003346	0.011152	OK.	1.000000	0.000000	1	0
Ba 455.403 {74}	0.999991	0.000032	0.001019	0.003398	OK.	1.000000	0.000000	1	0
Be 313.107 {108}	0.999989	0.000001	0.000077	0.000258	OK.	1.000000	0.000000	1	0
Ca 422.673 {80}	0.999946	0.000016	0.037313	0.124376	OK.	1.000000	0.000000	1	0
Cd 228.802 {447}	0.999217	0.000004	0.000382	0.001274	OK.	1.000000	0.000000	1	0
Co 228.616 {447}	0.999934	0.000004	0.000537	0.001790	OK.	1.000000	0.000000	1	0
Cr 267.716 {126}	0.999973	0.000001	0.001296	0.004320	OK.	1.000000	0.000000	1	0
Cu 224.700 {450}	0.999987	0.000001	0.001864	0.006212	OK.	1.000000	0.000000	1	0
Fe 261.187 {129}	0.999938	0.000005	0.018501	0.061670	OK.	1.000000	0.000000	1	0
K 766.490 {44}	0.999913	0.000126	0.097534	0.325115	OK.	1.000000	0.000000	1	0
Li 670.784 {50}	0.999981	0.000036	0.004977	0.016589	OK.	1.000000	0.000000	1	0
Mg 279.079 {121}	0.999877	0.000007	0.071904	0.239679	OK.	1.000000	0.000000	1	0
Mn 257.610 {131}	0.999973	0.000004	0.002259	0.007528	OK.	1.000000	0.000000	1	0
Mo 202.030 {467}	0.999995	0.000002	0.000652	0.002174	OK.	1.000000	0.000000	1	0
Na 589.592 {57}	0.999996	0.000074	0.034088	0.113626	OK.	1.000000	0.000000	1	0
Ni 231.604 {446}	0.999994	0.000001	0.001870	0.006233	OK.	1.000000	0.000000	1	0
P 214.914 {457}	0.999984	0.000003	0.009221	0.030736	OK.	1.000000	0.000000	1	0
Pb 220.353 {453}	0.999345	0.000006	0.004350	0.014499	OK.	1.000000	0.000000	1	0
Sb 206.833 {463}	0.999362	0.000006	0.006060	0.020200	OK.	1.000000	0.000000	1	0
Se 196.090 {472}	0.998153	0.000002	0.015136	0.050454	OK.	1.000000	0.000000	1	0
Si 212.412 {459}	0.999994	0.000003	0.003359	0.011198	OK.	1.000000	0.000000	1	0
Sn 189.989 {477}	0.999998	0.000001	0.000988	0.003293	OK.	1.000000	0.000000	1	0
Sr 407.771 {83}	0.999996	0.000037	0.000463	0.001543	OK.	1.000000	0.000000	1	0
Ti 337.280 {100}	0.999568	0.000016	0.006319	0.021063	OK.	1.000000	0.000000	1	0
Tl 190.856 {477}	0.999931	0.000001	0.004617	0.015391	OK.	1.000000	0.000000	1	0
V 292.402 {115}	0.999924	0.000004	0.001128	0.003760	OK.	1.000000	0.000000	1	0
Y 224.306 {450}	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 360.073 {94}	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 377.433 {89}	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Zn 206.200 {463}	0.999998	0.000006	0.000198	0.000660	OK.	1.000000	0.000000	1	0
Zr 339.198 {99}	0.583136	0.000014	0.495473	1.651577	OK.	1.000000	0.000000	1	0

Approved: August 31, 2017

K: K Buck

Sample Name: S0 Acquired: 8/30/2017 13:07:45 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00021	.00154	.00003	-.00014	.01600	.00010	-.00063
Stddev	.00008	.00002	.00001	.00004	.00085	.00004	.00035
%RSD	39.144	1.5191	24.634	31.175	5.3015	39.692	56.075

#1	-.00023	.00153	.00003	-.00015	.01529	.00006	-.00103
#2	-.00028	.00153	.00002	-.00009	.01578	.00010	-.00040
#3	-.00012	.00157	.00004	-.00017	.01694	.00014	-.00045

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00037	.00011	.00006	-.00049	.00013	.00590	-.00445
Stddev	.00009	.00003	.00002	.00005	.00018	.00139	.00225
%RSD	25.094	28.387	30.053	9.9967	146.22	23.525	50.554

#1	.00044	.00014	.00008	-.00047	-.00009	.00433	-.00610
#2	.00027	.00008	.00007	-.00047	.00025	.00643	-.00538
#3	.00041	.00011	.00004	-.00055	.00021	.00695	-.00189

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00035	.00134	.00004	-.03654	-.00078	.00007	-.00027
Stddev	.00025	.00020	.00001	.00214	.00015	.00004	.00001
%RSD	73.003	14.770	28.773	5.8698	18.947	54.105	4.9702

#1	-.00040	.00147	.00004	-.03515	-.00074	.00006	-.00028
#2	-.00057	.00144	.00005	-.03901	-.00094	.00004	-.00027
#3	-.00007	.00111	.00003	-.03546	-.00065	.00011	-.00026

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00052	-.00003	.00035	.00012	.00318	-.00082	-.00019
Stddev	.00004	.00009	.00006	.00012	.00078	.00026	.00006
%RSD	8.3602	267.48	15.657	101.92	24.684	32.210	31.650

#1	.00057	-.00013	.00041	.00025	.00265	-.00086	-.00017
#2	.00049	-.00000	.00036	.00001	.00408	-.00105	-.00014
#3	.00050	.00004	.00030	.00010	.00281	-.00053	-.00025

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: S0 Acquired: 8/30/2017 13:07:45 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.00001	.00018	-.00232
Stddev	.00003	.00003	.00066
%RSD	535.51	15.983	28.673

#1	.00004	.00021	-.00293
#2	-.00002	.00016	-.00241
#3	.00000	.00018	-.00161

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10187.	82364.	7354.2
Stddev	10.	121.	38.5
%RSD	.09668	.14688	.52417

#1	10195.	82480.	7380.0
#2	10176.	82238.	7309.9
#3	10189.	82373.	7372.7

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: S1 Acquired: 8/30/2017 13:11:32 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	Ba4554	Be3131	Ca4226	Cd2288	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00007	.00228	.02541	.00045	.00093	.00061	.00060
Stddev	.00006	.00005	.00039	.00007	.00058	.00009	.00003
%RSD	88.114	2.1233	1.5472	14.447	61.534	14.830	5.7031

#1	-.00011	.00233	.02582	.00053	.00053	.00058	.00063
#2	.00000	.00227	.02538	.00040	.00068	.00071	.00060
#3	-.00011	.00224	.02504	.00043	.00159	.00053	.00056

Elem	Cr2677	Cu2247	Fe2611	K_7664	Mn2576	Mo2020	Na5895
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00026	-.00016	.00068	.02005	.00192	.00097	-.00289
Stddev	.00003	.00008	.00016	.00159	.00007	.00007	.00306
%RSD	12.156	48.320	23.877	7.9359	3.6163	7.1438	105.74

#1	.00025	-.00022	.00074	.02188	.00196	.00089	.00042
#2	.00023	-.00019	.00079	.01913	.00184	.00102	-.00560
#3	.00029	-.00007	.00049	.01913	.00196	.00100	-.00350

Elem	Ni2316	P_2149	Pb2203	Sb2068	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00050	.00088	-.00020	.00058	.00130	.00065	.01934
Stddev	.00007	.00007	.00017	.00007	.00003	.00003	.00072
%RSD	14.945	7.4410	84.112	12.680	2.4509	4.6729	3.7316

#1	-.00058	.00085	-.00004	.00066	.00128	.00064	.01891
#2	-.00043	.00095	-.00019	.00051	.00129	.00069	.02017
#3	-.00049	.00083	-.00037	.00059	.00134	.00064	.01893

Elem	Ti3372	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00044	.00053	.00396	-.00199
Stddev	.00038	.00004	.00007	.00124
%RSD	86.815	7.2373	1.6961	62.422

#1	-.00085	.00052	.00404	-.00218
#2	-.00011	.00050	.00392	-.00066
#3	-.00035	.00057	.00393	-.00312

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: S1 Acquired: 8/30/2017 13:11:32 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10130.	81412.	7177.2
Stddev	15.	333.	12.4
%RSD	.15044	.40928	.17332
#1	10126.	81314.	7191.3
#2	10147.	81783.	7172.9
#3	10117.	81139.	7167.6

Approved: August 31, 2017

K: K Buck

Sample Name: S2 Acquired: 8/30/2017 13:15:20 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00001	.00311	.00023	-.00003	.03608	.00079	.00342
Stddev	.00003	.00004	.00009	.00004	.00059	.00003	.00019
%RSD	261.97	1.2152	38.089	109.12	1.6367	3.8772	5.6644

#1	.00004	.00315	.00013	-.00005	.03620	.00082	.00350
#2	-.00002	.00311	.00025	.00001	.03544	.00079	.00320
#3	.00002	.00307	.00031	-.00006	.03661	.00076	.00357

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00064	.00107	.00045	.00016	.00135	.03325	.00569
Stddev	.00004	.00014	.00001	.00008	.00024	.00148	.00192
%RSD	5.4860	13.090	2.0992	48.392	17.968	4.4377	33.712

#1	.00068	.00121	.00047	.00018	.00155	.03353	.00364
#2	.00064	.00093	.00045	.00007	.00108	.03166	.00599
#3	.00061	.00108	.00045	.00022	.00142	.03457	.00744

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00048	.00273	.00195	.03372	-.00021	.00166	.00003
Stddev	.00031	.00032	.00004	.00248	.00009	.00009	.00011
%RSD	66.020	11.634	1.7993	7.3525	42.399	5.3195	388.39

#1	.00082	.00308	.00199	.03625	-.00029	.00156	-.00004
#2	.00040	.00245	.00192	.03361	-.00011	.00171	.00015
#3	.00021	.00266	.00195	.03129	-.00021	.00172	-.00003

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00090	.00005	.00227	.00122	.03561	.00025	-.00007
Stddev	.00002	.00002	.00002	.00007	.00105	.00069	.00002
%RSD	2.1293	35.861	1.0559	5.6305	2.9368	280.75	29.457

#1	.00088	.00005	.00224	.00115	.03592	.00053	-.00005
#2	.00089	.00007	.00226	.00129	.03444	-.00054	-.00009
#3	.00092	.00003	.00229	.00123	.03646	.00075	-.00006

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: S2 Acquired: 8/30/2017 13:15:20 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.00098	.00776	-.00207
Stddev	.00004	.00002	.00097
%RSD	3.7489	.28419	46.961

#1	.00102	.00779	-.00112
#2	.00094	.00774	-.00202
#3	.00097	.00777	-.00306

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10171.	81487.	7245.2
Stddev	24.	240.	15.1
%RSD	.24048	.29484	.20861

#1	10143.	81565.	7227.8
#2	10188.	81679.	7252.4
#3	10183.	81217.	7255.3

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: S3 Acquired: 8/30/2017 13:19:08 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01357	.08961	.00930	.00750	1.2008	.04166	.23823
Stddev	.00012	.00011	.00006	.00001	.0033	.00009	.00076
%RSD	.89213	.12482	.65481	.12948	.27430	.21844	.32085

#1	.01367	.08960	.00930	.00750	1.2011	.04171	.23906
#2	.01361	.08972	.00924	.00750	1.1974	.04171	.23755
#3	.01343	.08950	.00936	.00751	1.2040	.04155	.23807

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01790	.05359	.02265	.04279	.06627	1.5156	.58865
Stddev	.00004	.00028	.00014	.00025	.00089	.0032	.00754
%RSD	.23444	.52832	.62538	.57371	1.3419	.21309	1.2806

#1	.01793	.05382	.02271	.04308	.06586	1.5163	.58859
#2	.01785	.05367	.02249	.04264	.06566	1.5121	.58114
#3	.01791	.05328	.02276	.04266	.06729	1.5184	.59622

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.04273	.08443	.11478	4.2886	.03400	.09781	.02413
Stddev	.00002	.00034	.00006	.0217	.00006	.00009	.00009
%RSD	.05529	.40539	.05272	.50695	.17972	.08921	.37398

#1	.04271	.08436	.11485	4.2955	.03402	.09772	.02418
#2	.04272	.08480	.11474	4.2642	.03404	.09788	.02419
#3	.04276	.08413	.11475	4.3061	.03393	.09785	.02403

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02586	.00288	.11769	.06900	1.9640	.08658	.00834
Stddev	.00006	.00006	.00019	.00014	.0081	.00094	.00004
%RSD	.24156	2.0282	.15926	.21005	.41404	1.0850	.44052

#1	.02580	.00290	.11747	.06905	1.9611	.08592	.00834
#2	.02592	.00293	.11782	.06911	1.9577	.08617	.00838
#3	.02587	.00282	.11777	.06883	1.9732	.08766	.00830

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: S3 Acquired: 8/30/2017 13:19:08 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.05490	.46496	-.00060
Stddev	.00020	.00047	.00099
%RSD	.36177	.10090	165.31

#1	.05496	.46544	-.00163
#2	.05507	.46492	-.00051
#3	.05469	.46451	.00034

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10035.	79379.	7218.8
Stddev	22.	220.	44.2
%RSD	.22199	.27658	.61162

#1	10025.	79139.	7224.0
#2	10060.	79430.	7260.0
#3	10019.	79569.	7172.2

Approved: August 31, 2017
<i>K. K. Buck</i>

Sample Name: S4 Acquired: 8/30/2017 13:22:36 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02754	.17432	.01871	.01523	2.3889	.08375	.47699	.03538
Stddev	.00014	.00047	.00015	.00004	.0062	.00020	.00077	.00017
%RSD	.50313	.26814	.78427	.26027	.25795	.23360	.16098	.46814

#1	.02738	.17434	.01877	.01528	2.3823	.08393	.47652	.03524
#2	.02764	.17384	.01881	.01522	2.3944	.08354	.47788	.03556
#3	.02758	.17477	.01854	.01520	2.3900	.08378	.47658	.03534

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.10671	.04542	.08565	.13291	3.0179	1.1738	.08494	.16720
Stddev	.00016	.00012	.00009	.00080	.0208	.0082	.00048	.00044
%RSD	.14960	.25566	.10509	.59878	.68934	.70050	.56776	.26336

#1	.10673	.04551	.08556	.13201	2.9940	1.1644	.08439	.16671
#2	.10686	.04546	.08565	.13352	3.0321	1.1775	.08520	.16733
#3	.10654	.04529	.08573	.13321	3.0276	1.1796	.08524	.16756

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.23015	8.5771	.06839	.19780	.04874	.05153	.00564	.23676
Stddev	.00070	.0777	.00016	.00040	.00029	.00007	.00009	.00048
%RSD	.30309	.90589	.23012	.20427	.59307	.14133	1.5553	.20348

#1	.23012	8.4892	.06856	.19804	.04849	.05151	.00564	.23668
#2	.23086	8.6059	.06838	.19803	.04906	.05161	.00573	.23727
#3	.22946	8.6364	.06824	.19733	.04867	.05147	.00555	.23631

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.13755	3.9214	.17472	.01653	.11040	.92769	.00035
Stddev	.00028	.0157	.00129	.00020	.00017	.00030	.00099
%RSD	.20589	.40010	.73577	1.1799	.15520	.03215	285.40

#1	.13772	3.9036	.17325	.01638	.11036	.92764	.00028
#2	.13772	3.9333	.17528	.01675	.11025	.92801	.00137
#3	.13723	3.9273	.17563	.01645	.11059	.92742	-.00061

Approved: August 31, 2017

K: K Buck

Sample Name: S4 Acquired: 8/30/2017 13:22:36 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9952.5	78374.	7204.0
Stddev	14.7	183.	15.2
%RSD	.14745	.23329	.21067
#1	9963.0	78401.	7221.0
#2	9958.8	78178.	7199.4
#3	9935.8	78541.	7191.7

Approved: August 31, 2017

K: K Buck

Sample Name: ICV Acquired: 8/30/2017 13:26:04 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39502	10.103	.40268	.49481	.99870	.05007	9.9442	.04998
Stddev	.00232	.018	.00151	.00536	.00058	.00015	.0270	.00066
%RSD	.58726	.17660	.37550	1.0836	.05833	.29790	.27173	1.3228

#1	.39386	10.094	.40391	.48897	.99883	.04990	9.9154	.05069
#2	.39351	10.124	.40313	.49594	.99920	.05019	9.9690	.04938
#3	.39769	10.093	.40099	.49952	.99806	.05012	9.9481	.04986

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20052	.49845	.50710	3.9570	49.760	.99547	10.121	.50802
Stddev	.00041	.00166	.00126	.0070	.136	.00646	.124	.00183
%RSD	.20406	.33292	.24901	.17666	.27410	.64942	1.2261	.36089

#1	.20072	.49707	.50713	3.9638	49.686	.98805	10.247	.50732
#2	.20005	.49800	.50582	3.9574	49.677	.99991	9.9992	.51010
#3	.20079	.50029	.50835	3.9498	49.918	.99844	10.116	.50664

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.95536	49.748	.49988	10.022	.50025	1.2315	.40070	4.9741
Stddev	.00183	.104	.00078	.013	.00511	.0039	.02722	.0034
%RSD	.19191	.20830	.15519	.12982	1.0218	.31637	6.7943	.06740

#1	.95740	49.667	.49978	10.027	.49754	1.2339	.36969	4.9774
#2	.95383	49.711	.49916	10.007	.50615	1.2270	.41170	4.9707
#3	.95487	49.864	.50070	10.032	.49707	1.2335	.42070	4.9740

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: ICV Acquired: 8/30/2017 13:26:04 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0159	1.0021	.99852	.50403	.98559	1.0093	1.0164
Stddev	.0007	.0016	.00734	.00505	.00246	.0003	.2896
%RSD	.06852	.15934	.73503	1.0029	.24966	.02842	28.496
#1	1.0164	1.0006	.99042	.50951	.98434	1.0092	1.2653
#2	1.0161	1.0018	1.0047	.49955	.98843	1.0096	.69852
#3	1.0151	1.0038	1.0004	.50302	.98401	1.0090	1.0853

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10057.	79533.	7237.9
Stddev	11.	438.	15.2
%RSD	.10593	.55129	.21001
#1	10062.	79958.	7225.9
#2	10045.	79082.	7232.7
#3	10064.	79560.	7255.0

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: ICB Acquired: 8/30/2017 13:29:34 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00000	-.00267	.00227	.00499	-.00001	.00002	-.02236
Stddev	.00160	.00536	.00352	.00199	.00059	.00002	.04596
%RSD	60029.	200.94	155.42	39.902	5294.7	88.395	205.52

#1	.00177	-.00075	.00078	.00619	-.00064	.00000	-.01832
#2	-.00133	.00147	.00629	.00608	.00006	.00004	.02144
#3	-.00044	-.00872	-.00027	.00269	.00054	.00002	-.07020

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.00017	.00063	-.00139	.00534	.13522	-.00132
Stddev	.00020	.00049	.00152	.00042	.01192	.06969	.00429
%RSD	168.24	284.54	239.73	30.475	223.38	51.537	325.14

#1	-.00011	.00072	.00186	-.00093	-.00670	.19912	-.00417
#2	.00026	.00001	.00112	-.00177	.00557	.06092	.00362
#3	.00020	-.00022	-.00107	-.00146	.01714	.14561	-.00340

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04506	.00039	.00037	.00320	-.00048	.00959	-.00356
Stddev	.07100	.00140	.00017	.01020	.00166	.01524	.00151
%RSD	157.56	360.45	44.381	318.54	347.82	158.83	42.490

#1	-.02684	.00074	.00035	.01432	.00136	.01201	-.00181
#2	.04690	-.00115	.00022	.00101	-.00186	.02348	-.00435
#3	.11513	.00158	.00055	-.00572	-.00094	-.00671	-.00451

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017

K: K Buck

Sample Name: ICB Acquired: 8/30/2017 13:29:34 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00106	.01133	.00266	-.00012	.00050	-.00003	-.00090
Stddev	.00700	.00832	.00344	.00049	.00006	.00531	.00216
%RSD	660.23	73.454	129.06	390.09	11.904	19193.	238.67

#1	.00395	.02065	-.00112	-.00052	.00045	.00524	-.00163
#2	.00193	.00467	.00352	-.00027	.00056	-.00538	.00152
#3	-.00907	.00866	.00559	.00042	.00048	.00006	-.00260

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00065	.00069	F -.52042
Stddev	.00081	.00025	.07162
%RSD	125.91	36.471	13.763

#1	.00104	.00089	-.59631
#2	.00119	.00041	-.51092
#3	-.00029	.00077	-.45401

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10173.	81961.	7221.1
Stddev	11.	244.	21.8
%RSD	.11297	.29800	.30154

#1	10164.	81747.	7229.7
#2	10186.	82227.	7196.4
#3	10169.	81908.	7237.3

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LLICV Acquired: 8/30/2017 13:33:22 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01009	.17460	.00769	.08074	.00810	.00164	.38629
Stddev	.00227	.00441	.00041	.00150	.00084	.00006	.01309
%RSD	22.530	2.5270	5.3364	1.8544	10.353	3.5566	3.3892

#1	.00812	.17503	.00783	.07979	.00805	.00162	.39566
#2	.01257	.16999	.00723	.08247	.00729	.00159	.37133
#3	.00957	.17878	.00801	.07997	.00897	.00170	.39187

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00096	.00473	.00498	.00381	.08991	.90267	.08285
Stddev	.00024	.00077	.00056	.00072	.01572	.03005	.00244
%RSD	25.244	16.325	11.300	18.998	17.484	3.3287	2.9471

#1	.00076	.00510	.00482	.00422	.09633	.91505	.08415
#2	.00123	.00385	.00561	.00297	.07200	.86842	.08004
#3	.00089	.00526	.00451	.00423	.10140	.92456	.08437

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48974	.00962	.00820	.39486	.01590	.79911	.00757
Stddev	.07037	.00151	.00011	.03599	.00154	.00281	.00291
%RSD	14.368	15.743	1.3430	9.1135	9.6868	.35201	38.474

#1	.43119	.00937	.00825	.41761	.01506	.80231	.00880
#2	.56780	.00825	.00807	.35337	.01767	.79800	.00425
#3	.47022	.01124	.00828	.41360	.01495	.79701	.00967

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LLICV Acquired: 8/30/2017 13:33:22 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08530	.01416	.73364	.41458	.04205	.02585	.15922
Stddev	.00127	.00715	.00214	.00014	.00024	.00611	.00456
%RSD	1.4836	50.461	.29215	.03483	.57261	23.653	2.8644

#1	.08500	.00723	.73178	.41456	.04190	.02791	.15403
#2	.08421	.02151	.73598	.41444	.04192	.03067	.16255
#3	.08669	.01374	.73316	.41473	.04233	.01897	.16110

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00919	.01790	F 48.876
Stddev	.00060	.00016	.461
%RSD	6.5613	.90702	.94278

#1	.00851	.01809	48.503
#2	.00968	.01782	48.735
#3	.00936	.01780	49.391

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10242.	82131.	7246.9
Stddev	13.	87.	29.7
%RSD	.12499	.10545	.40993

#1	10250.	82182.	7275.5
#2	10249.	82179.	7249.1
#3	10227.	82031.	7216.2

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LLICV Acquired: 8/30/2017 13:37:08 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00848	.17501	.00931	.08014	.00859	.00164	.38926
Stddev	.00334	.00073	.00065	.00200	.00072	.00003	.00796
%RSD	39.386	.41959	7.0205	2.4964	8.4143	2.0932	2.0449

#1	.00885	.17463	.00872	.07916	.00780	.00164	.38173
#2	.00497	.17455	.01001	.07882	.00876	.00161	.38846
#3	.01163	.17586	.00919	.08244	.00921	.00168	.39759

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00090	.00448	.00519	.00443	.07952	.80587	.08130
Stddev	.00059	.00044	.00056	.00063	.01378	.08994	.00652
%RSD	65.407	9.9081	10.807	14.228	17.333	11.160	8.0256

#1	.00024	.00492	.00458	.00370	.09394	.78905	.08705
#2	.00109	.00403	.00568	.00477	.07816	.90302	.08263
#3	.00138	.00449	.00530	.00482	.06647	.72552	.07421

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.44148	.00867	.00804	.38318	.01623	.81043	.00627
Stddev	.09416	.00137	.00026	.01050	.00123	.00710	.00318
%RSD	21.328	15.788	3.1764	2.7392	7.5830	.87599	50.741

#1	.35778	.00720	.00833	.38269	.01612	.81460	.00337
#2	.42324	.00891	.00791	.39391	.01751	.81447	.00577
#3	.54342	.00990	.00787	.37294	.01506	.80224	.00968

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LLICV Acquired: 8/30/2017 13:37:08 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08070	.01463	.73926	.41724	.04184	.02801	.16119
Stddev	.00389	.01198	.00126	.00075	.00036	.00575	.00170
%RSD	4.8201	81.871	.17040	.18050	.86479	20.536	1.0550

#1	.08179	.00351	.74044	.41798	.04169	.03463	.16221
#2	.08392	.01307	.73793	.41647	.04225	.02523	.16213
#3	.07638	.02731	.73940	.41728	.04157	.02418	.15923

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00907	.01758	F 49.815
Stddev	.00054	.00017	.250
%RSD	5.9046	.98650	.50154

#1	.00846	.01743	49.734
#2	.00946	.01777	50.096
#3	.00928	.01754	49.617

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10249.	82011.	7257.1
Stddev	14.	66.	8.4
%RSD	.13700	.08062	.11555

#1	10247.	82070.	7266.7
#2	10235.	81940.	7251.4
#3	10263.	82023.	7253.1

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LLICV Acquired: 8/30/2017 13:40:54 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00949	.17658	.00953	.07823	.00872	.00165	.38360
Stddev	.00141	.00202	.00249	.00040	.00145	.00001	.03679
%RSD	14.897	1.1457	26.187	.51496	16.640	.61503	9.5897

#1	.00849	.17424	.00824	.07831	.01025	.00165	.36682
#2	.00888	.17771	.01240	.07779	.00736	.00166	.42578
#3	.01111	.17778	.00794	.07859	.00857	.00164	.35819

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00100	.00448	.00430	.00458	.08601	.86742	.08888
Stddev	.00067	.00058	.00049	.00265	.00885	.09169	.00360
%RSD	66.513	12.996	11.371	57.717	10.288	10.571	4.0524

#1	.00153	.00449	.00375	.00196	.09300	.80883	.09129
#2	.00025	.00506	.00469	.00726	.07606	.97309	.08474
#3	.00122	.00390	.00447	.00453	.08898	.82035	.09062

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48804	.00866	.00804	.37617	.01824	.80818	.00703
Stddev	.03538	.00217	.00045	.02514	.00113	.00967	.00262
%RSD	7.2495	25.036	5.6011	6.6823	6.2007	1.1969	37.316

#1	.52870	.01115	.00791	.35617	.01954	.80968	.00833
#2	.47116	.00765	.00855	.36796	.01751	.81702	.00401
#3	.46426	.00719	.00768	.40439	.01766	.79785	.00875

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LLICV Acquired: 8/30/2017 13:40:54 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08251	.00993	.74599	.41883	.04189	.02032	.15934
Stddev	.00267	.01983	.00379	.00140	.00055	.00227	.00363
%RSD	3.2413	199.72	.50804	.33484	1.3171	11.149	2.2800

#1	.08103	-.00534	.74957	.41821	.04127	.01795	.15983
#2	.08560	.03234	.74638	.42044	.04206	.02052	.15548
#3	.08091	.00279	.74202	.41785	.04234	.02247	.16270

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00791	.01773	F 50.015
Stddev	.00202	.00009	.027
%RSD	25.534	.53444	.05348

#1	.01013	.01771	50.001
#2	.00619	.01784	50.046
#3	.00741	.01765	49.998

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10206.	82035.	7218.7
Stddev	21.	204.	22.5
%RSD	.20324	.24824	.31150

#1	10182.	82224.	7192.8
#2	10219.	82061.	7232.4
#3	10216.	81820.	7231.1

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: ICSA Acquired: 8/30/2017 13:44:39 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00001	248.66	.00118	-.00725	-.00035	-.00001	239.39
Stddev	.00165	.36	.00467	.00134	.00067	.00006	.36
%RSD	14025.	.14472	396.79	18.519	191.95	466.86	.15029

#1	.00192	248.95	-.00006	-.00799	-.00113	-.00008	239.03
#2	-.00090	248.26	-.00275	-.00806	.00003	.00001	239.75
#3	-.00099	248.77	.00635	-.00570	.00005	.00003	239.39

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00068	-.00020	-.00086	.00011	95.926	.00269	.00549
Stddev	.00013	.00032	.00090	.00074	.321	.07175	.00659
%RSD	19.403	158.44	104.66	645.98	.33483	2669.5	119.91

#1	.00082	.00001	-.00050	.00080	95.578	-.07891	.01042
#2	.00067	-.00056	-.00188	-.00066	96.212	.03108	.00805
#3	.00055	-.00004	-.00019	.00020	95.988	.05589	-.00199

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	242.90	-.00104	-.00073	.04481	-.00309	.03108	-.00006
Stddev	.64	.00344	.00012	.00872	.00048	.01199	.00394
%RSD	.26240	331.71	15.957	19.455	15.554	38.578	6664.8

#1	242.20	.00112	-.00085	.03670	-.00346	.04288	.00398
#2	243.46	.00077	-.00071	.04370	-.00255	.03147	-.00026
#3	243.03	-.00501	-.00062	.05403	-.00326	.01890	-.00390

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: ICSA Acquired: 8/30/2017 13:44:39 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00135	.00424	.00431	.00021	.00123	.00712	-.00028
Stddev	.00606	.01602	.00184	.00060	.00014	.00583	.00220
%RSD	449.31	377.98	42.755	291.08	11.209	81.917	794.74

#1	-.00782	-.00558	.00282	.00017	.00139	.01378	.00035
#2	-.00042	-.00443	.00374	.00082	.00120	.00295	.00154
#3	.00419	.02272	.00637	-.00037	.00111	.00462	-.00273

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00317	-.00300	F -5.9901
Stddev	.00043	.00028	.3121
%RSD	13.551	9.3972	5.2097

#1	-.00330	-.00327	-6.3386
#2	-.00351	-.00271	-5.7366
#3	-.00268	-.00304	-5.8950

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.02000
Low Limit			-.02000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9556.0	74981.	7137.4
Stddev	9.1	243.	18.5
%RSD	.09476	.32376	.25941

#1	9547.1	74734.	7155.4
#2	9555.5	75220.	7138.3
#3	9565.2	74989.	7118.4

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: ICSAB Acquired: 8/30/2017 13:48:22 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51083	245.64	.24462	.47511	.24541	.25360	236.95
Stddev	.00263	.43	.00427	.00309	.00145	.00006	.97
%RSD	.51438	.17546	1.7452	.64950	.58964	.02546	.40875

#1	.51338	246.03	.24708	.47210	.24391	.25359	236.95
#2	.50813	245.18	.24709	.47826	.24553	.25354	235.99
#3	.51097	245.71	.23969	.47497	.24680	.25367	237.92

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.46765	.23354	.24178	.23538	95.137	5.1537	.00131
Stddev	.00041	.00044	.00261	.00189	.070	.0989	.00213
%RSD	.08865	.18866	1.0810	.80241	.07341	1.9200	162.67

#1	.46734	.23317	.23877	.23387	95.141	5.1759	.00150
#2	.46749	.23342	.24336	.23477	95.204	5.0455	-.00091
#3	.46812	.23403	.24323	.23750	95.065	5.2397	.00334

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	240.05	.23923	-.00047	5.0245	.46358	-.00936	.48437
Stddev	.82	.00198	.00013	.0392	.00146	.01129	.00573
%RSD	.34025	.82906	27.487	.77995	.31470	120.59	1.1834

#1	240.90	.23819	-.00037	5.0663	.46190	-.01496	.48058
#2	239.27	.23798	-.00042	4.9887	.46450	.00363	.48157
#3	239.98	.24152	-.00062	5.0184	.46434	-.01675	.49096

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: ICSAB Acquired: 8/30/2017 13:48:22 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48139	.24298	.00484	.47876	.00096	.00447	.44103
Stddev	.00230	.00197	.00112	.00102	.00030	.00346	.00487
%RSD	.47824	.80975	23.142	.21264	31.616	77.241	1.1035

#1	.47882	.24460	.00554	.47859	.00126	.00614	.43817
#2	.48328	.24079	.00544	.47985	.00097	.00679	.44664
#3	.48206	.24355	.00355	.47784	.00065	.00050	.43826

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.24198	.46371	F -6.1706
Stddev	.00067	.00018	.0208
%RSD	.27651	.03915	.33646

#1	.24256	.46380	-6.1487
#2	.24215	.46383	-6.1733
#3	.24125	.46350	-6.1899

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.02500
Low Limit			-.02500

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9540.0	75083.	7048.4
Stddev	25.3	191.	56.1
%RSD	.26565	.25457	.79608

#1	9510.9	75298.	7089.1
#2	9552.2	75019.	7071.8
#3	9557.0	74933.	6984.4

Approved: August 31, 2017

K: K Buck

Sample Name: CCV Acquired: 8/30/2017 13:51:57 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39943	10.270	.39950	.50002	1.0056	.05002	9.9828
Stddev	.00485	.089	.00100	.00352	.0012	.00023	.0699
%RSD	1.2148	.87136	.25143	.70472	.11836	.45672	.70001

#1	.39539	10.323	.40045	.50137	1.0043	.05021	9.9626
#2	.39810	10.321	.39960	.49602	1.0065	.04977	10.061
#3	.40482	10.167	.39844	.50266	1.0062	.05007	9.9252

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04985	.20183	.49993	.50249	4.0199	50.372	1.0069
Stddev	.00029	.00039	.00135	.00176	.0020	.331	.0035
%RSD	.58995	.19545	.27027	.35064	.04878	.65661	.35084

#1	.04999	.20140	.49839	.50284	4.0209	50.076	1.0032
#2	.05006	.20218	.50092	.50058	4.0211	50.729	1.0073
#3	.04952	.20190	.50049	.50405	4.0176	50.311	1.0102

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.121	.50582	1.0046	50.538	.50083	9.9932	.50117
Stddev	.028	.00238	.0016	.270	.00122	.0140	.00201
%RSD	.28053	.47043	.16219	.53519	.24423	.13972	.40042

#1	10.134	.50523	1.0062	50.398	.50045	9.9871	.49963
#2	10.140	.50844	1.0048	50.850	.50219	9.9834	.50344
#3	10.088	.50379	1.0029	50.366	.49984	10.009	.50045

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 13:51:57 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2099	.39760	5.0466	1.0078	1.0046	1.0098	.50906
Stddev	.0017	.00400	.0055	.0027	.0043	.0083	.00216
%RSD	.14268	1.0059	.10833	.26965	.43160	.81993	.42509

#1	1.2117	.40129	5.0426	1.0101	1.0014	1.0004	.50794
#2	1.2083	.39818	5.0528	1.0048	1.0095	1.0160	.51156
#3	1.2096	.39335	5.0444	1.0084	1.0027	1.0130	.50769

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.99325	1.0070	F .76982
Stddev	.00304	.0010	.33267
%RSD	.30638	.09511	43.215

#1	.99218	1.0074	.90463
#2	.99089	1.0059	1.0139
#3	.99669	1.0077	.39090

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9991.4	79588.	6942.1
Stddev	17.1	232.	211.9
%RSD	.17082	.29094	3.0527

#1	9989.8	79816.	7009.3
#2	9975.2	79594.	6704.7
#3	10009.	79353.	7112.3

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 13:55:25 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00118	.00097	-.00154	.00241	-.00030	.00003	-.05120
Stddev	.00185	.01440	.00250	.00205	.00040	.00002	.02619
%RSD	156.74	1479.6	162.35	85.117	132.23	69.533	51.157

#1	-.00229	-.01552	-.00065	.00096	-.00049	.00005	-.08144
#2	-.00219	.00738	.00039	.00476	-.00057	.00004	-.03679
#3	.00095	.01106	-.00436	.00152	.00016	.00001	-.03538

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	.00033	.00136	-.00181	-.00953	.04941	.00122
Stddev	.00003	.00033	.00096	.00142	.01356	.08896	.00388
%RSD	160.51	100.14	70.349	77.992	142.20	180.04	317.17

#1	.00001	-.00005	.00154	-.00237	.00529	.02720	.00530
#2	.00005	.00052	.00033	-.00021	-.01258	-.02634	-.00242
#3	-.00000	.00051	.00221	-.00287	-.02131	.14737	.00079

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02920	-.00017	.00090	-.01309	-.00146	.00015	F -.00522
Stddev	.03903	.00055	.00042	.03225	.00144	.00449	.00110
%RSD	133.67	313.70	46.166	246.43	98.599	2938.8	21.157

#1	.02880	-.00068	.00052	-.05022	-.00127	.00277	-.00402
#2	-.00963	-.00025	.00084	.00301	-.00013	.00272	-.00543
#3	.06843	.00041	.00134	.00794	-.00300	-.00503	-.00620

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							.00500
Low Limit							-.00500

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 13:55:25 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00200	.00117	.00054	-.00020	.00033	.00263	.00172
Stddev	.00176	.00583	.00300	.00082	.00036	.00599	.00702
%RSD	87.597	497.94	560.07	412.60	108.22	227.78	407.10

#1	-.00078	.00121	-.00015	.00075	.00059	.00375	.00217
#2	-.00122	-.00468	.00382	-.00067	-.00008	-.00384	-.00551
#3	-.00402	.00698	-.00206	-.00068	.00047	.00798	.00851

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00044	.00080	F .38700
Stddev	.00117	.00013	.29571
%RSD	266.98	16.398	76.410

#1	.00132	.00090	.72809
#2	-.00089	.00065	.22990
#3	.00088	.00085	.20300

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10142.	81531.	7172.4
Stddev	32.	170.	13.8
%RSD	.31081	.20813	.19258

#1	10174.	81520.	7185.1
#2	10111.	81368.	7157.7
#3	10142.	81706.	7174.4

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: PBW 54 Acquired: 8/30/2017 14:19:22 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627573-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00078	.00043	-.00193	.00262	.00011	-.00001	-.01246
Stddev	.00341	.00583	.00157	.00378	.00111	.00011	.02359
%RSD	438.17	1366.9	81.446	144.39	1052.9	1065.9	189.26

#1	.00233	.00133	-.00032	.00565	-.00118	.00012	-.03548
#2	-.00442	-.00581	-.00345	-.00162	.00069	-.00011	-.01355
#3	-.00024	.00575	-.00201	.00383	.00080	-.00004	.01165

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00032	-.00040	.00053	.00003	-.00351	.06694	.00522
Stddev	.00019	.00014	.00022	.00106	.02621	.06119	.00209
%RSD	59.370	35.257	40.549	3617.6	747.36	91.413	40.065

#1	.00038	-.00025	.00071	-.00075	.00911	.12813	.00560
#2	.00011	-.00044	.00060	-.00039	-.03364	.06693	.00710
#3	.00047	-.00052	.00029	.00123	.01401	.00575	.00297

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04592	.00094	.00073	-.02510	-.00067	-.00220	-.00359
Stddev	.03322	.00126	.00065	.02943	.00057	.00562	.00339
%RSD	72.338	135.03	88.579	117.26	84.413	255.92	94.365

#1	.01120	.00116	.00004	.00479	-.00076	-.00716	-.00561
#2	.07740	-.00043	.00083	-.05404	-.00119	.00391	.00032
#3	.04915	.00207	.00133	-.02603	-.00007	-.00335	-.00550

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: PBW 54 Acquired: 8/30/2017 14:19:22 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627573-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00753	.00532	-.00026	-.00071	.00012	-.00595	-.00108
Stddev	.00309	.00867	.00343	.00071	.00024	.00298	.00296
%RSD	40.998	162.94	1323.6	99.221	203.63	50.090	273.57

#1	-.00483	.01025	.00203	-.00096	.00028	-.00806	-.00099
#2	-.01089	.01040	.00140	.00008	-.00016	-.00254	.00183
#3	-.00686	-.00469	-.00420	-.00127	.00023	-.00724	-.00409

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00138	.00114	F -.23320
Stddev	.00031	.00026	.84242
%RSD	22.579	23.275	361.25

#1	.00136	.00086	-.34591
#2	.00169	.00138	.65991
#3	.00107	.00117	-1.0136

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10177.	82445.	7260.7
Stddev	19.	329.	55.5
%RSD	.18401	.39853	.76500

#1	10166.	82471.	7324.8
#2	10165.	82760.	7230.0
#3	10198.	82104.	7227.3

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LCSW 54 Acquired: 8/30/2017 14:23:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627573-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20101	5.0758	.19649	.94920	.50464	.02441	4.9660	.02512
Stddev	.00070	.0449	.00357	.00202	.00106	.00014	.0288	.00043
%RSD	.34889	.88561	1.8177	.21280	.21023	.58443	.57997	1.7300

#1	.20179	5.0281	.19287	.94857	.50355	.02425	4.9977	.02533
#2	.20043	5.1174	.19658	.94757	.50469	.02450	4.9414	.02541
#3	.20080	5.0818	.20001	.95146	.50567	.02449	4.9588	.02462

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10234	.24954	.25204	1.9914	25.153	.50535	5.0758	.25464
Stddev	.00075	.00207	.00166	.0144	.153	.00496	.0374	.00117
%RSD	.73023	.82847	.65862	.72154	.60876	.98157	.73736	.46089

#1	.10251	.24719	.25369	2.0080	25.010	.49966	5.0338	.25556
#2	.10152	.25039	.25037	1.9839	25.135	.50878	5.1057	.25332
#3	.10299	.25105	.25205	1.9824	25.314	.50760	5.0879	.25505

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49411	25.400	.25459	4.8365	.25342	.58920	.19996	2.4967
Stddev	.00081	.112	.00230	.0025	.00312	.00582	.01095	.0044
%RSD	.16466	.44048	.90516	.05143	1.2329	.98805	5.4753	.17700

#1	.49437	25.331	.25584	4.8390	.25098	.59580	.21255	2.5014
#2	.49320	25.339	.25600	4.8364	.25694	.58698	.19466	2.4961
#3	.49476	25.529	.25193	4.8340	.25233	.58481	.19267	2.4926

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LCSW 54 Acquired: 8/30/2017 14:23:10 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627573-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51118	.50476	.50215	.25622	.49774	.49857	.45324
Stddev	.00219	.00117	.00093	.00492	.00107	.00053	.82736
%RSD	.42820	.23242	.18524	1.9211	.21495	.10730	182.54

#1	.51183	.50476	.50108	.25846	.49689	.49859	-.40746
#2	.50874	.50358	.50259	.25962	.49739	.49802	1.2426
#3	.51297	.50593	.50278	.25057	.49894	.49909	.52454

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10061.	80364.	7249.6
Stddev	71.	973.	13.1
%RSD	.70698	1.2108	.18103

#1	10088.	79256.	7261.1
#2	10114.	80758.	7235.3
#3	9980.2	81079.	7252.4

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: FLTBLK Acquired: 8/30/2017 14:26:41 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627573-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00083	.00374	-.00089	.00563	-.00005	.00001	.00124	.00043
Stddev	.00106	.00578	.00133	.00250	.00067	.00007	.00717	.00039
%RSD	127.88	154.74	149.28	44.365	1435.6	719.54	578.30	90.106

#1	.00071	-.00092	-.00063	.00839	-.00080	-.00006	.00598	.00014
#2	.00194	.01021	.00029	.00499	.00049	.00001	-.00701	.00028
#3	-.00017	.00192	-.00233	.00352	.00018	.00008	.00475	.00088

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00001	.00120	.00054	.01645	.22785	.00689	.00886	.00061
Stddev	.00031	.00088	.00147	.00903	.04950	.00865	.02451	.00085
%RSD	5841.2	73.469	269.39	54.891	21.726	125.49	276.71	139.15

#1	.00003	.00025	.00040	.01251	.24375	.01425	-.01537	.00158
#2	-.00032	.00136	-.00085	.01007	.17235	.00905	.03365	-.00002
#3	.00031	.00200	.00208	.02679	.26745	-.00263	.00830	.00028

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00052	.05402	.00122	-.00746	-.00356	.00119	-.00332	.00037
Stddev	.00037	.02436	.00071	.00247	.00626	.00468	.00966	.00015
%RSD	71.654	45.102	58.621	33.129	175.94	392.44	291.43	40.624

#1	.00061	.04709	.00128	-.00991	-.00968	.00656	-.01366	.00032
#2	.00011	.03387	.00190	-.00749	-.00382	-.00092	-.00177	.00025
#3	.00083	.08109	.00048	-.00497	.00283	-.00206	.00548	.00053

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: August 31, 2017

K: K Buck

Sample Name: FLTBLK Acquired: 8/30/2017 14:26:41 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627573-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00049	.00004	-0.00790	-0.00123	.00131	.00181	.48652
Stddev	.00057	.00019	.00048	.00248	.00025	.00013	.02668
%RSD	117.44	427.12	6.0267	201.58	19.106	7.4159	5.4832

#1	-0.00110	-0.00010	-0.00796	-0.00260	.00158	.00196	.47307
#2	.00003	-0.00002	-0.00834	-0.00274	.00128	.00175	.51724
#3	-0.00039	.00026	-0.00740	.00164	.00108	.00171	.46923

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10172.	82270.	7187.0
Stddev	23.	169.	32.2
%RSD	.22474	.20513	.44762

#1	10146.	82421.	7157.5
#2	10178.	82088.	7182.1
#3	10191.	82302.	7221.3

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708132601 Acquired: 8/30/2017 14:30:29 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00147	.60801	.00094	.00809	.08841	-.00001	2.0729
Stddev	.00181	.00314	.00328	.00175	.00107	.00003	.0042
%RSD	123.02	.51589	349.94	21.590	1.2080	423.65	.20169

#1	.00245	.60868	.00473	.01009	.08937	-.00003	2.0683
#2	-.00062	.61076	-.00085	.00690	.08861	.00003	2.0763
#3	.00258	.60460	-.00106	.00727	.08726	-.00002	2.0742

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00026	.00044	-.00152	-.00001	.23274	54.679	.00435
Stddev	.00032	.00041	.00054	.00038	.01361	.071	.00320
%RSD	124.15	94.130	35.853	2700.6	5.8486	.12974	73.635

#1	-.00008	-.00003	-.00172	.00024	.21713	54.724	.00796
#2	.00030	.00073	-.00090	-.00045	.24217	54.597	.00188
#3	.00055	.00062	-.00193	.00016	.23890	54.715	.00319

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.3092	.07157	.00033	115.70	.00191	.00217	-.00010
Stddev	.0614	.00133	.00100	.51	.00223	.00532	.00267
%RSD	4.6929	1.8649	307.06	.43771	116.77	244.72	2785.0

#1	1.3701	.07109	-.00020	115.54	.00298	-.00030	.00292
#2	1.2472	.07307	.00148	115.28	.00340	-.00146	-.00107
#3	1.3102	.07053	-.00030	116.26	-.00065	.00828	-.00214

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708132601 Acquired: 8/30/2017 14:30:29 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00192	-.00539	.12818	-.00091	.08226	.00134	-.00091
Stddev	.00431	.01155	.00211	.00117	.00046	.00401	.00377
%RSD	225.14	214.19	1.6432	128.16	.56229	299.84	413.21

#1	-.00052	-.00630	.12769	-.00210	.08265	-.00275	.00339
#2	-.00063	.00659	.13049	.00024	.08238	.00527	-.00247
#3	.00689	-.01647	.12636	-.00089	.08175	.00150	-.00365

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00084	.00306	F -.24119
Stddev	.00063	.00014	.37234
%RSD	74.720	4.6216	154.38

#1	.00028	.00322	-.55218
#2	.00152	.00298	.17141
#3	.00072	.00297	-.34279

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9931.2	79062.	7132.4
Stddev	21.5	192.	51.7
%RSD	.21668	.24312	.72524

#1	9953.5	79212.	7181.3
#2	9929.6	79128.	7137.6
#3	9910.5	78845.	7078.2

Approved: August 31, 2017

K: K Buck

Sample Name: L1708132602 Acquired: 8/30/2017 14:34:14 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 2 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00162	4.8100	.00111	.01325	.13562	-.00001	121.31
Stddev	.00184	.0094	.00221	.00337	.00131	.00003	.07
%RSD	113.94	.19620	199.49	25.450	.96459	387.96	.06176

#1	.00358	4.8024	-.00070	.01234	.13648	.00001	121.33
#2	.00134	4.8206	.00046	.01042	.13411	.00001	121.23
#3	-.00007	4.8071	.00356	.01698	.13626	-.00004	121.38

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00046	.00040	.00097	.00710	-.00155	147.72	.01380
Stddev	.00016	.00052	.00104	.00190	.00502	.14	.00400
%RSD	35.128	130.81	107.52	26.808	323.92	.09755	28.987

#1	.00033	.00100	.00115	.00640	.00220	147.85	.01116
#2	.00064	.00004	.00190	.00926	-.00726	147.73	.01183
#3	.00042	.00016	-.00015	.00565	.00041	147.56	.01840

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01171	.00021	.00394	156.59	-.00072	.01978	-.00162
Stddev	.03939	.00178	.00005	.26	.00086	.00267	.00241
%RSD	336.32	837.47	1.2951	.16560	118.73	13.483	148.86

#1	.01592	.00213	.00399	156.88	-.00111	.01920	.00053
#2	.04883	-.00011	.00393	156.51	-.00131	.01746	-.00423
#3	-.02961	-.00138	.00389	156.38	.00026	.02270	-.00116

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708132602 Acquired: 8/30/2017 14:34:14 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 2 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00198	-0.00197	.14809	-0.00031	.23239	-0.00641	.00116
Stddev	.00535	.01354	.00172	.00026	.00082	.00648	.00193
%RSD	270.52	685.96	1.1613	86.296	.35153	101.13	165.92

#1	.00320	-.00724	.14959	-.00002	.23220	-.00195	-.00021
#2	-.00165	.01341	.14621	-.00054	.23329	-.00344	.00033
#3	-.00748	-.01209	.14847	-.00036	.23169	-.01385	.00337

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00083	.00722	F -.12027
Stddev	.00078	.00012	.18413
%RSD	94.096	1.6965	153.09

#1	.00010	.00728	.06866
#2	.00166	.00731	-.29919
#3	.00073	.00708	-.13028

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9828.2	77664.	7228.4
Stddev	24.5	130.	27.8
%RSD	.24964	.16785	.38401

#1	9802.7	77516.	7205.4
#2	9830.4	77712.	7220.7
#3	9851.6	77763.	7259.3

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708132603 Acquired: 8/30/2017 14:38:00 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00129	.03982	-.00038	.02710	.35936	-.00001	5.9116	.00034
Stddev	.00299	.00353	.00115	.00045	.00166	.00010	.0127	.00011
%RSD	232.34	8.8538	303.43	1.6607	.46171	1788.3	.21490	31.983

#1	.00263	.04087	-.00131	.02760	.35745	-.00012	5.9150	.00044
#2	.00337	.03588	.00091	.02673	.36018	.00002	5.8976	.00023
#3	-.00214	.04269	-.00074	.02697	.36044	.00008	5.9223	.00035

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00007	.00011	.00011	.01531	59.343	.01168	16.956	.01484
Stddev	.00020	.00094	.00231	.00655	.361	.00249	.108	.00336
%RSD	274.18	892.21	2129.8	42.809	.60856	21.302	.63413	22.627

#1	.00020	-.00071	-.00093	.02284	59.157	.00923	16.885	.01441
#2	.00018	-.00011	-.00151	.01216	59.113	.01420	16.903	.01172
#3	-.00016	.00114	.00276	.01092	59.759	.01161	17.080	.01840

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00059	109.95	-.00009	.04290	-.00290	-.00489	.00406	.40749
Stddev	.00026	.88	.00137	.00250	.00092	.00707	.01548	.00057
%RSD	43.884	.80062	1441.7	5.8267	31.537	144.60	380.90	.13993

#1	.00063	109.35	-.00166	.04440	-.00186	-.00073	.02029	.40708
#2	.00082	109.54	.00054	.04001	-.00358	-.01305	.00245	.40814
#3	.00031	110.96	.00084	.04427	-.00327	-.00088	-.01054	.40725

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: August 31, 2017

K: K Buck

Sample Name: L1708132603 Acquired: 8/30/2017 14:38:00 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00062	.28655	.00020	.00206	.00130	.00100	.39981
Stddev	.00088	.00108	.00178	.00149	.00054	.00009	.31345
%RSD	142.08	.37520	910.64	72.503	41.386	9.4854	78.399

#1	.00123	.28542	.00172	.00272	.00167	.00090	.71425
#2	-.00039	.28669	-.00176	.00312	.00068	.00109	.39782
#3	.00102	.28756	.00063	.00035	.00154	.00100	.08737

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9962.1	79250.	7214.5
Stddev	12.7	462.	24.9
%RSD	.12725	.58356	.34490

#1	9954.4	79657.	7240.9
#2	9955.3	79346.	7211.3
#3	9976.8	78747.	7191.4

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708132604 Acquired: 8/30/2017 14:41:46 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00071	.04978	.00249	.02566	.39171	-.00003	6.2866
Stddev	.00053	.00250	.00244	.00222	.00054	.00002	.0312
%RSD	73.569	5.0320	98.117	8.6439	.13776	69.581	.49612

#1	.00034	.05148	-.00032	.02777	.39195	-.00004	6.2506
#2	.00049	.04690	.00411	.02587	.39208	-.00001	6.3038
#3	.00131	.05095	.00368	.02335	.39109	-.00003	6.3054

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00006	-.00001	.00052	.00053	.02303	69.906	.00955
Stddev	.00022	.00021	.00151	.00179	.01549	.118	.00411
%RSD	341.65	1548.6	290.47	334.40	67.270	.16834	43.006

#1	-.00008	.00016	.00125	-.00010	.00751	70.000	.01363
#2	-.00027	-.00025	-.00121	-.00084	.02308	69.944	.00960
#3	.00016	.00005	.00152	.00255	.03850	69.774	.00542

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.111	.01905	-.00010	125.79	-.00064	.04203	-.00397
Stddev	.038	.00122	.00038	.31	.00125	.00250	.00329
%RSD	.25123	6.3820	386.16	.24918	197.18	5.9588	82.983

#1	15.142	.02012	.00032	126.01	-.00190	.04298	-.00134
#2	15.069	.01773	-.00018	125.93	.00061	.03919	-.00290
#3	15.123	.01930	-.00044	125.43	-.00062	.04391	-.00767

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708132604 Acquired: 8/30/2017 14:41:46 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00364	.00154	.49341	-.00099	.30838	-.00147	.00027
Stddev	.00658	.00442	.00516	.00110	.00042	.00384	.00413
%RSD	180.56	286.87	1.0449	111.00	.13769	261.90	1551.6

#1	-.00689	.00446	.48919	-.00048	.30871	-.00547	-.00126
#2	.00393	.00372	.49189	-.00024	.30790	.00219	.00495
#3	-.00797	-.00355	.49916	-.00225	.30851	-.00112	-.00289

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00114	.00092	F -.04702
Stddev	.00066	.00012	.27451
%RSD	57.526	12.907	583.82

#1	.00168	.00103	-.36398
#2	.00135	.00080	.10887
#3	.00041	.00093	.11406

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9905.2	78698.	7014.9
Stddev	17.4	275.	82.3
%RSD	.17554	.34960	1.1737

#1	9924.0	78475.	7055.2
#2	9889.6	79005.	7069.3
#3	9902.2	78612.	6920.2

Approved: August 31, 2017

K: K Buck

Sample Name: L1708140503 Acquired: 8/30/2017 14:45:31 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627573-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00011	.03004	.00038	.01500	.07844	-.00002	70.041	.00040
Stddev	.00057	.00282	.00326	.00135	.00030	.00006	.106	.00029
%RSD	528.30	9.3817	864.67	9.0254	.38683	314.37	.15097	71.129

#1	.00055	.03306	-.00085	.01464	.07852	-.00009	70.154	.00072
#2	-.00046	.02958	-.00209	.01387	.07810	-.00001	70.025	.00033
#3	-.00042	.02748	.00407	.01650	.07870	.00004	69.944	.00016

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00058	.00032	.00014	.02088	.86951	.00710	1.1355	.14119
Stddev	.00029	.00095	.00271	.00602	.01892	.00241	.0098	.00207
%RSD	50.230	299.20	1892.0	28.813	2.1754	33.888	.86549	1.4653

#1	.00064	.00142	.00172	.02436	.84917	.00527	1.1261	.14199
#2	.00026	-.00022	-.00299	.02435	.88657	.00621	1.1347	.14273
#3	.00083	-.00024	.00170	.01394	.87279	.00983	1.1457	.13884

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00064	142.68	.00046	.01716	-.00322	-.00463	.00326	.53517
Stddev	.00024	.40	.00107	.00326	.00182	.00606	.00612	.00223
%RSD	36.633	.27959	231.25	18.986	56.479	130.93	187.55	.41699

#1	.00055	143.14	.00162	.01436	-.00430	-.01017	-.00259	.53265
#2	.00047	142.44	.00026	.01640	-.00112	.00184	.00961	.53689
#3	.00091	142.45	-.00049	.02074	-.00422	-.00556	.00276	.53598

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: August 31, 2017

K: K Buck

Sample Name: L1708140503 Acquired: 8/30/2017 14:45:31 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627573-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00037	.09719	-0.00498	-0.00124	.00111	.00524	3.8469
Stddev	.00048	.00075	.00234	.00177	.00176	.00012	.1083
%RSD	131.36	.76773	46.968	142.13	158.59	2.3477	2.8157

#1	-0.00091	.09794	-0.00456	.00031	.00282	.00538	3.9228
#2	.00001	.09717	-0.00289	-0.00087	-0.00069	.00517	3.8951
#3	-0.00020	.09645	-0.00751	-0.00316	.00120	.00517	3.7229

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9941.4	79215.	7265.0
Stddev	20.9	290.	18.3
%RSD	.20983	.36579	.25249

#1	9954.9	79294.	7262.6
#2	9917.4	78893.	7248.0
#3	9952.0	79456.	7284.4

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708140503MS Acquired: 8/30/2017 14:49:17 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627573-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20627	4.9818	.20399	.99541	.58674	.02532	75.166	.02560
Stddev	.00225	.0047	.00245	.00211	.00124	.00002	.153	.00035
%RSD	1.0886	.09440	1.2005	.21241	.21056	.09486	.20369	1.3565

#1	.20374	4.9846	.20119	.99580	.58644	.02532	75.183	.02594
#2	.20702	4.9764	.20569	.99313	.58810	.02529	75.005	.02563
#3	.20804	4.9845	.20510	.99731	.58569	.02534	75.310	.02524

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10214	.25283	.25235	2.0072	26.327	.50654	6.0847	.39582
Stddev	.00023	.00105	.00139	.0136	.040	.00587	.0423	.00232
%RSD	.22302	.41520	.55007	.67857	.15087	1.1580	.69468	.58674

#1	.10237	.25378	.25358	1.9921	26.371	.50009	6.1298	.39846
#2	.10191	.25301	.25263	2.0110	26.313	.50799	6.0460	.39412
#3	.10214	.25170	.25085	2.0185	26.295	.51155	6.0783	.39486

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50545	167.69	.25206	5.1037	.24883	.61239	.21260	3.1095
Stddev	.00270	.53	.00160	.0293	.00456	.00558	.01543	.0156
%RSD	.53492	.31406	.63516	.57483	1.8315	.91139	7.2594	.50065

#1	.50567	167.68	.25125	5.1091	.24723	.60805	.19564	3.1183
#2	.50804	167.17	.25390	5.1300	.25397	.61042	.22583	3.1187
#3	.50264	168.22	.25102	5.0721	.24529	.61868	.21634	3.0915

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708140503MS Acquired: 8/30/2017 14:49:17 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627573-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51579	.60578	.50844	.24634	.51306	.50907	.82757
Stddev	.00162	.00075	.00914	.00207	.00107	.00132	.48734
%RSD	.31434	.12311	1.7985	.84153	.20862	.25864	58.889
#1	.51555	.60524	.49924	.24418	.51415	.50968	1.2007
#2	.51751	.60546	.50856	.24654	.51201	.50998	.27621
#3	.51430	.60663	.51753	.24831	.51302	.50756	1.0058

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9872.0	78563.	7207.7
Stddev	25.6	61.	9.6
%RSD	.25939	.07728	.13323
#1	9857.8	78633.	7207.8
#2	9856.7	78534.	7217.2
#3	9901.6	78524.	7198.0

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708140503MSD Acquired: 8/30/2017 14:52:49 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627573-06

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20529	4.9309	.20359	.98546	.58278	.02526	76.515	.02529
Stddev	.00024	.0137	.00094	.00483	.00276	.00004	.169	.00029
%RSD	.11638	.27866	.46404	.49056	.47340	.14311	.22118	1.1506

#1	.20552	4.9467	.20467	.99084	.57980	.02524	76.320	.02497
#2	.20504	4.9242	.20318	.98148	.58330	.02530	76.621	.02554
#3	.20531	4.9219	.20292	.98406	.58525	.02524	76.604	.02536

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10145	.25080	.25083	1.9807	26.081	.50443	6.0415	.38909
Stddev	.00033	.00172	.00255	.0153	.134	.00270	.0641	.00176
%RSD	.32275	.68645	1.0182	.77468	.51383	.53503	1.0613	.45303

#1	.10176	.25248	.25114	1.9975	26.082	.50751	5.9929	.38729
#2	.10111	.24904	.24813	1.9674	26.214	.50331	6.0176	.39081
#3	.10148	.25087	.25321	1.9773	25.946	.50247	6.1142	.38919

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50195	169.58	.25129	5.0716	.25204	.61040	.19444	3.1034
Stddev	.00138	.17	.00196	.0118	.00028	.00808	.00175	.0038
%RSD	.27585	.09898	.78128	.23316	.11080	1.3230	.90183	.12153

#1	.50106	169.77	.24917	5.0657	.25183	.60233	.19609	3.1073
#2	.50124	169.45	.25305	5.0852	.25235	.61848	.19260	3.1033
#3	.50354	169.51	.25164	5.0638	.25192	.61040	.19463	3.0998

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: August 31, 2017

K: K Buck

Sample Name: L1708140503MSD Acquired: 8/30/2017 14:52:49 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627573-06

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51218	.60283	.50014	.24547	.50959	.50797	-.00669
Stddev	.00170	.00146	.00549	.00290	.00065	.00069	.24187
%RSD	.33175	.24183	1.0970	1.1802	.12775	.13524	3615.9

#1	.51129	.60222	.50374	.24844	.50904	.50770	-.11254
#2	.51112	.60449	.49382	.24532	.51031	.50746	.27006
#3	.51414	.60178	.50285	.24265	.50941	.50875	-.17759

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9831.3	78192.	7209.4
Stddev	15.1	276.	20.6
%RSD	.15370	.35239	.28520

#1	9814.8	78276.	7192.1
#2	9844.4	77885.	7203.9
#3	9834.8	78417.	7232.1

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 14:56:22 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40625	10.102	.40186	.50103	1.0042	.04977	10.049
Stddev	.00190	.007	.00352	.00503	.0044	.00010	.085
%RSD	.46793	.06554	.87668	1.0033	.44062	.19762	.84603

#1	.40406	10.096	.40225	.50561	1.0067	.04986	10.079
#2	.40748	10.101	.40517	.49565	.99908	.04967	10.116
#3	.40721	10.109	.39816	.50184	1.0068	.04978	9.9536

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05020	.20294	.49783	.50270	3.9850	50.363	1.0076
Stddev	.00040	.00045	.00199	.00108	.0054	.151	.0014
%RSD	.79233	.22153	.39966	.21557	.13581	.29944	.14219

#1	.05014	.20244	.50009	.50195	3.9897	50.292	1.0093
#2	.04984	.20305	.49637	.50395	3.9791	50.260	1.0066
#3	.05063	.20332	.49703	.50222	3.9862	50.536	1.0070

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.8842	.50580	1.0125	50.316	.50467	9.9820	.50698
Stddev	.1234	.00210	.0011	.132	.00123	.0164	.00281
%RSD	1.2485	.41445	.10867	.26272	.24422	.16419	.55441

#1	9.7931	.50724	1.0135	50.467	.50599	9.9956	.51022
#2	10.025	.50340	1.0127	50.218	.50446	9.9865	.50551
#3	9.8350	.50677	1.0113	50.264	.50356	9.9638	.50520

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 14:56:22 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2108	.40158	5.0801	1.0158	1.0024	1.0088	.51084
Stddev	.0122	.00890	.0053	.0011	.0029	.0067	.00381
%RSD	1.0079	2.2155	.10466	.10921	.29421	.66366	.74556

#1	1.1987	.40097	5.0856	1.0166	1.0058	1.0159	.51523
#2	1.2231	.41076	5.0750	1.0146	1.0003	1.0025	.50847
#3	1.2105	.39300	5.0798	1.0164	1.0012	1.0081	.50881

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.99049	1.0094	F .46348
Stddev	.00258	.0006	1.1547
%RSD	.26025	.06431	249.14

#1	.99310	1.0092	1.0217
#2	.99041	1.0088	1.2330
#3	.98795	1.0101	-.86426

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9961.1	79297.	7086.5
Stddev	15.6	97.	53.1
%RSD	.15688	.12252	.74867

#1	9943.1	79265.	7118.3
#2	9971.0	79407.	7115.9
#3	9969.2	79221.	7025.2

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 14:59:51 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00349	-.00724	.00178	.00516	-.00041	.00007	-.02966
Stddev	.00096	.00166	.00092	.00113	.00032	.00002	.02948
%RSD	27.384	22.883	51.441	21.918	78.639	21.880	99.402

#1	.00419	-.00662	.00160	.00508	-.00019	.00007	-.06096
#2	.00388	-.00912	.00097	.00632	-.00027	.00006	-.00242
#3	.00240	-.00599	.00277	.00407	-.00078	.00009	-.02559

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00008	-.00033	-.00008	.00006	-.01492	.22635	.00408
Stddev	.00024	.00026	.00145	.00081	.01368	.06969	.00548
%RSD	295.18	79.575	1790.5	1393.2	91.704	30.790	134.49

#1	-.00004	-.00039	.00084	-.00011	-.02761	.20036	.00706
#2	-.00034	-.00004	.00067	-.00065	-.00043	.17339	.00743
#3	.00013	-.00054	-.00176	.00094	-.01673	.30531	-.00225

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00102	.00162	.00034	-.01170	.00019	.00317	-.00170
Stddev	.06294	.00108	.00002	.03156	.00073	.00558	.00457
%RSD	6175.6	66.905	6.1993	269.68	378.03	175.81	268.52

#1	-.07063	.00238	.00036	.00413	.00033	-.00170	-.00595
#2	.04741	.00209	.00033	-.04804	.00085	.00926	-.00229
#3	.02628	.00038	.00032	.00881	-.00060	.00196	.00314

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017

K: K Buck

Sample Name: CCB Acquired: 8/30/2017 14:59:51 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00069	.00519	-.00080	-.00031	.00024	-.00095	-.00156
Stddev	.00628	.01533	.00060	.00069	.00043	.00340	.00262
%RSD	906.98	295.05	75.671	225.15	176.77	359.22	168.36

#1	-.00687	-.01013	-.00137	-.00043	-.00004	.00250	-.00096
#2	-.00090	.00520	-.00086	-.00093	.00073	-.00103	.00072
#3	.00569	.02052	-.00017	.00044	.00003	-.00431	-.00443

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00062	.00082	F .36932
Stddev	.00067	.00030	.24016
%RSD	109.03	36.485	65.027

#1	-.00016	.00072	.10119
#2	.00107	.00116	.56467
#3	.00094	.00059	.44211

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10106.	81370.	7131.4
Stddev	11.	121.	17.9
%RSD	.11278	.14911	.25049

#1	10114.	81477.	7129.2
#2	10110.	81396.	7114.7
#3	10093.	81238.	7150.2

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708146001 Acquired: 8/30/2017 15:03:41 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00128	.20220	.00605	.03168	.07974	-.00008	25.288
Stddev	.00259	.00204	.00083	.00169	.00084	.00008	.075
%RSD	202.16	1.0070	13.728	5.3495	1.0525	95.958	.29592

#1	.00096	.20267	.00599	.02977	.07954	-.00001	25.372
#2	.00402	.19997	.00526	.03226	.07902	-.00017	25.266
#3	-.00114	.20396	.00691	.03301	.08066	-.00008	25.227

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00043	.00037	.00036	.00135	8.4204	1.7870	.00143
Stddev	.00035	.00013	.00100	.00198	.0662	.0600	.00554
%RSD	80.550	35.393	275.65	146.52	.78554	3.3576	387.08

#1	.00008	.00045	-.00075	.00343	8.3772	1.8562	.00639
#2	.00078	.00022	.00119	-.00050	8.4966	1.7556	.00245
#3	.00043	.00044	.00064	.00112	8.3876	1.7492	-.00455

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.4557	3.4119	.00104	31.655	.00113	.13114	-.00159
Stddev	.0866	.0130	.00093	.104	.00087	.00947	.00200
%RSD	1.1613	.38144	89.295	.33006	77.066	7.2183	125.55

#1	7.4154	3.4087	.00047	31.726	.00078	.12023	-.00321
#2	7.5551	3.4007	.00053	31.705	.00049	.13714	-.00220
#3	7.3966	3.4262	.00211	31.535	.00213	.13605	.00064

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708146001 Acquired: 8/30/2017 15:03:41 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00151	.00297	3.0132	.00130	.11133	.00326	-.00171
Stddev	.00623	.00967	.0109	.00095	.00078	.00623	.00352
%RSD	411.55	325.63	.36040	72.676	.69956	191.17	205.42

#1	-.00559	-.00815	3.0188	.00085	.11189	-.00364	-.00099
#2	.00566	.00940	3.0200	.00066	.11166	.00849	.00139
#3	-.00462	.00766	3.0006	.00239	.11044	.00493	-.00554

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00125	.24601	F -.55685
Stddev	.00010	.00063	.31969
%RSD	8.0326	.25767	57.409

#1	.00117	.24629	-.40071
#2	.00137	.24646	-.92460
#3	.00122	.24529	-.34524

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10120.	81295.	7161.5
Stddev	42.	311.	24.5
%RSD	.41052	.38243	.34209

#1	10083.	81105.	7160.5
#2	10111.	81126.	7137.5
#3	10165.	81654.	7186.5

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708146401 Acquired: 8/30/2017 15:07:22 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00159	.58855	.00115	.05105	.03126	.00151	18.334	.00037
Stddev	.00168	.00987	.00202	.00100	.00050	.00003	.119	.00020
%RSD	105.89	1.6775	175.10	1.9537	1.6111	2.2646	.64666	54.006

#1	.00329	.59350	.00281	.05207	.03078	.00155	18.434	.00059
#2	-.00007	.59497	-.00109	.05098	.03124	.00148	18.203	.00025
#3	.00154	.57718	.00174	.05008	.03178	.00152	18.366	.00026

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04659	.00070	.00788	.78803	2.2384	.00455	9.9210	.37221
Stddev	.00030	.00105	.00073	.01232	.1164	.00506	.0515	.00206
%RSD	.63666	149.72	9.2016	1.5634	5.2012	111.14	.51918	.55305

#1	.04641	-.00050	.00749	.79021	2.3727	.00009	9.9028	.37459
#2	.04694	.00114	.00872	.79912	2.1752	.00352	9.9792	.37107
#3	.04644	.00146	.00743	.77477	2.1672	.01005	9.8811	.37098

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00024	38.868	.03389	.02503	.00323	-.00426	-.00126	5.5900
Stddev	.00029	.061	.00036	.00917	.00159	.00112	.00643	.0117
%RSD	120.91	.15719	1.0708	36.642	49.091	26.185	509.54	.20906

#1	-.00009	38.937	.03393	.03129	.00504	-.00544	-.00494	5.6031
#2	-.00057	38.846	.03350	.02931	.00206	-.00321	.00616	5.5806
#3	-.00006	38.821	.03423	.01450	.00260	-.00414	-.00501	5.5863

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: August 31, 2017

K: K Buck

Sample Name: L1708146401 Acquired: 8/30/2017 15:07:22 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00025	.10289	.01025	-.00230	.00227	.17351	.93494
Stddev	.00119	.00049	.00597	.00066	.00178	.00037	.65412
%RSD	472.66	.47419	58.201	28.651	78.541	.21416	69.965

#1	.00156	.10315	.00460	-.00165	.00199	.17394	.39955
#2	-.00077	.10233	.01649	-.00226	.00064	.17334	1.6640
#3	-.00003	.10319	.00967	-.00297	.00417	.17326	.74122

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10191.	82308.	7297.8
Stddev	16.	157.	59.8
%RSD	.15927	.19087	.81926

#1	10174.	82132.	7231.5
#2	10191.	82358.	7347.6
#3	10207.	82434.	7314.2

Approved: August 31, 2017
<i>K. K. Buck</i>

Sample Name: L1708146601 Acquired: 8/30/2017 15:11:03 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00163	4.1742	.00927	.05520	.06516	.00030	11.982	.00063
Stddev	.00214	.0113	.00162	.00099	.00082	.00001	.038	.00016
%RSD	131.19	.27079	17.460	1.7886	1.2545	4.0037	.31393	25.231

#1	.00153	4.1618	.00996	.05633	.06604	.00029	11.950	.00077
#2	.00382	4.1839	.00742	.05458	.06442	.00031	12.023	.00046
#3	-.00045	4.1771	.01044	.05468	.06501	.00031	11.971	.00067

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01590	.01157	.01700	38.788	2.0150	.00686	5.4843	1.0030
Stddev	.00017	.00021	.00057	.072	.0704	.00111	.0857	.0062
%RSD	1.0408	1.8249	3.3299	.18455	3.4958	16.169	1.5626	.61685

#1	.01591	.01135	.01653	38.863	1.9357	.00606	5.5392	1.0033
#2	.01573	.01178	.01763	38.783	2.0391	.00639	5.3855	.99666
#3	.01607	.01157	.01685	38.720	2.0702	.00812	5.5282	1.0090

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00103	51.299	.01077	.21214	.01132	-.00454	-.00031	10.633
Stddev	.00040	.214	.00196	.00903	.00395	.00546	.00874	.016
%RSD	39.067	.41678	18.191	4.2554	34.888	120.36	2807.2	.15418

#1	.00061	51.446	.01111	.22036	.01472	-.00966	-.00184	10.649
#2	.00108	51.397	.00867	.21358	.01227	.00122	.00909	10.616
#3	.00141	51.054	.01254	.20248	.00699	-.00518	-.00818	10.633

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708146601 Acquired: 8/30/2017 15:11:03 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00100	.06135	.06010	-.00002	.00843	.10620	.43986
Stddev	.00029	.00021	.00764	.00332	.00127	.00044	.13843
%RSD	29.005	.34196	12.720	17315.	15.096	.41543	31.472

#1	.00069	.06110	.06767	-.00236	.00988	.10597	.56408
#2	.00127	.06147	.06024	-.00148	.00788	.10670	.46489
#3	.00104	.06147	.05238	.00378	.00752	.10592	.29062

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10204.	81937.	7328.6
Stddev	11.	187.	24.9
%RSD	.10904	.22777	.33998

#1	10216.	81732.	7320.3
#2	10195.	82097.	7308.9
#3	10200.	81983.	7356.6

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708146601PS Acquired: 8/30/2017 15:14:45 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627650-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20599	8.9189	.20518	1.0225	.56645	.02505	15.748	.02567
Stddev	.00168	.0139	.00112	.0052	.00341	.00003	.047	.00020
%RSD	.81374	.15632	.54704	.50874	.60280	.11104	.29713	.77087

#1	.20544	8.9083	.20391	1.0264	.56970	.02504	15.802	.02587
#2	.20787	8.9137	.20558	1.0244	.56674	.02509	15.717	.02547
#3	.20465	8.9347	.20605	1.0166	.56289	.02504	15.725	.02566

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.11608	.26233	.26617	36.850	27.175	.51483	9.9724	1.1492
Stddev	.00018	.00115	.00219	.050	.126	.00127	.0132	.0036
%RSD	.15871	.43793	.82375	.13477	.46242	.24742	.13237	.31496

#1	.11587	.26363	.26401	36.906	27.059	.51427	9.9876	1.1476
#2	.11617	.26188	.26839	36.832	27.157	.51393	9.9643	1.1466
#3	.11620	.26147	.26610	36.811	27.308	.51629	9.9652	1.1533

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49643	71.473	.26279	5.1153	.26427	.60589	.20361	12.041
Stddev	.00067	.267	.00185	.0103	.00161	.00318	.01251	.011
%RSD	.13420	.37322	.70588	.20082	.60748	.52553	6.1451	.08918

#1	.49712	71.534	.26177	5.1244	.26389	.60688	.19127	12.053
#2	.49579	71.181	.26166	5.1042	.26289	.60233	.20329	12.040
#3	.49639	71.703	.26493	5.1173	.26603	.60847	.21629	12.032

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708146601PS Acquired: 8/30/2017 15:14:45 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627650-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51280	.56209	.56206	.25641	.51112	.59504	.57085
Stddev	.00169	.00082	.00242	.00196	.00044	.00030	.75739
%RSD	.32971	.14557	.43020	.76321	.08584	.05086	132.68
#1	.51281	.56294	.56349	.25484	.51118	.59521	.25342
#2	.51110	.56203	.56343	.25860	.51153	.59469	1.4353
#3	.51448	.56131	.55927	.25579	.51066	.59522	.02383

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10066.	80162.	7228.7
Stddev	.	108.	43.5
%RSD	.00275	.13525	.60221
#1	10066.	80286.	7182.2
#2	10065.	80086.	7268.5
#3	10065.	80113.	7235.4

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708146601SDL Acquired: 8/30/2017 15:18:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG627650-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00001	.91023	.00235	.01398	.01241	.00006	2.3987
Stddev	.00200	.00729	.00372	.00061	.00071	.00005	.0265
%RSD	33871.	.80071	158.09	4.3381	5.6875	88.431	1.1049

#1	-.00171	.91326	-.00177	.01468	.01308	.00011	2.4245
#2	-.00049	.91551	.00336	.01370	.01246	.00002	2.3716
#3	.00219	.90191	.00546	.01357	.01167	.00003	2.4002

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.00314	.00274	.00288	7.8561	.46482	.00363
Stddev	.00028	.00024	.00083	.00181	.0411	.09955	.00349
%RSD	235.57	7.7942	30.439	62.826	.52294	21.418	96.270

#1	.00007	.00339	.00286	.00089	7.8991	.54422	.00018
#2	-.00013	.00291	.00351	.00443	7.8521	.49712	.00716
#3	.00042	.00310	.00185	.00332	7.8172	.35313	.00355

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1538	.20419	.00037	10.511	.00174	.04588	-.00295
Stddev	.0986	.00309	.00013	.011	.00023	.00384	.00037
%RSD	8.5470	1.5110	36.128	.10682	13.513	8.3590	12.497

#1	1.1694	.20313	.00025	10.511	.00195	.04662	-.00285
#2	1.0483	.20178	.00034	10.523	.00148	.04929	-.00335
#3	1.2437	.20767	.00051	10.500	.00178	.04173	-.00264

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708146601SDL Acquired: 8/30/2017 15:18:16 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG627650-04

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00018	.00467	2.1709	-.00004	.01254	.01279	-.00298
Stddev	.00308	.00749	.0043	.00025	.00051	.00668	.00242
%RSD	1758.3	160.39	.19944	637.12	4.0616	52.250	81.214

#1	-.00245	-.00342	2.1664	-.00024	.01304	.01321	-.00027
#2	-.00141	.00608	2.1750	-.00012	.01202	.00591	-.00492
#3	.00333	.01135	2.1713	.00024	.01256	.01925	-.00374

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00179	.02228	F -.07812
Stddev	.00053	.00018	.60235
%RSD	29.493	.82534	771.03

#1	.00173	.02249	-.41790
#2	.00130	.02215	-.43382
#3	.00235	.02219	.61735

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10440.	84062.	7473.5
Stddev	24.	456.	6.5
%RSD	.23025	.54301	.08652

#1	10459.	84429.	7468.4
#2	10446.	83551.	7480.7
#3	10413.	84206.	7471.3

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 15:22:03 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40042	10.171	.39959	.49729	1.0047	.05022	10.010
Stddev	.00275	.010	.00189	.00212	.0019	.00003	.048
%RSD	.68574	.09611	.47340	.42701	.19148	.06961	.47662

#1	.40014	10.162	.39899	.49628	1.0026	.05022	9.9969
#2	.39783	10.169	.40171	.49586	1.0065	.05026	9.9705
#3	.40330	10.181	.39807	.49973	1.0050	.05019	10.063

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05062	.20269	.49986	.50330	3.9887	50.446	1.0017
Stddev	.00005	.00014	.00199	.00272	.0366	.198	.0052
%RSD	.10224	.07055	.39779	.54008	.91773	.39235	.52096

#1	.05056	.20271	.49863	.50141	4.0175	50.652	1.0073
#2	.05063	.20253	.50215	.50641	3.9475	50.430	1.0006
#3	.05066	.20282	.49880	.50207	4.0012	50.257	.99705

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.017	.50434	1.0100	50.462	.50577	9.9949	.50785
Stddev	.050	.00139	.0008	.193	.00105	.0137	.00434
%RSD	.50345	.27632	.07534	.38154	.20781	.13704	.85363

#1	9.9733	.50584	1.0092	50.661	.50685	10.005	.51108
#2	10.072	.50309	1.0106	50.277	.50573	9.9794	.50292
#3	10.005	.50409	1.0102	50.446	.50474	10.000	.50953

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 15:22:03 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2095	.40533	5.0678	1.0124	1.0069	1.0064	.50837
Stddev	.0021	.00192	.0102	.0012	.0026	.0111	.00131
%RSD	.17327	.47307	.20199	.11378	.26194	1.1048	.25809

#1	1.2078	.40381	5.0570	1.0133	1.0092	1.0148	.50922
#2	1.2088	.40470	5.0692	1.0129	1.0073	1.0107	.50904
#3	1.2118	.40749	5.0773	1.0111	1.0040	.99380	.50686

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.99829	1.0091	F .70464
Stddev	.00252	.0012	.62492
%RSD	.25230	.12031	88.687

#1	.99657	1.0079	.30380
#2	1.0012	1.0089	1.4247
#3	.99713	1.0104	.38542

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9924.4	78355.	7052.5
Stddev	3.9	173.	59.4
%RSD	.03886	.22092	.84273

#1	9925.6	78510.	6983.9
#2	9927.5	78168.	7088.1
#3	9920.1	78387.	7085.5

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 15:25:31 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00077	-0.00336	.00004	.00390	.00027	.00003	-.03382
Stddev	.00188	.00965	.00036	.00349	.00043	.00008	.02906
%RSD	242.76	286.93	836.52	89.345	157.24	242.07	85.936

#1	-.00248	-.00577	.00045	.00653	.00040	.00010	-.05112
#2	.00124	-.01159	-.00025	.00522	-.00021	.00007	-.00027
#3	-.00108	.00726	-.00007	-.00005	.00062	-.00006	-.05006

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00013	.00015	.00066	-.00269	.01717	.04369	.00258
Stddev	.00008	.00044	.00077	.00090	.01595	.06063	.00630
%RSD	58.554	284.28	117.31	33.408	92.903	138.77	243.79

#1	-.00004	-.00029	.00087	-.00223	.00115	.11205	-.00439
#2	-.00017	.00059	.00129	-.00211	.01731	.02257	.00427
#3	-.00019	.00017	-.00020	-.00373	.03305	-.00355	.00787

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00117	.00083	.00017	-.00123	-.00039	.00954	-.00223
Stddev	.05066	.00024	.00017	.01839	.00204	.00491	.00291
%RSD	4339.6	29.468	101.74	1494.9	524.61	51.430	130.79

#1	-.05720	.00070	-.00003	.00225	.00133	.00919	-.00545
#2	.01229	.00111	.00024	-.02111	.00015	.01462	-.00145
#3	.04141	.00068	.00029	.01517	-.00264	.00482	.00022

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 15:25:31 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00158	-.01093	-.00014	-.00024	.00039	-.00368	-.00064
Stddev	.00716	.01529	.00170	.00081	.00047	.00379	.00346
%RSD	454.43	139.96	1178.2	332.14	119.58	102.92	538.09

#1	-.00250	-.01881	-.00185	-.00088	.00002	-.00564	.00246
#2	.00600	.00670	.00154	.00067	.00092	.00069	-.00002
#3	-.00823	-.02067	-.00013	-.00052	.00023	-.00609	-.00437

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00005	.00081	F .34493
Stddev	.00055	.00005	.32388
%RSD	1227.7	5.7027	93.899

#1	-.00004	.00078	-.01893
#2	-.00046	.00087	.60174
#3	.00064	.00080	.45197

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10095.	81526.	7146.0
Stddev	29.	207.	11.5
%RSD	.29117	.25429	.16042

#1	10110.	81321.	7150.1
#2	10114.	81736.	7154.8
#3	10061.	81521.	7133.0

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: PBW H4 Acquired: 8/30/2017 15:29:21 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627765-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00052	.00413	-.00136	.00239	.00095	.00004	.00639
Stddev	.00076	.00423	.00047	.00240	.00067	.00006	.03115
%RSD	145.31	102.49	34.688	100.47	70.265	151.83	487.50

#1	-.00126	.00560	-.00082	.00316	.00065	.00000	.02044
#2	-.00055	.00743	-.00154	-.00030	.00049	.00001	.02804
#3	.00025	-.00064	-.00171	.00432	.00172	.00010	-.02931

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00035	-.00001	.00067	.00026	-.00573	-.09811	-.00638
Stddev	.00027	.00028	.00047	.00027	.00970	.09272	.00169
%RSD	77.922	3708.6	69.300	105.39	169.34	94.504	26.566

#1	.00061	-.00030	.00090	.00035	-.00234	-.17470	-.00498
#2	.00037	.00003	.00014	.00047	-.01667	-.12461	-.00589
#3	.00007	.00025	.00098	-.00005	.00183	.00497	-.00827

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00705	.00106	.00004	-.03936	.00070	.00309	-.00387
Stddev	.00750	.00179	.00012	.01413	.00031	.00258	.00257
%RSD	106.37	168.74	319.91	35.900	45.052	83.264	66.330

#1	.00676	-.00022	.00009	-.02721	.00034	.00431	-.00196
#2	-.00030	.00312	-.00010	-.03600	.00090	.00014	-.00285
#3	.01469	.00029	.00013	-.05487	.00086	.00484	-.00678

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: PBW H4 Acquired: 8/30/2017 15:29:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627765-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00208	F -.01257	.00337	-.00035	.00011	-.00144	.00060
Stddev	.00438	.00734	.00416	.00121	.00038	.00302	.00206
%RSD	210.93	58.449	123.62	342.00	335.94	209.63	342.80

#1	-.00296	-.01121	-.00042	-.00141	-.00033	-.00484	-.00106
#2	.00424	-.02050	.00269	.00097	.00032	-.00039	.00291
#3	.00495	-.00600	.00783	-.00062	.00035	.00092	-.00004

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		90.000					
Low Limit		-.01000					

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00037	.00094	F -.13122
Stddev	.00055	.00020	.41852
%RSD	149.05	21.135	318.94

#1	.00055	.00117	-.45022
#2	.00081	.00086	-.28611
#3	-.00025	.00080	.34267

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10159.	81620.	7136.9
Stddev	18.	132.	6.4
%RSD	.17439	.16206	.08917

#1	10170.	81506.	7139.1
#2	10169.	81588.	7141.9
#3	10139.	81765.	7129.7

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LCSW H4 Acquired: 8/30/2017 15:33:07 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627765-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19740	5.0051	.19334	.93658	.49977	.02409	4.9314	.02423
Stddev	.00278	.0105	.00266	.00352	.00242	.00012	.0198	.00018
%RSD	1.4069	.20952	1.3760	.37560	.48419	.50223	.40123	.73506

#1	.19731	5.0136	.19600	.93257	.49999	.02395	4.9105	.02403
#2	.20023	4.9934	.19068	.93801	.50207	.02413	4.9498	.02433
#3	.19468	5.0085	.19333	.93916	.49725	.02418	4.9339	.02434

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10037	.24819	.24962	1.9700	24.793	.50049	4.9997	.25161
Stddev	.00055	.00070	.00137	.0110	.049	.00439	.0046	.00181
%RSD	.55035	.28074	.54863	.55987	.19752	.87632	.09161	.71912

#1	.09992	.24811	.24986	1.9671	24.846	.50302	4.9946	.25020
#2	.10099	.24892	.24815	1.9822	24.783	.49542	5.0035	.25099
#3	.10021	.24753	.25086	1.9607	24.749	.50302	5.0011	.25365

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48623	25.075	.25001	4.7723	.25091	.58409	.19238	2.4535
Stddev	.00087	.012	.00202	.0184	.00606	.00369	.00802	.0035
%RSD	.17854	.04824	.80615	.38587	2.4143	.63160	4.1686	.14371

#1	.48677	25.068	.24769	4.7721	.25292	.58294	.18501	2.4532
#2	.48668	25.089	.25109	4.7908	.25570	.58112	.19121	2.4571
#3	.48523	25.069	.25126	4.7540	.24410	.58822	.20092	2.4501

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LCSW H4 Acquired: 8/30/2017 15:33:07 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627765-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50142	.49997	.49522	.25110	.49173	.49326	.33212
Stddev	.00061	.00272	.00443	.00130	.00066	.00013	.39199
%RSD	.12248	.54393	.89410	.51827	.13347	.02618	118.03
#1	.50123	.49895	.49876	.25013	.49172	.49338	.31269
#2	.50210	.50305	.49666	.25058	.49239	.49328	-.04980
#3	.50092	.49791	.49026	.25257	.49108	.49312	.73346

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10045.	80167.	7176.9
Stddev	18.	130.	26.4
%RSD	.17505	.16165	.36837
#1	10026.	80108.	7182.8
#2	10048.	80316.	7148.1
#3	10061.	80078.	7200.0

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: FBLK2 Acquired: 8/30/2017 15:36:40 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627607-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00063	.01690	-.00071	.00507	-.00018	-.00001	-.05148
Stddev	.00049	.00568	.00152	.00290	.00175	.00003	.02789
%RSD	77.479	33.609	213.40	57.184	984.59	172.34	54.181

#1	-.00091	.02269	-.00234	.00628	-.00072	-.00004	-.08047
#2	-.00091	.01668	-.00048	.00176	.00178	.00001	-.02483
#3	-.00007	.01133	.00068	.00717	-.00159	-.00001	-.04914

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	.00026	.00167	-.00075	-.00521	.11948	.00197
Stddev	.00012	.00046	.00099	.00174	.01686	.03326	.00317
%RSD	132.27	179.20	59.173	231.78	323.35	27.840	160.33

#1	-.00021	.00036	.00154	-.00128	-.01554	.15613	.00286
#2	-.00008	-.00025	.00273	-.00216	.01424	.09120	-.00154
#3	.00002	.00065	.00076	.00119	-.01434	.11111	.00460

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.04687	.00021	.00031	143.40	-.00124	-.00471	-.00319
Stddev	.10653	.00285	.00086	.26	.00228	.00551	.00358
%RSD	227.29	1374.0	281.48	.18298	183.15	117.16	112.13

#1	-.13243	.00347	-.00041	143.63	.00089	-.00181	-.00090
#2	.07245	-.00109	.00006	143.46	-.00364	-.00125	-.00136
#3	-.08064	-.00176	.00126	143.12	-.00097	-.01106	-.00731

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: FBLK2 Acquired: 8/30/2017 15:36:40 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627607-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00199	.00998	.00394	-.00025	.00043	-.00507	.00417
Stddev	.00496	.01424	.00229	.00012	.00026	.00410	.00311
%RSD	249.01	142.70	58.101	48.006	60.244	80.824	74.526

#1	-.00127	.02641	.00235	-.00021	.00013	-.00079	.00523
#2	-.00045	.00198	.00290	-.00016	.00061	-.00895	.00661
#3	.00770	.00153	.00656	-.00039	.00055	-.00546	.00067

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00094	.00240	F -.15871
Stddev	.00086	.00012	.03778
%RSD	91.058	4.8898	23.803

#1	.00049	.00244	-.19853
#2	.00193	.00227	-.12338
#3	.00040	.00250	-.15423

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10007.	79771.	7186.1
Stddev	17.	169.	16.0
%RSD	.16944	.21172	.22215

#1	10010.	79611.	7183.9
#2	10022.	79947.	7171.4
#3	9988.4	79754.	7203.1

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: FBLK1 Acquired: 8/30/2017 15:40:27 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627607-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00124	.00065	.00180	.00573	-.00038	.00001	-.01642	.00006
Stddev	.00251	.00268	.00115	.00183	.00053	.00003	.02726	.00020
%RSD	202.63	411.25	63.501	31.919	140.75	250.12	166.07	355.90

#1	-.00310	.00300	.00306	.00782	-.00053	-.00002	-.01991	.00029
#2	-.00222	.00122	.00082	.00440	-.00082	.00004	-.04177	-.00008
#3	.00161	-.00227	.00153	.00498	.00021	.00002	.01242	-.00004

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00038	.00182	.00028	-.00951	.02489	.00308	.00783	-.00093
Stddev	.00045	.00077	.00149	.00856	.06172	.00204	.04041	.00034
%RSD	117.85	42.463	540.19	90.058	247.91	66.280	516.23	36.527

#1	.00079	.00151	-.00038	-.01510	.04851	.00073	-.02454	-.00115
#2	-.00011	.00270	-.00077	-.01376	.07131	.00410	.05312	-.00054
#3	.00047	.00125	.00198	.00035	-.04514	.00442	-.00510	-.00110

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00010	.02983	.00117	-.00183	-.00299	-.00382	.01067	.00336
Stddev	.00037	.01076	.00026	.00375	.00236	.00585	.01223	.00108
%RSD	378.54	36.075	21.781	205.13	78.812	153.29	114.63	32.184

#1	.00000	.04016	.00115	-.00475	-.00192	-.00757	-.00330	.00422
#2	.00051	.01869	.00144	.00240	-.00570	-.00680	.01947	.00370
#3	-.00022	.03064	.00093	-.00314	-.00136	.00292	.01584	.00214

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: FBLK1 Acquired: 8/30/2017 15:40:27 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627607-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	-.00018	.00176	-.00452	.00093	.00244	.08377
Stddev	.00086	.00027	.00336	.00261	.00025	.00022	.45936
%RSD	2534.0	152.27	190.58	57.766	27.509	9.0041	548.35

#1	-.00095	.00005	.00285	-.00408	.00064	.00226	-.28674
#2	.00055	-.00011	-.00201	-.00215	.00103	.00238	-.05968
#3	.00051	-.00047	.00445	-.00732	.00111	.00269	.59773

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10252.	83005.	7248.7
Stddev	6.	380.	50.2
%RSD	.05818	.45751	.69193

#1	10258.	82974.	7207.1
#2	10247.	82642.	7234.4
#3	10250.	83399.	7304.4

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136601 Acquired: 8/30/2017 15:44:14 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00030	.02275	.00819	.18442	.24410	.00003	116.89	.00041
Stddev	.00128	.00522	.00098	.00078	.00080	.00006	.63	.00040
%RSD	420.59	22.940	11.985	.42392	.32754	201.89	.53802	99.876

#1	.00096	.02685	.00928	.18369	.24331	.00009	116.20	.00023
#2	-.00028	.01688	.00738	.18433	.24491	-.00002	117.03	.00087
#3	-.00159	.02453	.00792	.18524	.24408	.00002	117.44	.00012

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00178	.00042	.00010	2.6605	6.3522	.04375	22.660	.49931
Stddev	.00024	.00093	.00097	.0234	.0530	.00591	.121	.00427
%RSD	13.350	219.82	935.36	.87989	.83414	13.513	.53241	.85617

#1	.00166	.00115	-.00070	2.6378	6.2914	.04369	22.521	.49469
#2	.00205	.00074	.00118	2.6590	6.3766	.03787	22.723	.50011
#3	.00162	-.00063	-.00017	2.6846	6.3886	.04969	22.735	.50313

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00095	72.765	.00123	-.00101	-.00468	-.00158	.00226	5.3362
Stddev	.00029	.366	.00125	.00455	.00156	.00332	.01473	.0112
%RSD	30.690	.50349	100.94	448.05	33.310	209.95	651.39	.21030

#1	.00062	72.450	.00000	.00422	-.00646	.00197	-.01217	5.3492
#2	.00117	72.680	.00249	-.00333	-.00403	-.00462	.01728	5.3299
#3	.00107	73.167	.00121	-.00394	-.00355	-.00210	.00167	5.3296

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136601 Acquired: 8/30/2017 15:44:14 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00089	.84707	-.00314	-.00059	.00121	.00487	.00109
Stddev	.00033	.00507	.00232	.00155	.00068	.00020	.30136
%RSD	37.455	.59836	73.764	261.49	56.174	4.1865	27581.
#1	.00095	.84154	-.00176	-.00237	.00055	.00464	.27582
#2	.00119	.84817	-.00582	.00051	.00190	.00497	-.32123
#3	.00053	.85150	-.00186	.00008	.00116	.00501	.04869

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9815.7	78799.	7149.1
Stddev	9.2	84.	64.2
%RSD	.09418	.10599	.89856
#1	9826.2	78823.	7187.9
#2	9811.7	78868.	7184.4
#3	9809.1	78706.	7074.9

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136602 Acquired: 8/30/2017 15:47:58 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00015	.01691	.00726	.18494	.24378	.00004	116.29
Stddev	.00114	.00249	.00159	.00126	.00023	.00002	.40
%RSD	786.21	14.716	21.873	.68331	.09301	61.461	.34450

#1	-.00092	.01542	.00543	.18530	.24371	.00004	116.10
#2	.00117	.01554	.00808	.18599	.24360	.00006	116.01
#3	-.00068	.01979	.00828	.18354	.24404	.00001	116.75

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00000	.00202	.00094	.00125	2.6095	6.3360	.04456
Stddev	.00028	.00053	.00042	.00167	.0086	.0603	.00463
%RSD	8603.3	26.259	45.028	132.98	.32934	.95123	10.386

#1	.00032	.00218	.00114	.00158	2.6032	6.3981	.04989
#2	-.00021	.00143	.00045	-.00055	2.6061	6.3322	.04152
#3	-.00012	.00246	.00122	.00273	2.6193	6.2777	.04229

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.503	.49632	.00058	72.540	-.00053	.00761	-.00190
Stddev	.046	.00318	.00067	.255	.00124	.00320	.00102
%RSD	.20276	.63974	114.61	.35149	233.52	42.017	53.842

#1	22.479	.49266	-.00013	72.283	.00064	.00519	-.00262
#2	22.556	.49806	.00119	72.793	-.00183	.00641	-.00236
#3	22.475	.49824	.00070	72.544	-.00041	.01124	-.00073

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136602 Acquired: 8/30/2017 15:47:58 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00160	.00492	5.2923	-.00024	.84298	-.00557	-.00259
Stddev	.00729	.01015	.0024	.00117	.00071	.00332	.00180
%RSD	456.22	206.33	.04557	495.58	.08473	59.697	69.391

#1	-.00213	-.00549	5.2908	.00055	.84245	-.00420	-.00411
#2	-.00862	.00546	5.2951	-.00158	.84379	-.00315	-.00307
#3	.00595	.01479	5.2910	.00032	.84269	-.00936	-.00060

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00054	.00283	F -1.0175
Stddev	.00062	.00017	.3758
%RSD	115.21	6.0210	36.938

#1	.00104	.00268	-1.2471
#2	.00074	.00301	-.58375
#3	-.00016	.00280	-1.2216

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9845.5	78568.	7112.4
Stddev	21.8	220.	8.3
%RSD	.22160	.28056	.11617

#1	9820.4	78317.	7117.5
#2	9856.0	78731.	7116.8
#3	9860.1	78655.	7102.8

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136603 Acquired: 8/30/2017 15:51:42 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00068	.02080	.00822	.18625	.24519	.00001	117.28
Stddev	.00140	.00138	.00033	.00108	.00070	.00002	.13
%RSD	205.17	6.6191	3.9626	.58046	.28357	160.85	.11360

#1	-.00159	.01963	.00803	.18577	.24491	-.00001	117.32
#2	-.00139	.02232	.00804	.18749	.24468	.00003	117.13
#3	.00093	.02046	.00860	.18550	.24599	.00002	117.39

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00045	.00169	.00071	.00079	2.6426	6.3749	.04874
Stddev	.00013	.00016	.00079	.00105	.0145	.1535	.00446
%RSD	30.043	9.4510	112.27	133.44	.54706	2.4076	9.1588

#1	.00044	.00185	.00017	.00199	2.6469	6.2453	.04443
#2	.00058	.00153	.00034	.00006	2.6544	6.5444	.05335
#3	.00032	.00169	.00162	.00031	2.6265	6.3351	.04845

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.635	.50374	.00085	72.809	.00071	.00562	-.00159
Stddev	.152	.00361	.00033	.121	.00077	.00443	.00128
%RSD	.67325	.71629	38.899	.16584	108.13	78.807	80.153

#1	22.809	.49973	.00108	72.811	.00071	.00051	-.00306
#2	22.576	.50673	.00047	72.929	-.00006	.00823	-.00097
#3	22.522	.50476	.00100	72.687	.00148	.00813	-.00075

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017

K: K Buck

Sample Name: L1708136603 Acquired: 8/30/2017 15:51:42 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00480	-0.00618	5.3405	.00019	.85034	-0.00995	-0.00427
Stddev	.00506	.00549	.0027	.00007	.00075	.00467	.00141
%RSD	105.32	88.851	.05130	34.713	.08864	46.886	32.936

#1	-0.00449	-0.01166	5.3434	.00015	.84948	-0.00962	-0.00287
#2	-0.01001	-0.00067	5.3380	.00027	.85088	-0.00546	-0.00569
#3	.00009	-0.00621	5.3401	.00015	.85066	-0.01477	-0.00425

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00085	.00488	F -0.39541
Stddev	.00024	.00014	.32077
%RSD	27.749	2.9175	81.123

#1	.00113	.00502	-.26935
#2	.00070	.00487	-.76006
#3	.00073	.00474	-.15682

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9831.1	78749.	7113.4
Stddev	18.7	136.	25.4
%RSD	.18978	.17257	.35738

#1	9831.9	78906.	7093.7
#2	9812.1	78681.	7142.1
#3	9849.3	78661.	7104.5

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136604 Acquired: 8/30/2017 15:55:26 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00121	.02807	.00640	.18361	.24620	.00006	117.28
Stddev	.00193	.00316	.00169	.00268	.00076	.00002	.21
%RSD	158.98	11.265	26.374	1.4577	.30933	38.213	.18230

#1	-.00271	.03142	.00471	.18510	.24566	.00003	117.34
#2	.00096	.02766	.00641	.18052	.24707	.00008	117.46
#3	-.00189	.02513	.00809	.18521	.24587	.00006	117.05

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00050	.00164	.00170	.00136	2.6218	6.4561	.04675
Stddev	.00003	.00011	.00010	.00039	.0123	.0948	.00265
%RSD	5.9990	6.4696	5.6045	28.555	.46947	1.4676	5.6691

#1	.00052	.00166	.00175	.00116	2.6081	6.3855	.04780
#2	.00046	.00174	.00176	.00180	2.6321	6.5638	.04871
#3	.00050	.00153	.00159	.00110	2.6251	6.4192	.04373

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.895	.50314	.00161	72.880	-.00118	-.00136	.00286
Stddev	.058	.00221	.00049	.168	.00228	.00525	.00257
%RSD	.25140	.43871	30.346	.23010	192.58	386.76	89.796

#1	22.854	.50443	.00126	72.688	-.00191	-.00651	.00129
#2	22.961	.50440	.00140	72.954	-.00301	.00399	.00583
#3	22.870	.50059	.00217	72.997	.00137	-.00155	.00146

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017

K: K Buck

Sample Name: L1708136604 Acquired: 8/30/2017 15:55:26 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00084	.00208	5.3382	-.00047	.85308	-.00398	-.00068
Stddev	.00435	.00982	.0067	.00083	.00155	.00751	.00289
%RSD	520.30	473.07	.12653	177.85	.18165	188.98	425.76

#1	-.00343	-.00922	5.3342	-.00142	.85159	-.01163	.00065
#2	.00066	.00686	5.3344	-.00002	.85468	.00338	-.00400
#3	.00528	.00859	5.3460	.00004	.85296	-.00367	.00131

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00101	.00344	F -.05180
Stddev	.00049	.00004	.39446
%RSD	48.006	1.2751	761.44

#1	.00045	.00349	-.33816
#2	.00124	.00340	-.21537
#3	.00134	.00343	.39813

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9834.6	78603.	7074.8
Stddev	19.7	139.	12.8
%RSD	.20069	.17737	.18160

#1	9837.1	78448.	7078.4
#2	9813.7	78641.	7060.5
#3	9852.9	78719.	7085.4

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136604PS Acquired: 8/30/2017 15:59:11 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627813-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19889	4.8922	.20243	1.1322	.71464	.02494	110.48
Stddev	.00120	.0130	.00099	.0026	.00147	.00000	.28
%RSD	.60127	.26472	.49034	.23333	.20566	.01442	.24965

#1	.20003	4.9068	.20171	1.1314	.71461	.02494	110.16
#2	.19900	4.8874	.20356	1.1351	.71612	.02494	110.60
#3	.19765	4.8823	.20202	1.1300	.71318	.02495	110.68

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02475	.09925	.24641	.24244	4.3248	30.842	.53771
Stddev	.00006	.00115	.00276	.00096	.0299	.080	.00399
%RSD	.23841	1.1629	1.1200	.39575	.69115	.25842	.74183

#1	.02481	.09994	.24803	.24328	4.3146	30.818	.54083
#2	.02475	.09990	.24797	.24139	4.3014	30.931	.53322
#3	.02469	.09792	.24322	.24264	4.3585	30.777	.53909

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.364	.69852	.48920	90.120	.24228	4.9749	.24349
Stddev	.138	.00549	.00151	.144	.00070	.0097	.00419
%RSD	.54363	.78607	.30776	.16031	.28718	.19484	1.7215

#1	25.350	.70215	.49077	89.980	.24302	4.9801	.24761
#2	25.509	.69221	.48777	90.268	.24163	4.9637	.23923
#3	25.234	.70121	.48906	90.114	.24219	4.9809	.24362

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136604PS Acquired: 8/30/2017 15:59:11 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627813-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.59763	.19347	7.2982	.49629	1.2596	.50015	.24563
Stddev	.00496	.00151	.0103	.00025	.0022	.00758	.00091
%RSD	.83077	.78132	.14084	.05033	.17541	1.5149	.37073

#1	.60327	.19496	7.3050	.49610	1.2587	.49938	.24651
#2	.59390	.19194	7.3032	.49620	1.2621	.49300	.24569
#3	.59573	.19352	7.2864	.49657	1.2579	.50809	.24469

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.50240	.49102	F -.30849
Stddev	.00172	.00048	.35382
%RSD	.34208	.09719	114.69

#1	.50399	.49153	-.20740
#2	.50058	.49058	-.70186
#3	.50263	.49094	-.01623

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9797.2	78153.	7090.1
Stddev	21.0	97.	12.1
%RSD	.21475	.12400	.17083

#1	9820.7	78205.	7103.0
#2	9780.2	78041.	7079.1
#3	9790.6	78213.	7088.2

Approved: August 31, 2017

K: K Buck

Sample Name: L1708136604SDL Acquired: 8/30/2017 16:02:43 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG627813-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00074	.01337	.00310	.04311	.04991	.00000	24.053
Stddev	.00150	.01008	.00140	.00450	.00055	.00004	.057
%RSD	202.32	75.387	45.061	10.434	1.1092	733.30	.23854

#1	.00244	.02222	.00325	.04462	.05046	-.00002	24.035
#2	.00015	.01550	.00163	.04667	.04935	.00005	24.117
#3	-.00037	.00240	.00441	.03806	.04992	-.00001	24.007

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00002	.00044	.00091	-.00051	.53424	1.3507	.00753
Stddev	.00034	.00008	.00037	.00086	.02136	.0928	.00532
%RSD	1475.0	17.423	40.617	167.70	3.9982	6.8709	70.658

#1	-.00018	.00050	.00132	-.00083	.51125	1.3692	.00182
#2	-.00026	.00035	.00061	-.00116	.53801	1.2501	.00840
#3	.00037	.00048	.00079	.00046	.55347	1.4329	.01235

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.7061	.10331	.00059	14.871	.00182	.00554	-.00402
Stddev	.0873	.00184	.00036	.057	.00134	.00667	.00404
%RSD	1.8543	1.7779	60.882	.38350	74.017	120.42	100.38

#1	4.6635	.10409	.00057	14.933	.00212	.00364	-.00616
#2	4.6484	.10464	.00024	14.859	.00035	.00002	-.00653
#3	4.8065	.10122	.00095	14.821	.00299	.01295	.00063

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017

K: K Buck

Sample Name: L1708136604SDL Acquired: 8/30/2017 16:02:43 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG627813-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00173	.00108	1.0846	-.00003	.17251	-.00577	.00028
Stddev	.00571	.01014	.0034	.00112	.00051	.00466	.00325
%RSD	329.89	939.12	.31648	3394.7	.29714	80.891	1154.8

#1	-.00090	-.00974	1.0809	.00029	.17311	-.00268	.00131
#2	-.00781	.01036	1.0876	.00089	.17220	-.00348	.00289
#3	.00351	.00262	1.0855	-.00128	.17224	-.01113	-.00336

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00122	.00164	F -.63084
Stddev	.00090	.00001	.31350
%RSD	74.239	.75354	49.696

#1	.00196	.00165	-.27868
#2	.00147	.00164	-.87952
#3	.00021	.00163	-.73431

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10121.	80820.	7012.4
Stddev	11.	215.	111.0
%RSD	.11183	.26571	1.5830

#1	10132.	81025.	7046.8
#2	10121.	80837.	7102.2
#3	10110.	80597.	6888.3

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 16:06:29 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40126	10.151	.40192	.50417	1.0047	.05034	9.9937
Stddev	.00523	.014	.00303	.00263	.0010	.00003	.0397
%RSD	1.3021	.13827	.75370	.52261	.10038	.05137	.39764

#1	.39781	10.139	.40137	.50672	1.0040	.05032	9.9543
#2	.40727	10.167	.40519	.50145	1.0059	.05037	10.034
#3	.39869	10.147	.39921	.50434	1.0043	.05034	9.9931

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05029	.20282	.50259	.50598	4.0058	50.305	1.0039
Stddev	.00015	.00033	.00104	.00169	.0206	.074	.0037
%RSD	.29241	.16211	.20747	.33438	.51363	.14746	.36480

#1	.05013	.20311	.50214	.50778	3.9863	50.257	1.0013
#2	.05042	.20246	.50185	.50575	4.0038	50.267	1.0081
#3	.05031	.20288	.50378	.50442	4.0273	50.390	1.0024

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.010	.50002	1.0073	50.524	.50412	10.045	.50373
Stddev	.009	.00383	.0019	.029	.00347	.009	.00365
%RSD	.08611	.76648	.18924	.05659	.68898	.08910	.72440

#1	10.014	.50415	1.0091	50.500	.50203	10.051	.50722
#2	10.001	.49657	1.0076	50.515	.50220	10.035	.49994
#3	10.017	.49933	1.0053	50.556	.50813	10.050	.50403

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 16:06:29 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2121	40728	5.0660	1.0119	1.0054	1.0052	51036
Stddev	.0026	.01303	.0033	.0014	.0011	.0047	.00256
%RSD	.21398	3.1984	.06557	.14362	.10812	.46589	.50117

#1	1.2119	.42232	5.0627	1.0117	1.0042	1.0019	.50818
#2	1.2148	.39958	5.0693	1.0106	1.0062	1.0030	.51317
#3	1.2096	.39994	5.0659	1.0135	1.0059	1.0105	.50971

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.99959	1.0124	F .59902
Stddev	.00271	.0011	.45517
%RSD	.27159	.11145	75.987

#1	1.0003	1.0133	.08148
#2	.99660	1.0127	.77838
#3	1.0019	1.0111	.93718

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9974.4	79136.	7131.9
Stddev	13.6	125.	14.5
%RSD	.13622	.15746	.20372

#1	9973.4	79250.	7144.3
#2	9961.3	79155.	7115.9
#3	9988.4	79003.	7135.6

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 16:09:58 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00172	.00136	-.00078	.00139	-.00020	.00004	-.00413
Stddev	.00232	.00591	.00269	.00095	.00055	.00002	.01337
%RSD	134.68	434.54	343.32	68.148	283.01	53.040	324.01

#1	.00012	-.00542	.00221	.00061	.00044	.00004	.00747
#2	-.00432	.00406	-.00156	.00111	-.00049	.00006	-.01875
#3	-.00097	.00544	-.00301	.00244	-.00053	.00002	-.00110

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	-.00002	.00074	-.00008	-.00038	-.04851	-.00201
Stddev	.00018	.00029	.00039	.00056	.01303	.10927	.00065
%RSD	194.92	1624.3	52.665	693.48	3432.7	225.27	32.152

#1	-.00021	.00030	.00043	.00056	-.00092	-.07588	-.00128
#2	-.00018	-.00008	.00061	-.00050	.01292	.07185	-.00225
#3	.00011	-.00027	.00118	-.00030	-.01313	-.14148	-.00251

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05089	.00005	.00046	.02992	-.00107	.00879	F -.00554
Stddev	.06480	.00300	.00055	.01673	.00064	.00826	.00399
%RSD	127.34	6074.5	117.48	55.905	60.030	93.962	72.064

#1	.00957	.00183	.00109	.01225	-.00068	.00465	-.00796
#2	.12558	-.00342	.00007	.04551	-.00181	.01830	-.00773
#3	.01753	.00173	.00023	.03201	-.00071	.00342	-.00093

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							.00500
Low Limit							-.00500

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 16:09:58 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00343	.00129	-.00129	-.00041	-.00026	-.00072	-.00217
Stddev	.00303	.00786	.00237	.00064	.00017	.00296	.00213
%RSD	88.245	608.16	183.00	154.62	66.496	411.19	98.226

#1	-.00008	.00976	-.00107	-.00115	-.00008	.00239	-.00279
#2	-.00598	-.00576	-.00376	-.00008	-.00029	-.00351	-.00393
#3	-.00423	-.00013	.00096	-.00001	-.00042	-.00104	.00020

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00057	.00075	F .04798
Stddev	.00049	.00018	.59155
%RSD	85.499	24.549	1232.9

#1	.00103	.00054	.24644
#2	.00005	.00087	-.61728
#3	.00065	.00084	.51478

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10109.	81312.	7138.0
Stddev	28.	242.	26.5
%RSD	.27943	.29720	.37061

#1	10088.	81204.	7132.5
#2	10141.	81144.	7114.7
#3	10098.	81589.	7166.8

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136605 Acquired: 8/30/2017 16:13:49 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00038	.14533	.00155	.12406	.21638	.00001	113.07
Stddev	.00080	.00230	.00288	.00364	.00035	.00009	.08
%RSD	212.23	1.5794	185.97	2.9314	.15952	745.68	.07058

#1	.00035	.14398	.00450	.12761	.21656	.00005	113.02
#2	-.00025	.14798	-.00125	.12424	.21598	-.00009	113.17
#3	-.00123	.14404	.00139	.12034	.21659	.00008	113.03

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00039	.00369	.00050	-.00008	17.561	7.2173	.03862
Stddev	.00024	.00050	.00024	.00006	.016	.0790	.00205
%RSD	60.763	13.482	47.785	74.394	.09197	1.0939	5.2961

#1	.00021	.00340	.00023	-.00003	17.577	7.2314	.03947
#2	.00066	.00341	.00060	-.00014	17.545	7.1322	.04009
#3	.00030	.00426	.00068	-.00006	17.559	7.2882	.03628

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.919	.72855	.00019	116.39	.00056	.01220	.00110
Stddev	.173	.00051	.00104	.07	.00215	.00677	.00423
%RSD	1.0200	.06977	562.92	.06121	383.36	55.445	385.79

#1	16.858	.72913	.00063	116.31	-.00046	.00882	-.00375
#2	16.786	.72834	-.00101	116.40	.00303	.00780	.00296
#3	17.114	.72818	.00093	116.45	-.00089	.02000	.00408

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136605 Acquired: 8/30/2017 16:13:49 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00205	-0.00065	5.9344	-0.00021	.99670	.00688	-0.00139
Stddev	.00770	.01489	.0118	.00100	.00186	.00654	.00407
%RSD	376.08	2301.2	.19888	482.64	.18638	95.041	291.85

#1	-0.01055	-0.00923	5.9347	-0.00134	.99592	-0.00044	-0.00593
#2	.00447	.01655	5.9224	.00056	.99882	.01215	-0.00018
#3	-0.00006	-0.00926	5.9460	.00016	.99536	.00893	.00193

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00017	.01129	F -0.80962
Stddev	.00091	.00008	.27225
%RSD	535.14	.67631	33.627

#1	.00117	.01131	-1.0324
#2	-0.00006	.01136	-.50615
#3	-0.00060	.01121	-.89032

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-0.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9866.8	78707.	7166.7
Stddev	17.3	151.	38.5
%RSD	.17534	.19151	.53781

#1	9853.7	78672.	7209.8
#2	9886.4	78577.	7155.0
#3	9860.3	78872.	7135.5

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136606 Acquired: 8/30/2017 16:17:32 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00307	.01900	.00265	.12284	.21688	.00002	112.67
Stddev	.00110	.00339	.00364	.00463	.00082	.00006	.49
%RSD	35.960	17.862	137.33	3.7704	.37643	365.63	.43232

#1	-.00432	.02290	.00633	.12223	.21777	.00009	112.53
#2	-.00264	.01676	.00256	.12774	.21672	-.00002	112.26
#3	-.00224	.01732	-.00095	.11854	.21616	-.00002	113.21

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	.00396	.00076	.00030	17.190	7.2828	.03265
Stddev	.00021	.00020	.00100	.00140	.136	.1552	.00611
%RSD	125.67	5.0932	131.47	472.82	.79035	2.1312	18.714

#1	-.00007	.00393	.00169	-.00109	17.137	7.2338	.03062
#2	.00024	.00378	-.00030	.00028	17.088	7.1580	.02781
#3	.00033	.00418	.00090	.00170	17.344	7.4566	.03951

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.883	.73592	.00109	116.26	.00159	.00072	-.00404
Stddev	.138	.00558	.00013	.57	.00189	.00894	.00506
%RSD	.81834	.75770	12.095	.48870	119.24	1245.5	125.08

#1	16.847	.73146	.00121	116.04	-.00054	.00853	-.00970
#2	16.767	.73414	.00109	115.82	.00308	.00267	-.00246
#3	17.036	.74217	.00095	116.90	.00222	-.00904	.00004

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136606 Acquired: 8/30/2017 16:17:32 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00128	.00747	5.7258	-.00032	.99671	-.00092	-.00056
Stddev	.00359	.00067	.0077	.00051	.00407	.00454	.00129
%RSD	279.87	8.9546	.13499	156.82	.40802	494.91	230.72

#1	-.00060	.00823	5.7263	.00016	.99620	-.00475	-.00044
#2	-.00516	.00696	5.7179	-.00027	.99293	-.00208	-.00190
#3	.00192	.00722	5.7333	-.00086	1.0010	.00409	.00066

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00035	.00512	F -1.1044
Stddev	.00080	.00008	.2776
%RSD	228.99	1.5961	25.132

#1	.00127	.00521	-.79056
#2	-.00011	.00505	-1.3176
#3	-.00012	.00512	-1.2051

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9819.9	78138.	7059.6
Stddev	24.5	291.	28.7
%RSD	.24930	.37268	.40610

#1	9800.2	77810.	7074.4
#2	9847.3	78367.	7077.9
#3	9812.1	78236.	7026.6

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136607 Acquired: 8/30/2017 16:21:15 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00030	.02613	.00622	.18509	.73864	.00002	134.67
Stddev	.00288	.00489	.00321	.00176	.00092	.00006	.35
%RSD	971.89	18.718	51.612	.94941	.12492	228.30	.25808

#1	-.00170	.02999	.00941	.18461	.73773	-.00004	134.45
#2	.00301	.02063	.00627	.18704	.73958	.00006	135.07
#3	-.00220	.02777	.00299	.18363	.73859	.00006	134.48

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00057	.00111	.00163	.00087	39.151	8.6673	.04633
Stddev	.00016	.00036	.00190	.00121	.186	.0929	.00705
%RSD	28.065	32.064	116.54	138.77	.47543	1.0719	15.223

#1	.00055	.00100	.00318	.00213	38.975	8.5892	.03819
#2	.00043	.00151	-.00049	-.00029	39.131	8.7701	.05007
#3	.00075	.00082	.00221	.00077	39.346	8.6428	.05073

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.877	.29936	.00053	73.754	.00204	.04597	.00291
Stddev	.251	.00038	.00059	.464	.00015	.00992	.00100
%RSD	.81354	.12610	111.80	.62966	7.4557	21.570	34.236

#1	30.690	.29933	.00074	73.432	.00221	.04838	.00290
#2	30.778	.29899	.00098	73.545	.00199	.05446	.00192
#3	31.162	.29975	-.00014	74.287	.00192	.03507	.00391

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017

K: K Buck

Sample Name: L1708136607 Acquired: 8/30/2017 16:21:15 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00103	.00627	6.7420	.00131	.86892	.00132	.00222
Stddev	.00286	.01063	.0088	.00100	.00158	.00276	.00438
%RSD	278.36	169.53	.13062	76.319	.18205	209.56	197.48

#1	.00051	.00324	6.7322	.00024	.86892	.00451	-.00275
#2	.00074	-.00252	6.7493	.00222	.87050	-.00034	.00386
#3	-.00433	.01809	6.7444	.00145	.86734	-.00021	.00553

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00073	.03172	F -3.0196
Stddev	.00111	.00018	.1525
%RSD	152.13	.57654	5.0506

#1	.00040	.03156	-2.8437
#2	-.00182	.03166	-3.1145
#3	-.00078	.03192	-3.1006

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9814.4	78129.	6990.2
Stddev	28.0	145.	139.1
%RSD	.28518	.18546	1.9892

#1	9807.5	78009.	7132.6
#2	9845.2	78088.	6983.2
#3	9790.5	78290.	6854.7

Approved: August 31, 2017

K: K Buck

Sample Name: L1708136608 Acquired: 8/30/2017 16:24:59 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00069	.01574	.00340	.18709	.74472	-.00000	134.30
Stddev	.00068	.01053	.00193	.00344	.00067	.00001	.06
%RSD	98.706	66.911	56.814	1.8398	.09027	414.00	.04530

#1	.00009	.00746	.00117	.18313	.74509	-.00000	134.32
#2	-.00114	.02759	.00442	.18879	.74513	.00001	134.24
#3	-.00103	.01217	.00461	.18935	.74395	-.00001	134.36

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	.00082	.00081	.00008	38.874	8.5023	.04281
Stddev	.00024	.00033	.00173	.00078	.183	.0928	.00115
%RSD	120.59	40.225	212.84	915.93	.46995	1.0913	2.6798

#1	.00038	.00117	.00221	.00069	38.750	8.5778	.04380
#2	.00029	.00077	.00135	-.00079	39.084	8.5303	.04307
#3	-.00007	.00052	-.00112	.00035	38.788	8.3987	.04155

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.528	.30044	.00045	72.986	-.00003	.02501	.00030
Stddev	.200	.00446	.00029	.175	.00080	.00759	.00148
%RSD	.65384	1.4858	64.142	.23937	2409.1	30.352	490.49

#1	30.695	.30294	.00020	72.964	-.00067	.03375	.00035
#2	30.583	.30310	.00039	73.171	.00087	.02116	-.00120
#3	30.307	.29529	.00077	72.824	-.00030	.02011	.00175

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017

K: K Buck

Sample Name: L1708136608 Acquired: 8/30/2017 16:24:59 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00047	.00323	6.7150	.00002	.86784	-.00016	-.00349
Stddev	.00162	.00494	.0074	.00061	.00087	.00281	.00280
%RSD	345.89	153.10	.10993	2869.1	.10077	1800.2	80.323

#1	.00127	.00738	6.7118	-.00068	.86877	-.00339	-.00029
#2	-.00075	-.00224	6.7097	.00041	.86772	.00124	-.00552
#3	-.00193	.00454	6.7234	.00034	.86703	.00169	-.00465

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00167	.02934	F -2.5768
Stddev	.00068	.00038	.4082
%RSD	40.676	1.2902	15.840

#1	-.00193	.02960	-2.3623
#2	-.00090	.02951	-3.0475
#3	-.00219	.02890	-2.3206

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9821.7	78358.	7098.1
Stddev	2.9	133.	68.0
%RSD	.02927	.16926	.95740

#1	9818.5	78502.	7125.4
#2	9824.1	78242.	7020.7
#3	9822.4	78329.	7148.1

Approved: August 31, 2017

K: K Buck

Sample Name: L1708136610 Acquired: 8/30/2017 16:28:42 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00098	.01512	.00164	.04269	.08697	.00001	53.695
Stddev	.00184	.00418	.00138	.00231	.00111	.00002	.108
%RSD	188.01	27.646	84.129	5.4205	1.2738	167.49	.20089

#1	-.00154	.01979	.00050	.04490	.08579	.00004	53.797
#2	-.00247	.01386	.00318	.04029	.08799	.00000	53.582
#3	.00107	.01172	.00125	.04288	.08711	-.00000	53.707

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	.00091	.00114	.00274	.40743	2.8350	.01132
Stddev	.00035	.00020	.00045	.00096	.03045	.0778	.00310
%RSD	252.22	22.062	40.047	35.184	7.4747	2.7429	27.359

#1	.00012	.00086	.00066	.00246	.38946	2.7797	.01050
#2	-.00020	.00074	.00157	.00194	.44259	2.9239	.00872
#3	.00050	.00113	.00117	.00381	.39023	2.8013	.01475

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.589	.30511	.00138	55.890	.00074	.00972	-.00161
Stddev	.188	.00233	.00082	.276	.00126	.00045	.00260
%RSD	1.7787	.76305	59.638	.49299	170.30	4.6208	161.47

#1	10.462	.30662	.00043	56.146	.00055	.00994	.00035
#2	10.499	.30243	.00188	55.598	-.00041	.00920	-.00456
#3	10.805	.30627	.00184	55.926	.00209	.01001	-.00061

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017

K: K Buck

Sample Name: L1708136610 Acquired: 8/30/2017 16:28:42 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00488	-.00598	2.5833	.00040	.25619	.00014	-.00111
Stddev	.00840	.01250	.0100	.00044	.00073	.00843	.00212
%RSD	171.92	209.07	.38569	109.14	.28686	5985.8	191.34

#1	-.00306	.00108	2.5948	-.00010	.25690	-.00508	-.00184
#2	.00245	-.02040	2.5782	.00069	.25543	-.00436	-.00276
#3	-.01405	.00139	2.5770	.00062	.25623	.00986	.00128

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00191	.00900	F -.76397
Stddev	.00105	.00026	.21581
%RSD	54.999	2.9293	28.248

#1	.00110	.00914	-.58101
#2	.00309	.00869	-.70894
#3	.00154	.00916	-1.0020

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9956.0	79557.	7047.4
Stddev	21.1	170.	98.7
%RSD	.21185	.21332	1.3998

#1	9932.3	79670.	7024.9
#2	9972.8	79362.	6961.9
#3	9962.8	79640.	7155.3

Approved: August 31, 2017

K: K Buck

Sample Name: L1708136611 Acquired: 8/30/2017 16:32:27 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00186	.01068	-.00069	.04034	.08657	-.00008	52.941
Stddev	.00157	.00657	.00308	.00178	.00088	.00004	.131
%RSD	84.305	61.539	444.04	4.4148	1.0148	53.497	.24691

#1	-.00059	.00310	.00279	.04174	.08749	-.00014	52.954
#2	-.00138	.01411	-.00307	.03833	.08574	-.00006	53.064
#3	-.00361	.01481	-.00179	.04093	.08648	-.00006	52.804

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00003	.00082	.00083	-.00019	.37169	2.7126	.01028
Stddev	.00047	.00029	.00015	.00218	.01112	.0666	.00665
%RSD	1849.7	35.083	17.608	1171.8	2.9920	2.4539	64.696

#1	-.00057	.00053	.00079	.00194	.35889	2.7423	.00564
#2	.00023	.00083	.00100	-.00009	.37897	2.6363	.00730
#3	.00026	.00110	.00071	-.00241	.37721	2.7590	.01790

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.393	.30092	.00145	55.185	.00218	.00867	-.00397
Stddev	.036	.00264	.00027	.134	.00140	.00750	.00570
%RSD	.35017	.87785	18.411	.24322	64.295	86.484	143.77

#1	10.367	.29787	.00175	55.130	.00075	.01584	-.00896
#2	10.379	.30254	.00125	55.087	.00222	.00088	.00225
#3	10.435	.30234	.00135	55.338	.00355	.00930	-.00518

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136611 Acquired: 8/30/2017 16:32:27 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	-.00225	2.5509	.00012	.25296	-.00011	-.00167
Stddev	.00128	.01628	.0027	.00032	.00055	.00591	.00121
%RSD	968.65	723.92	.10590	260.37	.21737	5550.0	72.621

#1	.00161	.00671	2.5483	.00011	.25326	.00507	-.00061
#2	-.00053	.00759	2.5507	.00044	.25233	-.00654	-.00299
#3	-.00069	-.02104	2.5537	-.00019	.25330	.00116	-.00140

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00104	.00751	F -.35418
Stddev	.00106	.00017	.44890
%RSD	101.93	2.2835	126.74

#1	.00139	.00734	-.54762
#2	.00189	.00768	-.67392
#3	-.00015	.00749	.15901

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9943.8	79724.	7110.1
Stddev	9.9	37.	43.1
%RSD	.09975	.04647	.60602

#1	9932.4	79702.	7147.0
#2	9948.6	79704.	7120.4
#3	9950.4	79767.	7062.7

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136614 Acquired: 8/30/2017 16:36:11 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00194	.02600	.00194	.08895	.16849	.00003	84.750
Stddev	.00222	.00814	.00603	.00363	.00111	.00005	.215
%RSD	114.56	31.313	311.13	4.0830	.65750	147.85	.25323

#1	-.00335	.03540	-.00180	.08723	.16976	.00005	84.980
#2	-.00309	.02145	.00889	.09312	.16772	-.00002	84.714
#3	.00062	.02115	-.00128	.08650	.16800	.00007	84.555

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.00045	.00001	.00218	6.5214	3.8589	.02514
Stddev	.00031	.00044	.00055	.00137	.0053	.1746	.00178
%RSD	297.39	97.391	9895.2	62.697	.08075	4.5234	7.0770

#1	.00044	.00083	-.00014	.00228	6.5242	3.6574	.02308
#2	-.00018	.00056	-.00045	.00077	6.5153	3.9583	.02619
#3	.00005	-.00003	.00061	.00351	6.5246	3.9612	.02614

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.986	.27020	.00044	57.006	-.00118	.00062	-.00481
Stddev	.057	.00059	.00048	.306	.00116	.01173	.00179
%RSD	.38108	.21700	109.75	.53687	98.621	1900.1	37.148

#1	14.965	.26967	.00015	57.217	-.00017	-.01026	-.00633
#2	15.051	.27083	.00099	57.147	-.00244	.01305	-.00526
#3	14.942	.27008	.00017	56.655	-.00091	-.00094	-.00284

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136614 Acquired: 8/30/2017 16:36:11 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00179	.01040	5.2890	-.00021	.45142	-.00327	-.00247
Stddev	.00499	.00665	.0051	.00036	.00145	.00413	.00526
%RSD	278.91	63.940	.09595	166.11	.32056	126.43	212.55

#1	.00183	.01164	5.2838	-.00049	.45308	-.00185	-.00854
#2	-.00748	.01635	5.2939	-.00034	.45043	-.00003	.00037
#3	.00028	.00322	5.2895	.00019	.45075	-.00792	.00075

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00118	.00254	F -.77638
Stddev	.00137	.00009	.42433
%RSD	116.17	3.4352	54.656

#1	.00103	.00263	-.96031
#2	.00261	.00252	-.29111
#3	-.00011	.00246	-1.0777

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9875.9	79275.	7098.9
Stddev	3.8	347.	19.2
%RSD	.03878	.43802	.27018

#1	9878.7	78999.	7087.2
#2	9871.6	79162.	7088.5
#3	9877.5	79665.	7121.1

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136615 Acquired: 8/30/2017 16:39:55 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00030	.01602	.00270	.09137	.17806	-.00002	86.351
Stddev	.00136	.00796	.00081	.00249	.00161	.00004	.280
%RSD	457.68	49.672	30.071	2.7231	.90517	204.64	.32464

#1	-.00150	.01465	.00186	.09357	.17891	-.00007	86.616
#2	.00118	.00884	.00348	.09187	.17620	.00002	86.057
#3	-.00057	.02458	.00277	.08867	.17906	-.00002	86.381

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00062	.00037	.00108	.00079	7.2902	4.0348	.02226
Stddev	.00008	.00031	.00141	.00130	.0161	.0553	.00280
%RSD	13.383	82.803	130.07	164.43	.22146	1.3703	12.562

#1	.00069	.00051	.00046	.00200	7.3076	4.0849	.02545
#2	.00063	.00002	.00009	-.00057	7.2872	3.9755	.02026
#3	.00053	.00059	.00269	.00093	7.2757	4.0439	.02106

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.218	.28486	.00076	57.071	-.00047	.00917	-.00355
Stddev	.055	.00400	.00014	.150	.00127	.01269	.00302
%RSD	.35918	1.4047	18.896	.26265	267.56	138.40	84.963

#1	15.206	.28921	.00080	56.977	.00050	.00019	-.00268
#2	15.170	.28405	.00089	56.992	-.00001	.00363	-.00691
#3	15.278	.28133	.00061	57.244	-.00191	.02368	-.00107

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136615 Acquired: 8/30/2017 16:39:55 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00003	.00194	5.4341	.00016	.46627	-.00304	-.00198
Stddev	.00431	.00898	.0150	.00057	.00168	.00137	.00233
%RSD	16847.	461.99	.27603	349.27	.36032	45.035	117.59

#1	.00073	-.00748	5.4303	-.00006	.46761	-.00196	-.00035
#2	-.00466	.00291	5.4506	.00081	.46438	-.00458	-.00465
#3	.00385	.01040	5.4213	-.00026	.46680	-.00258	-.00094

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00161	.00201	F -.80557
Stddev	.00074	.00029	.44562
%RSD	45.936	14.353	55.317

#1	.00231	.00214	-.87469
#2	.00168	.00220	-.32943
#3	.00083	.00168	-1.2126

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9855.0	79126.	7088.1
Stddev	16.5	244.	28.7
%RSD	.16704	.30774	.40434

#1	9849.9	79282.	7070.2
#2	9841.8	79252.	7073.0
#3	9873.4	78846.	7121.2

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136617 Acquired: 8/30/2017 16:43:39 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00001	.01344	.00180	.04577	.07194	-.00004	55.316
Stddev	.00243	.01330	.00170	.00355	.00088	.00009	.236
%RSD	44649.	98.991	94.259	7.7464	1.2173	255.02	.42582

#1	.00153	.01692	.00343	.04627	.07221	-.00010	55.060
#2	-.00281	.02466	.00196	.04904	.07266	-.00008	55.523
#3	.00126	-.00126	.00003	.04200	.07097	.00007	55.366

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00074	.00029	-.00004	.00060	.05079	2.7092	.01408
Stddev	.00027	.00020	.00093	.00182	.02159	.0162	.00650
%RSD	36.618	70.138	2480.4	304.78	42.512	.59930	46.151

#1	.00048	.00049	-.00046	-.00001	.04851	2.6905	.00771
#2	.00102	.00009	-.00069	-.00084	.07343	2.7188	.02069
#3	.00072	.00028	.00103	.00264	.03043	2.7184	.01382

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.552	.04341	.00154	56.759	.00164	.00105	-.00406
Stddev	.159	.00169	.00029	.109	.00146	.00450	.00575
%RSD	1.0210	3.8957	18.859	.19148	89.505	427.06	141.47

#1	15.369	.04423	.00137	56.637	.00282	.00264	.00254
#2	15.635	.04453	.00138	56.846	-.00000	-.00403	-.00797
#3	15.652	.04146	.00188	56.794	.00210	.00456	-.00676

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136617 Acquired: 8/30/2017 16:43:39 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00610	.00740	2.0390	.00039	.69474	-.00280	-.00086
Stddev	.00053	.00654	.0017	.00057	.00178	.00934	.00114
%RSD	8.7289	88.433	.08150	146.45	.25572	333.28	133.30

#1	-.00549	.01483	2.0371	.00103	.69277	-.01344	-.00218
#2	-.00634	.00484	2.0396	-.00007	.69522	.00401	-.00028
#3	-.00647	.00252	2.0403	.00022	.69623	.00103	-.00012

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00084	.00257	F -.05436
Stddev	.00110	.00010	.17420
%RSD	130.76	3.8525	320.47

#1	-.00014	.00253	-.13334
#2	.00203	.00250	-.17507
#3	.00064	.00268	.14534

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9963.7	80066.	7084.5
Stddev	36.0	161.	24.1
%RSD	.36162	.20149	.33996

#1	9987.4	80173.	7056.7
#2	9981.4	80144.	7097.1
#3	9922.2	79880.	7099.7

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136618 Acquired: 8/30/2017 16:47:25 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00003	.01447	.00208	.04661	.07079	-.00001	54.556
Stddev	.00145	.00639	.00154	.00339	.00188	.00001	.057
%RSD	5459.4	44.194	74.219	7.2743	2.6615	175.58	.10409

#1	-.00134	.01989	.00046	.04519	.07137	-.00002	54.524
#2	.00153	.01611	.00354	.05048	.07231	.00001	54.622
#3	-.00027	.00742	.00224	.04416	.06868	-.00001	54.522

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00033	.00030	.00094	.00035	.04536	2.8105	.01333
Stddev	.00016	.00047	.00077	.00176	.02067	.0532	.00556
%RSD	48.508	153.11	81.963	506.12	45.562	1.8944	41.748

#1	.00017	.00080	.00183	.00043	.02254	2.8278	.01920
#2	.00033	-.00013	.00040	-.00145	.06281	2.8529	.01265
#3	.00050	.00025	.00060	.00206	.05075	2.7507	.00813

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.297	.04471	.00226	56.389	.00067	.00130	-.00465
Stddev	.219	.00169	.00035	.136	.00042	.00775	.00041
%RSD	1.4302	3.7755	15.634	.24062	62.792	594.86	8.8840

#1	15.080	.04607	.00267	56.242	.00030	-.00720	-.00444
#2	15.517	.04524	.00204	56.416	.00058	.00797	-.00513
#3	15.293	.04282	.00208	56.510	.00113	.00313	-.00439

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708136618 Acquired: 8/30/2017 16:47:25 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00227	.00315	2.0520	-.00087	.68652	-.00523	-.00126
Stddev	.00495	.01480	.0024	.00043	.00043	.00284	.00315
%RSD	218.14	469.44	.11891	49.357	.06297	54.210	249.38

#1	.00147	.01579	2.0516	-.00132	.68606	-.00315	.00107
#2	-.00040	.00680	2.0498	-.00046	.68693	-.00846	-.00001
#3	-.00788	-.01313	2.0546	-.00085	.68656	-.00409	-.00485

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00063	.00140	F -.34476
Stddev	.00064	.00022	.23556
%RSD	101.52	16.004	68.327

#1	.00059	.00140	-.37368
#2	.00129	.00162	-.56452
#3	.00001	.00117	-.09607

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9980.2	79900.	7144.0
Stddev	34.5	140.	30.4
%RSD	.34552	.17557	.42508

#1	10009.	79749.	7109.2
#2	9989.1	80027.	7165.1
#3	9942.2	79923.	7157.6

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 16:51:10 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40358	10.160	.40147	.50101	1.0063	.05028	9.9812
Stddev	.00292	.018	.00286	.00100	.0032	.00006	.0212
%RSD	.72316	.17691	.71184	.19878	.32317	.12669	.21222

#1	.40125	10.144	.40419	.50120	1.0026	.05021	9.9567
#2	.40265	10.157	.40172	.49994	1.0076	.05032	9.9922
#3	.40685	10.180	.39849	.50190	1.0087	.05033	9.9945

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04989	.20250	.50163	.50535	3.9790	50.476	1.0014
Stddev	.00046	.00035	.00215	.00102	.0192	.137	.0072
%RSD	.92956	.17354	.42940	.20103	.48159	.27050	.72302

#1	.04990	.20215	.50276	.50652	3.9715	50.318	.99515
#2	.05036	.20285	.50298	.50485	3.9647	50.562	.99971
#3	.04943	.20249	.49914	.50468	4.0007	50.548	1.0093

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.9796	.49784	1.0075	50.495	.50531	10.012	.50200
Stddev	.0666	.00113	.0010	.134	.00130	.028	.00152
%RSD	.66712	.22691	.10148	.26445	.25632	.27531	.30370

#1	9.9682	.49672	1.0078	50.410	.50574	10.003	.50085
#2	9.9195	.49781	1.0083	50.425	.50634	9.9907	.50373
#3	10.051	.49898	1.0063	50.648	.50386	10.043	.50143

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 16:51:10 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2163	.38671	5.0658	1.0096	1.0048	.99978	.51135
Stddev	.0030	.01156	.0006	.0026	.0033	.00493	.00438
%RSD	.24308	2.9889	.01193	.25570	.32621	.49269	.85568

#1	1.2181	.39898	5.0661	1.0126	1.0010	.99922	.51205
#2	1.2179	.37602	5.0663	1.0085	1.0069	1.0050	.50667
#3	1.2129	.38513	5.0652	1.0078	1.0065	.99515	.51533

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	1.0023	1.0112	F .46144
Stddev	.0024	.0005	.73333
%RSD	.23601	.05003	158.92

#1	1.0011	1.0114	.41887
#2	1.0050	1.0106	-.24968
#3	1.0008	1.0115	1.2151

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9955.6	79189.	7077.0
Stddev	12.2	218.	21.4
%RSD	.12209	.27557	.30264

#1	9954.9	79344.	7078.9
#2	9943.7	78939.	7097.4
#3	9968.0	79283.	7054.7

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 16:54:39 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00020	.00440	.00104	.00410	-.00002	.00001	.00335
Stddev	.00100	.00397	.00215	.00155	.00029	.00002	.02543
%RSD	507.46	90.075	206.96	37.806	1347.0	212.23	758.55

#1	-.00135	.00283	-.00143	.00422	.00012	.00001	.03032
#2	.00042	.00147	.00251	.00249	.00017	-.00001	-.02018
#3	.00034	.00892	.00204	.00558	-.00036	.00003	-.00009

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	.00005	.00129	.00001	-.00759	.00512	-.00490
Stddev	.00044	.00021	.00110	.00092	.00354	.08546	.00506
%RSD	312.76	458.15	85.842	7364.3	46.701	1670.5	103.16

#1	.00064	.00006	.00160	.00042	-.01142	-.08672	-.01061
#2	-.00006	.00025	.00006	-.00104	-.00690	.08231	-.00099
#3	-.00016	-.00017	.00220	.00066	-.00444	.01975	-.00311

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.08972	.00039	.00060	.00118	-.00045	.00331	-.00281
Stddev	.03828	.00054	.00067	.03776	.00108	.00253	.00249
%RSD	42.671	138.85	112.39	3203.6	243.50	76.433	88.586

#1	-.13071	.00008	.00011	-.04054	-.00126	.00350	-.00387
#2	-.08355	.00008	.00136	.03301	-.00086	.00069	-.00459
#3	-.05489	.00101	.00031	.01106	.00079	.00574	.00003

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 16:54:39 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00346	-.00646	.00130	-.00087	-.00022	-.00271	-.00165
Stddev	.00459	.01110	.00176	.00055	.00054	.00210	.00665
%RSD	132.88	171.69	136.17	63.441	242.71	77.631	403.16

#1	-.00096	-.00736	.00056	-.00031	.00037	-.00491	-.00903
#2	-.00876	.00505	.00331	-.00142	-.00069	-.00248	.00022
#3	-.00065	-.01708	.00002	-.00088	-.00035	-.00073	.00387

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00151	.00083	F -.36107
Stddev	.00139	.00019	.26939
%RSD	92.003	23.057	74.610

#1	.00248	.00075	-.11683
#2	.00214	.00105	-.31635
#3	-.00008	.00069	-.65003

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10156.	81780.	7020.3
Stddev	14.	212.	170.3
%RSD	.13904	.25969	2.4266

#1	10172.	81979.	6824.1
#2	10146.	81557.	7106.6
#3	10149.	81804.	7130.2

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708145401 Acquired: 8/30/2017 16:58:30 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627765-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00028	.12363	.00110	.05995	.04537	.00008	56.253	.00014
Stddev	.00180	.00697	.00233	.00331	.00202	.00008	.205	.00042
%RSD	634.91	5.6417	210.63	5.5274	4.4510	98.161	.36393	304.22

#1	-0.00221	.13051	.00026	.05901	.04309	.00000	56.091	-0.00003
#2	.00137	.12381	-0.00068	.06363	.04609	.00017	56.184	.00061
#3	-0.00002	.11657	.00373	.05721	.04693	.00008	56.483	-0.00017

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00270	.00218	.00119	1.8137	1.1690	.00338	38.885	1.6234
Stddev	.00019	.00122	.00074	.0164	.0894	.00400	.149	.0081
%RSD	6.9198	55.861	61.948	.90513	7.6484	118.33	.38312	.49948

#1	.00291	.00181	.00054	1.8240	1.0660	.00270	38.940	1.6319
#2	.00261	.00120	.00103	1.7948	1.2144	-0.00024	38.717	1.6158
#3	.00257	.00355	.00199	1.8223	1.2266	.00767	38.999	1.6225

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00097	7.9565	.01706	.05813	-0.00385	.00453	-0.00530	.67416
Stddev	.00045	.0556	.00027	.00052	.00203	.00401	.01513	.00262
%RSD	46.413	.69942	1.5634	.89641	52.608	88.551	285.41	.38899

#1	.00052	7.9343	.01690	.05753	-0.00584	-0.00009	-0.01049	.67586
#2	.00142	7.9154	.01736	.05833	-0.00393	.00707	.01174	.67114
#3	.00098	8.0198	.01691	.05851	-0.00179	.00661	-0.01716	.67548

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708145401 Acquired: 8/30/2017 16:58:30 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627765-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00082	.09219	.00257	.00135	.00153	.13394	.11020
Stddev	.00049	.00041	.00393	.00287	.00143	.00014	.19155
%RSD	59.147	.44242	153.22	213.14	93.397	.10144	173.82

#1	.00083	.09208	.00708	.00377	.00306	.13409	-.09642
#2	.00033	.09264	.00076	-.00183	.00132	.13389	.14516
#3	.00130	.09185	-.00014	.00211	.00022	.13383	.28186

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10093.	80922.	7140.3
Stddev	9.	515.	46.2
%RSD	.08935	.63686	.64654

#1	10082.	80382.	7146.3
#2	10100.	80975.	7183.2
#3	10096.	81409.	7091.5

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708145401MS Acquired: 8/30/2017 17:02:13 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627765-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20055	5.1321	.19769	1.0203	.54996	.02507	60.780	.02492
Stddev	.00240	.0134	.00228	.0043	.00095	.00008	.145	.00033
%RSD	1.1961	.26109	1.1510	.42634	.17291	.29948	.23820	1.3056

#1	.20298	5.1338	.20028	1.0250	.54977	.02499	60.615	.02522
#2	.20048	5.1180	.19600	1.0164	.54913	.02508	60.841	.02495
#3	.19819	5.1446	.19680	1.0195	.55100	.02514	60.884	.02457

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10247	.25225	.24890	3.7824	26.669	.50871	42.873	1.8417
Stddev	.00027	.00038	.00121	.0570	.034	.00034	.198	.0116
%RSD	.26064	.15191	.48698	1.5068	.12934	.06690	.46080	.62953

#1	.10267	.25182	.24944	3.8475	26.707	.50910	43.089	1.8287
#2	.10217	.25257	.24752	3.7582	26.660	.50847	42.702	1.8510
#3	.10257	.25236	.24975	3.7415	26.639	.50855	42.827	1.8453

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49762	33.466	.26415	5.0543	.25394	.61134	.19857	3.2082
Stddev	.00132	.125	.00123	.0081	.00326	.00428	.00480	.0037
%RSD	.26534	.37471	.46382	.16034	1.2847	.70002	2.4166	.11602

#1	.49695	33.595	.26360	5.0535	.25048	.61606	.19368	3.2041
#2	.49676	33.344	.26555	5.0467	.25439	.61026	.20328	3.2094
#3	.49914	33.458	.26329	5.0628	.25696	.60771	.19874	3.2113

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708145401MS Acquired: 8/30/2017 17:02:13 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627765-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50574	.59867	.50436	.25248	.50779	.62725	.32616
Stddev	.00239	.00152	.00224	.00266	.00084	.00039	.37001
%RSD	.47178	.25449	.44511	1.0528	.16590	.06241	113.44
#1	.50741	.59828	.50511	.24965	.50682	.62743	.74578
#2	.50301	.59737	.50614	.25288	.50831	.62680	.04675
#3	.50679	.60034	.50184	.25492	.50825	.62752	.18594

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9912.7	79509.	7179.1
Stddev	31.9	131.	20.8
%RSD	.32207	.16506	.28920
#1	9879.0	79618.	7155.3
#2	9942.4	79363.	7193.3
#3	9916.8	79546.	7188.8

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708145401MSD Acquired: 8/30/2017 17:05:45 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627765-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20179	5.1218	.19590	1.0171	.54736	.02493	60.310	.02520
Stddev	.00304	.0278	.00168	.0050	.00132	.00016	.049	.00019
%RSD	1.5049	.54231	.85746	.49386	.24050	.65027	.08176	.76380

#1	.20058	5.1078	.19427	1.0201	.54654	.02476	60.296	.02512
#2	.20525	5.1038	.19762	1.0113	.54666	.02494	60.365	.02542
#3	.19955	5.1538	.19582	1.0200	.54888	.02508	60.270	.02507

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10181	.25096	.24614	3.7433	26.539	.50587	42.561	1.8354
Stddev	.00023	.00172	.00260	.0191	.096	.00523	.043	.0054
%RSD	.22274	.68636	1.0545	.50956	.36172	1.0344	.10167	.29546

#1	.10198	.24900	.24864	3.7431	26.528	.50084	42.529	1.8304
#2	.10189	.25168	.24346	3.7624	26.641	.51129	42.611	1.8412
#3	.10155	.25221	.24634	3.7243	26.450	.50548	42.545	1.8346

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49411	33.176	.26215	5.0292	.25196	.60790	.19207	3.1841
Stddev	.00196	.136	.00106	.0158	.00053	.00275	.00138	.0093
%RSD	.39582	.41072	.40281	.31309	.21092	.45162	.71863	.29232

#1	.49250	33.181	.26108	5.0126	.25135	.60909	.19237	3.1734
#2	.49354	33.309	.26217	5.0313	.25218	.60986	.19056	3.1882
#3	.49628	33.037	.26319	5.0439	.25234	.60476	.19327	3.1906

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708145401MSD Acquired: 8/30/2017 17:05:45 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG627765-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50379	.59406	.49699	.24813	.50508	.62453	.06221
Stddev	.00205	.00072	.00391	.00199	.00095	.00017	.60697
%RSD	.40645	.12142	.78694	.80259	.18850	.02714	975.73
#1	.50150	.59490	.49520	.24609	.50615	.62451	-.07980
#2	.50444	.59364	.49430	.24822	.50434	.62471	.72759
#3	.50544	.59365	.50148	.25007	.50474	.62437	-.46117

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9932.2	79426.	7168.9
Stddev	19.9	240.	75.3
%RSD	.19989	.30224	1.0507
#1	9953.7	79506.	7083.3
#2	9928.3	79156.	7225.0
#3	9914.5	79615.	7198.6

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708148301 Acquired: 8/30/2017 17:09:15 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00371	.04341	-.00031	.46646	.00314	-.00001	.43844	.00136
Stddev	.00228	.00564	.00087	.00302	.00029	.00002	.05360	.00016
%RSD	61.500	12.992	283.65	.64651	9.3591	199.08	12.224	12.038

#1	.00598	.04886	.00010	.46771	.00347	-.00002	.48653	.00122
#2	.00142	.03760	-.00130	.46302	.00303	-.00002	.44813	.00154
#3	.00372	.04378	.00028	.46864	.00291	.00001	.38066	.00132

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00281	.00075	.00342	.26632	4.1855	.27593	1.7689	.01170
Stddev	.00028	.00042	.00142	.01181	.0938	.00223	.0625	.00266
%RSD	9.9000	55.519	41.588	4.4346	2.2414	.80778	3.5360	22.708

#1	.00266	.00055	.00314	.27807	4.1609	.27336	1.8008	.01043
#2	.00313	.00123	.00496	.25445	4.1065	.27723	1.6968	.01475
#3	.00264	.00047	.00215	.26646	4.2892	.27721	1.8090	.00991

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00281	15.357	.00318	.04570	-.00142	-.00271	.01628	.29565
Stddev	.00040	.089	.00080	.01023	.00360	.00302	.01424	.00119
%RSD	14.388	.57842	25.231	22.393	254.22	111.32	87.470	.40266

#1	.00307	15.256	.00227	.05693	-.00519	.00060	.02925	.29612
#2	.00235	15.392	.00344	.04326	-.00106	-.00344	.00104	.29430
#3	.00303	15.423	.00381	.03691	.00199	-.00530	.01855	.29654

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: August 31, 2017

K: K Buck

Sample Name: L1708148301 Acquired: 8/30/2017 17:09:15 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00280	.00144	.11512	-.00361	.00430	.00529	10.026
Stddev	.00073	.00003	.00502	.00501	.00079	.00029	1.511
%RSD	25.999	1.9903	4.3615	138.70	18.289	5.4371	15.074

#1	.00299	.00147	.11222	-.00216	.00395	.00562	10.769
#2	.00199	.00141	.12092	.00051	.00520	.00509	8.2870
#3	.00341	.00144	.11223	-.00919	.00375	.00516	11.022

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10292.	82977.	7191.2
Stddev	12.	296.	56.1
%RSD	.11793	.35650	.78011

#1	10305.	82650.	7234.4
#2	10288.	83227.	7127.8
#3	10282.	83055.	7211.4

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708149301 Acquired: 8/30/2017 17:13:02 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00206	.02332	.00094	.51622	.05199	.00026	116.28	.00026
Stddev	.00180	.00654	.00274	.00402	.00081	.00002	.52	.00022
%RSD	87.624	28.025	292.17	.77913	1.5633	7.5939	.44589	81.858

#1	-.00396	.01997	.00370	.51185	.05106	.00026	116.20	.00003
#2	-.00038	.03086	.00089	.51977	.05234	.00024	116.83	.00045
#3	-.00182	.01915	-.00178	.51705	.05257	.00028	115.81	.00032

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00069	.00125	.00337	.10146	1.7379	.01095	48.440	.10988
Stddev	.00043	.00104	.00160	.01168	.1380	.00552	.133	.00060
%RSD	62.613	83.645	47.402	11.517	7.9425	50.409	.27390	.54896

#1	.00068	.00245	.00511	.08887	1.8331	.01040	48.402	.11003
#2	.00026	.00061	.00197	.10355	1.8011	.01673	48.587	.10921
#3	.00113	.00068	.00302	.11195	1.5796	.00573	48.330	.11039

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00141	18.374	.01397	.00547	-.00177	-.00117	.00740	5.8525
Stddev	.00075	.060	.00036	.00365	.00065	.00285	.00667	.0050
%RSD	53.137	.32915	2.5431	66.667	36.815	242.96	90.150	.08459

#1	.00058	18.357	.01389	.00968	-.00102	-.00227	-.00017	5.8559
#2	.00202	18.441	.01366	.00316	-.00221	-.00330	.00993	5.8548
#3	.00164	18.323	.01436	.00358	-.00209	.00206	.01242	5.8468

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708149301 Acquired: 8/30/2017 17:13:02 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00006	.22680	-.01286	-.00245	.00169	.04406	1.7126
Stddev	.00076	.00084	.00412	.00440	.00059	.00015	.2376
%RSD	1242.1	.36971	32.008	179.36	34.662	.34495	13.875

#1	.00080	.22631	-.01624	-.00068	.00210	.04393	1.4833
#2	-.00034	.22777	-.01407	-.00746	.00102	.04423	1.6966
#3	-.00063	.22632	-.00828	.00079	.00196	.04402	1.9578

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9833.1	79158.	7098.2
Stddev	17.4	82.	68.2
%RSD	.17649	.10412	.96114

#1	9853.1	79239.	7056.1
#2	9824.3	79161.	7061.7
#3	9821.9	79075.	7177.0

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708154101 Acquired: 8/30/2017 17:16:44 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00153	.13237	.00260	.08109	.00510	-.00003	6.2622
Stddev	.00145	.00406	.00427	.00291	.00099	.00006	.0202
%RSD	94.753	3.0644	164.29	3.5827	19.379	163.11	.32290

#1	-.00260	.13139	.00163	.08180	.00610	-.00010	6.2519
#2	-.00210	.12889	-.00110	.07789	.00413	-.00001	6.2855
#3	.00012	.13683	.00727	.08356	.00508	.00001	6.2493

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00128	.00185	.00113	.00002	.09403	.52250	.00133
Stddev	.00027	.00018	.00096	.00137	.00690	.05879	.00199
%RSD	21.477	9.5476	85.111	8874.4	7.3356	11.253	149.22

#1	.00132	.00199	.00140	.00026	.08677	.45523	.00315
#2	.00153	.00165	.00006	-.00146	.09483	.56407	.00163
#3	.00099	.00192	.00193	.00125	.10050	.54820	-.00079

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.62729	.32516	.00064	137.18	.00366	6.7157	.00384
Stddev	.04228	.00196	.00083	.76	.00140	.0029	.00255
%RSD	6.7408	.60126	129.88	.55080	38.270	.04285	66.353

#1	.65318	.32722	-.00032	136.55	.00450	6.7183	.00459
#2	.65019	.32334	.00119	136.96	.00204	6.7162	.00100
#3	.57849	.32492	.00104	138.02	.00442	6.7126	.00593

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L1708154101 Acquired: 8/30/2017 17:16:44 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00474	.00577	.33396	-.00046	.01604	.00157	-.00293
Stddev	.00292	.01120	.00879	.00041	.00007	.00499	.00258
%RSD	61.681	194.22	2.6327	88.198	.42637	316.93	88.072

#1	-.00451	-.00559	.33194	-.00093	.01609	-.00071	-.00582
#2	-.00777	.00609	.34358	-.00030	.01597	.00729	-.00211
#3	-.00194	.01680	.32635	-.00016	.01608	-.00187	-.00086

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00270	.02055	F -.28079
Stddev	.00061	.00014	.21778
%RSD	22.445	.69502	77.561

#1	.00337	.02043	-.46385
#2	.00217	.02051	-.33859
#3	.00257	.02071	-.03994

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9945.0	79079.	7013.2
Stddev	24.6	147.	64.1
%RSD	.24754	.18603	.91352

#1	9916.6	78917.	7082.7
#2	9959.7	79204.	7000.6
#3	9958.8	79117.	6956.4

Approved: August 31, 2017

K: K Buck

Sample Name: ICSA Acquired: 8/30/2017 17:20:29 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00076	250.55	.00416	-.00629	-.00022	-.00004	241.78
Stddev	.00115	.34	.00326	.00097	.00088	.00009	.11
%RSD	150.59	.13526	78.388	15.436	393.55	248.08	.04443

#1	-.00062	250.83	.00701	-.00671	-.00124	-.00009	241.88
#2	.00030	250.17	.00487	-.00518	.00030	.00006	241.67
#3	-.00198	250.64	.00060	-.00698	.00027	-.00008	241.79

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00072	-.00041	-.00054	F .00438	96.613	.12090	.00333
Stddev	.00023	.00046	.00152	.00123	.143	.06729	.00226
%RSD	32.232	113.22	282.38	28.132	.14776	55.657	67.927

#1	.00064	-.00046	-.00063	.00580	96.456	.09656	.00496
#2	.00054	.00008	-.00201	.00365	96.648	.19697	.00428
#3	.00098	-.00085	.00102	.00369	96.734	.06917	.00075

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				.00400			
Low Limit				-.00400			

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	245.11	.00025	-.00029	.20848	-.00256	.03326	F .00715
Stddev	1.13	.00215	.00091	.02844	.00026	.01102	.00318
%RSD	.46014	849.08	318.00	13.643	10.270	33.130	44.519

#1	244.10	.00157	-.00130	.23495	-.00244	.04517	.00349
#2	246.33	.00141	.00047	.21208	-.00286	.02342	.00929
#3	244.89	-.00222	-.00003	.17841	-.00237	.03119	.00866

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							.00400
Low Limit							-.00400

Approved: August 31, 2017

K: K Buck

Sample Name: ICSA Acquired: 8/30/2017 17:20:29 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00171	F -.01109	.00716	.00120	.00141	.00325	.00098
Stddev	.00042	.01172	.00157	.00134	.00028	.00680	.00633
%RSD	24.698	105.64	21.941	111.71	20.098	208.91	644.54

#1	.00126	-.00585	.00661	.00145	.00111	.01106	.00058
#2	.00177	-.02451	.00594	.00239	.00167	.00004	-.00514
#3	.00209	-.00291	.00894	-.00025	.00144	-.00134	.00750

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.00800					
Low Limit		-.00800					

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00343	F .01050	F -5.9414
Stddev	.00029	.00021	.4061
%RSD	8.2980	1.9591	6.8351

#1	-.00324	.01037	-5.4774
#2	-.00376	.01074	-6.2321
#3	-.00330	.01039	-6.1147

Check ?	Chk Pass	Chk Fail	Chk Fail
High Limit		.00800	.02000
Low Limit		-.00800	-.02000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9492.3	74263.	6915.5
Stddev	19.0	286.	47.2
%RSD	.20010	.38503	.68288

#1	9491.7	74104.	6861.5
#2	9511.5	74091.	6935.6
#3	9473.6	74593.	6949.3

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: ICSAB Acquired: 8/30/2017 17:24:12 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50963	245.73	.24666	.47681	.24668	.25447	237.24
Stddev	.00351	.44	.00084	.00288	.00074	.00068	.36
%RSD	.68833	.17861	.33902	.60336	.29871	.26825	.15144

#1	.50568	245.51	.24650	.47884	.24671	.25474	236.83
#2	.51238	245.44	.24756	.47809	.24740	.25370	237.49
#3	.51081	246.23	.24591	.47352	.24593	.25498	237.40

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.46750	.23431	.24411	.23856	94.815	5.1477	.00125
Stddev	.00058	.00056	.00035	.00054	.189	.0907	.00353
%RSD	.12407	.23961	.14396	.22573	.19950	1.7629	283.42

#1	.46689	.23475	.24438	.23796	94.610	5.0808	-.00269
#2	.46757	.23368	.24424	.23870	94.853	5.1114	.00414
#3	.46804	.23450	.24372	.23901	94.983	5.2510	.00228

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	240.62	.23486	-.00026	5.1019	.46594	-.00852	.48164
Stddev	.65	.00099	.00050	.0187	.00198	.00563	.00396
%RSD	.27084	.42076	191.63	.36746	.42401	66.097	.82145

#1	240.27	.23549	-.00081	5.1214	.46796	-.00503	.48178
#2	240.21	.23537	.00018	5.1002	.46401	-.01501	.47762
#3	241.37	.23372	-.00015	5.0840	.46585	-.00551	.48553

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: ICSAB Acquired: 8/30/2017 17:24:12 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48431	.24765	.00749	.47840	.00170	.00139	.43980
Stddev	.00529	.01180	.00127	.00138	.00040	.00678	.00150
%RSD	1.0931	4.7654	16.967	.28753	23.404	489.44	.34092

#1	.48084	.26023	.00825	.47687	.00215	.00310	.43928
#2	.48168	.24590	.00820	.47954	.00150	-.00609	.44149
#3	.49040	.23682	.00603	.47878	.00143	.00715	.43863

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.24498	.46544	F -5.9724
Stddev	.00049	.00050	.3200
%RSD	.20135	.10771	5.3578

#1	.24484	.46486	-5.6031
#2	.24457	.46572	-6.1666
#3	.24553	.46574	-6.1475

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.02500
Low Limit			-.02500

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9496.0	74662.	7019.4
Stddev	20.0	61.	55.3
%RSD	.21096	.08105	.78830

#1	9502.2	74601.	7082.4
#2	9473.6	74722.	6978.7
#3	9512.2	74663.	6997.0

Approved: August 31, 2017

K: K Buck

Sample Name: CCV Acquired: 8/30/2017 17:27:46 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40253	10.193	.40062	.50111	1.0085	.05051	10.030	.05014
Stddev	.00227	.017	.00196	.00169	.0028	.00015	.029	.00015
%RSD	.56284	.16956	.49037	.33750	.27692	.29722	.28649	.28969

#1	.40165	10.178	.40234	.49927	1.0056	.05047	10.049	.05030
#2	.40510	10.189	.40104	.50259	1.0086	.05038	10.045	.05009
#3	.40083	10.212	.39848	.50148	1.0112	.05068	9.9972	.05002

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20242	.50231	.50555	4.0082	50.762	1.0144	9.9815	.50027
Stddev	.00099	.00142	.00124	.0199	.099	.0069	.1342	.00250
%RSD	.48952	.28278	.24470	.49684	.19465	.68509	1.3449	.50067

#1	.20128	.50196	.50510	4.0311	50.677	1.0198	9.9046	.49819
#2	.20298	.50109	.50461	3.9970	50.739	1.0066	9.9034	.49957
#3	.20301	.50387	.50695	3.9963	50.870	1.0169	10.137	.50305

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0054	50.819	.50309	9.9988	.50711	1.2110	.39736	5.0568
Stddev	.0049	.131	.00338	.0249	.00322	.0062	.01323	.0083
%RSD	.49013	.25852	.67280	.24858	.63460	.51364	3.3284	.16331

#1	1.0003	50.862	.49932	9.9710	.50367	1.2041	.38627	5.0486
#2	1.0101	50.672	.50587	10.006	.51005	1.2162	.39381	5.0651
#3	1.0056	50.924	.50408	10.019	.50760	1.2126	.41200	5.0569

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 17:27:46 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0087	1.0075	1.0096	.51515	1.0025	1.0101	.99289
Stddev	.0047	.0021	.0018	.00529	.0012	.0043	.68330
%RSD	.47141	.20827	.18017	1.0262	.12081	.42325	68.819
#1	1.0033	1.0067	1.0086	.50919	1.0038	1.0054	.82193
#2	1.0125	1.0060	1.0117	.51703	1.0022	1.0138	1.7454
#3	1.0102	1.0099	1.0085	.51925	1.0015	1.0111	.41130

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9968.2	78496.	7057.1
Stddev	57.5	194.	14.4
%RSD	.57678	.24705	.20380
#1	10033.	78503.	7064.0
#2	9924.3	78687.	7066.8
#3	9946.9	78299.	7040.6

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 17:31:15 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00129	.00140	-.00043	.00592	-.00072	.00004	-.03020
Stddev	.00256	.00477	.00121	.00463	.00028	.00001	.01806
%RSD	197.92	340.33	283.60	78.184	38.794	17.118	59.800

#1	-.00423	-.00267	-.00124	.00900	-.00059	.00004	-.04401
#2	.00045	.00022	.00097	.00815	-.00053	.00005	-.00976
#3	-.00010	.00665	-.00101	.00060	-.00104	.00004	-.03684

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00001	.00064	.00158	-.00016	.00114	.10280	-.00018
Stddev	.00063	.00036	.00074	.00116	.00838	.06744	.00380
%RSD	7335.8	56.492	46.858	727.77	736.00	65.605	2083.1

#1	.00024	.00047	.00235	-.00089	-.00839	.06422	-.00384
#2	.00046	.00106	.00088	.00117	.00739	.18067	-.00046
#3	-.00073	.00040	.00150	-.00076	.00441	.06350	.00375

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04648	.00128	.00019	.00526	.00008	.00057	-.00149
Stddev	.10112	.00069	.00052	.01836	.00077	.00629	.00278
%RSD	217.55	53.900	270.47	348.97	1004.4	1093.9	186.13

#1	-.00943	.00208	-.00040	.01254	-.00020	.00756	-.00039
#2	.16321	.00091	.00053	.01887	.00094	-.00121	.00057
#3	-.01434	.00086	.00045	-.01562	-.00051	-.00463	-.00465

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 17:31:15 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00091	.00480	.00006	.00017	.00017	-.00110	-.00337
Stddev	.00260	.00538	.00145	.00106	.00051	.00605	.00353
%RSD	284.44	112.18	2359.0	614.90	300.12	551.84	104.84

#1	.00390	-.00127	-.00162	.00138	-.00001	.00070	-.00509
#2	-.00036	.00666	.00095	-.00058	.00074	.00385	.00069
#3	-.00080	.00900	.00085	-.00029	-.00022	-.00784	-.00570

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00096	.00090	F -.09637
Stddev	.00063	.00005	.18294
%RSD	65.756	5.7616	189.84

#1	.00165	.00084	-.25844
#2	.00042	.00091	-.13267
#3	.00081	.00094	.10200

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10057.	80827.	7030.1
Stddev	14.	218.	25.9
%RSD	.13548	.26950	.36822

#1	10056.	81036.	7016.5
#2	10071.	80844.	7060.0
#3	10044.	80601.	7013.9

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LLCCV Acquired: 8/30/2017 17:35:04 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00901	.18977	.01067	.08075	.00888	.00164	.40780
Stddev	.00085	.00170	.00429	.00056	.00077	.00008	.02244
%RSD	9.4079	.89362	40.209	.68859	8.6931	5.1553	5.5021

#1	.00924	.18927	.01448	.08012	.00926	.00162	.40823
#2	.00807	.18838	.01150	.08116	.00939	.00157	.38514
#3	.00972	.19166	.00602	.08098	.00799	.00174	.43001

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00109	.00477	.00460	.00387	.09736	.84315	.08528
Stddev	.00028	.00009	.00099	.00131	.02560	.13298	.00265
%RSD	25.417	1.9763	21.468	33.806	26.291	15.772	3.1080

#1	.00078	.00478	.00444	.00502	.12421	.99521	.08226
#2	.00117	.00486	.00371	.00245	.09464	.74861	.08720
#3	.00131	.00467	.00566	.00415	.07324	.78563	.08638

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48608	.01141	.00843	.40687	.01696	.80801	.00412
Stddev	.12976	.00159	.00041	.04586	.00136	.00674	.00455
%RSD	26.694	13.966	4.8842	11.272	8.0422	.83444	110.22

#1	.41502	.01128	.00890	.38224	.01545	.81580	.00894
#2	.63585	.01307	.00813	.45978	.01809	.80430	.00353
#3	.40738	.00989	.00827	.37858	.01736	.80394	-.00009

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LLCCV Acquired: 8/30/2017 17:35:04 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08510	.01795	.74182	.41968	.04199	.02470	.16291
Stddev	.00345	.00444	.00263	.00079	.00062	.00928	.00363
%RSD	4.0598	24.749	.35427	.18727	1.4655	37.591	2.2258

#1	.08119	.02251	.74358	.41945	.04253	.02311	.16123
#2	.08634	.01773	.74309	.41903	.04132	.01631	.16042
#3	.08776	.01363	.73880	.42055	.04212	.03467	.16707

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00948	.01849	F 49.779
Stddev	.00126	.00010	1.505
%RSD	13.257	.56489	3.0235

#1	.01040	.01858	48.049
#2	.00805	.01837	50.793
#3	.00999	.01850	50.494

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10111.	79613.	6964.7
Stddev	26.	2176.	50.0
%RSD	.25803	2.7332	.71726

#1	10139.	77104.	7020.8
#2	10107.	80984.	6948.5
#3	10087.	80751.	6924.9

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LLCCV Acquired: 8/30/2017 17:38:50 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00658	.17291	.00555	.08305	.00905	.00170	.41445
Stddev	.00139	.01105	.00167	.00279	.00153	.00001	.03807
%RSD	21.141	6.3929	30.151	3.3570	16.867	.39386	9.1853

#1	.00574	.17698	.00477	.08028	.01074	.00170	.44865
#2	.00581	.16040	.00441	.08300	.00776	.00171	.37343
#3	.00818	.18135	.00747	.08586	.00866	.00170	.42126

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00094	.00435	.00501	.00416	.07244	.90625	.08239
Stddev	.00004	.00057	.00111	.00085	.01245	.06913	.00097
%RSD	4.6839	13.207	22.195	20.449	17.191	7.6285	1.1834

#1	.00089	.00371	.00402	.00430	.06264	.93638	.08173
#2	.00095	.00482	.00622	.00493	.08646	.95521	.08351
#3	.00097	.00453	.00480	.00324	.06823	.82717	.08193

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.42796	.00961	.00858	.41757	.01674	.81517	.00589
Stddev	.02240	.00210	.00050	.05626	.00098	.00750	.00093
%RSD	5.2345	21.858	5.8273	13.473	5.8378	.92053	15.840

#1	.40295	.00875	.00867	.46874	.01740	.81689	.00654
#2	.43472	.01201	.00805	.35732	.01561	.82167	.00482
#3	.44620	.00808	.00904	.42665	.01720	.80696	.00630

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LLCCV Acquired: 8/30/2017 17:38:50 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08500	.02503	.74352	.41939	.04227	.02663	.16367
Stddev	.00443	.00444	.00189	.00036	.00020	.00318	.00391
%RSD	5.2112	17.745	.25369	.08476	.47152	11.960	2.3914

#1	.08952	.01995	.74439	.41941	.04204	.03017	.15973
#2	.08066	.02698	.74136	.41902	.04240	.02399	.16756
#3	.08483	.02816	.74481	.41973	.04237	.02574	.16370

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00912	.01857	F 49.888
Stddev	.00005	.00005	.185
%RSD	.51240	.29365	.37150

#1	.00909	.01856	49.834
#2	.00917	.01863	49.735
#3	.00909	.01853	50.094

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10040.	80437.	7054.8
Stddev	7.	168.	44.2
%RSD	.06828	.20915	.62638

#1	10047.	80295.	7026.5
#2	10040.	80392.	7032.2
#3	10033.	80623.	7105.7

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LLCCV Acquired: 8/30/2017 17:42:36 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00744	.18154	.00867	.07971	.00916	.00167	.41554
Stddev	.00198	.00720	.00155	.00266	.00054	.00008	.02693
%RSD	26.571	3.9673	17.875	3.3432	5.8971	4.7113	6.4808

#1	.00602	.18951	.00722	.07896	.00854	.00159	.43090
#2	.00660	.17958	.00850	.07750	.00952	.00169	.38445
#3	.00970	.17552	.01030	.08267	.00942	.00174	.43128

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00097	.00468	.00457	.00424	.07579	.88417	.08447
Stddev	.00059	.00004	.00111	.00140	.03255	.03059	.00446
%RSD	61.101	.85924	24.307	33.035	42.947	3.4596	5.2744

#1	.00085	.00470	.00579	.00426	.09682	.91948	.08771
#2	.00160	.00471	.00362	.00283	.09225	.86727	.08631
#3	.00044	.00463	.00429	.00562	.03830	.86577	.07939

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.43595	.00936	.00801	.39029	.01713	.81130	.00521
Stddev	.08805	.00120	.00041	.01039	.00051	.00915	.00330
%RSD	20.198	12.811	5.1558	2.6618	3.0042	1.1272	63.301

#1	.48636	.00832	.00844	.40229	.01704	.80210	.00195
#2	.48721	.01067	.00797	.38443	.01769	.81140	.00854
#3	.33427	.00909	.00762	.38416	.01667	.82039	.00514

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: LLCCV Acquired: 8/30/2017 17:42:36 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08338	.00602	.74314	.41850	.04219	.02065	.16361
Stddev	.00153	.00441	.00093	.00113	.00021	.00577	.00434
%RSD	1.8380	73.291	.12454	.27083	.50031	27.961	2.6527

#1	.08433	.00271	.74381	.41720	.04222	.02167	.16609
#2	.08161	.01103	.74208	.41908	.04197	.01443	.16615
#3	.08420	.00432	.74353	.41923	.04238	.02585	.15860

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00951	.01785	F 52.348
Stddev	.00070	.00016	1.500
%RSD	7.3827	.92079	2.8651

#1	.00885	.01795	50.830
#2	.00944	.01766	52.386
#3	.01024	.01794	53.829

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10067.	80735.	6751.8
Stddev	20.	161.	203.6
%RSD	.20288	.19916	3.0147

#1	10090.	80921.	6941.1
#2	10056.	80640.	6778.0
#3	10053.	80645.	6536.5

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: L17081265 Acquired: 8/30/2017 17:46:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00195	.02312	-.00004	.02209	.00139	-.00006	1.7280
Stddev	.00162	.00222	.00109	.00071	.00065	.00008	.0135
%RSD	82.710	9.6163	2433.2	3.1919	46.951	128.51	.77962

#1	-.00163	.02310	-.00013	.02282	.00090	-.00015	1.7392
#2	-.00052	.02536	-.00109	.02141	.00114	-.00002	1.7318
#3	-.00371	.02091	.00109	.02205	.00213	-.00001	1.7131

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	.00012	.00815	-.00135	-.00378	.13794	.00505
Stddev	.00018	.00036	.00178	.00056	.01970	.13029	.00031
%RSD	103.74	295.38	21.886	41.530	521.35	94.454	6.2163

#1	.00030	-.00005	.00999	-.00137	.01874	.11680	.00483
#2	.00027	.00053	.00802	-.00190	-.01782	.01951	.00491
#3	-.00003	-.00012	.00643	-.00078	-.01226	.27750	.00541

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.34796	.00446	.00035	150.07	.00059	.00096	-.00276
Stddev	.08160	.00088	.00042	.69	.00175	.00439	.00076
%RSD	23.451	19.625	118.99	.46273	293.56	458.66	27.673

#1	.29404	.00520	-.00012	149.58	-.00052	-.00404	-.00188
#2	.30800	.00349	.00066	150.86	.00261	.00418	-.00323
#3	.44184	.00470	.00052	149.77	-.00031	.00274	-.00316

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017

K: K Buck

Sample Name: L17081265 Acquired: 8/30/2017 17:46:21 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00076	.00511	.26918	.00123	.00356	-.00214	-.00378
Stddev	.00958	.00677	.00253	.00050	.00027	.00594	.00418
%RSD	1260.9	132.43	.93931	40.579	7.6165	277.30	110.51

#1	.01182	.00867	.26665	.00179	.00324	.00438	-.00489
#2	-.00467	-.00269	.26918	.00085	.00371	-.00723	.00084
#3	-.00488	.00936	.27170	.00105	.00371	-.00358	-.00729

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00072	.02532	F -.27040
Stddev	.00021	.00009	.79155
%RSD	28.697	.36627	292.73

#1	.00059	.02539	-.33970
#2	.00061	.02535	-1.0250
#3	.00096	.02521	.55352

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9904.5	79006.	6973.8
Stddev	8.1	243.	117.1
%RSD	.08156	.30800	1.6785

#1	9912.8	79234.	6955.6
#2	9904.1	78750.	6866.9
#3	9896.7	79034.	7098.9

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 17:50:10 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39987	10.184	.40053	.49978	1.0085	.05057	10.038
Stddev	.00260	.032	.00368	.00077	.0020	.00010	.035
%RSD	.65051	.31816	.91842	.15334	.20130	.19655	.35220

#1	.39715	10.207	.40458	.49890	1.0104	.05051	10.058
#2	.40233	10.147	.39959	.50011	1.0064	.05069	9.9970
#3	.40012	10.198	.39741	.50033	1.0088	.05052	10.059

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04974	.20261	.50527	.50463	4.0022	50.946	1.0233
Stddev	.00034	.00026	.00148	.00303	.0142	.064	.0033
%RSD	.69268	.12617	.29381	.60052	.35579	.12526	.32259

#1	.04967	.20256	.50528	.50295	4.0184	51.014	1.0201
#2	.05011	.20289	.50377	.50812	3.9965	50.938	1.0266
#3	.04943	.20239	.50674	.50280	3.9917	50.887	1.0231

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.9753	.49907	1.0062	50.932	.50126	9.9832	.50226
Stddev	.0895	.00156	.0011	.172	.00174	.0085	.00416
%RSD	.89730	.31180	.11060	.33688	.34667	.08501	.82743

#1	9.9381	.50044	1.0075	51.078	.50320	9.9921	.50704
#2	9.9105	.49939	1.0058	50.743	.50074	9.9752	.49951
#3	10.077	.49738	1.0054	50.974	.49984	9.9824	.50023

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 17:50:10 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2110	.39419	5.0568	1.0065	1.0091	1.0131	.50829
Stddev	.0073	.01318	.0005	.0018	.0019	.0051	.00251
%RSD	.60722	3.3440	.01033	.17753	.19239	.49909	.49373

#1	1.2186	.40696	5.0565	1.0066	1.0093	1.0185	.51110
#2	1.2105	.38063	5.0565	1.0047	1.0071	1.0085	.50627
#3	1.2039	.39498	5.0574	1.0082	1.0110	1.0124	.50750

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	1.0054	1.0109	F .66832
Stddev	.0018	.0006	.23048
%RSD	.18090	.05498	34.486

#1	1.0075	1.0104	.56054
#2	1.0046	1.0115	.93294
#3	1.0041	1.0109	.51148

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9863.0	78119.	6985.1
Stddev	15.2	121.	16.6
%RSD	.15365	.15469	.23811

#1	9878.0	78068.	6995.8
#2	9863.2	78032.	6993.4
#3	9847.7	78257.	6965.9

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 17:53:38 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00005	.00062	.00013	.00510	.00059	.00004	-.04383
Stddev	.00179	.00553	.00242	.00131	.00020	.00009	.01971
%RSD	3496.4	886.66	1924.9	25.654	34.255	232.79	44.975

#1	.00191	.00499	-.00026	.00444	.00037	.00000	-.06587
#2	-.00160	.00248	-.00208	.00425	.00063	.00014	-.03770
#3	-.00047	-.00560	.00272	.00660	.00076	-.00003	-.02790

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00012	-.00003	.00098	.00073	-.00494	.08842	.00193
Stddev	.00046	.00041	.00071	.00143	.01063	.04101	.00848
%RSD	390.67	1321.7	71.791	194.59	215.26	46.385	439.52

#1	-.00010	.00043	.00150	.00089	-.00839	.06074	.00730
#2	.00033	-.00035	.00018	.00208	.00699	.13554	-.00785
#3	-.00058	-.00017	.00127	-.00076	-.01341	.06898	.00633

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02676	.00093	.00058	-.00713	-.00025	.00784	F -.00794
Stddev	.08459	.00313	.00059	.06097	.00160	.00206	.00140
%RSD	316.10	337.01	102.79	855.27	637.14	26.283	17.574

#1	-.02984	-.00203	.00082	.06314	-.00049	.00822	-.00950
#2	.12400	.00061	-.00010	-.03861	-.00172	.00562	-.00680
#3	-.01388	.00420	.00101	-.04592	.00145	.00968	-.00753

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							.00500
Low Limit							-.00500

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 17:53:38 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00298	-.01195	.00002	-.00026	.00053	-.00648	-.00058
Stddev	.01024	.01012	.00390	.00093	.00026	.00660	.00300
%RSD	343.83	84.666	23169.	354.74	50.168	101.92	515.63

#1	-.00469	-.01643	.00440	.00054	.00047	-.01267	-.00350
#2	-.01225	-.01906	-.00128	-.00127	.00029	.00048	-.00074
#3	.00801	-.00037	-.00307	-.00005	.00081	-.00725	.00249

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00019	.00023	F -.22442
Stddev	.00181	.00013	.48818
%RSD	935.67	56.637	217.53

#1	-.00102	.00019	-.77814
#2	.00228	.00012	-.03900
#3	-.00068	.00037	.14389

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10012.	80177.	6971.9
Stddev	17.	214.	12.2
%RSD	.17340	.26675	.17465

#1	9992.4	80073.	6964.5
#2	10025.	80423.	6965.3
#3	10020.	80035.	6986.0

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: 200ppm Fe Acquired: 8/30/2017 17:57:28 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00357	.00136	-.00033	-.02376	-.00075	.00004	-.08983
Stddev	.00031	.00388	.00425	.00127	.00053	.00006	.02077
%RSD	8.8086	284.50	1304.8	5.3254	71.122	163.34	23.123

#1	-.00374	.00289	.00421	-.02231	-.00056	-.00003	-.08686
#2	-.00377	.00425	-.00422	-.02463	-.00135	.00006	-.07071
#3	-.00321	-.00305	-.00097	-.02434	-.00033	.00008	-.11193

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00036	.00006	F -.00435	.00682	200.88	.04293	.00040
Stddev	.00033	.00022	.00119	.00162	.77	.11204	.00521
%RSD	91.666	349.69	27.291	23.778	.38458	260.95	1307.9

#1	.00005	-.00008	-.00376	.00750	200.00	.06812	-.00512
#2	.00070	.00032	-.00358	.00497	201.44	.14023	.00107
#3	.00032	-.00005	-.00572	.00798	201.20	-.07955	.00524

Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			36.000				
Low Limit			-.00300				

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.07893	.00276	-.00127	-.08676	-.00592	-.04850	.00545
Stddev	.05008	.00020	.00062	.02680	.00057	.00431	.00184
%RSD	63.455	7.2917	48.973	30.890	9.6353	8.8952	33.733

#1	.06212	.00253	-.00057	-.07483	-.00544	-.04942	.00339
#2	.13525	.00283	-.00174	-.06800	-.00576	-.05228	.00694
#3	.03941	.00291	-.00151	-.11746	-.00655	-.04380	.00602

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017

K: K Buck

Sample Name: 200ppm Fe Acquired: 8/30/2017 17:57:28 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00291	-.00559	.00011	.00019	.00006	.04093	.00316
Stddev	.00085	.00341	.00287	.00064	.00041	.00276	.00350
%RSD	29.235	60.876	2699.1	331.21	706.91	6.7341	110.51

#1	-.00254	-.00939	.00261	-.00041	-.00041	.03792	-.00036
#2	-.00231	-.00281	-.00303	.00087	.00034	.04151	.00663
#3	-.00389	-.00458	.00074	.00013	.00025	.04334	.00322

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00886	.00210	F -13.849
Stddev	.00034	.00021	.170
%RSD	3.7945	10.056	1.2269

#1	-.00863	.00192	-14.006
#2	-.00871	.00204	-13.668
#3	-.00925	.00234	-13.872

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10060.	80228.	7012.0
Stddev	13.	217.	66.5
%RSD	.12716	.27096	.94804

#1	10054.	80287.	7051.3
#2	10074.	79987.	6935.3
#3	10051.	80409.	7049.5

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: 20ppm Co Acquired: 8/30/2017 18:01:12 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00013	.00650	-.00107	.00340	.00108	.00005	-.04785
Stddev	.00096	.00521	.00257	.00173	.00036	.00002	.02254
%RSD	725.24	80.125	239.57	50.804	33.208	31.486	47.117

#1	.00087	.01237	-.00050	.00472	.00076	.00003	-.02182
#2	-.00022	.00242	.00117	.00403	.00102	.00006	-.06066
#3	-.00104	.00471	-.00388	.00145	.00146	.00006	-.06107

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.01881	20.893	.00073	-.00063	.01517	.03289	.00324
Stddev	.00022	.015	.00104	.00151	.00755	.11405	.00545
%RSD	1.1567	.06949	143.01	238.86	49.737	346.79	168.23

#1	-.01861	20.900	-.00041	-.00054	.00648	-.09117	.00185
#2	-.01878	20.876	.00163	.00083	.01896	.05664	-.00138
#3	-.01904	20.903	.00095	-.00219	.02008	.13319	.00926

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05390	-.00016	-.00028	-.04590	-.00994	.00692	-.00106
Stddev	.01611	.00126	.00034	.01202	.00163	.00804	.00220
%RSD	29.890	782.44	122.15	26.194	16.394	116.08	208.02

#1	.05369	.00071	-.00025	-.04332	-.01052	.00230	-.00342
#2	.07012	.00041	.00004	-.03537	-.01121	.01620	-.00068
#3	.03790	-.00161	-.00064	-.05900	-.00810	.00226	.00093

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017

K: K Buck

Sample Name: 20ppm Co Acquired: 8/30/2017 18:01:12 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00480	-.00253	-.01272	-.00072	-.00006	.00199	.02390
Stddev	.00111	.01026	.00285	.00017	.00033	.00412	.00371
%RSD	23.226	405.25	22.378	24.237	514.74	206.61	15.506

#1	-.00572	-.01340	-.00975	-.00059	-.00007	.00634	.02796
#2	-.00512	.00699	-.01542	-.00065	-.00038	-.00186	.02303
#3	-.00356	-.00119	-.01299	-.00091	.00027	.00151	.02070

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00114	.00058	.07688
Stddev	.00113	.00021	.53951
%RSD	99.304	36.422	701.71

#1	.00013	.00034	-.25063
#2	.00237	.00068	.69957
#3	.00093	.00072	-.21829

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10108.	80803.	6995.4
Stddev	5.	148.	30.4
%RSD	.05123	.18354	.43499

#1	10111.	80875.	7014.4
#2	10111.	80901.	7011.4
#3	10102.	80632.	6960.3

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: 20ppm Cr Acquired: 8/30/2017 18:04:58 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	.00781	.05366	.01264	.00027	.00003	-.01174
Stddev	.00144	.00380	.00219	.00114	.00156	.00002	.02840
%RSD	654.53	48.680	4.0741	9.0337	572.29	80.060	241.85

#1	-.00009	.00404	.05116	.01292	-.00149	.00005	-.00352
#2	-.00104	.00776	.05522	.01138	.00147	.00000	.01164
#3	.00179	.01165	.05459	.01361	.00083	.00003	-.04334

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00101	.00472	20.361	.01867	-.01715	-.00365	.00068
Stddev	.00048	.00077	.015	.00134	.02448	.05528	.00144
%RSD	48.030	16.414	.07314	7.1823	142.70	1512.7	213.18

#1	-.00097	.00504	20.343	.01982	.01075	.03587	.00115
#2	-.00054	.00529	20.369	.01898	-.02718	.01999	.00182
#3	-.00151	.00384	20.369	.01719	-.03503	-.06683	-.00094

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.02335	-.00155	.00184	-.03850	-.00098	.00828	.00163
Stddev	.10484	.00209	.00025	.01560	.00060	.00852	.00086
%RSD	449.07	134.85	13.592	40.509	60.905	102.79	53.044

#1	-.00427	.00059	.00183	-.02121	-.00149	.00294	.00063
#2	-.13641	-.00165	.00159	-.05150	-.00032	.00380	.00220
#3	.07064	-.00358	.00209	-.04280	-.00113	.01811	.00206

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017

K: K Buck

Sample Name: 20ppm Cr Acquired: 8/30/2017 18:04:58 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.10068	.00626	.00647	-.00191	.00033	-.00331	-.00516
Stddev	.00177	.01698	.00120	.00062	.00006	.00123	.00565
%RSD	1.7600	271.14	18.561	32.410	19.025	37.194	109.44

#1	-.10258	-.00456	.00652	-.00145	.00040	-.00471	-.00122
#2	-.10039	-.00249	.00764	-.00261	.00029	-.00238	-.01163
#3	-.09907	.02584	.00524	-.00167	.00030	-.00285	-.00263

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	45.000						
Low Limit	-.02000						

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	F -.04242	.01109	F -1.9047
Stddev	.00063	.00020	.3398
%RSD	1.4759	1.8153	17.842

#1	-.04286	.01111	-2.1747
#2	-.04269	.01128	-2.0162
#3	-.04170	.01088	-1.5231

Check ?	Chk Fail	Chk Pass	Chk Fail
High Limit	27.000		45.000
Low Limit	-.01000		-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9973.7	81629.	7049.0
Stddev	14.8	318.	14.3
%RSD	.14824	.39014	.20328

#1	9965.1	81785.	7037.2
#2	9990.8	81262.	7045.0
#3	9965.3	81839.	7065.0

Approved: August 31, 2017

K: K Buck

Sample Name: 20ppm Mo Acquired: 8/30/2017 18:08:44 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00208	.12209	-.00279	.00047	-.00027	.00016	-.05706
Stddev	.00102	.00822	.00213	.00207	.00086	.00008	.02641
%RSD	49.275	6.7318	76.518	438.58	321.26	46.710	46.283

#1	.00276	.13143	-.00524	.00272	-.00122	.00024	-.08426
#2	.00090	.11885	-.00140	.00006	-.00004	.00008	-.03152
#3	.00257	.11598	-.00172	-.00136	.00045	.00017	-.05540

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00009	-.00052	.00440	.01834	-.01777	.09487	-.00155
Stddev	.00021	.00225	.00136	.00134	.01404	.14818	.00169
%RSD	224.44	429.73	30.837	7.3009	79.016	156.19	109.27

#1	.00001	-.00166	.00545	.01684	-.03290	.16335	-.00001
#2	-.00006	-.00198	.00287	.01877	-.00515	.19644	-.00336
#3	.00033	.00207	.00489	.01941	-.01527	-.07516	-.00128

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.22221	.00022	19.594	-.02797	-.00004	.03320	-.00024
Stddev	.03090	.00230	.017	.01712	.00060	.00294	.00203
%RSD	13.904	1040.5	.08768	61.196	1663.1	8.8677	855.84

#1	.25628	.00287	19.614	-.02959	-.00028	.03384	-.00177
#2	.19602	-.00106	19.585	-.01010	.00065	.02998	-.00101
#3	.21433	-.00115	19.584	-.04422	-.00047	.03577	.00206

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: 20ppm Mo Acquired: 8/30/2017 18:08:44 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.04511	F -.01242	7.6393	-.00200	.00004	-.00584	-.00703
Stddev	.00122	.01527	.0092	.00070	.00021	.00431	.00850
%RSD	2.7034	122.95	.12102	35.048	588.37	73.822	120.97

#1	-.04381	-.02997	7.6500	-.00120	-.00003	-.00356	.00273
#2	-.04624	-.00218	7.6340	-.00252	-.00013	-.01081	-.01284
#3	-.04526	-.00511	7.6340	-.00227	.00027	-.00314	-.01097

Check ?	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	45.000	90.000					
Low Limit	-.02000	-.01000					

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	F -.10849	-.00203	15.075
Stddev	.00165	.00019	.151
%RSD	1.5180	9.4370	1.0024

#1	-.11035	-.00223	15.005
#2	-.10787	-.00204	15.248
#3	-.10724	-.00184	14.971

Check ?	Chk Fail	Chk Pass	Chk Pass
High Limit	27.000		
Low Limit	-.01000		

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10190.	81569.	7103.4
Stddev	10.	304.	47.1
%RSD	.09376	.37260	.66372

#1	10180.	81824.	7097.9
#2	10194.	81650.	7153.1
#3	10198.	81232.	7059.3

Approved: August 31, 2017

K: K Buck

Sample Name: CCV Acquired: 8/30/2017 18:12:31 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40125	10.171	.39995	.50038	1.0102	.05045	10.008	.05013
Stddev	.00121	.017	.00189	.00270	.0053	.00008	.092	.00038
%RSD	.30102	.17071	.47307	.54009	.52624	.15572	.92353	.74947

#1	.40125	10.167	.39776	.50277	1.0099	.05053	10.056	.05052
#2	.40246	10.157	.40106	.49745	1.0050	.05037	9.9015	.05009
#3	.40004	10.190	.40101	.50092	1.0156	.05046	10.067	.04977

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20247	.50278	.50588	4.0244	51.131	1.0198	10.110	.50034
Stddev	.00023	.00124	.00318	.0244	.350	.0113	.079	.00249
%RSD	.11173	.24728	.62934	.60611	.68506	1.1067	.78138	.49753

#1	.20226	.50417	.50875	4.0521	50.963	1.0131	10.173	.49903
#2	.20271	.50242	.50245	4.0064	50.896	1.0135	10.022	.49878
#3	.20245	.50177	.50643	4.0146	51.533	1.0328	10.136	.50321

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0117	51.009	.50180	10.010	.50373	1.2080	.39532	5.0588
Stddev	.0031	.289	.00156	.005	.00356	.0077	.00585	.0124
%RSD	.30422	.56677	.31095	.05490	.70767	.63575	1.4799	.24424

#1	1.0089	50.891	.50172	10.013	.50002	1.2050	.38911	5.0564
#2	1.0112	50.797	.50028	10.004	.50713	1.2022	.39613	5.0478
#3	1.0150	51.338	.50339	10.014	.50405	1.2167	.40073	5.0721

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCV Acquired: 8/30/2017 18:12:31 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0079	1.0123	1.0144	.51266	1.0042	1.0109	.95436
Stddev	.0009	.0040	.0039	.00176	.0057	.0016	.87491
%RSD	.09036	.39141	.38315	.34426	.57194	.15952	91.675
#1	1.0089	1.0094	1.0187	.51469	1.0027	1.0127	-.05497
#2	1.0071	1.0108	1.0110	.51151	1.0105	1.0098	1.4965
#3	1.0078	1.0168	1.0135	.51178	.99933	1.0102	1.4215

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9921.0	77896.	6797.9
Stddev	28.5	704.	159.9
%RSD	.28729	.90397	2.3520
#1	9894.5	77174.	6889.2
#2	9951.1	77933.	6891.2
#3	9917.3	78581.	6613.3

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 18:15:59 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00084	-0.00276	.00343	.00438	.00129	-0.00000	-0.03356
Stddev	.00268	.00515	.00236	.00068	.00118	.00007	.02231
%RSD	319.99	186.53	68.988	15.522	91.540	1924.7	66.481

#1	.00225	.00149	.00242	.00457	.00220	.00007	-.03168
#2	-.00241	-.00849	.00174	.00363	.00170	-.00006	-.05674
#3	-.00235	-.00128	.00613	.00494	-.00004	-.00003	-.01225

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00002	-0.00002	.00073	.00002	-0.00273	.05362	.00051
Stddev	.00024	.00033	.00015	.00059	.00123	.02657	.00279
%RSD	1001.9	1769.9	20.913	2560.4	44.923	49.540	546.51

#1	-.00028	-.00021	.00070	-.00064	-.00343	.06709	-.00234
#2	.00002	-.00021	.00059	.00023	-.00131	.02302	.00324
#3	.00019	.00037	.00089	.00048	-.00345	.07076	.00063

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04103	-0.00010	.00149	-0.00043	-0.00020	F .01205	-0.00349
Stddev	.04604	.00403	.00089	.02068	.00100	.00375	.00145
%RSD	112.22	3988.4	59.911	4773.5	511.06	31.116	41.443

#1	.09385	-.00263	.00130	-.00655	.00057	.01195	-.00516
#2	.00940	-.00221	.00071	.02262	-.00132	.00835	-.00269
#3	.01983	.00454	.00247	-.01736	.00016	.01584	-.00262

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						.01000	
Low Limit						-.01000	

Approved: August 31, 2017
<i>K: K Buck</i>

Sample Name: CCB Acquired: 8/30/2017 18:15:59 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v473) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00049	.00767	.00191	-.00020	.00011	-.00097	-.00133
Stddev	.00567	.01430	.00272	.00060	.00003	.00672	.00383
%RSD	1161.2	186.44	142.16	294.21	29.108	693.25	287.22

#1	.00393	.00145	-.00048	-.00009	.00012	.00352	.00151
#2	.00360	-.00246	.00135	-.00085	.00007	.00226	.00018
#3	-.00606	.02402	.00486	.00033	.00012	-.00869	-.00569

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00046	.00033	F .19047
Stddev	.00044	.00005	.42839
%RSD	95.585	16.095	224.91

#1	.00017	.00038	-.26097
#2	.00024	.00033	.59133
#3	.00096	.00027	.24107

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10010.	80487.	6990.8
Stddev	18.	110.	23.2
%RSD	.18132	.13638	.33195

#1	10023.	80457.	6968.6
#2	10018.	80609.	7014.9
#3	9989.1	80396.	6988.9

Approved: August 31, 2017
<i>K: K Buck</i>

2.3.2 Metals ICP-MS Data

2.3.2.1 Summary Data



Login Number: L17081366
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG627590 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 128798

Approved By: Kerri Buck

K: K Buck

Certificate of Analysis

Sample #: L17081366-01	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW17-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:34
Collect Date: 08/24/2017 10:22	Dilution: 1	File ID: NI.082917.113450
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.00950		0.00100	0.000500

Sample #: L17081366-02	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW17-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:37
Collect Date: 08/24/2017 10:22	Dilution: 1	File ID: NI.082917.113756
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.00907		0.00100	0.000500

Sample #: L17081366-03	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: DUP-GW-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:41
Collect Date: 08/24/2017 09:00	Dilution: 1	File ID: NI.082917.114102
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.00900		0.00100	0.000500

Sample #: L17081366-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: DUP-GW-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:44
Collect Date: 08/24/2017 09:00	Dilution: 1	File ID: NI.082917.114406
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.00867		0.00100	0.000500

Certificate of Analysis

Sample #: L17081366-05	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW18-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:47
Collect Date: 08/24/2017 11:50	Dilution: 1	File ID: NI.082917.114712
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.00396		0.00100	0.000500

Sample #: L17081366-06	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW18-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:50
Collect Date: 08/24/2017 11:50	Dilution: 1	File ID: NI.082917.115018
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.00403		0.00100	0.000500

Sample #: L17081366-07	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: TW01-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:53
Collect Date: 08/24/2017 14:12	Dilution: 1	File ID: NI.082917.115323
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.00333		0.00100	0.000500

Sample #: L17081366-08	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: TW01-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:56
Collect Date: 08/24/2017 14:12	Dilution: 1	File ID: NI.082917.115628
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.00307		0.00100	0.000500

Certificate of Analysis

Sample #: L17081366-10	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW26-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:59
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: NI.082917.115934
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.000938	J	0.00100	0.000500
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L17081366-11	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW26-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 12:02
Collect Date: 08/24/2017 10:55	Dilution: 1	File ID: NI.082917.120240
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.00101		0.00100	0.000500

Sample #: L17081366-14	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW16I-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 12:11
Collect Date: 08/24/2017 13:30	Dilution: 1	File ID: NI.082917.121159
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.00139		0.00100	0.000500

Sample #: L17081366-15	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW16I-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 12:15
Collect Date: 08/24/2017 13:30	Dilution: 1	File ID: NI.082917.121504
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.00154		0.00100	0.000500

Certificate of Analysis

Sample #: L17081366-17	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW05I-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 12:18
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: NI.082917.121854
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Total	7440-38-2	0.000657	J	0.00100	0.000500
J	The analyte was positively identified, but the quantitation was below the RL.				

Sample #: L17081366-18	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MW05I-082417	Prep Method: 3015A	Prep Date: 08/29/2017 07:43
Matrix: Water	Analytical Method: 6020A	Cal Date: 08/29/2017 10:32
Workgroup #: WG627590	Analyst: JYH	Run Date: 08/29/2017 11:03
Collect Date: 08/24/2017 15:40	Dilution: 1	File ID: NI.082917.110352
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	RL	MDL
Arsenic, Dissolved	7440-38-2	0.000658	J	0.00100	0.000500
J	The analyte was positively identified, but the quantitation was below the RL.				

2.3.2.2 QC Summary Data

Example 6020 Calculations
Perkin Elmer NexION 300X

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Final volume

Vi = Initial volume

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in (ug/L)

Example:

0.1

100

40

1

0.25

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$Cx = Cs \times \frac{Vf}{Vi} \times D$$

Where:

Cs = Concentration computed by the data system (ug/L)

Vf = Final volume

Vi = Initial volume

D = Dilution factor as a multiplier (10X = 10)

Cx = Concentration of element in (ug/kg)

Example:

0.1

200

0.5

1

40

4.0 Adjusting the concentration to dry weight:

$$Cdry = \frac{Cx \times 100}{Px}$$

Where:

Cx = Concentration calculated as received (wet basis)

Px = Percent solids of sample (%wt)

$Cdry$ = Concentration calculated as dry weight (ug/kg)

Example:

40

80

50

50 ug/kg = 0.050 mg/kg

Perkin Elmer NexION ICP/MS

STANDARDS KEY

QC Std 1 - ICV

QC Std 2 - ICB

QC Std 3 - LLICV

QC Std 4 - ICSA

QC Std 5 - ICSAB

QC Std 6 - CCV

QC Std 7 - CCB

QC Std 8 - LLCCV

Calibration Solutions

Analyte	Stock Conc. (mg/L)	S1 (mg/L)	S2 (mg/L)	S3 (mg/L)	S4 (mg/L)
Al	10	0	0.00005	0.05	0.1
Sb	10	0	0.00005	0.05	0.1
As	10	0	0.00005	0.05	0.1
Ba	10	0	0.00005	0.05	0.1
Be	10	0	0.00005	0.05	0.1
Ca	1000	0	0.005	5	10
Cd	10	0	0.0005	0.05	0.1
Cr	10	0	0.0005	0.05	0.1
Co	10	0	0.0005	0.05	0.1
Cu	10	0	0.0005	0.05	0.1
Fe	1000	0	0.005	5	10
Pb	10	0	0.00005	0.05	0.1
Mg	1000	0	0.005	5	10
Mn	10	0	0.00005	0.05	0.1
Ni	10	0	0.00005	0.05	0.1
K	1000	0	0.005	5	10
Se	10	0	0.00005	0.05	0.1
Ag	10	0	0.00005	0.05	0.1
Na	1000	0	0.005	5	10
Tl	10	0	0.00005	0.05	0.1
V	10	0	0.00005	0.05	0.1
U	1000	0	0.00005	0.05	0.1
Zn	10	0	0.00005	0.05	0.1

Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup: WG627538
Analyst: VC
Spike Analyst: VC
Run Date: 08/29/2017 07:43
Method: 3015A
Balance: BAL016
Instrument: MW-3
Instrument Start: 08/29/2017 07:49

SOP: ME407 Revision 19
Spike Solution: STD80296
Spike Witness: ERP
40 & 50 ML. DIGESTION TUCOA19932
HNO3 Lot #: COA19940
MS Filters- fisher-Lot#rRGT40686

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG627538-02	BLANK	1	20 mL	50 mL	182.324 g	182.301 g		
2	WG627538-03	LCS	1	20 mL	50 mL	185.158 g	185.133 g	.25 mL	
3	L17081366-01	SAMP	1	20 mL	50 mL	183.536 g	183.483 g		09/08/17
4	L17081366-02	SAMP	1	20 mL	50 mL	182.659 g	182.625 g		09/08/17
5	L17081366-03	SAMP	1	20 mL	50 mL	181.685 g	181.653 g		09/08/17
6	L17081366-04	SAMP	1	20 mL	50 mL	182.595 g	182.57 g		09/08/17
7	L17081366-05	SAMP	1	20 mL	50 mL	183.943 g	183.923 g		09/08/17
8	L17081366-06	SAMP	1	20 mL	50 mL	183.171 g	183.131 g		09/08/17
9	L17081366-07	SAMP	1	20 mL	50 mL	185.114 g	185.073 g		09/08/17
10	L17081366-08	SAMP	1	20 mL	50 mL	181.11 g	181.099 g		09/08/17
11	L17081366-10	RS01	1	20 mL	50 mL	183.431 g	183.39 g		09/08/17
12	L17081366-11	SAMP	1	20 mL	50 mL	181.397 g	181.372 g		09/08/17
13	L17081366-14	SAMP	1	20 mL	50 mL	184.325 g	184.291 g		09/08/17
14	L17081366-15	SAMP	1	20 mL	50 mL	182.511 g	182.476 g		09/08/17
15	L17081366-17	SAMP	1	20 mL	50 mL	182.747 g	182.71 g		09/08/17
16	WG627538-01	REF	1	20 mL	50 mL	182.948 g	182.932 g		
17	L17081366-18	SAMP	1	20 mL	50 mL	182.948 g	182.932 g		09/08/17
18	L17081427-01	SAMP	1	20 mL	50 mL	181.919 g	181.89 g		08/30/17
19	L17081460-01	SAMP	1	20 mL	50 mL	184.041 g	183.959 g		09/08/17
20	WG627538-04	MS	1	20 mL	50 mL	184.151 g	184.115 g	.25 mL	
21	WG627538-05	MSD	1	20 mL	50 mL	185.008 g	184.977 g	.25 mL	

Analyst: Vicki Collier

Reviewer: Erin Pottin

Microbac Laboratories Inc.

Instrument Run Log

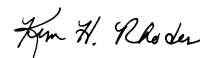
Instrument: ICP-MS2 Dataset: 082917A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 3
 Maintenance Log ID: _____
 Calibration Std: STD83445 ICV Std: STD83299 Post Spike: STD83027
 ICSA: STD83552 ICSAB: STD83553 Int. Std: RGT39300
 CCV: STD83443 LLCCV: STD83301 Tuning Sol : STD83302
 Stannous : _____ Hydroxylamine : _____

Workgroups: 627590,627600,627632

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.082917.102027	Blank	Blank		1		08/29/17 10:20
2	NI.082917.102333	WG627681-01	Calibration Point		1		08/29/17 10:23
3	NI.082917.102639	WG627681-02	Calibration Point		1		08/29/17 10:26
4	NI.082917.102944	WG627681-03	Calibration Point		1		08/29/17 10:29
5	NI.082917.103250	WG627681-04	Calibration Point		1		08/29/17 10:32
6	NI.082917.103557	WG627681-05	Initial Calibration Verification		1		08/29/17 10:35
7	NI.082917.103904	WG627681-06	Initial Calib Blank		1		08/29/17 10:39
8	NI.082917.104210	WG627681-07	Low Level Initial Calibration V		1		08/29/17 10:42
9	NI.082917.104516	WG627681-08	Interference Check		1		08/29/17 10:45
10	NI.082917.104822	WG627681-09	Interference Check		1		08/29/17 10:48
11	NI.082917.105129	WG627681-10	CCV		1		08/29/17 10:51
12	NI.082917.105435	WG627681-11	CCB		1		08/29/17 10:54
13	NI.082917.105741	WG627538-02	Method/Prep Blank	20/50	1		08/29/17 10:57
14	NI.082917.110047	WG627538-03	Laboratory Control S	20/50	1		08/29/17 11:00
15	NI.082917.110352	WG627538-01	Reference Sample		1	L17081366-18	08/29/17 11:03
16	NI.082917.110658	WG627538-04	Matrix Spike	20/50	1	L17081366-18	08/29/17 11:06
17	NI.082917.111003	WG627538-05	Matrix Spike Duplica	20/50	1	L17081366-18	08/29/17 11:10
18	NI.082917.111309	L17081427-01	NORTH POND	20/50	1		08/29/17 11:13
19	NI.082917.111614	L17081460-01	INS-WL01-082514	20/50	1		08/29/17 11:16
20	NI.082917.111920	WG627590-01	Post Digestion Spike		1	L17081460-01	08/29/17 11:19
21	NI.082917.112225	WG627590-02	Serial Dilution		5	L17081460-01	08/29/17 11:22
22	NI.082917.112531	WG627590-02	Serial Dilution		25	L17081460-01	08/29/17 11:25
23	NI.082917.112838	WG627681-12	CCV		1		08/29/17 11:28
24	NI.082917.113143	WG627681-13	CCB		1		08/29/17 11:31
25	NI.082917.113450	L17081366-01	MW17-082417	20/50	1		08/29/17 11:34
26	NI.082917.113756	L17081366-02	MW17-082417	20/50	1		08/29/17 11:37
27	NI.082917.114102	L17081366-03	DUP-GW-082417	20/50	1		08/29/17 11:41
28	NI.082917.114406	L17081366-04	DUP-GW-082417	20/50	1		08/29/17 11:44
29	NI.082917.114712	L17081366-05	MW18-082417	20/50	1		08/29/17 11:47
30	NI.082917.115018	L17081366-06	MW18-082417	20/50	1		08/29/17 11:50
31	NI.082917.115323	L17081366-07	TW01-082417	20/50	1		08/29/17 11:53
32	NI.082917.115628	L17081366-08	TW01-082417	20/50	1		08/29/17 11:56
33	NI.082917.115934	L17081366-10	MW26-082417	20/50	1		08/29/17 11:59
34	NI.082917.120240	L17081366-11	MW26-082417	20/50	1		08/29/17 12:02

Page: 1 Approved: August 30, 2017




Microbac Laboratories Inc.

Instrument Run Log

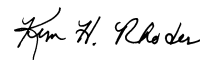
Instrument: ICP-MS2 Dataset: 082917A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 3
 Maintenance Log ID: _____
 Calibration Std: STD83445 ICV Std: STD83299 Post Spike: STD83027
 ICSA: STD83552 ICSAB: STD83553 Int. Std: RGT39300
 CCV: STD83443 LLCCV: STD83301 Tuning Sol : STD83302
 Stannous : _____ Hydroxylamine : _____

Workgroups: 627590,627600,627632

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	NI.082917.120547	WG627681-14	CCV		1		08/29/17 12:05
36	NI.082917.120852	WG627681-15	CCB		1		08/29/17 12:08
37	NI.082917.121159	L17081366-14	MW16I-082417	20/50	1		08/29/17 12:11
38	NI.082917.121504	L17081366-15	MW16I-082417	20/50	1		08/29/17 12:15
39	NI.082917.121854	L17081366-17	MW05I-082417	20/50	1		08/29/17 12:18
40	NI.082917.122200	WG627681-16	Interference Check		1		08/29/17 12:22
41	NI.082917.122506	WG627681-17	Interference Check		1		08/29/17 12:25
42	NI.082917.122813	WG627681-18	CCV		1		08/29/17 12:28
43	NI.082917.123118	WG627681-19	CCB		1		08/29/17 12:31
44	NI.082917.123425	WG627681-20	Low Level Continuing Calibra		1		08/29/17 12:34
45	NI.082917.124336	WG626887-02	Method/Prep Blank	40/50	50		08/29/17 12:43
46	NI.082917.124641	WG626887-03	Laboratory Control S	40/50	50		08/29/17 12:46
47	NI.082917.124946	WG626778-01	Fluid Blank 2		50		08/29/17 12:49
48	NI.082917.125252	WG626887-01	Reference Sample		50	L17081177-01	08/29/17 12:52
49	NI.082917.125557	WG626887-04	Matrix Spike	5/50	50	L17081177-01	08/29/17 12:55
50	NI.082917.125902	WG626887-05	Matrix Spike Duplica	5/50	50	L17081177-01	08/29/17 12:59
51	NI.082917.130207	L17081164-02	609 DRUM	1/50	10		08/29/17 13:02
52	NI.082917.130513	WG627600-01	Post Digestion Spike		10	L17081164-02	08/29/17 13:05
53	NI.082917.130818	WG627600-02	Serial Dilution		50	L17081164-02	08/29/17 13:08
54	NI.082917.131125	WG627681-21	CCV		1		08/29/17 13:11
55	NI.082917.131431	WG627681-22	CCB		1		08/29/17 13:14
56	NI.082917.131738	WG627573-02	Method/Prep Blank	40/50	50		08/29/17 13:17
57	NI.082917.132043	WG627573-03	Laboratory Control S	40/50	50		08/29/17 13:20
58	NI.082917.132349	WG627396-01	Fluid Blank 1		50		08/29/17 13:23
59	NI.082917.132654	WG627396-02	Fluid Blank 2		50		08/29/17 13:26
60	NI.082917.133000	WG627573-01	Reference Sample		50	L17081405-03	08/29/17 13:30
61	NI.082917.133306	WG627573-05	Matrix Spike	5/50	50	L17081405-03	08/29/17 13:33
62	NI.082917.133611	WG627573-06	Matrix Spike Duplica	5/50	50	L17081405-03	08/29/17 13:36
63	NI.082917.133917	L17081326-01	FRN SALTCAKE	5/50	50		08/29/17 13:39
64	NI.082917.134222	WG627632-01	Post Digestion Spike		50	L17081326-01	08/29/17 13:42
65	NI.082917.134528	WG627632-02	Serial Dilution		250	L17081326-01	08/29/17 13:45
66	NI.082917.134836	WG627681-23	CCV		1		08/29/17 13:48
67	NI.082917.135141	WG627681-24	CCB		1		08/29/17 13:51
68	NI.082917.135449	L17081326-02	FRN FURNACE BAGHOUSE	5/50	50		08/29/17 13:54

Page: 2 Approved: August 30, 2017




Microbac Laboratories Inc.
Instrument Run Log

Instrument: ICP-MS2 Dataset: 082917A.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 3
 Maintenance Log ID: _____
 Calibration Std: STD83445 ICV Std: STD83299 Post Spike: STD83027
 ICSA: STD83552 ICSAB: STD83553 Int. Std: RGT39300
 CCV: STD83443 LLCCV: STD83301 Tuning Sol : STD83302
 Stannous : _____ Hydroxylamine : _____

Workgroups: 627590,627600,627632

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	NI.082917.135754	L17081326-03	FRN MILL FINES (SCREW 1	5/50	50		08/29/17 13:57
70	NI.082917.140100	L17081326-04	FRN MILL FINES (SCREW 8	5/50	50		08/29/17 14:01
71	NI.082917.140407	WG627681-25	CCV		1		08/29/17 14:04
72	NI.082917.140712	WG627681-26	CCB		1		08/29/17 14:07

Comments

Seq.	Rerun	Dil.	Reason	Analytes
46			Seq. 46-47: wrong WG numbers. JYH	

Page: 3 Approved: August 30, 2017

Kim H. Rhodes



Microbac Laboratories Inc.

Data Checklist

Date: 29-AUG-2017

Analyst: JYH

Analyst: NA

Method: 6020/6020A/200.8

Instrument: ICP-MS

Curve Workgroup: 627681

Runlog ID: 84253

Analytical Workgroups: 627590,627600,627632

STD ID#s on Runlog	X
Calibration/Linearity	X
ICV/CCV	X
ICV RSD < 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	1366,1460
Client Forms	X
Level X	
Level 3	1460
Level 4	1366
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	KHR
Comments	

Primary Reviewer:

Secondary Reviewer:
30-AUG-2017

CHECKLIST1 - Modified 03/05/2008

Generated: AUG-30-2017 10:56:00



Microbac Laboratories Inc.
HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6020A

AAB#: WG627590

Login Number: L17081366

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
MW17-082417	01	08/24/17					08/29/2017	4.9	180		08/29/17	5.1	180	
MW17-082417	02	08/24/17					08/29/2017	4.9	180		08/29/17	5.1	180	
DUP-GW-082417	03	08/24/17					08/29/2017	4.9	180		08/29/17	5.1	180	
DUP-GW-082417	04	08/24/17					08/29/2017	4.9	180		08/29/17	5.1	180	
MW18-082417	05	08/24/17					08/29/2017	4.8	180		08/29/17	5	180	
MW18-082417	06	08/24/17					08/29/2017	4.8	180		08/29/17	5	180	
TW01-082417	07	08/24/17					08/29/2017	4.7	180		08/29/17	4.9	180	
TW01-082417	08	08/24/17					08/29/2017	4.7	180		08/29/17	4.9	180	
MW26-082417	10	08/24/17					08/29/2017	4.9	180		08/29/17	5	180	
MW26-082417	11	08/24/17					08/29/2017	4.9	180		08/29/17	5	180	
MW16I-082417	14	08/24/17					08/29/2017	4.8	180		08/29/17	4.9	180	
MW16I-082417	15	08/24/17					08/29/2017	4.8	180		08/29/17	4.9	180	
MW05I-082417	17	08/24/17					08/29/2017	4.7	180		08/29/17	4.9	180	
MW05I-082417	18	08/24/17					08/29/2017	4.7	180		08/29/17	4.8	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5453254
Report generated 08/29/2017 13:52



METHOD BLANK SUMMARY

Login Number: L17081366
 Blank File ID: NI.082917.105741
 Prep Date: 08/29/17 07:43
 Analyzed Date: 08/29/17 10:57
 Analyst: JYH

Work Group: WG627590
 Blank Sample ID: WG627538-02
 Instrument ID: ICP-MS2
 Method: 6020A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG627538-03	NI.082917.110047	08/29/17 11:00	01
MW05I-082417	L17081366-18	NI.082917.110352	08/29/17 11:03	01
MW17-082417	L17081366-01	NI.082917.113450	08/29/17 11:34	01
MW17-082417	L17081366-02	NI.082917.113756	08/29/17 11:37	01
DUP-GW-082417	L17081366-03	NI.082917.114102	08/29/17 11:41	01
DUP-GW-082417	L17081366-04	NI.082917.114406	08/29/17 11:44	01
MW18-082417	L17081366-05	NI.082917.114712	08/29/17 11:47	01
MW18-082417	L17081366-06	NI.082917.115018	08/29/17 11:50	01
TW01-082417	L17081366-07	NI.082917.115323	08/29/17 11:53	01
TW01-082417	L17081366-08	NI.082917.115628	08/29/17 11:56	01
MW26-082417	L17081366-10	NI.082917.115934	08/29/17 11:59	01
MW26-082417	L17081366-11	NI.082917.120240	08/29/17 12:02	01
MW16I-082417	L17081366-14	NI.082917.121159	08/29/17 12:11	01
MW16I-082417	L17081366-15	NI.082917.121504	08/29/17 12:15	01
MW05I-082417	L17081366-17	NI.082917.121854	08/29/17 12:18	01

Report Name: BLANK_SUMMARY
 PDF File ID: 5453255
 Report generated 08/29/2017 13:52



Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L17081366 Prep Date: 08/29/17 07:43 Sample ID: WG627538-02
Instrument ID: ICP-MS2 Run Date: 08/29/17 10:57 Prep Method: 3015A
File ID: NI.082917.105741 Analyst: JYH Method: 6020A
Workgroup (AAB#): WG627590 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: ICP-MS - 29-AUG-17

Analytes	MDL	RL	Concentration	Dilution	Qualifier
Arsenic, Total	0.000500	0.00100	0.000500	1	U

MDL Method Detection Limit

RL Reporting/Practical Quantitation Limit

ND Analyte Not detected at or above reporting limit

* |Analyte concentration| > RL

Report Name: BLANK

PDF ID: 5453256

29-AUG-2017 13:52



Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627538-03
Instrument ID: ICP-MS2 Run Time: 11:00 Prep Method: 3015A
File ID: NI.082917.110047 Analyst: JYH Method: 6020A
Workgroup (AAB#): WG627590 Matrix: Water Units: mg/L
QC Key: WATERLOO Lot#: STD80296 Cal ID: ICP-MS - 29-AUG-17

Analytes	Expected	Found	% Rec	LCS Limits	Q
Arsenic, Total	0.125	0.126	101	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 5453257
Report generated: 08/29/2017 13:52



MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum: L17081366 Cal ID: ICP-MS2 - Worknum: WG627590
 Instrument ID: ICP-MS2 Contract #: _____ Method: 6020A
 Parent ID: WG627538-01 File ID: NI.082917.110352 Dil: 1 Matrix: WATER
 Sample ID: WG627538-04 MS File ID: NI.082917.110658 Dil: 1 Units: mg/L
 Sample ID: WG627538-05 MSD File ID: NI.082917.111003 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Arsenic, Dissolved	0.000658	0.125	0.129	103	0.125	0.128	102	0.970	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
Serial Dilution Report

Login: L17081366 Worknum: WG627590
Instrument: ICP-MS2 Method: 6020A
Serial Dil: WG627590-02 File ID: NI.082917.112225 Dil: 5 Units: ug/L
Sample: L17081460-01 File ID: NI.082917.111614 Dil: 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Arsenic	2.10	X	2.08	X	0.53	

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 5453252

08/29/2017 13:52



Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L17081366

Worknum: WG627590

Instrument ID: ICP-MS2

Method: 6020A

Post Spike ID: WG627590-01

File ID: NI.082917.111920

Dil: 1

Units: ug/L

Sample ID: L17081460-01

File ID: NI.082917.111614

Dil: 1

Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
ARSENIC	56.1		2.10		50	108.0	75 - 125	

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation

POST_SPIKE - Modified 03/06/2008
PDF File ID: 5453253
Report generated: 08/29/2017 13:52



Microbac Laboratories Inc.
Initial Calibration Summary

Login:	<u>L17081366</u>	Workgroup (AAB#):	<u>WG627590</u>
Analytical Method:	<u>6020A</u>	Instrument ID:	<u>ICP-MS2</u>
ICAL Worknum:	<u>WG627681</u>	Initial Calibration Date:	<u>29-AUG-2017 10:32</u>

	WG627681-01		WG627681-02		WG627681-03		WG627681-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
ARSENIC	0	-71.6	.4	-14.0	50	40100	100	81900	.999927	

INT = Instrument intensity
R = Coefficient of correlation
Q = Data Qualifier
* = Out of Compliance; R < 0.995

INT_CAL_ICP - Modified 03/06/2008
PDF File ID: 5453262
Report generated: 29-AUG-2017 13:52



Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627681-06
Instrument ID: ICP-MS2 Run Time: 10:39 Method: 6020A
File ID: NI.082917.103904 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG627590 Cal ID: ICP-MS2 - 29-AUG-17
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
ARSENIC	.2	.4	.2	U

ICB - Modified 07/14/2009
PDF File ID: 5453264
Report generated 08/29/2017 13:52



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627681-11
Instrument ID: ICP-MS2 Run Time: 10:54 Method: 6020A
File ID: NI.082917.105435 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG627590 Cal ID: ICP-MS - 29-AUG-17
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.200	0.400	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5453267
Report generated 08/29/2017 13:53



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627681-13
Instrument ID: ICP-MS2 Run Time: 11:31 Method: 6020A
File ID: NI.082917.113143 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG627590 Cal ID: ICP-MS - 29-AUG-17
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.200	0.400	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5453267
Report generated 08/29/2017 13:53



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627681-15
Instrument ID: ICP-MS2 Run Time: 12:08 Method: 6020A
File ID: NI.082917.120852 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG627590 Cal ID: ICP-MS - 29-AUG-17
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.200	0.400	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5453267
Report generated 08/29/2017 13:53



Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627681-19
Instrument ID: ICP-MS2 Run Time: 12:31 Method: 6020A
File ID: NI.082917.123118 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG627590 Cal ID: ICP-MS - 29-AUG-17
Matrix: WATER QAPP: WATERLOO

Analytes	MDL	RDL	Concentration	Qualifier
Arsenic	0.200	0.400	0.200	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5453267
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Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627681-05
Instrument ID: ICP-MS2 Run Time: 10:35 Method: 6020A
File ID: NI.082917.103557 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG627590 Cal ID: ICP-MS - 29-AUG-17
QC Key: WATERL00

Analyte	Expected	Found	%REC	LIMITS	Q
Arsenic	50	50.3	101	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 5453263
Report generated 08/29/2017 13:52



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627681-10
Instrument ID: ICP-MS2 Run Time: 10:51 Method: 6020A
File ID: NI.082917.105129 Analyst: JYH QC Key: WATERL00
Workgroup (AAB#): WG627590 Cal ID: ICP-MS - 29-AUG-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic		0.0500	0.0499	mg/L	99.8	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 5453266
Report generated 08/29/2017 13:53



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627681-12
Instrument ID: ICP-MS2 Run Time: 11:28 Method: 6020A
File ID: NI.082917.112838 Analyst: JYH QC Key: WATERL00
Workgroup (AAB#): WG627590 Cal ID: ICP-MS - 29-AUG-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic		0.0500	0.0507	mg/L	101	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 5453266
Report generated 08/29/2017 13:53



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627681-14
Instrument ID: ICP-MS2 Run Time: 12:05 Method: 6020A
File ID: NI.082917.120547 Analyst: JYH QC Key: WATERL00
Workgroup (AAB#): WG627590 Cal ID: ICP-MS - 29-AUG-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic		0.0500	0.0500	mg/L	100	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 5453266
Report generated 08/29/2017 13:53



Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627681-18
Instrument ID: ICP-MS2 Run Time: 12:28 Method: 6020A
File ID: NI.082917.122813 Analyst: JYH QC Key: WATERL00
Workgroup (AAB#): WG627590 Cal ID: ICP-MS - 29-AUG-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic		0.0500	0.0501	mg/L	100	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 5453266
Report generated 08/29/2017 13:53



Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627681-07
Instrument ID: ICP-MS2 Run Time: 10:42 Method: 6020A
File ID: NI.082917.104210 Analyst: JYH QC Key: WATERL00
Workgroup (AAB#): WG627590 Cal ID: ICP-MS - 29-AUG-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic		0.400	0.438	ug/L	110	50 - 150		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 5453268
Report generated 08/29/2017 13:53



Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17081366 Run Date: 08/29/2017 Sample ID: WG627681-20
Instrument ID: ICP-MS2 Run Time: 12:34 Method: 6020A
File ID: NI.082917.123425 Analyst: JYH QC Key: WATERL00
Workgroup (AAB#): WG627590 Cal ID: ICP-MS - 29-AUG-17
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Arsenic		0.400	0.435	ug/L	109	50 - 150		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 5453268
Report generated 08/29/2017 13:53



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L17081366
Instrument ID: ICP-MS2
Sol. A : WG627681-08
Sol. AB : WG627681-09

File ID: NI.082917.104516
File ID: NI.082917.104822

Workgroup (AAB#): WG627590
Method: 6020A
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Arsenic	NS	-0.0416	NS	100	105	105	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L17081366
Instrument ID: ICP-MS2
Sol. A : WG627681-16
Sol. AB : WG627681-17

File ID: NI.082917.122200
File ID: NI.082917.122506

Workgroup (AAB#): WG627590
Method: 6020A
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Arsenic	NS	0.0872	NS	100	107	107	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



INTERNAL STANDARD REPORT

Login: L17081366 Analytical Method: 6020
 Analytical Workgroup: WG627590 Matrix: 1
 Instrument: ICP-MS2 Analyst: JYH
 ICAL Date: 29-AUG-2017 10:23

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM
			% Rec	% Rec	% Rec
L17081366-01	SAMP	29-AUG-2017 11:34	93.914	99.421	97.837
L17081366-02	SAMP	29-AUG-2017 11:37	93.14	99.636	97.087
L17081366-03	SAMP	29-AUG-2017 11:41	93.634	98.855	97.655
L17081366-04	SAMP	29-AUG-2017 11:44	92.782	99.899	96.963
L17081366-05	SAMP	29-AUG-2017 11:47	91.937	98.215	96.254
L17081366-06	SAMP	29-AUG-2017 11:50	91.833	98.581	96.073
L17081366-07	SAMP	29-AUG-2017 11:53	91.498	98.738	96.825
L17081366-08	SAMP	29-AUG-2017 11:56	91.638	100.128	96.691
L17081366-10	SAMP	29-AUG-2017 11:59	94.385	99.936	97.271
L17081366-11	SAMP	29-AUG-2017 12:02	97.665	103.386	100.133
L17081366-14	SAMP	29-AUG-2017 12:11	94.048	99.505	98.373
L17081366-15	SAMP	29-AUG-2017 12:15	94.946	100.02	98.208
L17081366-17	SAMP	29-AUG-2017 12:18	92.945	98.939	96.055
L17081366-18	SAMP	29-AUG-2017 11:03	95.734	97.903	99.042
L17081460-01	SAMP	29-AUG-2017 11:16	94.475	95.529	97.279
WG627538-02	BLANK	29-AUG-2017 10:57	100.95	96.71	102.279
WG627538-03	LCS	29-AUG-2017 11:00	101.581	98.434	102.57
WG627538-04	MS	29-AUG-2017 11:06	94.948	98.406	99.173
WG627538-05	MSD	29-AUG-2017 11:10	94.137	100.04	98.59
WG627590-01	PSPK	29-AUG-2017 11:19	93.741	92.962	96.038
WG627590-02	SERIAL	29-AUG-2017 11:22	90.668	88.457	92.513
WG627681-05	ICV	29-AUG-2017 10:35	99.354	95.758	101.295
WG627681-06	ICB	29-AUG-2017 10:39	100.404	97.349	102.076
WG627681-07	LLICV	29-AUG-2017 10:42	99.439	96.579	100.65
WG627681-08	ICS	29-AUG-2017 10:45	92.9	90.164	94.645
WG627681-09	ICS	29-AUG-2017 10:48	95.372	93.448	97.344
WG627681-10	CCV	29-AUG-2017 10:51	100.283	98.921	103.189
WG627681-11	CCB	29-AUG-2017 10:54	102.276	97.975	101.686
WG627681-12	CCV	29-AUG-2017 11:28	97.181	98.162	98.482
WG627681-13	CCB	29-AUG-2017 11:31	101.527	100.524	101.3
WG627681-14	CCV	29-AUG-2017 12:05	98.172	101.563	100.675
WG627681-15	CCB	29-AUG-2017 12:08	100.737	103.622	101.438
WG627681-16	ICS	29-AUG-2017 12:22	91.536	91.721	94.09
WG627681-17	ICS	29-AUG-2017 12:25	94.713	96.042	97.273
WG627681-18	CCV	29-AUG-2017 12:28	99.792	102.042	102.339
WG627681-19	CCB	29-AUG-2017 12:31	100.462	101.897	102.216
WG627681-20	LLCCV	29-AUG-2017 12:34	98.957	100.735	99.891

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 5453261
 Report generated: 08/29/2017 13:52



Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L17081366

Date: 04/12/2017

Instrument ID: ICP-MS2

Method: 6020A

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Uranium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

Comments:

All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 5453259
Report generated: 08/29/2017 13:52



2.3.2.3 Raw Data

MassCal File Name

Mass Calibration File Name Default.tun

MassCal File Path C:\NexlONData\MassCal\Default.tun

Peak Search Window: 1.00

Sample Information

Sample Date/Time: Tuesday, August 29, 2017 10:01:40

Mass Calibration and Resolution

Analyte	E Mass	Meas Mass	Mass C	DAC Val	Res DAC Value	Meas Peak W	Custom Res
Li	7.016	7.025		1317	2026	0.698	
Mg	23.985	23.975		4500	2020	0.710	
Co	58.933	58.925		11684	2022	0.704	
In	114.904	114.925		22865	2027	0.708	
U	238.050	238.075		47452	2044	0.696	

Relative Std. Dev.

Mass	Meas. Intens.	RSD
5.525		9.572
5.575		4.182
5.625		3.906
5.675		3.230
5.725		2.042
5.775		1.105
5.825		0.760
5.875		1.180
5.925		1.886
5.975		0.941
6.025		1.126
6.075		1.317
6.125		0.767
6.175		1.993
6.225		1.909
6.275		3.392
6.325		9.214
6.375		88.928
6.425		93.154
6.475		28.331
6.525		28.298
6.575		11.093
6.625		5.718
6.675		2.473
6.725		2.461
6.775		1.431
6.825		0.782

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6.875	0.799
6.925	0.603
6.975	0.383
7.025	1.333
7.075	1.659
7.125	1.485
7.175	0.768
7.225	1.004
7.275	1.091
7.325	0.976
7.375	3.240
7.425	33.840
7.475	52.524
7.525	73.023
7.575	45.799
7.625	20.963
7.675	52.322
7.725	58.736
7.775	44.304
7.825	19.444
7.875	62.361
7.925	52.705
7.975	70.711
8.025	111.232
8.075	37.268
8.125	33.535
8.175	20.328
8.225	77.579
8.275	75.691
8.325	77.055
8.375	55.902
8.425	62.361
8.475	29.881
22.525	136.931
22.575	37.268
22.625	57.601
22.675	22.017
22.725	33.165
22.775	20.360
22.825	30.842
22.875	52.408
22.925	26.716
22.975	18.109
23.025	33.072
23.075	47.394
23.125	25.272
23.175	30.829

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23.225	26.816
23.275	42.153
23.325	18.566
23.375	9.182
23.425	22.774
23.475	12.275
23.525	5.044
23.575	3.567
23.625	2.145
23.675	1.217
23.725	1.654
23.775	1.100
23.825	1.438
23.875	0.071
23.925	0.686
23.975	0.519
24.025	1.091
24.075	0.765
24.125	0.480
24.175	0.370
24.225	1.005
24.275	0.658
24.325	18.146
24.375	55.065
24.425	19.921
24.475	8.309
24.525	2.699
24.575	2.610
24.625	1.705
24.675	1.744
24.725	1.789
24.775	1.848
24.825	2.218
24.875	1.227
24.925	1.026
24.975	2.234
25.025	1.214
25.075	1.788
25.125	0.148
25.175	1.062
25.225	3.117
25.275	9.348
25.325	66.069
25.375	34.312
25.425	48.914
25.475	20.068
57.525	16.835

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57.575	8.586
57.625	4.465
57.675	3.687
57.725	3.141
57.775	1.628
57.825	2.412
57.875	2.494
57.925	2.301
57.975	1.249
58.025	1.527
58.075	1.943
58.125	2.672
58.175	2.881
58.225	3.464
58.275	1.568
58.325	22.639
58.375	61.172
58.425	41.458
58.475	12.392
58.525	6.857
58.575	4.401
58.625	2.387
58.675	2.137
58.725	3.199
58.775	1.974
58.825	3.369
58.875	0.418
58.925	3.178
58.975	0.909
59.025	1.560
59.075	2.198
59.125	2.108
59.175	1.907
59.225	2.985
59.275	9.327
59.325	33.919
59.375	84.984
59.425	63.246
59.475	25.705
59.525	17.982
59.575	4.339
59.625	5.480
59.675	5.571
59.725	4.320
59.775	5.272
59.825	3.427
59.875	2.493

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59.925	4.652
59.975	2.976
60.025	3.432
60.075	1.508
60.125	2.616
60.175	3.027
60.225	4.905
60.275	14.537
60.325	25.000
60.375	50.047
60.425	72.436
60.475	26.146
113.525	12.922
113.575	3.115
113.625	3.352
113.675	3.690
113.725	3.458
113.775	2.932
113.825	3.283
113.875	5.640
113.925	4.023
113.975	2.167
114.025	2.264
114.075	3.968
114.125	3.704
114.175	3.680
114.225	5.452
114.275	16.989
114.325	37.318
114.375	39.754
114.425	13.183
114.475	2.125
114.525	1.588
114.575	1.221
114.625	2.486
114.675	1.680
114.725	2.334
114.775	1.226
114.825	1.947
114.875	1.559
114.925	1.387
114.975	2.259
115.025	1.155
115.075	1.286
115.125	1.753
115.175	3.349
115.225	2.827

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115.275	7.081
115.325	23.547
115.375	40.074
115.425	55.902
115.475	35.315
115.525	22.641
115.575	9.540
115.625	11.084
115.675	7.821
115.725	10.464
115.775	2.406
115.825	1.609
115.875	1.500
115.925	1.746
115.975	2.627
116.025	1.336
116.075	1.564
116.125	6.854
116.175	10.853
116.225	15.315
116.275	19.948
116.325	40.825
116.375	36.377
116.425	56.845
116.475	25.074
236.525	223.607
236.575	15.901
236.625	32.609
236.675	23.055
236.725	27.741
236.775	31.713
236.825	15.972
236.875	35.675
236.925	34.468
236.975	26.022
237.025	41.133
237.075	28.838
237.125	38.736
237.175	44.419
237.225	17.876
237.275	19.457
237.325	28.748
237.375	25.555
237.425	32.492
237.475	33.040
237.525	41.086
237.575	10.660

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237.625	14.790
237.675	4.970
237.725	3.644
237.775	3.172
237.825	2.103
237.875	1.492
237.925	1.612
237.975	2.079
238.025	2.392
238.075	1.277
238.125	1.879
238.175	3.274
238.225	2.448
238.275	3.279
238.325	1.716
238.375	1.666
238.425	2.353
238.475	5.687
238.525	12.866
238.575	20.976
238.625	25.635
238.675	15.972
238.725	33.431
238.775	25.979
238.825	26.702
238.875	30.288
238.925	21.022
238.975	28.328
239.025	48.247
239.075	26.307
239.125	38.870
239.175	46.147
239.225	26.336
239.275	25.685
239.325	20.787
239.375	31.991
239.425	28.284
239.475	38.955

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SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\SmartTune Fullmicrobac.swz

Start Time: 8/29/2017 10:06:12 AM

End Time: 8/29/2017 10:08:36 AM

Daily Performance Check - [Passed] Optimum value(s): N/A

Obtained Intensity (Be 9.0122): 5166.35

Obtained Intensity (Mg 23.985): 229417.95

Obtained Intensity (In 114.904): 86535.83

Obtained Intensity (U 238.05): 66874.26

Obtained Intensity (Bkgd 220): 0.53

Obtained Formula (CeO 155.9 / Ce 139.905): 0.018 (=1353.86 / 76499.18)

Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.006 (=474.54 / 76499.18)

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SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\SmartTune Fullmicrobac.swz

Optimization Status

Start Time: 8/29/2017 10:06:12 AM

Daily Performance Check

Optimization Settings:

Method: C:\NexIONData\Method\ESI Daily Performance.mth.
Intensity Criterion: Be 9.0122 > 2000
Intensity Criterion: Mg 23.985 > 15000
Intensity Criterion: In 114.904 > 40000
Intensity Criterion: U 238.05 > 30000
Intensity Criterion: Bkgd 220 <= 5
Formula Criterion: CeO 155.9 / Ce 139.905 <= 0.025
Formula Criterion: Ce++ 69.9527 / Ce 139.905 <= 0.03

Optimization Results:

Initial Try

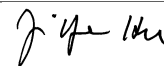
Obtained Intensity (Be 9.0122): 5166.35
Obtained Intensity (Mg 23.985): 229417.95
Obtained Intensity (In 114.904): 86535.83
Obtained Intensity (U 238.05): 66874.26
Obtained Intensity (Bkgd 220): 0.53
Obtained Formula (CeO 155.9 / Ce 139.905): 0.018 (=1353.86 / 76499.18)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.006 (=474.54 / 76499.18)

[Passed] Optimum value(s): N/A

End Time: 8/29/2017 10:08:36 AM

Report Date/Time: Tuesday, August 29, 2017 10:08:36
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Method 6020 - Summary Report

Sample ID: Blank

Sample Date/Time: Tuesday, August 29, 2017 10:20:27

Number of Replicates: 3

Autosampler Position: 1

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	142206.2	2.4				ug/L		Standard
	Be	9	20.0	43.3				ug/L		Standard
	Al	27	3387.0	3.2				ug/L		Standard
	Sc	45	20594.0	1.6				ug/L		Standard
	Ti	47	34.3	13.1				ug/L		Standard
	V	51	1465.1	13.4				ug/L		Standard
	Cr	52	8275.9	1.7				ug/L		Standard
	Cr	53	1320.1	2.4				ug/L		Standard
	Mn	55	2273.8	8.4				ug/L		Standard
	Co	59	627.7	0.4				ug/L		Standard
	Ni	60	395.0	3.7				ug/L		Standard
	Cu	65	187.3	9.0				ug/L		Standard
	Zn	66	181.0	4.7				ug/L		Standard
[>	Ge	72	341349.3	2.0				ug/L		Standard
	As	75	-52.0	37.6				ug/L		Standard
	Se	82	17.6	25.9				ug/L		Standard
	Se-1	77	170.0	7.5				ug/L		Standard
[>	Ga	71	30.0	16.7				mg/L		Standard
	Rb	85	55.0	31.5				ug/L		Standard
	Y	89	313051.7	1.9				ug/L		Standard
[>	Rh	103	40.0					ug/L		Standard
	Mo	98	297.2	23.0				ug/L		Standard
	Ag	107	112.0	6.7				ug/L		Standard
	Cd	111	9.4	30.2				mg/L		Standard
	Cd	114	20.8	49.8				ug/L		Standard
[>	In	115	367897.4	0.7				ug/L		Standard
	Sn	118	96.0	2.8				ug/L		Standard
	Sb	123	1191.5	7.8				ug/L		Standard
	Ba	135	58.7	11.3				ug/L		Standard
	Ce	140	13.3	57.3				ug/L		Standard
[>	Tb	159	641594.0	2.8				ug/L		Standard
	Ho	165	5.0	100.0				ug/L		Standard
	Tl	203	120.7	7.7				ug/L		Standard
	Tl	205	280.0	12.9				ug/L		Standard
	Pb	206	355.3	2.8				ug/L		Standard
	Pb	207	304.3	6.1				ug/L		Standard
	Pb	208	522.3	7.2				ug/L		Standard
	U	238	6.7	17.3				ug/L		Standard
[>	Bi	209	496582.8	3.0				ug/L		Standard

Sample ID: Blank

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[	Na	23	0.0		mg/L	Standard
	Mg	24	21.7	26.6	mg/L	Standard
	K	39	5.0	100.0	mg/L	Standard
	Ca	43	40.0	12.5	mg/L	Standard
	Fe	54	37.8	33.7	mg/L	Standard
	Fe	57	576.7	10.3	mg/L	Standard
[>	Sc-1	45	20594.0	1.6	mg/L	Standard
	Cl	35	2.0	100.0	ug/L	Standard
	Kr	83	5.3	47.2	ug/L	Standard
	Br	81	1070.0	4.9	ug/L	Standard
	P	31	41.7	48.5	ug/L	Standard
	S	34	65.0	23.1	ug/L	Standard
	Sr	88	371.7	12.2	ug/L	Standard
	C	12	16.7	124.9	mg/L	Standard
	N	14	3.3	173.2	mg/L	Standard
	Hg	202	3.3	173.2	mg/L	Standard
	Dy	164	9.7	100.8	mg/L	Standard
	Ho-1	165	5.0	100.0	mg/L	Standard
	Er	166	6.7	86.6	mg/L	Standard
	I	127	13742.9	6.9	mg/L	Standard

QC Calculated Values

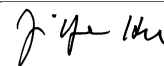
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
[>	Li	6		
	Be	9		
	Al	27		
	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
>	Ge	72		
	As	75		
	Se	82		
	Se-1	77		
[>	Ga	71		

Sample ID: Blank

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[	Rb	85
[	Y	89
>	Rh	103
[	Mo	98
	Ag	107
	Cd	111
	Cd	114
>	In	115
	Sn	118
	Sb	123
[	Ba	135
[	Ce	140
>	Tb	159
[	Ho	165
	Tl	203
	Tl	205
	Pb	206
	Pb	207
	Pb	208
	U	238
>	Bi	209
[	Na	23
	Mg	24
	K	39
	Ca	43
	Fe	54
	Fe	57
>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202
	Dy	164
	Ho-1	165
	Er	166
	I	127

QC Out of Limits

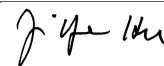
Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Blank

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Method 6020 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Tuesday, August 29, 2017 10:23:33

Number of Replicates: 3

Autosampler Position: 1

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

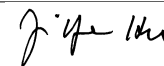
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	140862.0	2.4				ug/L	142206	Standard
	Be	9	11.7	89.2				ug/L	20	Standard
	Al	27	3410.4	7.5				ug/L	3387	Standard
	Sc	45	19586.0	5.0				ug/L	20594	Standard
	Ti	47	29.7	19.8				ug/L	34	Standard
	V	51	1503.1	4.9				ug/L	1465	Standard
	Cr	52	8190.9	1.8				ug/L	8276	Standard
	Cr	53	1238.4	1.6				ug/L	1320	Standard
	Mn	55	2061.5	6.2				ug/L	2274	Standard
	Co	59	566.7	1.5				ug/L	628	Standard
	Ni	60	389.0	1.7				ug/L	395	Standard
	Cu	65	188.7	8.1				ug/L	187	Standard
	Zn	66	178.0	1.5				ug/L	181	Standard
[>	Ge	72	335842.5	1.0				ug/L	341349	Standard
	As	75	-71.6	39.7				ug/L	-52	Standard
	Se	82	22.3	18.5				ug/L	18	Standard
	Se-1	77	143.7	2.1				ug/L	170	Standard
[>	Ga	71	73.3	27.6				mg/L	30	Standard
	Rb	85	28.3	44.4				ug/L	55	Standard
	Y	89	299911.1	4.3				ug/L	313052	Standard
[>	Rh	103	41.7	38.6				ug/L	40	Standard
	Mo	98	173.6	21.2				ug/L	297	Standard
	Ag	107	108.0	10.4				ug/L	112	Standard
	Cd	111	10.2	34.9				mg/L	9	Standard
	Cd	114	24.2	24.8				ug/L	21	Standard
[>	In	115	369616.0	1.4				ug/L	367897	Standard
	Sn	118	93.0	8.5				ug/L	96	Standard
	Sb	123	318.8	19.1				ug/L	1191	Standard
	Ba	135	94.3	39.9				ug/L	59	Standard
	Ce	140	21.7	58.1				ug/L	13	Standard
[>	Tb	159	646083.6	2.7				ug/L	641594	Standard
	Ho	165	18.3	15.7				ug/L	5	Standard
	Tl	203	109.3	7.8				ug/L	121	Standard
	Tl	205	255.0	24.5				ug/L	280	Standard
	Pb	206	366.3	9.0				ug/L	355	Standard
	Pb	207	281.3	3.0				ug/L	304	Standard
	Pb	208	536.7	2.2				ug/L	522	Standard
	U	238	4.7	24.7				ug/L	7	Standard
[>	Bi	209	483768.7	2.0				ug/L	496583	Standard

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[	Na	23	1.7	173.2	mg/L	0	Standard
	Mg	24	61.7	38.3	mg/L	22	Standard
	K	39	23.3	44.6	mg/L	5	Standard
	Ca	43	31.7	32.9	mg/L	40	Standard
	Fe	54	35.9	53.3	mg/L	38	Standard
	Fe	57	616.7	12.9	mg/L	577	Standard
[>	Sc-1	45	19586.0	5.0	mg/L	20594	Standard
	Cl	35	2.0	100.0	ug/L	2	Standard
	Kr	83	6.3	24.1	ug/L	5	Standard
	Br	81	1076.7	14.2	ug/L	1070	Standard
	P	31	56.7	18.4	ug/L	42	Standard
	S	34	48.3	48.9	ug/L	65	Standard
	Sr	88	386.7	12.7	ug/L	372	Standard
	C	12	10.0	100.0	mg/L	17	Standard
	N	14	0.0		mg/L	3	Standard
	Hg	202	13.3	43.3	mg/L	3	Standard
	Dy	164	15.1	103.5	mg/L	10	Standard
	Ho-1	165	18.3	15.7	mg/L	5	Standard
	Er	166	33.3	86.6	mg/L	7	Standard
	I	127	13285.8	5.0	mg/L	13743	Standard

QC Calculated Values

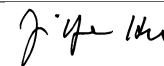
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
[>	Li	6		
	Be	9		
	Al	27		
	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
[>	Ge	72		
	As	75		
	Se	82		
	Se-1	77		
[>	Ga	71		

Sample ID: Standard 1

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[	Rb	85
[	Y	89
>	Rh	103
[	Mo	98
	Ag	107
	Cd	111
	Cd	114
>	In	115
	Sn	118
	Sb	123
[	Ba	135
[	Ce	140
>	Tb	159
[	Ho	165
	Tl	203
	Tl	205
	Pb	206
	Pb	207
	Pb	208
	U	238
>	Bi	209
[	Na	23
	Mg	24
	K	39
	Ca	43
	Fe	54
	Fe	57
>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202
	Dy	164
	Ho-1	165
	Er	166
	I	127

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Standard 1

Report Date/Time: Tuesday, August 29, 2017 10:25:44

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Method 6020 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Tuesday, August 29, 2017 10:26:39

Number of Replicates: 3

Autosampler Position: 2

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	140887.1	1.3				ug/L	142206	Standard
	Be	9	141.7	17.8				ug/L	20	Standard
	Al	27	10023.3	2.5				ug/L	3387	Standard
	Sc	45	20338.6	1.4				ug/L	20594	Standard
	Ti	47	48.3	18.1				ug/L	34	Standard
	V	51	1822.6	4.9				ug/L	1465	Standard
	Cr	52	8322.6	1.9				ug/L	8276	Standard
	Cr	53	1411.7	5.8				ug/L	1320	Standard
	Mn	55	2421.5	3.2				ug/L	2274	Standard
	Co	59	985.7	4.0				ug/L	628	Standard
	Ni	60	483.0	1.0				ug/L	395	Standard
	Cu	65	265.0	3.4				ug/L	187	Standard
	Zn	66	217.7	4.5				ug/L	181	Standard
[>	Ge	72	335707.1	2.2				ug/L	341349	Standard
	As	75	-14.0	279.3				ug/L	-52	Standard
	Se	82	26.5	29.7				ug/L	18	Standard
	Se-1	77	162.0	1.6				ug/L	170	Standard
[>	Ga	71	41.7	27.7				mg/L	30	Standard
	Rb	85	35.0	28.6				ug/L	55	Standard
	Y	89	300507.7	3.2				ug/L	313052	Standard
[>	Rh	103	41.7	18.3				ug/L	40	Standard
	Mo	98	456.7	9.9				ug/L	297	Standard
	Ag	107	348.3	5.0				ug/L	112	Standard
	Cd	111	66.9	13.5				mg/L	9	Standard
	Cd	114	159.7	17.3				ug/L	21	Standard
[>	In	115	368416.6	0.8				ug/L	367897	Standard
	Sn	118	134.3	6.9				ug/L	96	Standard
	Sb	123	367.1	13.1				ug/L	1191	Standard
	Ba	135	698.4	113.6				ug/L	59	Standard
	Ce	140	30.0	101.4				ug/L	13	Standard
[>	Tb	159	646358.2	2.3				ug/L	641594	Standard
	Ho	165	13.3	94.4				ug/L	5	Standard
	Tl	203	531.0	2.5				ug/L	121	Standard
	Tl	205	1215.0	1.8				ug/L	280	Standard
	Pb	206	681.7	3.6				ug/L	355	Standard
	Pb	207	568.0	4.5				ug/L	304	Standard
	Pb	208	1100.7	3.6				ug/L	522	Standard
	U	238	465.3	3.7				ug/L	7	Standard
[>	Bi	209	477887.8	0.4				ug/L	496583	Standard

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[	Na	23	0.0		mg/L	0	Standard
	Mg	24	36.7	28.4	mg/L	22	Standard
	K	39	31.7	24.1	mg/L	5	Standard
	Ca	43	46.7	12.4	mg/L	40	Standard
	Fe	54	24.5	19.0	mg/L	38	Standard
	Fe	57	641.7	12.8	mg/L	577	Standard
[>	Sc-1	45	20338.6	1.4	mg/L	20594	Standard
	Cl	35	2.0	100.0	ug/L	2	Standard
	Kr	83	9.3	37.6	ug/L	5	Standard
	Br	81	1086.7	10.5	ug/L	1070	Standard
	P	31	45.0	29.4	ug/L	42	Standard
	S	34	61.7	12.4	ug/L	65	Standard
	Sr	88	323.3	18.6	ug/L	372	Standard
	C	12	6.7	86.6	mg/L	17	Standard
	N	14	0.0		mg/L	3	Standard
	Hg	202	10.0	100.0	mg/L	3	Standard
	Dy	164	9.4	106.9	mg/L	10	Standard
	Ho-1	165	13.3	94.4	mg/L	5	Standard
	Er	166	13.3	43.3	mg/L	7	Standard
	I	127	13789.6	4.7	mg/L	13743	Standard

QC Calculated Values

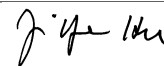
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
[>	Li	6		
	Be	9		
	Al	27		
	Sc	45		
	Ti	47		
	V	51		
	Cr	52		
	Cr	53		
	Mn	55		
	Co	59		
	Ni	60		
	Cu	65		
	Zn	66		
[>	Ge	72		
	As	75		
	Se	82		
	Se-1	77		
[>	Ga	71		

Sample ID: Standard 2

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[	Rb	85
[	Y	89
>	Rh	103
[	Mo	98
	Ag	107
	Cd	111
	Cd	114
>	In	115
	Sn	118
	Sb	123
[	Ba	135
[	Ce	140
>	Tb	159
[	Ho	165
	Tl	203
	Tl	205
	Pb	206
	Pb	207
	Pb	208
	U	238
>	Bi	209
[	Na	23
	Mg	24
	K	39
	Ca	43
	Fe	54
	Fe	57
>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202
	Dy	164
	Ho-1	165
	Er	166
	I	127

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: Standard 2

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Method 6020 - Summary Report

Sample ID: Standard 3

Sample Date/Time: Tuesday, August 29, 2017 10:29:44

Number of Replicates: 3

Autosampler Position: 3

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	141548.4	2.7				ug/L	142206	Standard
	Be	9	78559.8	1.6	50.0000	1.873	3.7	ug/L	20	Standard
	Al	27	6433337.4	1.3	50.0000	0.774	1.5	ug/L	3387	Standard
	Sc	45	19400.7	1.8				ug/L	20594	Standard
	Ti	47	17431.0	0.3	100.0000	1.915	1.9	ug/L	34	Standard
	V	51	317684.3	1.3	50.0000	1.357	2.7	ug/L	1465	Standard
	Cr	52	310387.3	1.2	50.0000	1.383	2.8	ug/L	8276	Standard
	Cr	53	40256.7	1.3	50.0000	1.222	2.4	ug/L	1320	Standard
	Mn	55	487883.8	0.8	50.0000	1.182	2.4	ug/L	2274	Standard
	Co	59	388792.4	1.0	50.0000	1.309	2.6	ug/L	628	Standard
	Ni	60	82855.9	0.5	50.0000	1.006	2.0	ug/L	395	Standard
	Cu	65	75863.1	0.4	50.0000	0.654	1.3	ug/L	187	Standard
	Zn	66	39899.8	0.5	50.0000	0.948	1.9	ug/L	181	Standard
[>	Ge	72	334703.5	1.7				ug/L	341349	Standard
	As	75	40086.8	0.5	50.0000	0.647	1.3	ug/L	-52	Standard
	Se	82	3386.7	0.7	50.0000	0.953	1.9	ug/L	18	Standard
	Se-1	77	2594.9	2.7	50.0000	1.781	3.6	ug/L	170	Standard
[>	Ga	71	48.3	15.8				mg/L	30	Standard
	Rb	85	631.7	9.2				ug/L	55	Standard
	Y	89	295279.2	2.7				ug/L	313052	Standard
[>	Rh	103	81.7	19.7				ug/L	40	Standard
	Mo	98	288958.6	0.7	100.0000	1.615	1.6	ug/L	297	Standard
	Ag	107	233486.1	1.1	50.0000	1.000	2.0	ug/L	112	Standard
	Cd	111	52907.6	1.4	50.0000	0.291	0.6	mg/L	9	Standard
	Cd	114	151473.1	3.5	50.0000	1.377	2.8	ug/L	21	Standard
[>	In	115	374989.8	1.3				ug/L	367897	Standard
	Sn	118	40010.5	2.8	50.0000	1.130	2.3	ug/L	96	Standard
	Sb	123	179282.8	2.1	50.0000	0.789	1.6	ug/L	1191	Standard
	Ba	135	70389.9	2.4	50.0000	0.761	1.5	ug/L	59	Standard
	Ce	140	90.0	28.9				ug/L	13	Standard
[>	Tb	159	654471.4	2.4				ug/L	641594	Standard
	Ho	165	18.3	31.5				ug/L	5	Standard
	Tl	203	431816.3	1.0	50.0000	0.624	1.2	ug/L	121	Standard
	Tl	205	998818.0	0.9	50.0000	0.987	2.0	ug/L	280	Standard
	Pb	206	324087.6	0.8	50.0000	0.934	1.9	ug/L	355	Standard
	Pb	207	285844.5	0.4	50.0000	0.733	1.5	ug/L	304	Standard
	Pb	208	514501.4	3.0	50.0000	2.038	4.1	ug/L	522	Standard
	U	238	458848.8	2.0	50.0000	1.533	3.1	ug/L	7	Standard
[>	Bi	209	487495.3	1.1				ug/L	496583	Standard

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[	Na	23	15.0	0.0	5.0000	0.088	1.8	mg/L	0	Standard
	Mg	24	283.3	8.2	5.0000	0.503	10.1	mg/L	22	Standard
	K	39	343.3	17.6	5.0000	0.929	18.6	mg/L	5	Standard
	Ca	43	43.3	29.0	5.0000	64.059	1281.2	mg/L	40	Standard
	Fe	54	277.5	6.6	5.0000	0.439	8.8	mg/L	38	Standard
	Fe	57	748.4	11.0	5.0000	2.844	56.9	mg/L	577	Standard
[>	Sc-1	45	19400.7	1.8				mg/L	20594	Standard
	Cl	35	1.3	86.6				ug/L	2	Standard
	Kr	83	7.0	42.9				ug/L	5	Standard
	Br	81	1050.0	2.5				ug/L	1070	Standard
	P	31	56.7	5.1				ug/L	42	Standard
	S	34	51.7	24.4				ug/L	65	Standard
	Sr	88	366.7	10.9				ug/L	372	Standard
	C	12	6.7	173.2				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	12.7	89.9				mg/L	10	Standard
	Ho-1	165	18.3	31.5				mg/L	5	Standard
	Er	166	13.3	43.3				mg/L	7	Standard
	I	127	3555.4	1.1				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
[> Li	6			
Be	9			
Al	27			
[Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
[> Ge	72			
As	75			
Se	82			
[Se-1	77			
[> Ga	71			

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[	Rb	85
[	Y	89
>	Rh	103
[	Mo	98
	Ag	107
	Cd	111
	Cd	114
>	In	115
	Sn	118
	Sb	123
[	Ba	135
[	Ce	140
>	Tb	159
[	Ho	165
	Tl	203
	Tl	205
	Pb	206
	Pb	207
	Pb	208
	U	238
>	Bi	209
[	Na	23
	Mg	24
	K	39
	Ca	43
	Fe	54
	Fe	57
>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202
	Dy	164
	Ho-1	165
	Er	166
	I	127

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: Standard 4

Sample Date/Time: Tuesday, August 29, 2017 10:32:50

Number of Replicates: 3

Autosampler Position: 4

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	140709.0	2.6				ug/L	142206	Standard
	Be	9	158367.3	3.5	100.7092	4.650	4.6	ug/L	20	Standard
	Al	27	12753239.2	1.8	99.8900	4.104	4.1	ug/L	3387	Standard
	Sc	45	19861.3	2.1				ug/L	20594	Standard
	Ti	47	34878.8	2.1	200.5270	8.768	4.4	ug/L	34	Standard
	V	51	629815.8	1.5	99.8568	2.976	3.0	ug/L	1465	Standard
	Cr	52	606784.0	1.6	99.6801	2.919	2.9	ug/L	8276	Standard
	Cr	53	78397.3	0.8	99.6970	2.226	2.2	ug/L	1320	Standard
	Mn	55	974994.8	1.5	100.2357	2.694	2.7	ug/L	2274	Standard
	Co	59	766951.6	1.2	99.5250	2.619	2.6	ug/L	628	Standard
	Ni	60	165215.6	1.0	100.1434	1.643	1.6	ug/L	395	Standard
	Cu	65	149007.2	1.0	99.3383	2.333	2.3	ug/L	187	Standard
	Zn	66	79871.3	0.8	100.3421	3.092	3.1	ug/L	181	Standard
[>	Ge	72	333569.8	2.6				ug/L	341349	Standard
	As	75	81891.1	0.6	101.2055	2.202	2.2	ug/L	-52	Standard
	Se	82	6840.1	0.8	100.8429	2.546	2.5	ug/L	18	Standard
	Se-1	77	5156.9	1.6	101.4526	1.629	1.6	ug/L	170	Standard
[>	Ga	71	100.0	15.0				mg/L	30	Standard
	Rb	85	481.7	10.4				ug/L	55	Standard
	Y	89	299653.0	1.6				ug/L	313052	Standard
[>	Rh	103	88.3	21.4				ug/L	40	Standard
	Mo	98	585383.6	1.3	201.1370	2.955	1.5	ug/L	297	Standard
	Ag	107	458954.1	1.3	99.0582	1.526	1.5	ug/L	112	Standard
	Cd	111	104471.3	1.2	99.2890	1.871	1.9	mg/L	9	Standard
	Cd	114	303843.2	2.2	100.0792	3.010	3.0	ug/L	21	Standard
[>	In	115	375621.6	0.8				ug/L	367897	Standard
	Sn	118	79896.5	2.4	99.9091	3.179	3.2	ug/L	96	Standard
	Sb	123	348086.4	2.2	98.4686	2.974	3.0	ug/L	1191	Standard
	Ba	135	142607.0	1.1	100.8019	1.966	2.0	ug/L	59	Standard
	Ce	140	488.3	5.1				ug/L	13	Standard
[>	Tb	159	648935.7	0.4				ug/L	641594	Standard
	Ho	165	13.3	21.7				ug/L	5	Standard
	Tl	203	852322.4	0.7	99.9026	3.233	3.2	ug/L	121	Standard
	Tl	205	1987484.7	0.4	100.3033	3.301	3.3	ug/L	280	Standard
	Pb	206	667071.1	1.4	102.0064	2.449	2.4	ug/L	355	Standard
	Pb	207	554697.5	1.0	99.0605	2.273	2.3	ug/L	304	Standard
	Pb	208	1005187.1	2.6	99.4273	5.609	5.6	ug/L	522	Standard
	U	238	919852.8	1.0	100.6738	4.033	4.0	ug/L	7	Standard
[>	Bi	209	482412.7	3.3				ug/L	496583	Standard

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Na	23	51.7	39.1	12.5419	4.943	39.4	mg/L	0	Standard
Mg	24	590.0	7.5	10.4231	0.719	6.9	mg/L	22	Standard
K	39	783.4	8.9	10.7992	0.957	8.9	mg/L	5	Standard
Ca	43	55.0	65.6	25.4141	96.650	380.3	mg/L	40	Standard
Fe	54	573.5	2.9	10.2693	0.520	5.1	mg/L	38	Standard
Fe	57	785.0	12.1	7.2229	3.592	49.7	mg/L	577	Standard
Sc-1	45	19861.3	2.1				mg/L	20594	Standard
Cl	35	1.3	86.6				ug/L	2	Standard
Kr	83	4.7	44.6				ug/L	5	Standard
Br	81	933.4	3.3				ug/L	1070	Standard
P	31	46.7	24.7				ug/L	42	Standard
S	34	58.3	19.8				ug/L	65	Standard
Sr	88	385.0	6.5				ug/L	372	Standard
C	12	10.0	100.0				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	32.9	70.3				mg/L	10	Standard
Ho-1	165	13.3	21.7				mg/L	5	Standard
Er	166	10.0	100.0				mg/L	7	Standard
I	127	34064.9	2.6				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72			
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85
[	Y	89
>	Rh	103
[	Mo	98
	Ag	107
	Cd	111
	Cd	114
>	In	115
	Sn	118
	Sb	123
[	Ba	135
[	Ce	140
>	Tb	159
[	Ho	165
	Tl	203
	Tl	205
	Pb	206
	Pb	207
	Pb	208
	U	238
>	Bi	209
[	Na	23
	Mg	24
	K	39
	Ca	43
	Fe	54
	Fe	57
>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202
	Dy	164
	Ho-1	165
	Er	166
	I	127

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Corr. Coef.	Na	23	Correlation coefficient < 0.998
Corr. Coef.	K	39	Correlation coefficient < 0.998
Corr. Coef.	Ca	43	Correlation coefficient < 0.998

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Method 6020 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Tuesday, August 29, 2017 10:35:57

Number of Replicates: 3

Autosampler Position: 201

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	139771.8	1.0				ug/L	142206	Standard
	Be	9	77883.0	0.7	49.8158	0.586	1.2	ug/L	20	Standard
	Al	27	6372877.3	2.3	50.2118	1.599	3.2	ug/L	3387	Standard
	Sc	45	18883.4	2.1				ug/L	20594	Standard
	Ti	47	17069.9	1.0	100.0187	2.582	2.6	ug/L	34	Standard
	V	51	312225.8	0.6	50.3902	1.109	2.2	ug/L	1465	Standard
	Cr	52	304556.4	1.2	50.4049	1.464	2.9	ug/L	8276	Standard
	Cr	53	38931.6	1.4	49.6487	1.400	2.8	ug/L	1320	Standard
	Mn	55	480797.3	0.8	50.3378	1.222	2.4	ug/L	2274	Standard
	Co	59	379651.0	0.6	50.2299	1.115	2.2	ug/L	628	Standard
	Ni	60	81641.0	0.5	50.3778	1.033	2.1	ug/L	395	Standard
	Cu	65	74456.5	0.5	50.5840	0.836	1.7	ug/L	187	Standard
	Zn	66	38982.4	0.4	49.8507	0.970	1.9	ug/L	181	Standard
[>	Ge	72	326867.8	1.6				ug/L	341349	Standard
	As	75	39903.5	0.9	50.3465	0.541	1.1	ug/L	-52	Standard
	Se	82	3434.3	0.4	51.4952	1.053	2.0	ug/L	18	Standard
	Se-1	77	2561.9	3.4	49.8630	2.606	5.2	ug/L	170	Standard
[>	Ga	71	55.0	18.2				mg/L	30	Standard
	Rb	85	595.0	5.2				ug/L	55	Standard
	Y	89	293801.6	1.6				ug/L	313052	Standard
[>	Rh	103	63.3	19.9				ug/L	40	Standard
	Mo	98	290098.6	1.1	100.4337	0.565	0.6	ug/L	297	Standard
	Ag	107	230138.8	1.3	50.0502	0.463	0.9	ug/L	112	Standard
	Cd	111	52918.5	2.0	50.6785	0.747	1.5	mg/L	9	Standard
	Cd	114	154112.1	2.1	51.1517	0.813	1.6	ug/L	21	Standard
[>	In	115	372660.2	0.5				ug/L	367897	Standard
	Sn	118	40154.8	0.9	50.5428	0.256	0.5	ug/L	96	Standard
	Sb	123	185049.0	1.4	52.7280	0.500	0.9	ug/L	1191	Standard
	Ba	135	71715.3	1.5	50.8622	0.506	1.0	ug/L	59	Standard
	Ce	140	65.0	40.7				ug/L	13	Standard
[>	Tb	159	634819.4	1.5				ug/L	641594	Standard
	Ho	165	11.7	65.5				ug/L	5	Standard
	Tl	203	435311.6	0.5	49.8557	0.624	1.3	ug/L	121	Standard
	Tl	205	1015143.8	1.9	50.0603	1.238	2.5	ug/L	280	Standard
	Pb	206	330782.9	0.8	49.4109	0.430	0.9	ug/L	355	Standard
	Pb	207	293028.0	1.2	51.1192	0.231	0.5	ug/L	304	Standard
	Pb	208	507484.5	2.5	49.0144	1.985	4.1	ug/L	522	Standard
	U	238	468148.7	0.9	50.0676	1.217	2.4	ug/L	7	Standard
[>	Bi	209	493376.2	1.6				ug/L	496583	Standard

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Na	23	30.0	57.7	7.6852	4.472	58.2	mg/L	0	Standard
Mg	24	306.7	4.1	5.4020	0.378	7.0	mg/L	22	Standard
K	39	400.0	12.3	5.5917	0.650	11.6	mg/L	5	Standard
Ca	43	60.0	25.0	45.7268	40.844	89.3	mg/L	40	Standard
Fe	54	291.2	11.4	5.2684	0.539	10.2	mg/L	38	Standard
Fe	57	733.4	2.8	6.6602	1.494	22.4	mg/L	577	Standard
Sc-1	45	18883.4	2.1				mg/L	20594	Standard
Cl	35	2.0	100.0				ug/L	2	Standard
Kr	83	5.7	10.2				ug/L	5	Standard
Br	81	953.4	13.1				ug/L	1070	Standard
P	31	61.7	32.8				ug/L	42	Standard
S	34	65.0	35.3				ug/L	65	Standard
Sr	88	371.7	6.2				ug/L	372	Standard
C	12	16.7	69.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	6.7	173.2				mg/L	3	Standard
Dy	164	9.0	5.3				mg/L	10	Standard
Ho-1	165	11.7	65.5				mg/L	5	Standard
Er	166	20.0	50.0				mg/L	7	Standard
I	127	3403.7	1.7				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	99.632		
Al	27	100.424		
Sc	45			
Ti	47	100.019		
V	51	100.780		
Cr	52	100.810		
Cr	53			
Mn	55	100.676		
Co	59	100.460		
Ni	60	100.756		
Cu	65	101.168		
Zn	66	99.701		
Ge	72		95.758	
As	75	100.693		
Se	82	102.990		
Se-1	77			
Ga	71			

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98	100.434	
[	Ag	107	100.100	
[	Cd	111	101.357	
[	Cd	114		
>	In	115		101.295
[	Sn	118	101.086	
[	Sb	123	105.456	
[	Ba	135	101.724	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.711	
[	Tl	205		
[	Pb	206	98.822	
[	Pb	207	102.238	
[	Pb	208	98.029	
[	U	238	100.135	
>	Bi	209		99.354
[	Na	23	153.705	
[	Mg	24	108.040	
[	K	39	111.834	
[	Ca	43	914.535	
[	Fe	54	105.369	
[	Fe	57	133.204	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Na	23	
QC Std 1	K	39	
QC Std 1	Ca	43	

Sample ID: QC Std 1

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Method 6020 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Tuesday, August 29, 2017 10:39:04

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	142488.6	1.5				ug/L	142206	Standard
	Be	9	36.7	28.4	-0.0169	0.007	40.4	ug/L	20	Standard
	Al	27	3202.0	2.4	-0.0036	0.001	24.1	ug/L	3387	Standard
	Sc	45	19389.1	2.5				ug/L	20594	Standard
	Ti	47	33.7	9.5	0.0176	0.016	93.0	ug/L	34	Standard
	V	51	987.5	2.4	-0.0802	0.005	6.6	ug/L	1465	Standard
	Cr	52	6425.7	2.0	-0.2529	0.010	4.0	ug/L	8276	Standard
	Cr	53	1160.0	1.1	-0.2592	0.008	3.0	ug/L	1320	Standard
	Mn	55	1724.8	6.5	-0.0195	0.010	49.9	ug/L	2274	Standard
	Co	59	524.7	1.7	-0.0089	0.001	6.8	ug/L	628	Standard
	Ni	60	362.3	0.7	-0.0206	0.005	23.9	ug/L	395	Standard
	Cu	65	246.7	13.2	0.0393	0.019	49.6	ug/L	187	Standard
	Zn	66	172.3	3.4	-0.0046	0.008	166.7	ug/L	181	Standard
[>	Ge	72	332298.6	1.5				ug/L	341349	Standard
	As	75	-68.9	99.0	-0.0187	0.084	451.1	ug/L	-52	Standard
	Se	82	22.7	21.1	-0.0016	0.074	4573.4	ug/L	18	Standard
	Se-1	77	153.7	1.5	-0.0876	0.021	24.2	ug/L	170	Standard
[>	Ga	71	36.7	79.9				mg/L	30	Standard
	Rb	85	53.3	32.9				ug/L	55	Standard
	Y	89	299501.4	1.2				ug/L	313052	Standard
[>	Rh	103	45.0	29.4				ug/L	40	Standard
	Mo	98	472.1	4.9	0.1023	0.008	8.0	ug/L	297	Standard
	Ag	107	147.7	14.9	0.0052	0.005	92.9	ug/L	112	Standard
	Cd	111	12.2	38.9	-0.0032	0.004	140.5	mg/L	9	Standard
	Cd	114	22.8	67.1	0.0039	0.005	128.8	ug/L	21	Standard
[>	In	115	375535.6	0.3				ug/L	367897	Standard
	Sn	118	146.0	1.8	0.0613	0.004	6.2	ug/L	96	Standard
	Sb	123	1045.5	10.5	0.2400	0.030	12.7	ug/L	1191	Standard
	Ba	135	65.3	11.1	-0.4111	0.005	1.2	ug/L	59	Standard
	Ce	140	15.0	88.2				ug/L	13	Standard
[>	Tb	159	631635.8	0.8				ug/L	641594	Standard
	Ho	165	10.0	100.0				ug/L	5	Standard
	Tl	203	203.0	10.3	0.0102	0.002	19.2	ug/L	121	Standard
	Tl	205	431.7	18.8	0.0092	0.004	39.0	ug/L	280	Standard
	Pb	206	429.0	5.8	0.0082	0.003	35.0	ug/L	355	Standard
	Pb	207	351.0	12.1	0.0083	0.007	90.4	ug/L	304	Standard
	Pb	208	626.3	6.9	0.0000	0.003	11992.8	ug/L	522	Standard
	U	238	56.3	5.4	0.0046	0.000	6.7	ug/L	7	Standard
[>	Bi	209	498589.5	1.7				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	53.3	35.5	0.3520	0.335	95.3	mg/L	22	Standard
K	39	15.0	100.0	-0.2215	0.215	96.8	mg/L	5	Standard
Ca	43	35.0	51.5	-24.7011	49.023	198.5	mg/L	40	Standard
Fe	54	35.9	63.0	0.2512	0.440	175.3	mg/L	38	Standard
Fe	57	686.7	8.1	3.5560	3.153	88.7	mg/L	577	Standard
Sc-1	45	19389.1	2.5				mg/L	20594	Standard
Cl	35	0.7	173.2				ug/L	2	Standard
Kr	83	5.7	44.4				ug/L	5	Standard
Br	81	956.7	14.7				ug/L	1070	Standard
P	31	53.3	10.8				ug/L	42	Standard
S	34	71.7	28.2				ug/L	65	Standard
Sr	88	378.3	11.2				ug/L	372	Standard
C	12	23.3	49.5				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	10.0					mg/L	3	Standard
Dy	164	15.5	36.5				mg/L	10	Standard
Ho-1	165	10.0	100.0				mg/L	5	Standard
Er	166	23.3	65.5				mg/L	7	Standard
I	127	13225.8	3.7				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		97.349	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	102.076
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.404
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 2	Sb	123	
QC Std 2	Ba	135	
QC Std 2	Mg	24	

Sample ID: QC Std 2

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QC Std 2	K	39
QC Std 2	Ca	43
QC Std 2	Fe	54
QC Std 2	Fe	57

Sample ID: QC Std 2
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Method 6020 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Tuesday, August 29, 2017 10:42:10

Number of Replicates: 3

Autosampler Position: 202

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

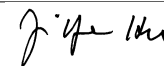
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	142920.9	0.5				ug/L	142206	Standard
	Be	9	310.0	11.3	0.1540	0.021	13.6	ug/L	20	Standard
	Al	27	2997.0	6.5	-0.0053	0.002	30.6	ug/L	3387	Standard
	Sc	45	19132.1	3.1				ug/L	20594	Standard
	Ti	47	28.7	8.8	-0.0098	0.015	152.8	ug/L	34	Standard
	V	51	3361.8	1.3	0.3027	0.010	3.2	ug/L	1465	Standard
	Cr	52	10026.7	1.2	0.3620	0.019	5.3	ug/L	8276	Standard
	Cr	53	1613.4	10.3	0.3456	0.207	60.0	ug/L	1320	Standard
	Mn	55	6258.6	2.0	0.4543	0.009	2.1	ug/L	2274	Standard
	Co	59	3416.7	1.3	0.3716	0.008	2.2	ug/L	628	Standard
	Ni	60	2838.9	4.5	1.5035	0.084	5.6	ug/L	395	Standard
	Cu	65	1324.7	4.7	0.7685	0.037	4.8	ug/L	187	Standard
	Zn	66	4864.8	3.9	5.9730	0.273	4.6	ug/L	181	Standard
[>	Ge	72	329671.7	0.6				ug/L	341349	Standard
	As	75	297.2	9.6	0.4383	0.035	7.9	ug/L	-52	Standard
	Se	82	43.1	9.4	0.3057	0.058	18.9	ug/L	18	Standard
	Se-1	77	158.7	13.3	0.0406	0.439	1082.5	ug/L	170	Standard
[>	Ga	71	55.0	72.2				mg/L	30	Standard
	Rb	85	31.7	39.7				ug/L	55	Standard
	Y	89	297383.4	0.5				ug/L	313052	Standard
[>	Rh	103	45.0	29.4				ug/L	40	Standard
	Mo	98	189.1	17.1	0.0059	0.011	183.1	ug/L	297	Standard
	Ag	107	1853.1	2.1	0.3792	0.010	2.7	ug/L	112	Standard
	Cd	111	257.5	8.2	0.2334	0.019	8.0	mg/L	9	Standard
	Cd	114	708.9	12.6	0.2333	0.031	13.2	ug/L	21	Standard
[>	In	115	370290.5	0.7				ug/L	367897	Standard
	Sn	118	105.3	5.2	0.0122	0.006	50.1	ug/L	96	Standard
	Sb	123	1812.4	4.8	0.4643	0.022	4.6	ug/L	1191	Standard
	Ba	135	1036.0	3.1	0.2888	0.028	9.6	ug/L	59	Standard
	Ce	140	26.7	39.0				ug/L	13	Standard
[>	Tb	159	626742.0	1.6				ug/L	641594	Standard
	Ho	165	8.3	91.7				ug/L	5	Standard
	Tl	203	837.4	2.2	0.0830	0.002	1.9	ug/L	121	Standard
	Tl	205	1846.8	4.4	0.0791	0.003	3.5	ug/L	280	Standard
	Pb	206	1685.4	4.9	0.1967	0.014	7.1	ug/L	355	Standard
	Pb	207	1334.4	3.2	0.1804	0.004	2.3	ug/L	304	Standard
	Pb	208	2421.1	2.0	0.1741	0.009	5.2	ug/L	522	Standard
	U	238	3593.8	3.2	0.3827	0.016	4.2	ug/L	7	Standard
[>	Bi	209	493798.9	1.9				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	61.7	33.8	0.5267	0.367	69.7	mg/L	22	Standard
K	39	10.0	86.6	-0.2896	0.129	44.6	mg/L	5	Standard
Ca	43	43.3	37.1	-0.6585	45.497	6909.5	mg/L	40	Standard
Fe	54	40.9	39.7	0.3578	0.340	95.1	mg/L	38	Standard
Fe	57	651.7	6.0	2.3350	2.821	120.8	mg/L	577	Standard
Sc-1	45	19132.1	3.1				mg/L	20594	Standard
Cl	35	2.0	0.0				ug/L	2	Standard
Kr	83	4.0	129.9				ug/L	5	Standard
Br	81	1000.0	7.0				ug/L	1070	Standard
P	31	58.3	17.8				ug/L	42	Standard
S	34	56.7	10.2				ug/L	65	Standard
Sr	88	368.3	6.8				ug/L	372	Standard
C	12	6.7	86.6				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	9.2	111.3				mg/L	10	Standard
Ho-1	165	8.3	91.7				mg/L	5	Standard
Er	166	16.7	34.6				mg/L	7	Standard
I	127	3012.0	3.0				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	77.009		
Al	27	-0.528		
Sc	45			
Ti	47			
V	51	75.664		
Cr	52	45.244		
Cr	53			
Mn	55	90.862		
Co	59	92.893		
Ni	60	93.968		
Cu	65	96.061		
Zn	66	95.568		
Ge	72		96.579	
As	75	109.576		
Se	82	76.422		
Se-1	77			
Ga	71			

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98		
	Ag	107	94.788	
	Cd	111	97.240	
	Cd	114		
>	In	115		100.650
	Sn	118		
	Sb	123	116.073	
[	Ba	135	38.503	
[	Ce	140		
>	Tb	159		
[	Ho	165		
	Tl	203	103.798	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	87.042	
	U	238	95.673	
>	Bi	209		99.439
[	Na	23		
[	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		
	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 3	Al	27	
QC Std 3	Cr	52	
QC Std 3	Ba	135	

Sample ID: QC Std 3

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Method 6020 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Tuesday, August 29, 2017 10:45:16

Number of Replicates: 3

Autosampler Position: 203

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	132306.9	1.1				ug/L	142206	Standard
	Be	9	18.3	31.5	-0.0276	0.004	14.4	ug/L	20	Standard
	Al	27	5870532.9	1.0	48.8571	0.745	1.5	ug/L	3387	Standard
	Sc	45	17985.7	3.6				ug/L	20594	Standard
	Ti	47	16612.1	2.0	103.3872	3.410	3.3	ug/L	34	Standard
	V	51	693.1	11.7	-0.1185	0.012	9.8	ug/L	1465	Standard
	Cr	52	5630.4	1.7	-0.3107	0.007	2.3	ug/L	8276	Standard
	Cr	53	2200.2	4.8	1.3182	0.091	6.9	ug/L	1320	Standard
	Mn	55	1817.4	6.5	0.0052	0.014	270.2	ug/L	2274	Standard
	Co	59	522.7	4.1	-0.0037	0.002	51.1	ug/L	628	Standard
	Ni	60	686.7	3.7	0.2106	0.018	8.3	ug/L	395	Standard
	Cu	65	406.7	5.2	0.1682	0.010	6.0	ug/L	187	Standard
	Zn	66	1417.7	4.3	1.7112	0.074	4.3	ug/L	181	Standard
[>	Ge	72	307773.2	1.9				ug/L	341349	Standard
	As	75	-81.5	43.1	-0.0416	0.046	110.0	ug/L	-52	Standard
	Se	82	14.4	38.3	-0.1066	0.090	84.7	ug/L	18	Standard
	Se-1	77	315.7	7.1	3.7253	0.487	13.1	ug/L	170	Standard
[>	Ga	71	85.0	27.0				mg/L	30	Standard
	Rb	85	576.7	8.8				ug/L	55	Standard
	Y	89	271219.3	0.4				ug/L	313052	Standard
[>	Rh	103	46.7	16.4				ug/L	40	Standard
	Mo	98	257547.2	0.5	95.4297	0.396	0.4	ug/L	297	Standard
	Ag	107	127.7	7.4	0.0030	0.002	64.9	ug/L	112	Standard
	Cd	111	-85.9	4.2	-0.1028	0.003	3.3	mg/L	9	Standard
	Cd	114	309.6	7.6	0.1064	0.009	8.5	ug/L	21	Standard
[>	In	115	348197.0	0.9				ug/L	367897	Standard
	Sn	118	77.3	11.6	-0.0170	0.013	74.0	ug/L	96	Standard
	Sb	123	159.3	14.9	-0.0073	0.007	94.0	ug/L	1191	Standard
	Ba	135	114.7	34.9	-0.3698	0.030	8.2	ug/L	59	Standard
	Ce	140	40.0	33.1				ug/L	13	Standard
[>	Tb	159	621234.4	1.2				ug/L	641594	Standard
	Ho	165	20.0	75.0				ug/L	5	Standard
	Tl	203	191.7	17.5	0.0107	0.004	40.2	ug/L	121	Standard
	Tl	205	385.0	20.9	0.0085	0.004	51.2	ug/L	280	Standard
	Pb	206	471.7	1.2	0.0202	0.001	5.7	ug/L	355	Standard
	Pb	207	389.3	7.1	0.0203	0.006	28.1	ug/L	304	Standard
	Pb	208	696.0	1.7	0.0121	0.001	9.4	ug/L	522	Standard
	U	238	15.0	70.6	0.0003	0.001	354.1	ug/L	7	Standard
[>	Bi	209	461323.3	0.8				ug/L	496583	Standard

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Na	23	43.3	35.3	11.6810	4.468	38.2	mg/L	0	Standard
Mg	24	631.7	10.5	12.4937	1.830	14.6	mg/L	22	Standard
K	39	343.3	14.0	5.0123	0.836	16.7	mg/L	5	Standard
Ca	43	53.3	47.2	33.1169	66.491	200.8	mg/L	40	Standard
Fe	54	624.0	4.5	12.4363	0.872	7.0	mg/L	38	Standard
Fe	57	930.0	7.5	18.3870	2.288	12.4	mg/L	577	Standard
Sc-1	45	17985.7	3.6				mg/L	20594	Standard
Cl	35	2.7	114.6				ug/L	2	Standard
Kr	83	8.7	6.7				ug/L	5	Standard
Br	81	916.7	5.5				ug/L	1070	Standard
P	31	58.3	32.5				ug/L	42	Standard
S	34	56.7	18.4				ug/L	65	Standard
Sr	88	346.7	9.4				ug/L	372	Standard
C	12	40.0	50.0				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	26.7	21.7				mg/L	3	Standard
Dy	164	20.0	100.0				mg/L	10	Standard
Ho-1	165	20.0	75.0				mg/L	5	Standard
Er	166	0.0					mg/L	7	Standard
I	127	29340.1	3.7				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27	0.977		
Sc	45			
Ti	47	103.387		
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		90.164	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98	95.430	
[	Ag	107		
[	Cd	111		
[	Cd	114		
>	In	115		94.645
[	Sn	118		
[	Sb	123		
[	Ba	135		
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203		
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208		
[	U	238		
>	Bi	209		92.900
[	Na	23	93.448	
[	Mg	24	249.875	
[	K	39	100.245	
[	Ca	43	220.780	
[	Fe	54	99.491	
[	Fe	57	147.096	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Al	27	
QC Std 4	Mg	24	
QC Std 4	Ca	43	

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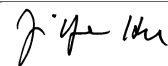


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Method 6020 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Tuesday, August 29, 2017 10:48:22

Number of Replicates: 3

Autosampler Position: 204

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	134978.8	2.4				ug/L	142206	Standard
	Be	9	156614.2	3.4	103.8037	4.214	4.1	ug/L	20	Standard
	Al	27	5809836.0	0.6	47.4038	0.915	1.9	ug/L	3387	Standard
	Sc	45	18139.2	2.2				ug/L	20594	Standard
	Ti	47	17008.5	1.9	102.1451	3.741	3.7	ug/L	34	Standard
	V	51	593339.8	1.1	98.3679	3.006	3.1	ug/L	1465	Standard
	Cr	52	572800.3	0.9	98.3778	2.717	2.8	ug/L	8276	Standard
	Cr	53	73839.5	1.4	98.1574	2.296	2.3	ug/L	1320	Standard
	Mn	55	917970.8	1.5	98.6942	3.489	3.5	ug/L	2274	Standard
	Co	59	734171.6	1.1	99.6294	3.134	3.1	ug/L	628	Standard
	Ni	60	158162.7	1.4	100.2681	3.324	3.3	ug/L	395	Standard
	Cu	65	146280.8	0.6	101.9797	2.557	2.5	ug/L	187	Standard
	Zn	66	82046.9	0.6	107.7861	2.769	2.6	ug/L	181	Standard
[>	Ge	72	318985.1	2.0				ug/L	341349	Standard
	As	75	81568.0	0.4	105.4008	1.987	1.9	ug/L	-52	Standard
	Se	82	7113.9	0.7	109.6879	2.182	2.0	ug/L	18	Standard
	Se-1	77	5642.1	0.7	116.5414	2.385	2.0	ug/L	170	Standard
[>	Ga	71	133.3	17.3				mg/L	30	Standard
	Rb	85	586.7	11.6				ug/L	55	Standard
	Y	89	277522.4	1.7				ug/L	313052	Standard
[>	Rh	103	76.7	26.4				ug/L	40	Standard
	Mo	98	267218.1	0.4	96.2662	0.106	0.1	ug/L	297	Standard
	Ag	107	411557.9	0.8	93.1621	0.697	0.7	ug/L	112	Standard
	Cd	111	103120.3	0.5	102.7835	0.304	0.3	mg/L	9	Standard
	Cd	114	292113.3	2.9	100.8963	2.714	2.7	ug/L	21	Standard
[>	In	115	358124.9	0.3				ug/L	367897	Standard
	Sn	118	148.3	18.0	0.0733	0.035	48.1	ug/L	96	Standard
	Sb	123	345380.5	2.1	102.4594	1.942	1.9	ug/L	1191	Standard
	Ba	135	139618.5	1.7	103.5103	1.580	1.5	ug/L	59	Standard
	Ce	140	55.0	39.6				ug/L	13	Standard
[>	Tb	159	630658.2	0.9				ug/L	641594	Standard
	Ho	165	6.7	86.6				ug/L	5	Standard
	Tl	203	826045.6	0.6	98.5639	1.202	1.2	ug/L	121	Standard
	Tl	205	1930076.1	1.3	99.1479	0.687	0.7	ug/L	280	Standard
	Pb	206	646801.9	0.7	100.7112	1.746	1.7	ug/L	355	Standard
	Pb	207	542398.1	0.8	98.6255	1.313	1.3	ug/L	304	Standard
	Pb	208	971541.0	2.8	97.7836	3.242	3.3	ug/L	522	Standard
	U	238	903490.2	2.1	100.6514	2.789	2.8	ug/L	7	Standard
[>	Bi	209	473599.8	1.1				ug/L	496583	Standard

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Na	23	35.0	65.5	9.3775	6.338	67.6	mg/L	0	Standard
Mg	24	640.0	2.1	12.5190	0.564	4.5	mg/L	22	Standard
K	39	351.7	16.5	5.0744	0.798	15.7	mg/L	5	Standard
Ca	43	56.7	20.4	43.4257	36.854	84.9	mg/L	40	Standard
Fe	54	625.2	11.7	12.3190	1.243	10.1	mg/L	38	Standard
Fe	57	851.7	9.1	14.0842	4.068	28.9	mg/L	577	Standard
Sc-1	45	18139.2	2.2				mg/L	20594	Standard
Cl	35	2.0	100.0				ug/L	2	Standard
Kr	83	8.3	48.5				ug/L	5	Standard
Br	81	943.4	3.2				ug/L	1070	Standard
P	31	38.3	49.4				ug/L	42	Standard
S	34	53.3	35.5				ug/L	65	Standard
Sr	88	338.3	5.2				ug/L	372	Standard
C	12	20.0	86.6				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	23.3	49.5				mg/L	3	Standard
Dy	164	13.0	40.1				mg/L	10	Standard
Ho-1	165	6.7	86.6				mg/L	5	Standard
Er	166	6.7	173.2				mg/L	7	Standard
I	127	27141.0	2.5				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	103.804		
Al	27	0.948		
Sc	45			
Ti	47	102.145		
V	51	98.368		
Cr	52	98.378		
Cr	53			
Mn	55	98.694		
Co	59	99.629		
Ni	60	100.268		
Cu	65	101.980		
Zn	66	107.786		
Ge	72		93.448	
As	75	105.401		
Se	82	109.688		
Se-1	77			
Ga	71			

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98	96.266	
[	Ag	107	93.162	
[	Cd	111	102.784	
[	Cd	114		
>	In	115		97.344
[	Sn	118		
[	Sb	123	102.459	
[	Ba	135	103.510	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	98.564	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	97.784	
[	U	238	100.651	
>	Bi	209		95.372
[	Na	23	75.020	
[	Mg	24	250.381	
[	K	39	101.488	
[	Ca	43	289.505	
[	Fe	54	98.552	
[	Fe	57	112.674	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Al	27	
QC Std 5	Na	23	
QC Std 5	Mg	24	

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QC Std 5	Ca	43
QC Std 5	Fe	57

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, August 29, 2017 10:51:29

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	141792.0	0.4				ug/L	142206	Standard
	Be	9	79776.2	1.9	50.2952	0.784	1.6	ug/L	20	Standard
	Al	27	6506934.8	2.0	50.5257	0.834	1.7	ug/L	3387	Standard
	Sc	45	19704.5	2.3				ug/L	20594	Standard
	Ti	47	17464.4	2.0	99.1124	4.642	4.7	ug/L	34	Standard
	V	51	317836.9	1.1	49.6616	1.285	2.6	ug/L	1465	Standard
	Cr	52	312118.1	0.8	50.0045	1.495	3.0	ug/L	8276	Standard
	Cr	53	40225.0	1.6	49.6558	0.736	1.5	ug/L	1320	Standard
	Mn	55	495534.8	0.7	50.2358	1.559	3.1	ug/L	2274	Standard
	Co	59	392674.4	0.7	50.3008	1.207	2.4	ug/L	628	Standard
	Ni	60	83707.3	1.1	50.0029	0.816	1.6	ug/L	395	Standard
	Cu	65	76345.5	0.7	50.2192	1.131	2.3	ug/L	187	Standard
	Zn	66	39860.7	0.8	49.3564	1.453	2.9	ug/L	181	Standard
[>	Ge	72	337665.6	2.7				ug/L	341349	Standard
	As	75	40827.3	1.0	49.8760	0.862	1.7	ug/L	-52	Standard
	Se	82	3576.8	2.4	51.9116	0.276	0.5	ug/L	18	Standard
	Se-1	77	2708.9	2.4	51.0940	0.852	1.7	ug/L	170	Standard
[>	Ga	71	43.3	43.7				mg/L	30	Standard
	Rb	85	651.7	12.2				ug/L	55	Standard
	Y	89	305083.6	3.7				ug/L	313052	Standard
[>	Rh	103	86.7	33.8				ug/L	40	Standard
	Mo	98	298527.2	0.8	101.4576	0.780	0.8	ug/L	297	Standard
	Ag	107	237775.3	1.9	50.7617	0.820	1.6	ug/L	112	Standard
	Cd	111	54170.2	0.5	50.9283	0.359	0.7	mg/L	9	Standard
	Cd	114	154665.1	0.7	50.3975	0.613	1.2	ug/L	21	Standard
[>	In	115	379630.0	0.5				ug/L	367897	Standard
	Sn	118	40495.4	1.6	50.0375	0.978	2.0	ug/L	96	Standard
	Sb	123	187450.7	0.6	52.4345	0.579	1.1	ug/L	1191	Standard
	Ba	135	72854.1	1.1	50.7242	0.798	1.6	ug/L	59	Standard
	Ce	140	68.3	33.0				ug/L	13	Standard
[>	Tb	159	639813.0	2.0				ug/L	641594	Standard
	Ho	165	16.7	69.3				ug/L	5	Standard
	Tl	203	442821.6	0.7	50.2450	0.573	1.1	ug/L	121	Standard
	Tl	205	1046213.7	0.3	51.1147	0.845	1.7	ug/L	280	Standard
	Pb	206	333735.9	0.6	49.3907	0.508	1.0	ug/L	355	Standard
	Pb	207	294492.5	0.5	50.9016	0.527	1.0	ug/L	304	Standard
	Pb	208	498007.2	3.3	47.6527	2.235	4.7	ug/L	522	Standard
	U	238	467130.6	1.5	49.4948	1.294	2.6	ug/L	7	Standard
[>	Bi	209	497986.2	1.5				ug/L	496583	Standard

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Na	23	13.3	43.3	3.2449	1.328	40.9	mg/L	0	Standard
Mg	24	298.3	15.0	4.9987	0.968	19.4	mg/L	22	Standard
K	39	378.3	3.3	5.0321	0.067	1.3	mg/L	5	Standard
Ca	43	48.3	39.2	8.9678	52.526	585.7	mg/L	40	Standard
Fe	54	295.7	18.6	5.1144	0.949	18.6	mg/L	38	Standard
Fe	57	780.0	3.6	7.3358	1.328	18.1	mg/L	577	Standard
Sc-1	45	19704.5	2.3				mg/L	20594	Standard
Cl	35	2.0	100.0				ug/L	2	Standard
Kr	83	6.3	45.6				ug/L	5	Standard
Br	81	936.7	2.7				ug/L	1070	Standard
P	31	66.7	28.4				ug/L	42	Standard
S	34	68.3	40.3				ug/L	65	Standard
Sr	88	348.3	21.8				ug/L	372	Standard
C	12	13.3	114.6				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	18.9	92.5				mg/L	10	Standard
Ho-1	165	16.7	69.3				mg/L	5	Standard
Er	166	23.3	24.7				mg/L	7	Standard
I	127	3480.4	7.8				mg/L	13743	Standard

QC Calculated Values

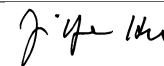
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	100.590		
Al	27	101.051		
Sc	45			
Ti	47	99.112		
V	51	99.323		
Cr	52	100.009		
Cr	53			
Mn	55	100.472		
Co	59	100.602		
Ni	60	100.006		
Cu	65	100.438		
Zn	66	98.713		
Ge	72		98.921	
As	75	99.752		
Se	82	103.823		
Se-1	77			
Ga	71			

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98	101.458	
[	Ag	107	101.523	
[	Cd	111	101.857	
[	Cd	114		
>	In	115		103.189
[	Sn	118	100.075	
[	Sb	123	104.869	
[	Ba	135	101.448	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.490	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	95.305	
[	U	238	98.990	
>	Bi	209		100.283
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, August 29, 2017 10:54:35

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	141716.4	0.6				ug/L	142206	Standard
	Be	9	46.7	44.6	-0.0106	0.013	122.6	ug/L	20	Standard
	Al	27	3280.4	6.5	-0.0029	0.002	61.3	ug/L	3387	Standard
	Sc	45	19814.6	3.7				ug/L	20594	Standard
	Ti	47	32.3	18.6	0.0093	0.038	407.3	ug/L	34	Standard
	V	51	1075.3	5.5	-0.0674	0.007	10.8	ug/L	1465	Standard
	Cr	52	6519.7	1.9	-0.2441	0.010	4.2	ug/L	8276	Standard
	Cr	53	1368.4	2.3	-0.0000	0.025	60179.1	ug/L	1320	Standard
	Mn	55	1743.4	7.3	-0.0188	0.010	52.9	ug/L	2274	Standard
	Co	59	526.7	5.7	-0.0091	0.003	36.1	ug/L	628	Standard
	Ni	60	330.0	8.1	-0.0418	0.014	33.0	ug/L	395	Standard
	Cu	65	238.0	9.1	0.0325	0.012	35.9	ug/L	187	Standard
	Zn	66	179.3	15.9	0.0025	0.034	1354.4	ug/L	181	Standard
[>	Ge	72	334436.4	1.7				ug/L	341349	Standard
	As	75	-62.1	89.7	-0.0091	0.068	738.7	ug/L	-52	Standard
	Se	82	20.4	32.7	-0.0376	0.098	260.8	ug/L	18	Standard
	Se-1	77	157.7	12.9	-0.0264	0.411	1555.1	ug/L	170	Standard
[>	Ga	71	43.3	52.0				mg/L	30	Standard
	Rb	85	55.0	24.1				ug/L	55	Standard
	Y	89	303673.0	3.0				ug/L	313052	Standard
[>	Rh	103	53.3	23.6				ug/L	40	Standard
	Mo	98	554.8	9.8	0.1314	0.017	13.3	ug/L	297	Standard
	Ag	107	154.0	14.4	0.0067	0.005	75.9	ug/L	112	Standard
	Cd	111	12.1	45.3	-0.0033	0.005	156.6	mg/L	9	Standard
	Cd	114	46.2	27.8	0.0117	0.004	36.1	ug/L	21	Standard
[>	In	115	374100.8	1.0				ug/L	367897	Standard
	Sn	118	142.0	11.5	0.0570	0.021	36.8	ug/L	96	Standard
	Sb	123	1258.3	6.2	0.3016	0.020	6.6	ug/L	1191	Standard
	Ba	135	86.0	7.6	-0.3962	0.004	1.1	ug/L	59	Standard
	Ce	140	28.3	27.0				ug/L	13	Standard
[>	Tb	159	629816.3	1.8				ug/L	641594	Standard
	Ho	165	11.7	107.9				ug/L	5	Standard
	Tl	203	208.7	8.8	0.0104	0.001	14.0	ug/L	121	Standard
	Tl	205	446.7	17.9	0.0095	0.003	35.3	ug/L	280	Standard
	Pb	206	405.3	6.1	0.0036	0.003	84.8	ug/L	355	Standard
	Pb	207	331.3	5.5	0.0038	0.002	46.8	ug/L	304	Standard
	Pb	208	589.3	2.9	-0.0045	0.002	54.5	ug/L	522	Standard
	U	238	54.0	16.0	0.0042	0.001	19.9	ug/L	7	Standard
[>	Bi	209	507882.9	2.7				ug/L	496583	Standard

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Na	23	1.7	173.2	0.4278	0.732	171.2	mg/L	0	Standard
Mg	24	50.0	36.1	0.2789	0.366	131.1	mg/L	22	Standard
K	39	11.7	65.5	-0.2726	0.106	39.0	mg/L	5	Standard
Ca	43	43.3	17.6	-5.8375	16.110	276.0	mg/L	40	Standard
Fe	54	34.3	66.7	0.1937	0.409	211.3	mg/L	38	Standard
Fe	57	618.3	3.4	-0.3036	1.553	511.4	mg/L	577	Standard
Sc-1	45	19814.6	3.7				mg/L	20594	Standard
Cl	35	4.0	50.0				ug/L	2	Standard
Kr	83	6.3	32.9				ug/L	5	Standard
Br	81	983.4	2.6				ug/L	1070	Standard
P	31	58.3	26.2				ug/L	42	Standard
S	34	56.7	10.2				ug/L	65	Standard
Sr	88	351.7	19.6				ug/L	372	Standard
C	12	3.3	173.2				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	12.4	54.6				mg/L	10	Standard
Ho-1	165	11.7	107.9				mg/L	5	Standard
Er	166	20.0	173.2				mg/L	7	Standard
I	127	13320.9	2.5				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		97.975	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 7

Report Date/Time: Tuesday, August 29, 2017 10:56:46

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	101.686
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	102.276
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

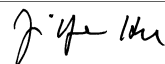
QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Sb	123	

Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: PBW 78 WG627538-02

Sample Date/Time: Tuesday, August 29, 2017 10:57:41

Number of Replicates: 3

Autosampler Position: 301

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	142749.5	2.1				ug/L	142206	Standard
	Be	9	40.0	33.1	-0.0150	0.008	51.5	ug/L	20	Standard
	Al	27	4198.9	2.7	0.0040	0.000	4.5	ug/L	3387	Standard
	Sc	45	19325.7	3.7				ug/L	20594	Standard
	Ti	47	38.0	7.0	0.0442	0.015	35.0	ug/L	34	Standard
	V	51	989.5	13.9	-0.0791	0.020	25.6	ug/L	1465	Standard
	Cr	52	6807.2	2.0	-0.1814	0.031	17.2	ug/L	8276	Standard
	Cr	53	1291.7	0.9	-0.0769	0.022	28.1	ug/L	1320	Standard
	Mn	55	2273.8	5.9	0.0387	0.009	23.7	ug/L	2274	Standard
	Co	59	483.7	2.8	-0.0138	0.001	4.4	ug/L	628	Standard
	Ni	60	356.7	2.5	-0.0226	0.008	36.4	ug/L	395	Standard
	Cu	65	232.0	7.8	0.0305	0.009	29.9	ug/L	187	Standard
	Zn	66	510.3	4.0	0.4267	0.028	6.5	ug/L	181	Standard
[>	Ge	72	330119.5	2.0				ug/L	341349	Standard
	As	75	-28.5	136.6	0.0313	0.049	156.4	ug/L	-52	Standard
	Se	82	17.2	11.4	-0.0808	0.028	35.2	ug/L	18	Standard
	Se-1	77	144.7	15.0	-0.2526	0.434	171.9	ug/L	170	Standard
[>	Ga	71	45.0	29.4				mg/L	30	Standard
	Rb	85	66.7	31.2				ug/L	55	Standard
	Y	89	304524.8	2.9				ug/L	313052	Standard
[>	Rh	103	38.3	49.4				ug/L	40	Standard
	Mo	98	238.8	21.4	0.0220	0.017	79.1	ug/L	297	Standard
	Ag	107	126.0	12.6	0.0005	0.003	747.4	ug/L	112	Standard
	Cd	111	14.4	7.7	-0.0011	0.001	92.1	mg/L	9	Standard
	Cd	114	25.4	63.3	0.0048	0.005	111.3	ug/L	21	Standard
[>	In	115	376280.6	0.3				ug/L	367897	Standard
	Sn	118	110.3	7.3	0.0164	0.010	62.2	ug/L	96	Standard
	Sb	123	551.4	7.8	0.0999	0.012	12.1	ug/L	1191	Standard
	Ba	135	128.3	8.4	-0.3665	0.008	2.1	ug/L	59	Standard
	Ce	140	73.3	21.9				ug/L	13	Standard
[>	Tb	159	630038.9	1.3				ug/L	641594	Standard
	Ho	165	25.0	69.3				ug/L	5	Standard
	Tl	203	133.7	7.5	0.0023	0.001	46.8	ug/L	121	Standard
	Tl	205	320.0	23.6	0.0036	0.004	97.1	ug/L	280	Standard
	Pb	206	399.7	9.4	0.0035	0.004	117.8	ug/L	355	Standard
	Pb	207	334.7	9.4	0.0051	0.004	84.1	ug/L	304	Standard
	Pb	208	600.7	2.3	-0.0027	0.002	79.8	ug/L	522	Standard
	U	238	25.0	26.2	0.0013	0.001	50.9	ug/L	7	Standard
[>	Bi	209	501297.9	2.2				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	41.7	59.2	0.1408	0.491	348.5	mg/L	22	Standard
K	39	20.0	66.1	-0.1410	0.205	145.1	mg/L	5	Standard
Ca	43	30.0	28.9	-37.9477	24.318	64.1	mg/L	40	Standard
Fe	54	20.9	26.8	-0.0408	0.100	245.1	mg/L	38	Standard
Fe	57	685.0	6.4	3.5246	0.973	27.6	mg/L	577	Standard
Sc-1	45	19325.7	3.7				mg/L	20594	Standard
Cl	35	2.0	0.0				ug/L	2	Standard
Kr	83	3.3	75.5				ug/L	5	Standard
Br	81	1026.7	6.9				ug/L	1070	Standard
P	31	66.7	24.1				ug/L	42	Standard
S	34	56.7	35.7				ug/L	65	Standard
Sr	88	325.0	4.6				ug/L	372	Standard
C	12	6.7	173.2				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	10.0	100.0				mg/L	3	Standard
Dy	164	16.2	91.5				mg/L	10	Standard
Ho-1	165	25.0	69.3				mg/L	5	Standard
Er	166	10.0	100.0				mg/L	7	Standard
I	127	11384.3	3.2				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		100.382	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		96.710	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: PBW 78 WG627538-02

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	102.279
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	100.950
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 78 WG627538-02

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Method 6020 - Summary Report

Sample ID: LCSW 78 WG628538-03

Sample Date/Time: Tuesday, August 29, 2017 11:00:47

Number of Replicates: 3

Autosampler Position: 302

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	144157.6	1.5				ug/L	142206	Standard
	Be	9	80580.5	2.9	49.9908	2.150	4.3	ug/L	20	Standard
	Al	27	7355.1	0.6	0.0278	0.001	2.0	ug/L	3387	Standard
	Sc	45	19739.5	3.3				ug/L	20594	Standard
	Ti	47	38.0	13.9	0.0407	0.034	83.3	ug/L	34	Standard
	V	51	319661.1	1.5	50.1935	1.625	3.2	ug/L	1465	Standard
	Cr	52	310377.9	0.7	49.9589	1.244	2.5	ug/L	8276	Standard
	Cr	53	41170.9	0.9	51.1274	1.277	2.5	ug/L	1320	Standard
	Mn	55	495793.9	0.3	50.4948	0.942	1.9	ug/L	2274	Standard
	Co	59	389721.5	0.2	50.1590	0.931	1.9	ug/L	628	Standard
	Ni	60	85259.6	0.8	51.1795	0.635	1.2	ug/L	395	Standard
	Cu	65	77224.7	1.2	51.0384	0.908	1.8	ug/L	187	Standard
	Zn	66	41500.4	0.6	51.6339	0.828	1.6	ug/L	181	Standard
[>	Ge	72	336004.6	1.8				ug/L	341349	Standard
	As	75	41103.6	0.5	50.4538	0.747	1.5	ug/L	-52	Standard
	Se	82	3514.4	2.2	51.2486	0.552	1.1	ug/L	18	Standard
	Se-1	77	2638.9	3.2	49.9443	1.396	2.8	ug/L	170	Standard
[>	Ga	71	53.3	28.6				mg/L	30	Standard
	Rb	85	91.7	41.3				ug/L	55	Standard
	Y	89	306359.1	2.5				ug/L	313052	Standard
[>	Rh	103	86.7	20.3				ug/L	40	Standard
	Mo	98	198.1	22.0	0.0078	0.015	188.7	ug/L	297	Standard
	Ag	107	237374.4	0.5	50.9845	0.462	0.9	ug/L	112	Standard
	Cd	111	53936.6	1.3	51.0147	0.685	1.3	mg/L	9	Standard
	Cd	114	147914.5	1.1	48.4872	0.577	1.2	ug/L	21	Standard
[>	In	115	377353.6	0.5				ug/L	367897	Standard
	Sn	118	153.7	17.2	0.0701	0.034	48.4	ug/L	96	Standard
	Sb	123	176660.4	2.9	49.7101	1.420	2.9	ug/L	1191	Standard
	Ba	135	72254.3	2.6	50.6061	1.260	2.5	ug/L	59	Standard
	Ce	140	208.3	9.7				ug/L	13	Standard
[>	Tb	159	630104.5	2.3				ug/L	641594	Standard
	Ho	165	30.0	28.9				ug/L	5	Standard
	Tl	203	458158.6	1.0	51.3324	1.401	2.7	ug/L	121	Standard
	Tl	205	1059936.0	0.8	51.1296	1.241	2.4	ug/L	280	Standard
	Pb	206	346833.6	0.9	50.6853	1.329	2.6	ug/L	355	Standard
	Pb	207	292957.5	0.8	49.9925	0.878	1.8	ug/L	304	Standard
	Pb	208	505660.1	3.2	47.7727	2.327	4.9	ug/L	522	Standard
	U	238	465373.1	1.7	48.6867	1.653	3.4	ug/L	7	Standard
[>	Bi	209	504431.7	1.8				ug/L	496583	Standard

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Na	23	1.7	173.2	0.4256	0.729	171.2	mg/L	0	Standard
Mg	24	51.7	29.6	0.3065	0.278	90.8	mg/L	22	Standard
K	39	11.7	65.5	-0.2684	0.116	43.3	mg/L	5	Standard
Ca	43	38.3	37.7	-18.0466	37.719	209.0	mg/L	40	Standard
Fe	54	37.8	36.1	0.2664	0.235	88.2	mg/L	38	Standard
Fe	57	628.3	10.4	0.3073	3.720	1210.7	mg/L	577	Standard
Sc-1	45	19739.5	3.3				mg/L	20594	Standard
Cl	35	0.7	173.2				ug/L	2	Standard
Kr	83	4.7	65.5				ug/L	5	Standard
Br	81	1116.7	4.2				ug/L	1070	Standard
P	31	50.0	17.3				ug/L	42	Standard
S	34	63.3	4.6				ug/L	65	Standard
Sr	88	370.0	4.9				ug/L	372	Standard
C	12	3.3	173.2				mg/L	17	Standard
N	14	3.3	173.2				mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	19.2	53.3				mg/L	10	Standard
Ho-1	165	30.0	28.9				mg/L	5	Standard
Er	166	16.7	34.6				mg/L	7	Standard
I	127	3212.0	6.9				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		101.372	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		98.434	
As	75			
Se	82			
Se-1	77			
> Ga	71			

Sample ID: LCSW 78 WG628538-03

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	102.570
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.581
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSW 78 WG628538-03

Report Date/Time: Tuesday, August 29, 2017 11:02:57

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Method 6020 - Summary Report

Sample ID: L1708136618 WG627538-01

Sample Date/Time: Tuesday, August 29, 2017 11:03:52

Number of Replicates: 3

Autosampler Position: 303

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	143881.7	1.5				ug/L	142206	Standard
	Be	9	38.3	39.8	-0.0162	0.009	57.6	ug/L	20	Standard
	Al	27	9940432.4	2.2	76.0996	2.288	3.0	ug/L	3387	Standard
	Sc	45	20176.8	3.5				ug/L	20594	Standard
	Ti	47	52.7	2.9	0.1258	0.013	10.6	ug/L	34	Standard
	V	51	1258.2	7.5	-0.0380	0.018	48.2	ug/L	1465	Standard
	Cr	52	8399.0	5.0	0.0698	0.092	132.4	ug/L	8276	Standard
	Cr	53	2018.5	14.9	0.8457	0.429	50.8	ug/L	1320	Standard
	Mn	55	218807.0	2.1	22.3005	0.846	3.8	ug/L	2274	Standard
	Co	59	2891.9	2.1	0.2976	0.014	4.8	ug/L	628	Standard
	Ni	60	2725.6	1.7	1.4115	0.051	3.6	ug/L	395	Standard
	Cu	65	765.4	2.0	0.3842	0.018	4.8	ug/L	187	Standard
	Zn	66	2163.8	2.2	2.4961	0.078	3.1	ug/L	181	Standard
[>	Ge	72	334190.4	1.7				ug/L	341349	Standard
	As	75	159.8	42.1	0.2631	0.079	30.1	ug/L	-52	Standard
	Se	82	55.5	7.4	0.4819	0.071	14.7	ug/L	18	Standard
	Se-1	77	248.3	7.1	1.8167	0.435	23.9	ug/L	170	Standard
[>	Ga	71	61.7	12.4				mg/L	30	Standard
	Rb	85	5837.8	1.7				ug/L	55	Standard
	Y	89	299318.3	1.9				ug/L	313052	Standard
[>	Rh	103	148.3	10.3				ug/L	40	Standard
	Mo	98	2907.2	0.7	0.9700	0.009	0.9	ug/L	297	Standard
	Ag	107	145.7	3.5	0.0057	0.001	20.4	ug/L	112	Standard
	Cd	111	24.8	15.3	0.0095	0.004	39.2	mg/L	9	Standard
	Cd	114	76.6	31.0	0.0224	0.008	35.9	ug/L	21	Standard
[>	In	115	364373.4	0.2				ug/L	367897	Standard
	Sn	118	190.3	2.4	0.1241	0.006	5.1	ug/L	96	Standard
	Sb	123	2488.2	12.1	0.6700	0.087	13.0	ug/L	1191	Standard
	Ba	135	50278.3	1.8	36.3420	0.724	2.0	ug/L	59	Standard
	Ce	140	306.7	4.7				ug/L	13	Standard
[>	Tb	159	630486.6	1.8				ug/L	641594	Standard
	Ho	165	18.3	15.7				ug/L	5	Standard
	Tl	203	618.7	8.1	0.0607	0.005	7.8	ug/L	121	Standard
	Tl	205	1423.4	7.9	0.0609	0.005	7.4	ug/L	280	Standard
	Pb	206	569.7	4.7	0.0332	0.004	11.8	ug/L	355	Standard
	Pb	207	456.7	6.5	0.0303	0.004	13.1	ug/L	304	Standard
	Pb	208	852.0	1.7	0.0257	0.003	11.0	ug/L	522	Standard
	U	238	1867.1	3.4	0.2059	0.010	4.9	ug/L	7	Standard
[>	Bi	209	475400.7	1.7				ug/L	496583	Standard

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[	Na	23	81.7	15.4	19.4850	2.882	14.8	mg/L	0	Standard
	Mg	24	1516.7	8.6	27.3900	1.687	6.2	mg/L	22	Standard
	K	39	126.7	22.4	1.3488	0.384	28.5	mg/L	5	Standard
	Ca	43	53.3	32.9	19.2362	49.480	257.2	mg/L	40	Standard
	Fe	54	49.1	27.5	0.4578	0.220	48.0	mg/L	38	Standard
	Fe	57	871.7	13.6	10.6952	5.914	55.3	mg/L	577	Standard
[>	Sc-1	45	20176.8	3.5				mg/L	20594	Standard
	Cl	35	5.3	78.1				ug/L	2	Standard
	Kr	83	6.7	17.3				ug/L	5	Standard
	Br	81	9256.2	7.4				ug/L	1070	Standard
	P	31	58.3	30.1				ug/L	42	Standard
	S	34	81.7	35.9				ug/L	65	Standard
	Sr	88	371.7	4.1				ug/L	372	Standard
	C	12	30.0	57.7				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	10.0	173.2				mg/L	3	Standard
	Dy	164	12.7	50.0				mg/L	10	Standard
	Ho-1	165	18.3	15.7				mg/L	5	Standard
	Er	166	13.3	114.6				mg/L	7	Standard
	I	127	21410.2	9.0				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
[> Li	6		101.178	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
[> Ge	72		97.903	
As	75			
Se	82			
Se-1	77			
[> Ga	71			

Sample ID: L1708136618 WG627538-01

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.042
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	95.734
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1708136618 WG627538-01

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Method 6020 - Summary Report

Sample ID: L1708136618S WG627538-04

Sample Date/Time: Tuesday, August 29, 2017 11:06:58

Number of Replicates: 3

Autosampler Position: 304

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	145640.1	1.5				ug/L	142206	Standard
	Be	9	80523.4	1.7	49.4417	1.584	3.2	ug/L	20	Standard
	Al	27	9887046.3	1.5	74.7825	2.270	3.0	ug/L	3387	Standard
	Sc	45	20066.6	3.3				ug/L	20594	Standard
	Ti	47	57.0	7.6	0.1493	0.032	21.2	ug/L	34	Standard
	V	51	319410.2	1.8	50.1747	1.853	3.7	ug/L	1465	Standard
	Cr	52	309214.2	1.0	49.7893	1.557	3.1	ug/L	8276	Standard
	Cr	53	41321.3	0.7	51.3432	1.499	2.9	ug/L	1320	Standard
	Mn	55	694106.3	1.3	70.8125	2.478	3.5	ug/L	2274	Standard
	Co	59	383750.3	0.1	49.4093	1.140	2.3	ug/L	628	Standard
	Ni	60	84504.7	1.5	50.7560	1.723	3.4	ug/L	395	Standard
	Cu	65	74009.3	0.6	48.9296	1.085	2.2	ug/L	187	Standard
	Zn	66	41153.5	0.4	51.2211	1.051	2.1	ug/L	181	Standard
[>	Ge	72	335908.5	2.2				ug/L	341349	Standard
	As	75	42074.5	0.6	51.6633	0.928	1.8	ug/L	-52	Standard
	Se	82	3575.8	1.7	52.1773	1.061	2.0	ug/L	18	Standard
	Se-1	77	2811.3	1.5	53.4459	1.119	2.1	ug/L	170	Standard
[>	Ga	71	68.3	27.7				mg/L	30	Standard
	Rb	85	5712.7	2.4				ug/L	55	Standard
	Y	89	300802.1	1.6				ug/L	313052	Standard
[>	Rh	103	171.7	19.0				ug/L	40	Standard
	Mo	98	2808.2	4.0	0.9335	0.032	3.4	ug/L	297	Standard
	Ag	107	227523.7	1.0	50.5413	0.166	0.3	ug/L	112	Standard
	Cd	111	51623.3	1.6	50.4970	0.472	0.9	mg/L	9	Standard
	Cd	114	143010.3	1.9	48.4828	0.607	1.3	ug/L	21	Standard
[>	In	115	364853.3	0.8				ug/L	367897	Standard
	Sn	118	187.3	18.0	0.1201	0.045	37.5	ug/L	96	Standard
	Sb	123	175056.5	2.4	50.9448	0.950	1.9	ug/L	1191	Standard
	Ba	135	116266.5	1.6	84.5242	0.953	1.1	ug/L	59	Standard
	Ce	140	461.7	24.6				ug/L	13	Standard
[>	Tb	159	633994.1	2.0				ug/L	641594	Standard
	Ho	165	33.3	22.9				ug/L	5	Standard
	Tl	203	430826.5	1.1	51.6301	0.783	1.5	ug/L	121	Standard
	Tl	205	1002540.8	1.3	51.7251	0.296	0.6	ug/L	280	Standard
	Pb	206	320437.9	1.0	50.0843	0.227	0.5	ug/L	355	Standard
	Pb	207	270280.5	0.7	49.3380	0.457	0.9	ug/L	304	Standard
	Pb	208	484526.3	3.1	48.9650	2.137	4.4	ug/L	522	Standard
	U	238	450889.5	1.9	50.4594	1.576	3.1	ug/L	7	Standard
[>	Bi	209	471496.9	1.3				ug/L	496583	Standard

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Na	23	78.3	35.2	18.7675	6.333	33.7	mg/L	0	Standard
Mg	24	1463.4	1.5	26.5910	0.887	3.3	mg/L	22	Standard
K	39	125.0	20.8	1.3456	0.432	32.1	mg/L	5	Standard
Ca	43	78.3	42.5	81.4690	78.868	96.8	mg/L	40	Standard
Fe	54	36.2	40.3	0.2246	0.249	110.9	mg/L	38	Standard
Fe	57	810.0	3.1	8.0451	0.184	2.3	mg/L	577	Standard
Sc-1	45	20066.6	3.3				mg/L	20594	Standard
Cl	35	4.0	0.0				ug/L	2	Standard
Kr	83	4.7	12.4				ug/L	5	Standard
Br	81	9549.7	10.6				ug/L	1070	Standard
P	31	68.3	33.0				ug/L	42	Standard
S	34	65.0	27.7				ug/L	65	Standard
Sr	88	375.0	6.9				ug/L	372	Standard
C	12	43.3	35.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	10.0					mg/L	3	Standard
Dy	164	15.2	102.4				mg/L	10	Standard
Ho-1	165	33.3	22.9				mg/L	5	Standard
Er	166	30.0	33.3				mg/L	7	Standard
I	127	21238.3	8.5				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		102.415	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		98.406	
As	75			
Se	82			
Se-1	77			
> Ga	71			

Sample ID: L1708136618S WG627538-04

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.173
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.948
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1708136618S WG627538-04

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Method 6020 - Summary Report

Sample ID: L1708136618SD WG627538-05

Sample Date/Time: Tuesday, August 29, 2017 11:10:03

Number of Replicates: 3

Autosampler Position: 305

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

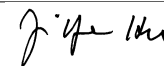
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	146510.0	0.9				ug/L	142206	Standard
	Be	9	81672.9	1.3	49.8404	1.067	2.1	ug/L	20	Standard
	Al	27	10240980.1	0.3	76.9800	0.483	0.6	ug/L	3387	Standard
	Sc	45	20647.4	0.8				ug/L	20594	Standard
	Ti	47	70.7	27.8	0.2213	0.116	52.2	ug/L	34	Standard
	V	51	317415.2	0.7	49.0358	1.333	2.7	ug/L	1465	Standard
	Cr	52	305843.8	0.9	48.4056	1.471	3.0	ug/L	8276	Standard
	Cr	53	41869.5	2.8	51.1773	2.376	4.6	ug/L	1320	Standard
	Mn	55	696434.4	0.8	69.8791	1.965	2.8	ug/L	2274	Standard
	Co	59	382804.8	0.2	48.4799	1.055	2.2	ug/L	628	Standard
	Ni	60	85284.4	1.9	50.3879	1.898	3.8	ug/L	395	Standard
	Cu	65	74836.0	1.3	48.6695	1.348	2.8	ug/L	187	Standard
	Zn	66	41318.3	2.0	50.5918	1.842	3.6	ug/L	181	Standard
[>	Ge	72	341484.4	2.1				ug/L	341349	Standard
	As	75	42352.2	1.0	51.1647	1.561	3.1	ug/L	-52	Standard
	Se	82	3520.1	0.5	50.5191	0.966	1.9	ug/L	18	Standard
	Se-1	77	2838.9	2.1	53.0704	1.478	2.8	ug/L	170	Standard
[>	Ga	71	60.0	36.3				mg/L	30	Standard
	Rb	85	6197.9	4.4				ug/L	55	Standard
	Y	89	298418.7	1.1				ug/L	313052	Standard
[>	Rh	103	158.3	20.5				ug/L	40	Standard
	Mo	98	2915.5	4.4	0.9777	0.044	4.5	ug/L	297	Standard
	Ag	107	226697.1	1.1	50.6582	0.809	1.6	ug/L	112	Standard
	Cd	111	51999.5	1.4	51.1667	0.546	1.1	mg/L	9	Standard
	Cd	114	142454.7	3.0	48.5804	1.353	2.8	ug/L	21	Standard
[>	In	115	362711.9	0.7				ug/L	367897	Standard
	Sn	118	149.0	10.7	0.0716	0.020	28.4	ug/L	96	Standard
	Sb	123	175251.6	1.6	51.3086	1.012	2.0	ug/L	1191	Standard
	Ba	135	116987.4	2.1	85.5667	2.294	2.7	ug/L	59	Standard
	Ce	140	311.7	6.7				ug/L	13	Standard
[>	Tb	159	629154.2	1.7				ug/L	641594	Standard
	Ho	165	25.0	52.9				ug/L	5	Standard
	Tl	203	425224.8	2.3	51.4095	1.494	2.9	ug/L	121	Standard
	Tl	205	999634.8	1.0	52.0333	0.832	1.6	ug/L	280	Standard
	Pb	206	318755.2	2.0	50.2594	0.916	1.8	ug/L	355	Standard
	Pb	207	270629.7	0.9	49.8404	0.963	1.9	ug/L	304	Standard
	Pb	208	482305.7	3.4	49.1926	2.910	5.9	ug/L	522	Standard
	U	238	448989.5	1.9	50.7041	2.196	4.3	ug/L	7	Standard
[>	Bi	209	467466.8	2.6				ug/L	496583	Standard

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Na	23	81.7	24.7	19.0540	4.744	24.9	mg/L	0	Standard
Mg	24	1513.4	2.3	26.7137	0.721	2.7	mg/L	22	Standard
K	39	118.3	6.5	1.1952	0.118	9.9	mg/L	5	Standard
Ca	43	75.0	26.7	69.2176	50.744	73.3	mg/L	40	Standard
Fe	54	19.6	62.5	-0.0877	0.223	253.9	mg/L	38	Standard
Fe	57	875.0	18.4	9.9226	7.416	74.7	mg/L	577	Standard
Sc-1	45	20647.4	0.8				mg/L	20594	Standard
Cl	35	0.0					ug/L	2	Standard
Kr	83	3.3	105.4				ug/L	5	Standard
Br	81	9863.2	4.1				ug/L	1070	Standard
P	31	46.7	16.4				ug/L	42	Standard
S	34	61.7	28.5				ug/L	65	Standard
Sr	88	400.0	6.6				ug/L	372	Standard
C	12	53.3	21.7				mg/L	17	Standard
N	14	6.7	86.6				mg/L	3	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	18.1	98.2				mg/L	10	Standard
Ho-1	165	25.0	52.9				mg/L	5	Standard
Er	166	40.0	43.3				mg/L	7	Standard
I	127	23875.5	7.6				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		103.026	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		100.040	
As	75			
Se	82			
Se-1	77			
> Ga	71			

Sample ID: L1708136618SD WG627538-05

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	98.590
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	94.137
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1708136618SD WG627538-05

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Method 6020 - Summary Report

Sample ID: L1708142701

Sample Date/Time: Tuesday, August 29, 2017 11:13:09

Number of Replicates: 3

Autosampler Position: 306

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	147482.7	1.4				ug/L	142206	Standard
	Be	9	136.7	11.8	0.0429	0.009	19.9	ug/L	20	Standard
	Al	27	1600192.1	1.0	11.9271	0.273	2.3	ug/L	3387	Standard
	Sc	45	20096.7	1.6				ug/L	20594	Standard
	Ti	47	1159.7	8.4	6.3087	0.631	10.0	ug/L	34	Standard
	V	51	175881.9	0.9	26.9143	0.255	0.9	ug/L	1465	Standard
	Cr	52	41498.1	1.2	5.3844	0.116	2.1	ug/L	8276	Standard
	Cr	53	5637.7	3.1	5.3244	0.309	5.8	ug/L	1320	Standard
	Mn	55	41478.7	1.1	3.9530	0.068	1.7	ug/L	2274	Standard
	Co	59	1756.4	4.1	0.1444	0.013	8.7	ug/L	628	Standard
	Ni	60	2048.1	2.4	0.9674	0.028	2.9	ug/L	395	Standard
	Cu	65	1873.1	1.2	1.0891	0.036	3.3	ug/L	187	Standard
	Zn	66	3322.7	1.1	3.8418	0.106	2.8	ug/L	181	Standard
[>	Ge	72	343286.1	1.7				ug/L	341349	Standard
	As	75	21435.2	1.6	25.7884	0.697	2.7	ug/L	-52	Standard
	Se	82	392.3	5.1	5.2958	0.214	4.0	ug/L	18	Standard
	Se-1	77	441.0	5.0	5.4823	0.524	9.6	ug/L	170	Standard
[>	Ga	71	16839.4	1.6				mg/L	30	Standard
	Rb	85	104947.3	1.5				ug/L	55	Standard
	Y	89	304144.5	1.7				ug/L	313052	Standard
[>	Rh	103	285.0	13.9				ug/L	40	Standard
	Mo	98	367696.6	1.2	128.2525	0.808	0.6	ug/L	297	Standard
	Ag	107	194.0	29.1	0.0158	0.012	78.7	ug/L	112	Standard
	Cd	111	-106.4	19.9	-0.1174	0.020	16.9	mg/L	9	Standard
	Cd	114	592.1	13.7	0.1944	0.027	13.8	ug/L	21	Standard
[>	In	115	369934.4	0.5				ug/L	367897	Standard
	Sn	118	170.0	5.7	0.0946	0.013	14.2	ug/L	96	Standard
	Sb	123	13322.8	2.1	3.7723	0.069	1.8	ug/L	1191	Standard
	Ba	135	42723.8	8.3	30.3399	2.509	8.3	ug/L	59	Standard
	Ce	140	6446.4	5.3				ug/L	13	Standard
[>	Tb	159	639026.9	1.8				ug/L	641594	Standard
	Ho	165	241.7	7.8				ug/L	5	Standard
	Tl	203	2493.5	2.6	0.2806	0.010	3.5	ug/L	121	Standard
	Tl	205	5619.4	7.4	0.2730	0.025	9.0	ug/L	280	Standard
	Pb	206	1907.1	5.7	0.2377	0.019	8.0	ug/L	355	Standard
	Pb	207	1597.1	7.3	0.2343	0.025	10.8	ug/L	304	Standard
	Pb	208	2870.8	9.8	0.2253	0.031	13.6	ug/L	522	Standard
	U	238	13018.3	1.2	1.4284	0.034	2.4	ug/L	7	Standard
[>	Bi	209	480437.7	1.6				ug/L	496583	Standard

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Na	23	95.0	13.9	22.8030	3.561	15.6	mg/L	0	Standard
Mg	24	455.0	3.8	7.7874	0.266	3.4	mg/L	22	Standard
K	39	840.0	6.6	11.4668	0.613	5.3	mg/L	5	Standard
Ca	43	60.0	38.2	35.9416	59.032	164.2	mg/L	40	Standard
Fe	54	45.8	6.7	0.4045	0.071	17.5	mg/L	38	Standard
Fe	57	903.4	4.4	12.2421	1.932	15.8	mg/L	577	Standard
Sc-1	45	20096.7	1.6				mg/L	20594	Standard
Cl	35	4.0	50.0				ug/L	2	Standard
Kr	83	5.7	10.2				ug/L	5	Standard
Br	81	6348.0	3.7				ug/L	1070	Standard
P	31	50.0	30.0				ug/L	42	Standard
S	34	85.0	15.6				ug/L	65	Standard
Sr	88	336.7	18.6				ug/L	372	Standard
C	12	26.7	43.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	250.0	21.2				mg/L	3	Standard
Dy	164	400.7	13.1				mg/L	10	Standard
Ho-1	165	241.7	7.8				mg/L	5	Standard
Er	166	193.3	28.5				mg/L	7	Standard
I	127	25880.5	8.7				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		103.711	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		100.567	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1708142701

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.554
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.749
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mo 98 Upper, S, EEE	Mo	98	

Sample ID: L1708142701

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Method 6020 - Summary Report

Sample ID: L1708146001

Sample Date/Time: Tuesday, August 29, 2017 11:16:14

Number of Replicates: 3

Autosampler Position: 307

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	137403.9	2.7				ug/L	142206	Standard
	Be	9	43.3	13.3	-0.0117	0.004	34.3	ug/L	20	Standard
	Al	27	4795373.0	0.5	38.4421	1.250	3.3	ug/L	3387	Standard
	Sc	45	19262.3	5.4				ug/L	20594	Standard
	Ti	47	886.4	39.4	5.0971	2.222	43.6	ug/L	34	Standard
	V	51	2541.7	17.6	0.1738	0.055	31.6	ug/L	1465	Standard
	Cr	52	11238.2	5.9	0.5858	0.035	6.0	ug/L	8276	Standard
	Cr	53	1750.1	8.9	0.5482	0.138	25.2	ug/L	1320	Standard
	Mn	55	16690680.3	1.4	1759.4940	64.115	3.6	ug/L	2274	Standard
	Co	59	2747.6	0.5	0.2880	0.013	4.5	ug/L	628	Standard
	Ni	60	1659.8	2.0	0.7906	0.037	4.7	ug/L	395	Standard
	Cu	65	1492.1	3.3	0.8932	0.034	3.8	ug/L	187	Standard
	Zn	66	100337.2	1.7	129.0397	3.911	3.0	ug/L	181	Standard
[>	Ge	72	326086.7	4.1				ug/L	341349	Standard
	As	75	1605.9	3.5	2.0955	0.015	0.7	ug/L	-52	Standard
	Se	82	47.2	19.1	0.3791	0.155	40.8	ug/L	18	Standard
	Se-1	77	186.3	3.9	0.6526	0.169	25.9	ug/L	170	Standard
[>	Ga	71	221.7	35.3				mg/L	30	Standard
	Rb	85	4255.6	5.9				ug/L	55	Standard
	Y	89	288959.4	4.3				ug/L	313052	Standard
[>	Rh	103	65.0	7.7				ug/L	40	Standard
	Mo	98	956.6	2.3	0.2851	0.008	2.9	ug/L	297	Standard
	Ag	107	392.0	3.4	0.0621	0.004	5.8	ug/L	112	Standard
	Cd	111	60.7	11.0	0.0457	0.006	12.8	mg/L	9	Standard
	Cd	114	154.1	4.9	0.0497	0.002	4.7	ug/L	21	Standard
[>	In	115	357885.3	1.2				ug/L	367897	Standard
	Sn	118	157.3	2.6	0.0853	0.007	7.9	ug/L	96	Standard
	Sb	123	1503.0	4.0	0.3907	0.023	5.9	ug/L	1191	Standard
	Ba	135	56748.1	0.6	41.8359	0.780	1.9	ug/L	59	Standard
	Ce	140	1875.1	4.9				ug/L	13	Standard
[>	Tb	159	611268.6	0.7				ug/L	641594	Standard
	Ho	165	56.7	39.8				ug/L	5	Standard
	Tl	203	110.7	18.4	0.0005	0.002	410.7	ug/L	121	Standard
	Tl	205	250.0	7.2	0.0011	0.001	46.7	ug/L	280	Standard
	Pb	206	1765.4	0.7	0.2226	0.008	3.5	ug/L	355	Standard
	Pb	207	1461.4	3.3	0.2162	0.014	6.7	ug/L	304	Standard
	Pb	208	2557.1	2.7	0.2003	0.011	5.5	ug/L	522	Standard
	U	238	348.3	4.7	0.0378	0.001	2.3	ug/L	7	Standard
[>	Bi	209	469146.5	3.3				ug/L	496583	Standard

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Na	23	35.0	14.3	8.7797	1.464	16.7	mg/L	0	Standard
Mg	24	915.0	6.6	17.1469	2.055	12.0	mg/L	22	Standard
K	39	61.7	46.8	0.4856	0.470	96.8	mg/L	5	Standard
Ca	43	60.0	28.9	42.2328	45.353	107.4	mg/L	40	Standard
Fe	54	302.5	5.8	5.4007	0.597	11.1	mg/L	38	Standard
Fe	57	866.7	6.9	12.2999	2.549	20.7	mg/L	577	Standard
Sc-1	45	19262.3	5.4				mg/L	20594	Standard
Cl	35	2.7	114.6				ug/L	2	Standard
Kr	83	4.3	13.3				ug/L	5	Standard
Br	81	5010.8	10.0				ug/L	1070	Standard
P	31	66.7	35.4				ug/L	42	Standard
S	34	73.3	33.6				ug/L	65	Standard
Sr	88	373.3	9.9				ug/L	372	Standard
C	12	153.3	16.4				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	13.3	86.6				mg/L	3	Standard
Dy	164	107.3	49.2				mg/L	10	Standard
Ho-1	165	56.7	39.8				mg/L	5	Standard
Er	166	56.7	10.2				mg/L	7	Standard
I	127	244905.2	6.3				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		96.623	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		95.529	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1708146001

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.279
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.475
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

Sample ID: L1708146001

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Method 6020 - Summary Report

Sample ID: L1708146001PS WG627590-01

Sample Date/Time: Tuesday, August 29, 2017 11:19:20

Number of Replicates: 3

Autosampler Position: 308

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	135427.7	2.1				ug/L	142206	Standard
	Be	9	79394.1	0.1	52.4237	1.001	1.9	ug/L	20	Standard
	Al	27	4700364.4	2.1	38.2246	1.398	3.7	ug/L	3387	Standard
	Sc	45	18534.7	1.9				ug/L	20594	Standard
	Ti	47	495.0	18.4	2.8222	0.602	21.3	ug/L	34	Standard
	V	51	314234.1	0.5	52.2531	1.046	2.0	ug/L	1465	Standard
	Cr	52	305236.3	0.7	52.0815	1.145	2.2	ug/L	8276	Standard
	Cr	53	39708.6	0.5	52.2629	1.559	3.0	ug/L	1320	Standard
	Mn	55	16448193.3	1.0	1780.5945	26.075	1.5	ug/L	2274	Standard
	Co	59	385616.5	0.6	52.5668	1.387	2.6	ug/L	628	Standard
	Ni	60	83553.1	1.0	53.1227	0.803	1.5	ug/L	395	Standard
	Cu	65	76971.0	0.9	53.8895	1.603	3.0	ug/L	187	Standard
	Zn	66	136533.7	0.2	180.4670	4.546	2.5	ug/L	181	Standard
[>	Ge	72	317324.1	2.5				ug/L	341349	Standard
	As	75	43150.5	0.6	56.0853	1.100	2.0	ug/L	-52	Standard
	Se	82	3589.3	3.1	55.4505	0.963	1.7	ug/L	18	Standard
	Se-1	77	2711.6	1.5	54.6376	0.971	1.8	ug/L	170	Standard
[>	Ga	71	231.7	22.0				mg/L	30	Standard
	Rb	85	4105.6	3.4				ug/L	55	Standard
	Y	89	285607.7	2.3				ug/L	313052	Standard
[>	Rh	103	83.3	18.3				ug/L	40	Standard
	Mo	98	649.5	7.4	0.1773	0.016	9.0	ug/L	297	Standard
	Ag	107	224250.8	1.2	51.4432	0.813	1.6	ug/L	112	Standard
	Cd	111	52565.4	1.0	53.0987	0.294	0.6	mg/L	9	Standard
	Cd	114	145994.2	0.7	51.1130	0.370	0.7	ug/L	21	Standard
[>	In	115	353320.7	0.6				ug/L	367897	Standard
	Sn	118	154.7	12.0	0.0842	0.023	27.8	ug/L	96	Standard
	Sb	123	174958.1	2.0	52.5805	0.849	1.6	ug/L	1191	Standard
	Ba	135	127659.7	1.9	95.8976	1.506	1.6	ug/L	59	Standard
	Ce	140	1658.4	4.9				ug/L	13	Standard
[>	Tb	159	609181.0	1.9				ug/L	641594	Standard
	Ho	165	40.0	33.1				ug/L	5	Standard
	Tl	203	428436.3	0.2	52.0101	0.938	1.8	ug/L	121	Standard
	Tl	205	994583.8	0.7	51.9857	1.069	2.1	ug/L	280	Standard
	Pb	206	334998.5	1.0	53.0448	0.977	1.8	ug/L	355	Standard
	Pb	207	280607.7	0.7	51.8942	1.154	2.2	ug/L	304	Standard
	Pb	208	494780.1	3.1	50.6507	2.259	4.5	ug/L	522	Standard
	U	238	467782.9	1.9	53.0291	1.793	3.4	ug/L	7	Standard
[>	Bi	209	465502.1	1.6				ug/L	496583	Standard

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Na	23	51.7	22.3	13.4208	2.940	21.9	mg/L	0	Standard
Mg	24	823.4	6.0	15.9407	1.303	8.2	mg/L	22	Standard
K	39	78.3	14.7	0.7639	0.158	20.7	mg/L	5	Standard
Ca	43	55.0	31.5	35.2821	49.986	141.7	mg/L	40	Standard
Fe	54	251.4	21.9	4.5996	1.198	26.1	mg/L	38	Standard
Fe	57	786.7	7.0	9.9221	2.128	21.4	mg/L	577	Standard
Sc-1	45	18534.7	1.9				mg/L	20594	Standard
Cl	35	7.3	56.8				ug/L	2	Standard
Kr	83	7.0	37.8				ug/L	5	Standard
Br	81	4340.6	7.9				ug/L	1070	Standard
P	31	55.0	9.1				ug/L	42	Standard
S	34	55.0	27.3				ug/L	65	Standard
Sr	88	323.3	17.9				ug/L	372	Standard
C	12	153.3	38.2				mg/L	17	Standard
N	14	10.0	100.0				mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	70.0	60.8				mg/L	10	Standard
Ho-1	165	40.0	33.1				mg/L	5	Standard
Er	166	70.0	28.6				mg/L	7	Standard
I	127	240101.9	4.8				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		95.233	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		92.962	
As	75			
Se	82			
Se-1	77			
> Ga	71			

Sample ID: L1708146001PS WG627590-01

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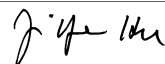


[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.038
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.741
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

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Method 6020 - Summary Report

Sample ID: L1708146001SDL WG627590-02

Sample Date/Time: Tuesday, August 29, 2017 11:22:25

Number of Replicates: 3

Autosampler Position: 309

Sample Description: 5

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	128655.6	0.6				ug/L	142206	Standard
	Be	9	61.7	26.1	0.0030	0.011	388.0	ug/L	20	Standard
	Al	27	891962.3	1.4	7.6092	0.070	0.9	ug/L	3387	Standard
	Sc	45	17673.6	3.4				ug/L	20594	Standard
	Ti	47	113.0	30.3	0.5412	0.217	40.1	ug/L	34	Standard
	V	51	1176.2	18.3	-0.0314	0.037	118.9	ug/L	1465	Standard
	Cr	52	5596.0	2.1	-0.2975	0.020	6.8	ug/L	8276	Standard
	Cr	53	1111.7	9.8	-0.1774	0.148	83.4	ug/L	1320	Standard
	Mn	55	3068762.8	1.8	348.8799	5.629	1.6	ug/L	2274	Standard
	Co	59	905.7	12.8	0.0526	0.016	31.1	ug/L	628	Standard
	Ni	60	536.7	3.9	0.1185	0.012	10.3	ug/L	395	Standard
	Cu	65	405.3	8.6	0.1729	0.024	14.1	ug/L	187	Standard
	Zn	66	20438.4	1.2	28.1922	0.386	1.4	ug/L	181	Standard
[>	Ge	72	301948.1	0.5				ug/L	341349	Standard
	As	75	256.5	13.7	0.4169	0.048	11.6	ug/L	-52	Standard
	Se	82	25.2	29.1	0.0738	0.118	160.6	ug/L	18	Standard
	Se-1	77	164.7	5.6	0.4729	0.190	40.3	ug/L	170	Standard
[>	Ga	71	73.3	25.8				mg/L	30	Standard
	Rb	85	816.7	5.3				ug/L	55	Standard
	Y	89	263385.2	2.2				ug/L	313052	Standard
[>	Rh	103	40.0	33.1				ug/L	40	Standard
	Mo	98	171.5	29.2	0.0051	0.019	373.0	ug/L	297	Standard
	Ag	107	217.0	34.1	0.0250	0.018	70.3	ug/L	112	Standard
	Cd	111	29.8	55.6	0.0165	0.017	105.3	mg/L	9	Standard
	Cd	114	82.6	102.3	0.0264	0.031	116.1	ug/L	21	Standard
[>	In	115	340354.7	0.2				ug/L	367897	Standard
	Sn	118	89.7	36.5	0.0024	0.045	1869.1	ug/L	96	Standard
	Sb	123	1530.9	3.6	0.4222	0.016	3.9	ug/L	1191	Standard
	Ba	135	10851.2	0.9	8.0449	0.066	0.8	ug/L	59	Standard
	Ce	140	305.0	7.5				ug/L	13	Standard
[>	Tb	159	597840.7	1.1				ug/L	641594	Standard
	Ho	165	11.7	65.5				ug/L	5	Standard
	Tl	203	186.7	69.3	0.0105	0.016	151.6	ug/L	121	Standard
	Tl	205	445.0	79.9	0.0121	0.019	156.7	ug/L	280	Standard
	Pb	206	701.0	15.8	0.0596	0.017	29.1	ug/L	355	Standard
	Pb	207	627.7	15.9	0.0676	0.018	26.8	ug/L	304	Standard
	Pb	208	1100.0	15.1	0.0566	0.017	29.4	ug/L	522	Standard
	U	238	175.0	69.3	0.0191	0.014	73.4	ug/L	7	Standard
[>	Bi	209	450244.1	0.8				ug/L	496583	Standard

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Na	23	6.7	86.6	1.8044	1.560	86.5	mg/L	0	Standard
Mg	24	186.7	4.1	3.2751	0.054	1.7	mg/L	22	Standard
K	39	26.7	39.0	-0.0093	0.168	1805.0	mg/L	5	Standard
Ca	43	36.7	20.8	-11.6335	18.686	160.6	mg/L	40	Standard
Fe	54	79.1	41.6	1.2216	0.712	58.3	mg/L	38	Standard
Fe	57	720.0	1.2	8.4071	1.105	13.1	mg/L	577	Standard
Sc-1	45	17673.6	3.4				mg/L	20594	Standard
Cl	35	0.7	173.2				ug/L	2	Standard
Kr	83	7.3	7.9				ug/L	5	Standard
Br	81	1540.1	6.4				ug/L	1070	Standard
P	31	35.0	14.3				ug/L	42	Standard
S	34	66.7	26.3				ug/L	65	Standard
Sr	88	365.0	20.5				ug/L	372	Standard
C	12	43.3	35.3				mg/L	17	Standard
N	14	3.3	173.2				mg/L	3	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	28.7	35.7				mg/L	10	Standard
Ho-1	165	11.7	65.5				mg/L	5	Standard
Er	166	26.7	21.7				mg/L	7	Standard
I	127	54108.2	2.8				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		90.471	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.457	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1708146001SDL WG627590-02

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	92.513
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.668
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1708146001SDL WG627590-02

Sample Date/Time: Tuesday, August 29, 2017 11:25:31

Number of Replicates: 3

Autosampler Position: 310

Sample Description: 25

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	126658.9	1.3				ug/L	142206	Standard
	Be	9	25.0	34.6	-0.0223	0.006	28.1	ug/L	20	Standard
	Al	27	184779.2	3.7	1.5786	0.044	2.8	ug/L	3387	Standard
	Sc	45	17216.4	0.4				ug/L	20594	Standard
	Ti	47	41.7	40.2	0.0885	0.107	120.5	ug/L	34	Standard
	V	51	1089.8	5.8	-0.0462	0.011	23.9	ug/L	1465	Standard
	Cr	52	4985.5	1.7	-0.4083	0.011	2.8	ug/L	8276	Standard
	Cr	53	1055.0	2.5	-0.2553	0.046	18.1	ug/L	1320	Standard
	Mn	55	610328.2	2.5	69.3333	1.325	1.9	ug/L	2274	Standard
	Co	59	458.3	3.9	-0.0114	0.002	19.4	ug/L	628	Standard
	Ni	60	345.3	3.7	-0.0095	0.007	78.0	ug/L	395	Standard
	Cu	65	205.0	6.5	0.0256	0.010	37.5	ug/L	187	Standard
	Zn	66	4693.7	2.2	6.3128	0.104	1.7	ug/L	181	Standard
[>	Ge	72	301472.8	0.6				ug/L	341349	Standard
	As	75	18.4	126.0	0.0920	0.032	34.3	ug/L	-52	Standard
	Se	82	18.7	12.6	-0.0316	0.039	124.6	ug/L	18	Standard
	Se-1	77	130.7	6.1	-0.2843	0.174	61.4	ug/L	170	Standard
[>	Ga	71	41.7	36.7				mg/L	30	Standard
	Rb	85	218.3	16.1				ug/L	55	Standard
	Y	89	264363.1	0.8				ug/L	313052	Standard
[>	Rh	103	50.0	17.3				ug/L	40	Standard
	Mo	98	53.2	17.0	-0.0395	0.003	8.8	ug/L	297	Standard
	Ag	107	114.3	8.6	0.0010	0.002	249.7	ug/L	112	Standard
	Cd	111	10.3	40.6	-0.0038	0.004	115.9	mg/L	9	Standard
	Cd	114	18.5	54.1	0.0032	0.004	114.2	ug/L	21	Standard
[>	In	115	335098.0	0.3				ug/L	367897	Standard
	Sn	118	57.7	2.6	-0.0406	0.002	4.8	ug/L	96	Standard
	Sb	123	309.8	5.6	0.0424	0.006	13.4	ug/L	1191	Standard
	Ba	135	2241.8	1.9	1.3267	0.034	2.6	ug/L	59	Standard
	Ce	140	128.3	56.8				ug/L	13	Standard
[>	Tb	159	586421.7	0.8				ug/L	641594	Standard
	Ho	165	6.7	43.3				ug/L	5	Standard
	Tl	203	73.0	9.6	-0.0036	0.001	21.9	ug/L	121	Standard
	Tl	205	190.0	20.6	-0.0016	0.002	129.1	ug/L	280	Standard
	Pb	206	363.3	3.6	0.0043	0.002	37.9	ug/L	355	Standard
	Pb	207	314.0	4.0	0.0077	0.003	32.8	ug/L	304	Standard
	Pb	208	573.0	5.5	0.0009	0.004	435.6	ug/L	522	Standard
	U	238	21.3	28.3	0.0011	0.001	60.8	ug/L	7	Standard
[>	Bi	209	449996.4	1.0				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	53.3	5.4	0.4873	0.066	13.6	mg/L	22	Standard
K	39	16.7	17.3	-0.1627	0.049	29.9	mg/L	5	Standard
Ca	43	30.0	83.3	-28.2827	74.974	265.1	mg/L	40	Standard
Fe	54	34.4	0.8	0.3009	0.009	2.9	mg/L	38	Standard
Fe	57	658.3	10.6	6.1046	3.810	62.4	mg/L	577	Standard
Sc-1	45	17216.4	0.4				mg/L	20594	Standard
Cl	35	2.0	100.0				ug/L	2	Standard
Kr	83	5.7	50.9				ug/L	5	Standard
Br	81	1106.7	5.4				ug/L	1070	Standard
P	31	50.0	45.8				ug/L	42	Standard
S	34	75.0	24.0				ug/L	65	Standard
Sr	88	353.3	14.3				ug/L	372	Standard
C	12	26.7	78.1				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	23.0	24.5				mg/L	10	Standard
Ho-1	165	6.7	43.3				mg/L	5	Standard
Er	166	6.7	86.6				mg/L	7	Standard
I	127	13471.0	0.6				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		89.067	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.318	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	91.085
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	90.619
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Cr 52 Lower	Cr	52	

Sample ID: L1708146001SDL WG627590-02

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, August 29, 2017 11:28:38

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	136746.2	2.1				ug/L	142206	Standard
	Be	9	78916.7	1.8	51.6067	1.436	2.8	ug/L	20	Standard
	Al	27	6292411.3	3.4	50.6712	1.666	3.3	ug/L	3387	Standard
	Sc	45	19644.4	1.1				ug/L	20594	Standard
	Ti	47	17539.2	2.7	100.2440	3.497	3.5	ug/L	34	Standard
	V	51	314473.9	1.8	49.4988	1.102	2.2	ug/L	1465	Standard
	Cr	52	306507.9	1.3	49.4496	0.883	1.8	ug/L	8276	Standard
	Cr	53	39508.1	3.0	49.1186	1.454	3.0	ug/L	1320	Standard
	Mn	55	492709.4	1.7	50.3115	0.948	1.9	ug/L	2274	Standard
	Co	59	389384.0	1.4	50.2494	1.056	2.1	ug/L	628	Standard
	Ni	60	83723.7	1.4	50.3909	0.940	1.9	ug/L	395	Standard
	Cu	65	76278.2	1.7	50.5468	0.951	1.9	ug/L	187	Standard
	Zn	66	40069.9	1.4	49.9804	0.912	1.8	ug/L	181	Standard
[>	Ge	72	335076.9	1.1				ug/L	341349	Standard
	As	75	41173.7	1.6	50.6707	0.553	1.1	ug/L	-52	Standard
	Se	82	3614.8	1.9	52.8743	1.002	1.9	ug/L	18	Standard
	Se-1	77	2742.6	0.3	52.1922	0.738	1.4	ug/L	170	Standard
[>	Ga	71	75.0	46.7				mg/L	30	Standard
	Rb	85	585.0	8.2				ug/L	55	Standard
	Y	89	304340.0	1.6				ug/L	313052	Standard
[>	Rh	103	51.7	24.4				ug/L	40	Standard
	Mo	98	292197.1	0.9	104.0554	0.402	0.4	ug/L	297	Standard
	Ag	107	235754.4	0.8	52.7393	0.193	0.4	ug/L	112	Standard
	Cd	111	53111.1	2.2	52.3144	0.612	1.2	mg/L	9	Standard
	Cd	114	149587.2	2.8	51.0638	0.869	1.7	ug/L	21	Standard
[>	In	115	362314.4	1.1				ug/L	367897	Standard
	Sn	118	38889.5	3.1	50.3409	1.048	2.1	ug/L	96	Standard
	Sb	123	173812.5	2.5	50.9356	0.787	1.5	ug/L	1191	Standard
	Ba	135	69136.2	3.3	50.4257	1.284	2.5	ug/L	59	Standard
	Ce	140	71.7	20.1				ug/L	13	Standard
[>	Tb	159	615407.9	3.6				ug/L	641594	Standard
	Ho	165	13.3	78.1				ug/L	5	Standard
	Tl	203	427396.5	1.5	50.0370	0.746	1.5	ug/L	121	Standard
	Tl	205	1012422.5	0.7	51.0343	0.405	0.8	ug/L	280	Standard
	Pb	206	326132.9	2.1	49.8008	1.008	2.0	ug/L	355	Standard
	Pb	207	287573.8	2.1	51.2866	1.022	2.0	ug/L	304	Standard
	Pb	208	479322.8	4.2	47.3065	1.991	4.2	ug/L	522	Standard
	U	238	455034.5	2.9	49.7394	1.403	2.8	ug/L	7	Standard
[>	Bi	209	482586.2	0.3				ug/L	496583	Standard

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Na	23	18.3	15.7	4.4972	0.696	15.5	mg/L	0	Standard
Mg	24	261.7	7.2	4.3059	0.356	8.3	mg/L	22	Standard
K	39	398.3	22.5	5.3494	1.353	25.3	mg/L	5	Standard
Ca	43	38.3	49.4	-17.3256	50.703	292.6	mg/L	40	Standard
Fe	54	314.8	19.6	5.5000	1.174	21.4	mg/L	38	Standard
Fe	57	685.0	3.3	3.0273	1.409	46.5	mg/L	577	Standard
Sc-1	45	19644.4	1.1				mg/L	20594	Standard
Cl	35	4.0	50.0				ug/L	2	Standard
Kr	83	6.0	28.9				ug/L	5	Standard
Br	81	1163.4	15.8				ug/L	1070	Standard
P	31	58.3	13.1				ug/L	42	Standard
S	34	75.0	24.0				ug/L	65	Standard
Sr	88	311.7	13.5				ug/L	372	Standard
C	12	16.7	34.6				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	6.0	87.0				mg/L	10	Standard
Ho-1	165	13.3	78.1				mg/L	5	Standard
Er	166	13.3	114.6				mg/L	7	Standard
I	127	4487.3	13.6				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	103.213		
Al	27	101.342		
Sc	45			
Ti	47	100.244		
V	51	98.998		
Cr	52	98.899		
Cr	53			
Mn	55	100.623		
Co	59	100.499		
Ni	60	100.782		
Cu	65	101.094		
Zn	66	99.961		
Ge	72		98.162	
As	75	101.341		
Se	82	105.749		
Se-1	77			
Ga	71			

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98	104.055	
[	Ag	107	105.479	
[	Cd	111	104.629	
[	Cd	114		
>	In	115		98.482
[	Sn	118	100.682	
[	Sb	123	101.871	
[	Ba	135	100.851	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.074	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	94.613	
[	U	238	99.479	
>	Bi	209		97.181
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, August 29, 2017 11:31:43

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	146547.0	1.0				ug/L	142206	Standard
	Be	9	36.7	55.1	-0.0176	0.012	70.5	ug/L	20	Standard
	Al	27	3290.4	9.6	-0.0036	0.003	71.5	ug/L	3387	Standard
	Sc	45	20253.5	3.3				ug/L	20594	Standard
	Ti	47	32.0	25.0	0.0028	0.047	1669.7	ug/L	34	Standard
	V	51	1325.8	5.3	-0.0328	0.014	42.4	ug/L	1465	Standard
	Cr	52	7227.1	1.9	-0.1571	0.008	5.2	ug/L	8276	Standard
	Cr	53	1240.1	6.6	-0.2070	0.073	35.0	ug/L	1320	Standard
	Mn	55	2133.5	7.4	0.0157	0.012	76.1	ug/L	2274	Standard
	Co	59	484.3	2.3	-0.0161	0.002	12.9	ug/L	628	Standard
	Ni	60	318.0	5.5	-0.0539	0.007	12.4	ug/L	395	Standard
	Cu	65	217.0	2.3	0.0150	0.004	27.4	ug/L	187	Standard
	Zn	66	200.7	9.7	0.0228	0.018	77.5	ug/L	181	Standard
[>	Ge	72	343138.9	2.4				ug/L	341349	Standard
	As	75	-27.0	74.9	0.0350	0.023	67.0	ug/L	-52	Standard
	Se	82	24.2	35.5	0.0108	0.128	1194.1	ug/L	18	Standard
	Se-1	77	143.0	4.2	-0.3941	0.184	46.7	ug/L	170	Standard
[>	Ga	71	65.0	27.7				mg/L	30	Standard
	Rb	85	43.3	24.0				ug/L	55	Standard
	Y	89	315401.5	2.1				ug/L	313052	Standard
[>	Rh	103	40.0	33.1				ug/L	40	Standard
	Mo	98	333.9	14.5	0.0558	0.017	30.8	ug/L	297	Standard
	Ag	107	143.3	10.8	0.0045	0.004	81.0	ug/L	112	Standard
	Cd	111	9.7	36.8	-0.0055	0.003	61.7	mg/L	9	Standard
	Cd	114	29.8	50.9	0.0063	0.005	81.0	ug/L	21	Standard
[>	In	115	372680.4	1.3				ug/L	367897	Standard
	Sn	118	131.3	7.1	0.0442	0.012	26.3	ug/L	96	Standard
	Sb	123	626.1	10.5	0.1226	0.017	14.2	ug/L	1191	Standard
	Ba	135	334.7	17.5	-0.2177	0.044	20.4	ug/L	59	Standard
	Ce	140	23.3	61.9				ug/L	13	Standard
[>	Tb	159	632071.6	1.6				ug/L	641594	Standard
	Ho	165	18.3	31.5				ug/L	5	Standard
	Tl	203	131.3	22.5	0.0019	0.003	153.0	ug/L	121	Standard
	Tl	205	281.7	19.6	0.0017	0.002	133.1	ug/L	280	Standard
	Pb	206	396.0	5.6	0.0027	0.002	68.7	ug/L	355	Standard
	Pb	207	338.7	7.5	0.0055	0.004	64.4	ug/L	304	Standard
	Pb	208	569.0	15.2	-0.0061	0.007	110.2	ug/L	522	Standard
	U	238	61.7	17.0	0.0051	0.001	19.0	ug/L	7	Standard
[>	Bi	209	504163.8	2.8				ug/L	496583	Standard

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Na	23	3.3	173.2	0.8043	1.384	172.1	mg/L	0	Standard
Mg	24	31.7	32.9	-0.0855	0.196	229.3	mg/L	22	Standard
K	39	26.7	75.8	-0.0658	0.285	432.6	mg/L	5	Standard
Ca	43	23.3	68.9	-59.1260	40.278	68.1	mg/L	40	Standard
Fe	54	34.2	38.6	0.1903	0.261	137.2	mg/L	38	Standard
Fe	57	595.0	4.2	-2.0033	0.841	42.0	mg/L	577	Standard
Sc-1	45	20253.5	3.3				mg/L	20594	Standard
Cl	35	2.0	100.0				ug/L	2	Standard
Kr	83	3.3	17.3				ug/L	5	Standard
Br	81	1223.4	6.7				ug/L	1070	Standard
P	31	56.7	25.5				ug/L	42	Standard
S	34	66.7	15.6				ug/L	65	Standard
Sr	88	331.7	10.0				ug/L	372	Standard
C	12	3.3	173.2				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	18.9	54.2				mg/L	10	Standard
Ho-1	165	18.3	31.5				mg/L	5	Standard
Er	166	23.3	24.7				mg/L	7	Standard
I	127	12578.6	2.2				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		100.524	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	101.300
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	101.527
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7

Report Date/Time: Tuesday, August 29, 2017 11:33:54

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Method 6020 - Summary Report

Sample ID: L1708136601

Sample Date/Time: Tuesday, August 29, 2017 11:34:50

Number of Replicates: 3

Autosampler Position: 311

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	151618.3	1.6				ug/L	142206	Standard
	Be	9	63.3	40.5	-0.0026	0.015	583.7	ug/L	20	Standard
	Al	27	14475064.4	2.5	105.1783	3.728	3.5	ug/L	3387	Standard
	Sc	45	20574.0	1.5				ug/L	20594	Standard
	Ti	47	88.3	9.6	0.3234	0.057	17.6	ug/L	34	Standard
	V	51	1424.2	11.1	-0.0154	0.024	153.0	ug/L	1465	Standard
	Cr	52	8649.5	0.9	0.0891	0.040	45.3	ug/L	8276	Standard
	Cr	53	2220.2	11.1	1.0632	0.373	35.1	ug/L	1320	Standard
	Mn	55	2566271.0	0.5	259.6610	7.757	3.0	ug/L	2274	Standard
	Co	59	7954.1	3.0	0.9380	0.035	3.7	ug/L	628	Standard
	Ni	60	3606.8	1.9	1.9120	0.016	0.8	ug/L	395	Standard
	Cu	65	673.7	4.5	0.3160	0.013	4.0	ug/L	187	Standard
	Zn	66	4012.9	0.2	4.7434	0.129	2.7	ug/L	181	Standard
[>	Ge	72	339372.2	2.5				ug/L	341349	Standard
	As	75	3075.0	3.5	3.8013	0.199	5.2	ug/L	-52	Standard
	Se	82	79.7	10.6	0.8208	0.130	15.9	ug/L	18	Standard
	Se-1	77	287.3	4.3	2.5149	0.263	10.5	ug/L	170	Standard
[>	Ga	71	81.7	18.7				mg/L	30	Standard
	Rb	85	28655.4	1.3				ug/L	55	Standard
	Y	89	299474.7	2.0				ug/L	313052	Standard
[>	Rh	103	166.7	7.5				ug/L	40	Standard
	Mo	98	399.5	3.6	0.0833	0.005	6.2	ug/L	297	Standard
	Ag	107	124.0	4.0	0.0012	0.001	92.7	ug/L	112	Standard
	Cd	111	26.9	13.0	0.0119	0.003	29.0	mg/L	9	Standard
	Cd	114	81.4	18.9	0.0244	0.005	21.8	ug/L	21	Standard
[>	In	115	359939.8	0.1				ug/L	367897	Standard
	Sn	118	195.3	6.7	0.1337	0.017	12.9	ug/L	96	Standard
	Sb	123	350.7	16.0	0.0477	0.017	34.9	ug/L	1191	Standard
	Ba	135	166139.2	2.3	122.6389	2.880	2.3	ug/L	59	Standard
	Ce	140	725.0	3.8				ug/L	13	Standard
[>	Tb	159	634521.0	1.6				ug/L	641594	Standard
	Ho	165	31.7	48.2				ug/L	5	Standard
	Tl	203	300.7	9.7	0.0236	0.003	13.0	ug/L	121	Standard
	Tl	205	675.0	2.0	0.0234	0.001	4.8	ug/L	280	Standard
	Pb	206	1078.0	4.2	0.1153	0.003	2.2	ug/L	355	Standard
	Pb	207	868.4	5.6	0.1080	0.007	6.3	ug/L	304	Standard
	Pb	208	1534.4	4.7	0.0972	0.011	11.2	ug/L	522	Standard
	U	238	2456.9	0.7	0.2767	0.008	2.9	ug/L	7	Standard
[>	Bi	209	466360.6	2.9				ug/L	496583	Standard

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Na	23	180.0	16.9	42.1794	7.476	17.7	mg/L	0	Standard
Mg	24	1936.8	6.9	34.5281	3.006	8.7	mg/L	22	Standard
K	39	296.7	5.4	3.6708	0.219	6.0	mg/L	5	Standard
Ca	43	98.3	36.8	129.2690	95.302	73.7	mg/L	40	Standard
Fe	54	96.0	30.2	1.2949	0.553	42.7	mg/L	38	Standard
Fe	57	1098.4	2.5	19.9552	1.346	6.7	mg/L	577	Standard
Sc-1	45	20574.0	1.5				mg/L	20594	Standard
Cl	35	4.7	107.9				ug/L	2	Standard
Kr	83	5.0	69.3				ug/L	5	Standard
Br	81	14056.5	3.0				ug/L	1070	Standard
P	31	56.7	10.2				ug/L	42	Standard
S	34	81.7	19.7				ug/L	65	Standard
Sr	88	376.7	16.6				ug/L	372	Standard
C	12	30.0	100.0				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	10.0	100.0				mg/L	3	Standard
Dy	164	44.6	57.3				mg/L	10	Standard
Ho-1	165	31.7	48.2				mg/L	5	Standard
Er	166	43.3	48.0				mg/L	7	Standard
I	127	80234.6	8.8				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		106.619	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		99.421	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.837
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.914
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1708136602

Sample Date/Time: Tuesday, August 29, 2017 11:37:56

Number of Replicates: 3

Autosampler Position: 312

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	153950.0	2.0				ug/L	142206	Standard
	Be	9	36.7	28.4	-0.0186	0.006	34.6	ug/L	20	Standard
	Al	27	14821955.9	2.1	106.0911	4.221	4.0	ug/L	3387	Standard
	Sc	45	20789.3	4.6				ug/L	20594	Standard
	Ti	47	81.7	10.4	0.2837	0.043	15.2	ug/L	34	Standard
	V	51	1137.5	18.9	-0.0608	0.031	51.6	ug/L	1465	Standard
	Cr	52	9073.1	2.7	0.1544	0.021	13.9	ug/L	8276	Standard
	Cr	53	2911.9	8.8	1.9309	0.351	18.2	ug/L	1320	Standard
	Mn	55	2574216.2	0.3	259.7978	2.753	1.1	ug/L	2274	Standard
	Co	59	7902.7	1.6	0.9289	0.007	0.8	ug/L	628	Standard
	Ni	60	3646.8	2.3	1.9317	0.076	4.0	ug/L	395	Standard
	Cu	65	522.0	2.0	0.2159	0.010	4.8	ug/L	187	Standard
	Zn	66	2663.9	3.1	3.0668	0.142	4.6	ug/L	181	Standard
[>	Ge	72	340107.7	1.4				ug/L	341349	Standard
	As	75	2940.7	1.8	3.6277	0.014	0.4	ug/L	-52	Standard
	Se	82	90.0	10.5	0.9665	0.132	13.6	ug/L	18	Standard
	Se-1	77	340.7	2.2	3.5628	0.156	4.4	ug/L	170	Standard
[>	Ga	71	68.3	22.4				mg/L	30	Standard
	Rb	85	30059.8	1.4				ug/L	55	Standard
	Y	89	304061.0	1.3				ug/L	313052	Standard
[>	Rh	103	180.0	10.0				ug/L	40	Standard
	Mo	98	497.3	9.3	0.1199	0.018	15.0	ug/L	297	Standard
	Ag	107	115.0	6.9	-0.0006	0.002	344.9	ug/L	112	Standard
	Cd	111	14.8	47.7	-0.0000	0.0354	00595.6	mg/L	9	Standard
	Cd	114	38.1	14.9	0.0096	0.002	21.4	ug/L	21	Standard
[>	In	115	357182.1	0.8				ug/L	367897	Standard
	Sn	118	132.3	4.4	0.0527	0.008	15.8	ug/L	96	Standard
	Sb	123	269.0	14.5	0.0242	0.012	50.4	ug/L	1191	Standard
	Ba	135	168629.7	1.6	125.4640	3.033	2.4	ug/L	59	Standard
	Ce	140	338.3	14.9				ug/L	13	Standard
[>	Tb	159	634476.6	1.2				ug/L	641594	Standard
	Ho	165	40.0	33.1				ug/L	5	Standard
	Tl	203	322.3	1.0	0.0266	0.001	3.7	ug/L	121	Standard
	Tl	205	711.7	10.0	0.0255	0.003	12.1	ug/L	280	Standard
	Pb	206	623.3	6.5	0.0443	0.009	19.6	ug/L	355	Standard
	Pb	207	471.3	5.6	0.0354	0.003	7.7	ug/L	304	Standard
	Pb	208	871.7	9.3	0.0302	0.010	33.1	ug/L	522	Standard
	U	238	2467.9	4.7	0.2803	0.018	6.4	ug/L	7	Standard
[>	Bi	209	462515.3	2.5				ug/L	496583	Standard

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Na	23	178.3	14.4	41.5155	7.437	17.9	mg/L	0	Standard
Mg	24	1995.1	3.4	35.2307	2.000	5.7	mg/L	22	Standard
K	39	268.3	26.1	3.2728	1.119	34.2	mg/L	5	Standard
Ca	43	85.0	10.2	93.5746	30.328	32.4	mg/L	40	Standard
Fe	54	92.3	16.6	1.2001	0.195	16.2	mg/L	38	Standard
Fe	57	1111.7	4.1	20.1554	4.148	20.6	mg/L	577	Standard
Sc-1	45	20789.3	4.6				mg/L	20594	Standard
Cl	35	3.3	124.9				ug/L	2	Standard
Kr	83	6.3	50.8				ug/L	5	Standard
Br	81	13799.6	7.1				ug/L	1070	Standard
P	31	63.3	40.5				ug/L	42	Standard
S	34	46.7	27.0				ug/L	65	Standard
Sr	88	320.0	11.8				ug/L	372	Standard
C	12	43.3	35.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	10.0	100.0				mg/L	3	Standard
Dy	164	28.4	70.6				mg/L	10	Standard
Ho-1	165	40.0	33.1				mg/L	5	Standard
Er	166	33.3	86.6				mg/L	7	Standard
I	127	73814.7	5.6				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.258	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		99.636	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.087
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.140
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1708136602

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Method 6020 - Summary Report

Sample ID: L1708136603

Sample Date/Time: Tuesday, August 29, 2017 11:41:02

Number of Replicates: 3

Autosampler Position: 313

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	155280.1	1.3				ug/L	142206	Standard
	Be	9	46.7	22.3	-0.0131	0.006	46.7	ug/L	20	Standard
	Al	27	14777680.6	2.9	104.8322	3.606	3.4	ug/L	3387	Standard
	Sc	45	20881.0	1.4				ug/L	20594	Standard
	Ti	47	93.0	4.9	0.3522	0.031	8.8	ug/L	34	Standard
	V	51	1190.7	14.6	-0.0510	0.025	48.6	ug/L	1465	Standard
	Cr	52	8940.0	1.5	0.1444	0.018	12.6	ug/L	8276	Standard
	Cr	53	3292.0	4.3	2.4461	0.222	9.1	ug/L	1320	Standard
	Mn	55	2547950.7	1.5	259.2068	6.284	2.4	ug/L	2274	Standard
	Co	59	8064.8	1.1	0.9579	0.020	2.1	ug/L	628	Standard
	Ni	60	3585.4	3.1	1.9110	0.034	1.8	ug/L	395	Standard
	Cu	65	656.7	2.2	0.3075	0.016	5.2	ug/L	187	Standard
	Zn	66	3148.7	2.2	3.6943	0.021	0.6	ug/L	181	Standard
[>	Ge	72	337441.2	1.6				ug/L	341349	Standard
	As	75	2893.7	3.0	3.5984	0.072	2.0	ug/L	-52	Standard
	Se	82	85.0	9.9	0.9053	0.138	15.2	ug/L	18	Standard
	Se-1	77	335.3	3.4	3.5077	0.118	3.4	ug/L	170	Standard
[>	Ga	71	73.3	28.4				mg/L	30	Standard
	Rb	85	29435.2	1.2				ug/L	55	Standard
	Y	89	299677.2	2.2				ug/L	313052	Standard
[>	Rh	103	171.7	20.7				ug/L	40	Standard
	Mo	98	393.0	5.2	0.0813	0.008	10.4	ug/L	297	Standard
	Ag	107	117.3	12.8	-0.0002	0.003	1714.3	ug/L	112	Standard
	Cd	111	31.6	3.2	0.0166	0.001	5.6	mg/L	9	Standard
	Cd	114	106.7	19.3	0.0332	0.007	22.3	ug/L	21	Standard
[>	In	115	359271.2	0.8				ug/L	367897	Standard
	Sn	118	185.7	13.2	0.1215	0.032	26.1	ug/L	96	Standard
	Sb	123	224.2	17.3	0.0105	0.012	110.5	ug/L	1191	Standard
	Ba	135	165797.0	1.5	122.6241	2.579	2.1	ug/L	59	Standard
	Ce	140	691.7	6.0				ug/L	13	Standard
[>	Tb	159	638824.2	2.0				ug/L	641594	Standard
	Ho	165	33.3	45.8				ug/L	5	Standard
	Tl	203	371.7	5.6	0.0324	0.003	8.3	ug/L	121	Standard
	Tl	205	878.4	7.3	0.0341	0.004	10.6	ug/L	280	Standard
	Pb	206	977.4	1.6	0.0999	0.001	1.1	ug/L	355	Standard
	Pb	207	751.4	3.5	0.0868	0.002	2.2	ug/L	304	Standard
	Pb	208	1448.0	2.4	0.0888	0.006	7.2	ug/L	522	Standard
	U	238	2520.5	2.0	0.2847	0.011	3.8	ug/L	7	Standard
[>	Bi	209	464971.3	2.1				ug/L	496583	Standard

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Na	23	191.7	10.5	44.1896	4.505	10.2	mg/L	0	Standard
Mg	24	1958.5	4.2	34.3787	1.739	5.1	mg/L	22	Standard
K	39	263.3	13.5	3.1594	0.523	16.5	mg/L	5	Standard
Ca	43	88.3	8.6	100.1369	21.350	21.3	mg/L	40	Standard
Fe	54	85.8	18.6	1.0853	0.302	27.8	mg/L	38	Standard
Fe	57	1128.4	7.4	20.5786	4.187	20.3	mg/L	577	Standard
Sc-1	45	20881.0	1.4				mg/L	20594	Standard
Cl	35	2.0	100.0				ug/L	2	Standard
Kr	83	5.7	44.4				ug/L	5	Standard
Br	81	14193.3	4.1				ug/L	1070	Standard
P	31	75.0	11.5				ug/L	42	Standard
S	34	78.3	25.8				ug/L	65	Standard
Sr	88	321.7	8.8				ug/L	372	Standard
C	12	43.3	48.0				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	13.3	114.6				mg/L	3	Standard
Dy	164	21.4	65.5				mg/L	10	Standard
Ho-1	165	33.3	45.8				mg/L	5	Standard
Er	166	40.0	66.1				mg/L	7	Standard
I	127	73434.6	6.2				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		109.194	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		98.855	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.655
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.634
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1708136603

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Method 6020 - Summary Report

Sample ID: L1708136604

Sample Date/Time: Tuesday, August 29, 2017 11:44:06

Number of Replicates: 3

Autosampler Position: 314

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	152865.6	0.4				ug/L	142206	Standard
	Be	9	45.0	40.1	-0.0136	0.011	78.1	ug/L	20	Standard
	Al	27	14629759.5	0.6	105.4051	0.698	0.7	ug/L	3387	Standard
	Sc	45	20243.5	2.1				ug/L	20594	Standard
	Ti	47	79.7	15.2	0.2715	0.068	25.0	ug/L	34	Standard
	V	51	927.6	16.0	-0.0936	0.024	25.2	ug/L	1465	Standard
	Cr	52	9230.1	2.1	0.1762	0.018	10.0	ug/L	8276	Standard
	Cr	53	3408.7	2.2	2.5494	0.137	5.4	ug/L	1320	Standard
	Mn	55	2540874.4	0.7	255.8158	6.652	2.6	ug/L	2274	Standard
	Co	59	7915.4	0.4	0.9281	0.016	1.7	ug/L	628	Standard
	Ni	60	3631.8	2.0	1.9170	0.066	3.4	ug/L	395	Standard
	Cu	65	562.3	3.6	0.2412	0.009	3.9	ug/L	187	Standard
	Zn	66	2020.1	5.2	2.2664	0.172	7.6	ug/L	181	Standard
[>	Ge	72	341004.9	1.9				ug/L	341349	Standard
	As	75	2816.9	1.5	3.4696	0.074	2.1	ug/L	-52	Standard
	Se	82	89.3	2.5	0.9545	0.053	5.5	ug/L	18	Standard
	Se-1	77	345.7	1.5	3.6458	0.188	5.2	ug/L	170	Standard
[>	Ga	71	88.3	34.1				mg/L	30	Standard
	Rb	85	29507.0	1.3				ug/L	55	Standard
	Y	89	299181.7	3.0				ug/L	313052	Standard
[>	Rh	103	165.0	12.1				ug/L	40	Standard
	Mo	98	1573.4	2.6	0.5094	0.014	2.8	ug/L	297	Standard
	Ag	107	120.0	9.6	0.0006	0.003	459.7	ug/L	112	Standard
	Cd	111	15.1	27.7	0.0003	0.004	1292.8	mg/L	9	Standard
	Cd	114	36.0	14.8	0.0089	0.002	20.5	ug/L	21	Standard
[>	In	115	356725.6	0.6				ug/L	367897	Standard
	Sn	118	147.7	10.9	0.0732	0.022	30.5	ug/L	96	Standard
	Sb	123	201.2	15.5	0.0041	0.010	233.5	ug/L	1191	Standard
	Ba	135	164100.3	1.6	122.2321	2.566	2.1	ug/L	59	Standard
	Ce	140	368.3	8.2				ug/L	13	Standard
[>	Tb	159	637826.2	1.8				ug/L	641594	Standard
	Ho	165	18.3	41.7				ug/L	5	Standard
	Tl	203	284.0	6.1	0.0220	0.001	6.7	ug/L	121	Standard
	Tl	205	638.3	12.5	0.0218	0.004	16.3	ug/L	280	Standard
	Pb	206	583.3	2.7	0.0382	0.003	8.4	ug/L	355	Standard
	Pb	207	463.7	1.2	0.0343	0.001	3.7	ug/L	304	Standard
	Pb	208	872.7	5.9	0.0306	0.007	22.6	ug/L	522	Standard
	U	238	2367.2	1.7	0.2698	0.009	3.5	ug/L	7	Standard
[>	Bi	209	460738.6	1.9				ug/L	496583	Standard

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Na	23	165.0	10.9	39.3118	5.061	12.9	mg/L	0	Standard
Mg	24	2056.8	2.8	37.3021	1.545	4.1	mg/L	22	Standard
K	39	288.3	13.1	3.6244	0.573	15.8	mg/L	5	Standard
Ca	43	120.0	29.2	188.5958	93.858	49.8	mg/L	40	Standard
Fe	54	114.3	8.8	1.6519	0.157	9.5	mg/L	38	Standard
Fe	57	1086.7	6.0	20.2391	3.228	15.9	mg/L	577	Standard
Sc-1	45	20243.5	2.1				mg/L	20594	Standard
Cl	35	2.7	43.3				ug/L	2	Standard
Kr	83	5.0	52.9				ug/L	5	Standard
Br	81	13826.3	5.5				ug/L	1070	Standard
P	31	75.0	11.5				ug/L	42	Standard
S	34	86.7	8.8				ug/L	65	Standard
Sr	88	345.0	6.3				ug/L	372	Standard
C	12	73.3	47.9				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	10.0					mg/L	3	Standard
Dy	164	31.9	97.3				mg/L	10	Standard
Ho-1	165	18.3	41.7				mg/L	5	Standard
Er	166	30.0	33.3				mg/L	7	Standard
I	127	79599.3	7.6				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		107.496	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		99.899	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.963
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	92.782
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1708136605

Sample Date/Time: Tuesday, August 29, 2017 11:47:12

Number of Replicates: 3

Autosampler Position: 315

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	145360.8	1.7				ug/L	142206	Standard
	Be	9	36.7	41.7	-0.0175	0.009	52.8	ug/L	20	Standard
	Al	27	10667216.5	1.8	80.8378	2.349	2.9	ug/L	3387	Standard
	Sc	45	20465.5	0.7				ug/L	20594	Standard
	Ti	47	299.3	38.2	1.5434	0.686	44.4	ug/L	34	Standard
	V	51	2186.4	7.1	0.1076	0.018	16.7	ug/L	1465	Standard
	Cr	52	8813.9	2.0	0.1330	0.002	1.6	ug/L	8276	Standard
	Cr	53	2493.5	8.9	1.4426	0.256	17.7	ug/L	1320	Standard
	Mn	55	3604633.2	1.8	369.2829	13.866	3.8	ug/L	2274	Standard
	Co	59	15779.2	2.3	1.9619	0.082	4.2	ug/L	628	Standard
	Ni	60	4373.6	2.5	2.4020	0.060	2.5	ug/L	395	Standard
	Cu	65	783.7	3.4	0.3948	0.026	6.5	ug/L	187	Standard
	Zn	66	4824.8	2.0	5.8198	0.140	2.4	ug/L	181	Standard
[>	Ge	72	335255.4	2.0				ug/L	341349	Standard
	As	75	1233.9	4.0	1.5837	0.083	5.2	ug/L	-52	Standard
	Se	82	67.1	8.1	0.6498	0.099	15.2	ug/L	18	Standard
	Se-1	77	356.0	1.8	3.9722	0.209	5.3	ug/L	170	Standard
[>	Ga	71	105.0	21.8				mg/L	30	Standard
	Rb	85	16377.2	1.6				ug/L	55	Standard
	Y	89	308449.7	2.8				ug/L	313052	Standard
[>	Rh	103	191.7	5.4				ug/L	40	Standard
	Mo	98	626.7	4.9	0.1685	0.010	6.2	ug/L	297	Standard
	Ag	107	107.3	11.1	-0.0021	0.003	135.6	ug/L	112	Standard
	Cd	111	13.0	12.0	-0.0016	0.002	98.0	mg/L	9	Standard
	Cd	114	56.0	15.1	0.0160	0.003	18.7	ug/L	21	Standard
[>	In	115	354117.7	0.5				ug/L	367897	Standard
	Sn	118	147.7	4.5	0.0746	0.009	12.4	ug/L	96	Standard
	Sb	123	200.7	14.3	0.0044	0.009	199.9	ug/L	1191	Standard
	Ba	135	142999.6	2.6	107.2391	2.988	2.8	ug/L	59	Standard
	Ce	140	5350.9	3.8				ug/L	13	Standard
[>	Tb	159	644327.5	1.7				ug/L	641594	Standard
	Ho	165	165.0	13.9				ug/L	5	Standard
	Tl	203	191.0	9.6	0.0108	0.002	20.1	ug/L	121	Standard
	Tl	205	473.3	2.7	0.0134	0.001	6.8	ug/L	280	Standard
	Pb	206	1982.5	0.6	0.2651	0.004	1.6	ug/L	355	Standard
	Pb	207	1621.8	2.8	0.2536	0.006	2.3	ug/L	304	Standard
	Pb	208	3012.1	3.6	0.2549	0.014	5.5	ug/L	522	Standard
	U	238	1058.7	5.1	0.1210	0.007	6.0	ug/L	7	Standard
[>	Bi	209	456542.6	1.0				ug/L	496583	Standard

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Na	23	196.7	18.0	46.2420	8.040	17.4	mg/L	0	Standard
Mg	24	3057.0	7.8	55.1461	4.582	8.3	mg/L	22	Standard
K	39	316.7	10.5	3.9687	0.430	10.8	mg/L	5	Standard
Ca	43	105.0	29.7	146.2278	77.720	53.1	mg/L	40	Standard
Fe	54	470.9	5.7	8.0868	0.428	5.3	mg/L	38	Standard
Fe	57	1133.4	1.4	21.7733	0.773	3.6	mg/L	577	Standard
Sc-1	45	20465.5	0.7				mg/L	20594	Standard
Cl	35	2.7	86.6				ug/L	2	Standard
Kr	83	4.7	32.7				ug/L	5	Standard
Br	81	10310.2	8.3				ug/L	1070	Standard
P	31	61.7	32.8				ug/L	42	Standard
S	34	81.7	24.7				ug/L	65	Standard
Sr	88	321.7	7.3				ug/L	372	Standard
C	12	80.0	65.0				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	20.0	50.0				mg/L	3	Standard
Dy	164	237.3	8.1				mg/L	10	Standard
Ho-1	165	165.0	13.9				mg/L	5	Standard
Er	166	126.7	52.6				mg/L	7	Standard
I	127	72151.0	10.6				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		102.218	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		98.215	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.254
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.937
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1708136606

Sample Date/Time: Tuesday, August 29, 2017 11:50:18

Number of Replicates: 3

Autosampler Position: 316

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

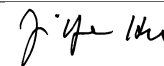
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	147014.8	0.3				ug/L	142206	Standard
	Be	9	30.0	72.6	-0.0217	0.013	60.9	ug/L	20	Standard
	Al	27	10907635.7	1.9	81.7102	1.665	2.0	ug/L	3387	Standard
	Sc	45	20877.7	0.8				ug/L	20594	Standard
	Ti	47	94.3	4.8	0.3615	0.034	9.5	ug/L	34	Standard
	V	51	1630.4	3.3	0.0192	0.013	67.3	ug/L	1465	Standard
	Cr	52	7817.7	0.6	-0.0361	0.036	99.1	ug/L	8276	Standard
	Cr	53	2270.2	6.7	1.1504	0.271	23.5	ug/L	1320	Standard
	Mn	55	3746498.1	1.5	382.4194	12.946	3.4	ug/L	2274	Standard
	Co	59	15739.2	1.1	1.9494	0.072	3.7	ug/L	628	Standard
	Ni	60	4459.3	0.8	2.4450	0.087	3.6	ug/L	395	Standard
	Cu	65	520.7	6.3	0.2192	0.030	13.9	ug/L	187	Standard
	Zn	66	4653.7	1.5	5.5855	0.169	3.0	ug/L	181	Standard
[>	Ge	72	336506.5	2.7				ug/L	341349	Standard
	As	75	1261.7	6.2	1.6134	0.133	8.2	ug/L	-52	Standard
	Se	82	66.4	10.3	0.6370	0.120	18.8	ug/L	18	Standard
	Se-1	77	328.7	6.1	3.3987	0.490	14.4	ug/L	170	Standard
[>	Ga	71	73.3	20.8				mg/L	30	Standard
	Rb	85	16172.0	1.6				ug/L	55	Standard
	Y	89	292983.7	2.8				ug/L	313052	Standard
[>	Rh	103	191.7	12.9				ug/L	40	Standard
	Mo	98	1603.2	3.8	0.5257	0.026	4.9	ug/L	297	Standard
	Ag	107	118.3	6.6	0.0005	0.002	439.4	ug/L	112	Standard
	Cd	111	11.4	30.1	-0.0033	0.004	110.4	mg/L	9	Standard
	Cd	114	43.2	40.6	0.0115	0.006	52.8	ug/L	21	Standard
[>	In	115	353449.5	1.0				ug/L	367897	Standard
	Sn	118	130.3	4.2	0.0519	0.006	10.8	ug/L	96	Standard
	Sb	123	189.0	8.5	0.0009	0.005	510.1	ug/L	1191	Standard
	Ba	135	147814.0	1.7	111.0808	2.340	2.1	ug/L	59	Standard
	Ce	140	2221.8	6.5				ug/L	13	Standard
[>	Tb	159	643557.0	1.6				ug/L	641594	Standard
	Ho	165	98.3	11.7				ug/L	5	Standard
	Tl	203	163.3	5.1	0.0074	0.001	11.5	ug/L	121	Standard
	Tl	205	405.0	2.1	0.0097	0.001	5.4	ug/L	280	Standard
	Pb	206	469.3	1.4	0.0207	0.001	3.4	ug/L	355	Standard
	Pb	207	396.7	3.2	0.0225	0.002	7.5	ug/L	304	Standard
	Pb	208	734.3	1.6	0.0169	0.001	3.4	ug/L	522	Standard
	U	238	1108.7	3.9	0.1269	0.006	4.7	ug/L	7	Standard
[>	Bi	209	456026.3	0.9				ug/L	496583	Standard

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Na	23	153.3	24.7	35.3977	8.879	25.1	mg/L	0	Standard
Mg	24	3240.3	4.6	57.3090	2.583	4.5	mg/L	22	Standard
K	39	291.7	2.0	3.5428	0.092	2.6	mg/L	5	Standard
Ca	43	130.0	17.6	203.1402	58.216	28.7	mg/L	40	Standard
Fe	54	488.9	4.4	8.2399	0.402	4.9	mg/L	38	Standard
Fe	57	1088.4	2.6	18.8030	1.308	7.0	mg/L	577	Standard
Sc-1	45	20877.7	0.8				mg/L	20594	Standard
Cl	35	2.0	100.0				ug/L	2	Standard
Kr	83	8.0	33.1				ug/L	5	Standard
Br	81	10640.4	4.8				ug/L	1070	Standard
P	31	66.7	31.2				ug/L	42	Standard
S	34	68.3	11.2				ug/L	65	Standard
Sr	88	346.7	14.8				ug/L	372	Standard
C	12	60.0	16.7				mg/L	17	Standard
N	14	6.7	86.6				mg/L	3	Standard
Hg	202	23.3	24.7				mg/L	3	Standard
Dy	164	95.5	7.5				mg/L	10	Standard
Ho-1	165	98.3	11.7				mg/L	5	Standard
Er	166	93.3	65.5				mg/L	7	Standard
I	127	72154.0	9.3				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		103.381	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		98.581	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	96.073
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	91.833
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1708136606

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Method 6020 - Summary Report

Sample ID: L1708136607

Sample Date/Time: Tuesday, August 29, 2017 11:53:23

Number of Replicates: 3

Autosampler Position: 317

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	147778.9	0.8				ug/L	142206	Standard
	Be	9	31.7	36.5	-0.0208	0.007	34.0	ug/L	20	Standard
	Al	27	19610949.8	2.3	146.1556	2.209	1.5	ug/L	3387	Standard
	Sc	45	20503.9	1.5				ug/L	20594	Standard
	Ti	47	134.7	16.3	0.5907	0.132	22.3	ug/L	34	Standard
	V	51	1434.1	12.1	-0.0124	0.026	211.8	ug/L	1465	Standard
	Cr	52	12949.5	1.2	0.8067	0.036	4.5	ug/L	8276	Standard
	Cr	53	2475.2	1.9	1.4038	0.050	3.6	ug/L	1320	Standard
	Mn	55	1476656.8	0.6	150.3334	3.695	2.5	ug/L	2274	Standard
	Co	59	4004.9	0.8	0.4374	0.009	2.1	ug/L	628	Standard
	Ni	60	4979.5	1.2	2.7530	0.084	3.1	ug/L	395	Standard
	Cu	65	1128.0	1.5	0.6195	0.025	4.1	ug/L	187	Standard
	Zn	66	13879.7	1.3	17.0662	0.178	1.0	ug/L	181	Standard
[>	Ge	72	337040.3	1.9				ug/L	341349	Standard
	As	75	1033.8	6.6	1.3312	0.101	7.6	ug/L	-52	Standard
	Se	82	82.2	1.8	0.8654	0.043	5.0	ug/L	18	Standard
	Se-1	77	289.3	9.7	2.6012	0.675	25.9	ug/L	170	Standard
[>	Ga	71	91.7	15.7				mg/L	30	Standard
	Rb	85	30275.2	0.7				ug/L	55	Standard
	Y	89	298621.8	2.3				ug/L	313052	Standard
[>	Rh	103	181.7	19.9				ug/L	40	Standard
	Mo	98	1303.5	3.0	0.4124	0.013	3.2	ug/L	297	Standard
	Ag	107	108.7	9.6	-0.0020	0.002	121.7	ug/L	112	Standard
	Cd	111	18.4	8.2	0.0036	0.002	41.8	mg/L	9	Standard
	Cd	114	76.2	8.0	0.0229	0.002	9.2	ug/L	21	Standard
[>	In	115	356216.5	0.1				ug/L	367897	Standard
	Sn	118	451.3	4.0	0.4743	0.024	5.2	ug/L	96	Standard
	Sb	123	861.6	4.8	0.2012	0.012	6.2	ug/L	1191	Standard
	Ba	135	498498.9	2.0	372.7508	7.598	2.0	ug/L	59	Standard
	Ce	140	2198.5	4.9				ug/L	13	Standard
[>	Tb	159	658715.5	1.8				ug/L	641594	Standard
	Ho	165	60.0	50.7				ug/L	5	Standard
	Tl	203	157.7	12.8	0.0068	0.003	39.2	ug/L	121	Standard
	Tl	205	388.3	13.5	0.0089	0.003	29.4	ug/L	280	Standard
	Pb	206	13661.8	1.3	2.1631	0.025	1.1	ug/L	355	Standard
	Pb	207	10932.9	0.8	2.0211	0.046	2.3	ug/L	304	Standard
	Pb	208	20484.1	3.1	2.0911	0.096	4.6	ug/L	522	Standard
	U	238	2673.6	2.2	0.3091	0.009	3.0	ug/L	7	Standard
[>	Bi	209	454363.0	1.5				ug/L	496583	Standard

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Na	23	198.3	6.3	46.6019	3.366	7.2	mg/L	0	Standard
Mg	24	1996.8	4.1	35.7010	0.960	2.7	mg/L	22	Standard
K	39	370.0	14.3	4.7027	0.721	15.3	mg/L	5	Standard
Ca	43	108.3	16.2	154.1756	42.546	27.6	mg/L	40	Standard
Fe	54	1119.6	4.3	19.7950	0.650	3.3	mg/L	38	Standard
Fe	57	1325.1	10.2	30.2312	6.038	20.0	mg/L	577	Standard
Sc-1	45	20503.9	1.5				mg/L	20594	Standard
Cl	35	4.0	50.0				ug/L	2	Standard
Kr	83	5.7	56.7				ug/L	5	Standard
Br	81	14353.5	0.5				ug/L	1070	Standard
P	31	63.3	9.1				ug/L	42	Standard
S	34	63.3	25.4				ug/L	65	Standard
Sr	88	321.7	3.9				ug/L	372	Standard
C	12	40.0	25.0				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	93.2	49.1				mg/L	10	Standard
Ho-1	165	60.0	50.7				mg/L	5	Standard
Er	166	73.3	28.4				mg/L	7	Standard
I	127	99790.3	7.1				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		103.919	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		98.738	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.825
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.498
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1708136608

Sample Date/Time: Tuesday, August 29, 2017 11:56:28

Number of Replicates: 3

Autosampler Position: 318

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	149529.3	1.4				ug/L	142206	Standard
	Be	9	38.3	39.8	-0.0169	0.009	56.0	ug/L	20	Standard
	Al	27	19391926.1	1.8	142.8846	4.541	3.2	ug/L	3387	Standard
	Sc	45	20637.4	1.7				ug/L	20594	Standard
	Ti	47	100.3	15.9	0.3881	0.102	26.2	ug/L	34	Standard
	V	51	1372.8	11.6	-0.0252	0.020	78.4	ug/L	1465	Standard
	Cr	52	8793.2	0.9	0.1024	0.037	36.0	ug/L	8276	Standard
	Cr	53	1981.8	1.3	0.7376	0.073	9.9	ug/L	1320	Standard
	Mn	55	1443302.2	0.5	144.9055	3.755	2.6	ug/L	2274	Standard
	Co	59	3863.8	3.7	0.4128	0.030	7.2	ug/L	628	Standard
	Ni	60	4865.4	0.5	2.6442	0.083	3.1	ug/L	395	Standard
	Cu	65	598.7	3.3	0.2641	0.009	3.6	ug/L	187	Standard
	Zn	66	12172.9	1.8	14.7367	0.566	3.8	ug/L	181	Standard
[>	Ge	72	341785.4	2.4				ug/L	341349	Standard
	As	75	962.8	2.7	1.2280	0.057	4.6	ug/L	-52	Standard
	Se	82	98.2	9.3	1.0811	0.160	14.8	ug/L	18	Standard
	Se-1	77	283.0	6.4	2.3912	0.432	18.1	ug/L	170	Standard
[>	Ga	71	68.3	15.2				mg/L	30	Standard
	Rb	85	29795.9	0.5				ug/L	55	Standard
	Y	89	296886.0	1.8				ug/L	313052	Standard
[>	Rh	103	175.0	15.9				ug/L	40	Standard
	Mo	98	1093.5	2.8	0.3369	0.011	3.2	ug/L	297	Standard
	Ag	107	106.3	15.2	-0.0024	0.004	156.4	ug/L	112	Standard
	Cd	111	13.6	27.7	-0.0012	0.004	319.3	mg/L	9	Standard
	Cd	114	37.2	21.1	0.0093	0.003	28.5	ug/L	21	Standard
[>	In	115	355722.1	0.5				ug/L	367897	Standard
	Sn	118	168.3	5.1	0.1011	0.012	12.3	ug/L	96	Standard
	Sb	123	676.7	1.8	0.1463	0.004	3.0	ug/L	1191	Standard
	Ba	135	484348.1	2.0	362.6875	8.884	2.4	ug/L	59	Standard
	Ce	140	883.4	4.0				ug/L	13	Standard
[>	Tb	159	656944.5	1.8				ug/L	641594	Standard
	Ho	165	56.7	13.5				ug/L	5	Standard
	Tl	203	159.3	8.9	0.0070	0.002	26.0	ug/L	121	Standard
	Tl	205	330.0	6.6	0.0058	0.001	16.6	ug/L	280	Standard
	Pb	206	843.7	1.9	0.0815	0.001	1.7	ug/L	355	Standard
	Pb	207	724.0	2.0	0.0847	0.004	4.7	ug/L	304	Standard
	Pb	208	1364.7	5.4	0.0832	0.009	11.3	ug/L	522	Standard
	U	238	2523.2	0.9	0.2912	0.007	2.3	ug/L	7	Standard
[>	Bi	209	455056.6	1.4				ug/L	496583	Standard

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Na	23	216.7	10.9	50.6016	6.075	12.0	mg/L	0	Standard
Mg	24	1833.4	2.3	32.5242	0.922	2.8	mg/L	22	Standard
K	39	383.3	9.2	4.8557	0.489	10.1	mg/L	5	Standard
Ca	43	101.7	7.5	136.1144	23.260	17.1	mg/L	40	Standard
Fe	54	1049.2	3.9	18.4142	0.990	5.4	mg/L	38	Standard
Fe	57	1418.4	9.7	34.0286	6.751	19.8	mg/L	577	Standard
Sc-1	45	20637.4	1.7				mg/L	20594	Standard
Cl	35	0.7	173.2				ug/L	2	Standard
Kr	83	5.0	60.0				ug/L	5	Standard
Br	81	17697.0	5.8				ug/L	1070	Standard
P	31	76.7	37.1				ug/L	42	Standard
S	34	91.7	52.4				ug/L	65	Standard
Sr	88	336.7	15.5				ug/L	372	Standard
C	12	63.3	48.2				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	51.1	30.4				mg/L	10	Standard
Ho-1	165	56.7	13.5				mg/L	5	Standard
Er	166	46.7	12.4				mg/L	7	Standard
I	127	97525.4	6.6				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		105.150	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		100.128	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.691
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	91.638
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1708136608

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Method 6020 - Summary Report

Sample ID: L1708136610

Sample Date/Time: Tuesday, August 29, 2017 11:59:34

Number of Replicates: 3

Autosampler Position: 319

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	146414.1	1.3				ug/L	142206	Standard
	Be	9	25.0	103.9	-0.0247	0.016	64.3	ug/L	20	Standard
	Al	27	6785629.1	1.1	51.0357	0.995	1.9	ug/L	3387	Standard
	Sc	45	20832.7	3.2				ug/L	20594	Standard
	Ti	47	58.3	6.9	0.1516	0.026	17.4	ug/L	34	Standard
	V	51	1113.8	38.1	-0.0656	0.061	93.1	ug/L	1465	Standard
	Cr	52	8153.5	2.3	0.0015	0.061	4027.3	ug/L	8276	Standard
	Cr	53	2181.8	18.2	1.0022	0.550	54.9	ug/L	1320	Standard
	Mn	55	1509202.0	1.0	151.8604	5.604	3.7	ug/L	2274	Standard
	Co	59	2780.3	3.7	0.2760	0.021	7.7	ug/L	628	Standard
	Ni	60	2968.0	0.6	1.5220	0.039	2.6	ug/L	395	Standard
	Cu	65	2428.5	2.0	1.4595	0.052	3.6	ug/L	187	Standard
	Zn	66	4485.0	1.1	5.3001	0.199	3.8	ug/L	181	Standard
[>	Ge	72	341129.9	2.7				ug/L	341349	Standard
	As	75	255.2	12.2	0.3753	0.040	10.6	ug/L	-52	Standard
	Se	82	46.9	2.4	0.3405	0.016	4.6	ug/L	18	Standard
	Se-1	77	240.0	6.7	1.5448	0.302	19.6	ug/L	170	Standard
[>	Ga	71	53.3	10.8				mg/L	30	Standard
	Rb	85	10717.1	2.4				ug/L	55	Standard
	Y	89	299209.5	1.9				ug/L	313052	Standard
[>	Rh	103	96.7	7.9				ug/L	40	Standard
	Mo	98	1267.7	3.6	0.3974	0.016	3.9	ug/L	297	Standard
	Ag	107	124.3	11.4	0.0015	0.003	207.9	ug/L	112	Standard
	Cd	111	92.7	4.7	0.0777	0.004	4.9	mg/L	9	Standard
	Cd	114	281.3	22.2	0.0936	0.021	22.5	ug/L	21	Standard
[>	In	115	357856.6	0.6				ug/L	367897	Standard
	Sn	118	139.0	19.6	0.0611	0.035	58.1	ug/L	96	Standard
	Sb	123	233.3	4.8	0.0134	0.003	23.1	ug/L	1191	Standard
	Ba	135	58679.8	2.5	43.2690	0.847	2.0	ug/L	59	Standard
	Ce	140	363.3	5.6				ug/L	13	Standard
[>	Tb	159	644888.0	1.3				ug/L	641594	Standard
	Ho	165	16.7	75.5				ug/L	5	Standard
	Tl	203	212.3	11.4	0.0128	0.003	24.3	ug/L	121	Standard
	Tl	205	543.3	11.6	0.0164	0.003	21.2	ug/L	280	Standard
	Pb	206	1344.4	1.9	0.1564	0.006	3.8	ug/L	355	Standard
	Pb	207	1080.7	3.7	0.1464	0.010	7.1	ug/L	304	Standard
	Pb	208	2043.1	2.2	0.1481	0.008	5.3	ug/L	522	Standard
	U	238	551.7	12.4	0.0608	0.009	14.0	ug/L	7	Standard
[>	Bi	209	468697.4	1.6				ug/L	496583	Standard

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Na	23	85.0	27.0	19.5890	5.003	25.5	mg/L	0	Standard
Mg	24	1578.4	1.0	27.6513	0.846	3.1	mg/L	22	Standard
K	39	108.3	37.3	1.0545	0.603	57.2	mg/L	5	Standard
Ca	43	75.0	35.3	67.3220	64.408	95.7	mg/L	40	Standard
Fe	54	19.3	26.3	-0.0960	0.098	101.6	mg/L	38	Standard
Fe	57	831.7	1.8	7.6472	0.519	6.8	mg/L	577	Standard
Sc-1	45	20832.7	3.2				mg/L	20594	Standard
Cl	35	3.3	34.6				ug/L	2	Standard
Kr	83	7.3	34.3				ug/L	5	Standard
Br	81	7545.2	1.7				ug/L	1070	Standard
P	31	66.7	8.7				ug/L	42	Standard
S	34	66.7	22.9				ug/L	65	Standard
Sr	88	393.3	12.0				ug/L	372	Standard
C	12	16.7	69.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	83.3	30.2				mg/L	3	Standard
Dy	164	32.5	78.7				mg/L	10	Standard
Ho-1	165	16.7	75.5				mg/L	5	Standard
Er	166	16.7	69.3				mg/L	7	Standard
I	127	27985.8	2.4				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		102.959	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		99.936	
As	75			
Se	82			
Se-1	77			
> Ga	71			

Sample ID: L1708136610

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	97.271
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.385
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

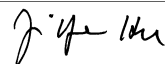
QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1708136610

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Method 6020 - Summary Report

Sample ID: L1708136611

Sample Date/Time: Tuesday, August 29, 2017 12:02:40

Number of Replicates: 3

Autosampler Position: 320

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	151222.8	2.0				ug/L	142206	Standard
	Be	9	33.3	60.6	-0.0201	0.012	61.5	ug/L	20	Standard
	Al	27	6971888.4	0.9	50.7699	0.641	1.3	ug/L	3387	Standard
	Sc	45	21204.8	1.5				ug/L	20594	Standard
	Ti	47	62.3	9.7	0.1629	0.041	25.0	ug/L	34	Standard
	V	51	896.2	41.1	-0.1041	0.051	48.9	ug/L	1465	Standard
	Cr	52	9156.1	0.9	0.1144	0.029	25.1	ug/L	8276	Standard
	Cr	53	3870.5	10.1	2.9785	0.604	20.3	ug/L	1320	Standard
	Mn	55	1547450.3	0.4	150.5057	4.869	3.2	ug/L	2274	Standard
	Co	59	2901.3	4.4	0.2790	0.020	7.2	ug/L	628	Standard
	Ni	60	3295.0	1.9	1.6513	0.066	4.0	ug/L	395	Standard
	Cu	65	1193.4	2.6	0.6276	0.039	6.2	ug/L	187	Standard
	Zn	66	3986.2	1.9	4.5213	0.144	3.2	ug/L	181	Standard
>	Ge	72	352906.5	2.9				ug/L	341349	Standard
	As	75	288.8	7.6	0.4044	0.031	7.7	ug/L	-52	Standard
	Se	82	57.0	12.6	0.4600	0.121	26.3	ug/L	18	Standard
	Se-1	77	308.7	2.6	2.7084	0.310	11.4	ug/L	170	Standard
>	Ga	71	71.7	17.6				mg/L	30	Standard
	Rb	85	11162.4	1.0				ug/L	55	Standard
	Y	89	319433.4	2.4				ug/L	313052	Standard
>	Rh	103	95.0	10.5				ug/L	40	Standard
	Mo	98	1808.8	2.9	0.5738	0.011	1.9	ug/L	297	Standard
	Ag	107	114.7	14.1	-0.0014	0.004	246.5	ug/L	112	Standard
	Cd	111	28.9	19.8	0.0132	0.006	44.5	mg/L	9	Standard
	Cd	114	83.1	30.2	0.0244	0.009	36.2	ug/L	21	Standard
>	In	115	368386.7	1.5				ug/L	367897	Standard
	Sn	118	132.0	16.0	0.0468	0.024	52.2	ug/L	96	Standard
	Sb	123	231.0	14.7	0.0107	0.009	83.0	ug/L	1191	Standard
	Ba	135	59510.4	2.8	42.6188	0.675	1.6	ug/L	59	Standard
	Ce	140	353.3	2.9				ug/L	13	Standard
>	Tb	159	656750.2	2.0				ug/L	641594	Standard
	Ho	165	13.3	43.3				ug/L	5	Standard
	Tl	203	188.3	12.6	0.0092	0.003	31.4	ug/L	121	Standard
	Tl	205	460.0	3.9	0.0112	0.001	10.3	ug/L	280	Standard
	Pb	206	683.7	3.8	0.0488	0.005	9.7	ug/L	355	Standard
	Pb	207	545.3	5.2	0.0445	0.006	13.5	ug/L	304	Standard
	Pb	208	995.7	1.3	0.0381	0.001	3.6	ug/L	522	Standard
	U	238	579.7	3.5	0.0617	0.003	4.1	ug/L	7	Standard
>	Bi	209	484988.1	1.2				ug/L	496583	Standard

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Na	23	80.0	22.5	18.1361	3.862	21.3	mg/L	0	Standard
Mg	24	1586.8	7.0	27.2713	1.586	5.8	mg/L	22	Standard
K	39	141.7	43.1	1.4739	0.846	57.4	mg/L	5	Standard
Ca	43	75.0	11.5	64.2739	21.992	34.2	mg/L	40	Standard
Fe	54	30.6	24.7	0.0929	0.123	132.8	mg/L	38	Standard
Fe	57	823.4	9.1	6.6527	3.459	52.0	mg/L	577	Standard
Sc-1	45	21204.8	1.5				mg/L	20594	Standard
Cl	35	2.7	114.6				ug/L	2	Standard
Kr	83	7.0	24.7				ug/L	5	Standard
Br	81	7965.4	1.8				ug/L	1070	Standard
P	31	73.3	10.4				ug/L	42	Standard
S	34	61.7	18.7				ug/L	65	Standard
Sr	88	358.3	10.5				ug/L	372	Standard
C	12	26.7	43.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	30.0	33.3				mg/L	3	Standard
Dy	164	11.7	54.1				mg/L	10	Standard
Ho-1	165	13.3	43.3				mg/L	5	Standard
Er	166	33.3	45.8				mg/L	7	Standard
I	127	25952.3	6.5				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		106.341	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		103.386	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1708136611

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.133
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.665
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1708136611

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, August 29, 2017 12:05:47

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	146545.4	1.2				ug/L	142206	Standard
	Be	9	80991.0	2.2	49.4085	1.102	2.2	ug/L	20	Standard
	Al	27	6506334.8	2.3	48.8801	0.693	1.4	ug/L	3387	Standard
	Sc	45	20921.1	1.2				ug/L	20594	Standard
	Ti	47	18464.2	2.2	101.9998	3.135	3.1	ug/L	34	Standard
	V	51	328187.0	0.9	49.9282	0.674	1.3	ug/L	1465	Standard
	Cr	52	319705.5	1.4	49.8622	0.895	1.8	ug/L	8276	Standard
	Cr	53	41033.8	1.2	49.3204	1.055	2.1	ug/L	1320	Standard
	Mn	55	508251.8	1.2	50.1648	1.140	2.3	ug/L	2274	Standard
	Co	59	405826.9	1.1	50.6201	1.099	2.2	ug/L	628	Standard
	Ni	60	86583.1	1.7	50.3688	1.212	2.4	ug/L	395	Standard
	Cu	65	79130.5	1.3	50.6859	1.168	2.3	ug/L	187	Standard
	Zn	66	41463.0	0.9	49.9889	0.965	1.9	ug/L	181	Standard
[>	Ge	72	346684.7	1.1				ug/L	341349	Standard
	As	75	42056.3	0.2	50.0282	0.442	0.9	ug/L	-52	Standard
	Se	82	3648.2	1.7	51.5632	0.324	0.6	ug/L	18	Standard
	Se-1	77	2731.2	2.0	50.1088	0.737	1.5	ug/L	170	Standard
[>	Ga	71	50.0	30.0				mg/L	30	Standard
	Rb	85	588.3	5.0				ug/L	55	Standard
	Y	89	306648.5	2.7				ug/L	313052	Standard
[>	Rh	103	61.7	26.1				ug/L	40	Standard
	Mo	98	298204.5	1.0	103.8799	0.296	0.3	ug/L	297	Standard
	Ag	107	237471.0	1.2	51.9639	0.102	0.2	ug/L	112	Standard
	Cd	111	54543.9	0.5	52.5624	0.405	0.8	mg/L	9	Standard
	Cd	114	151533.2	1.7	50.6099	0.835	1.7	ug/L	21	Standard
[>	In	115	370380.8	1.1				ug/L	367897	Standard
	Sn	118	39380.1	2.3	49.8757	1.291	2.6	ug/L	96	Standard
	Sb	123	176502.5	2.1	50.6079	1.341	2.6	ug/L	1191	Standard
	Ba	135	69405.3	2.2	49.5240	1.439	2.9	ug/L	59	Standard
	Ce	140	96.7	30.3				ug/L	13	Standard
[>	Tb	159	651249.3	1.7				ug/L	641594	Standard
	Ho	165	8.3	91.7				ug/L	5	Standard
	Tl	203	434265.6	0.7	50.3328	0.737	1.5	ug/L	121	Standard
	Tl	205	1006681.7	1.2	50.2341	0.608	1.2	ug/L	280	Standard
	Pb	206	327234.7	0.6	49.4698	0.747	1.5	ug/L	355	Standard
	Pb	207	289498.9	1.4	51.1149	1.060	2.1	ug/L	304	Standard
	Pb	208	510624.6	2.6	49.9024	1.791	3.6	ug/L	522	Standard
	U	238	471746.1	1.5	51.0548	1.250	2.4	ug/L	7	Standard
[>	Bi	209	487505.1	1.0				ug/L	496583	Standard

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Na	23	8.3	34.6	1.9225	0.663	34.5	mg/L	0	Standard
Mg	24	310.0	4.3	4.8677	0.300	6.2	mg/L	22	Standard
K	39	408.3	8.3	5.1244	0.478	9.3	mg/L	5	Standard
Ca	43	38.3	7.5	-23.7509	7.104	29.9	mg/L	40	Standard
Fe	54	289.2	7.2	4.6863	0.409	8.7	mg/L	38	Standard
Fe	57	766.7	8.3	4.6463	2.845	61.2	mg/L	577	Standard
Sc-1	45	20921.1	1.2				mg/L	20594	Standard
Cl	35	2.7	43.3				ug/L	2	Standard
Kr	83	8.0	57.3				ug/L	5	Standard
Br	81	1250.1	18.2				ug/L	1070	Standard
P	31	63.3	24.1				ug/L	42	Standard
S	34	85.0	20.4				ug/L	65	Standard
Sr	88	356.7	5.8				ug/L	372	Standard
C	12	16.7	124.9				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	19.4	49.2				mg/L	10	Standard
Ho-1	165	8.3	91.7				mg/L	5	Standard
Er	166	13.3	86.6				mg/L	7	Standard
I	127	3498.7	4.7				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	98.817		
Al	27	97.760		
Sc	45			
Ti	47	102.000		
V	51	99.856		
Cr	52	99.724		
Cr	53			
Mn	55	100.330		
Co	59	101.240		
Ni	60	100.738		
Cu	65	101.372		
Zn	66	99.978		
Ge	72		101.563	
As	75	100.056		
Se	82	103.126		
Se-1	77			
Ga	71			

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98	103.880	
[	Ag	107	103.928	
[	Cd	111	105.125	
[	Cd	114		
>	In	115		100.675
[	Sn	118	99.751	
[	Sb	123	101.216	
[	Ba	135	99.048	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.666	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.805	
[	U	238	102.110	
>	Bi	209		98.172
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, August 29, 2017 12:08:52

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	146797.9	1.8				ug/L	142206	Standard
	Be	9	33.3	37.7	-0.0196	0.008	41.0	ug/L	20	Standard
	Al	27	4249.0	39.4	0.0035	0.013	358.9	ug/L	3387	Standard
	Sc	45	21453.5	2.2				ug/L	20594	Standard
	Ti	47	29.3	26.5	-0.0176	0.041	235.6	ug/L	34	Standard
	V	51	1366.7	4.6	-0.0331	0.006	16.9	ug/L	1465	Standard
	Cr	52	7308.1	1.4	-0.1789	0.037	20.8	ug/L	8276	Standard
	Cr	53	1101.7	6.6	-0.4202	0.114	27.2	ug/L	1320	Standard
	Mn	55	1960.8	24.0	-0.0076	0.043	568.5	ug/L	2274	Standard
	Co	59	405.0	13.0	-0.0277	0.006	22.2	ug/L	628	Standard
	Ni	60	264.0	5.5	-0.0902	0.011	12.5	ug/L	395	Standard
	Cu	65	234.7	5.9	0.0218	0.007	29.9	ug/L	187	Standard
	Zn	66	193.0	9.9	0.0065	0.019	294.8	ug/L	181	Standard
[>	Ge	72	353712.1	2.0				ug/L	341349	Standard
	As	75	-51.8	104.3	0.0059	0.065	1094.6	ug/L	-52	Standard
	Se	82	18.8	44.3	-0.0769	0.113	146.7	ug/L	18	Standard
	Se-1	77	133.0	16.3	-0.6670	0.466	69.8	ug/L	170	Standard
[>	Ga	71	43.3	48.0				mg/L	30	Standard
	Rb	85	50.0	30.0				ug/L	55	Standard
	Y	89	319137.3	4.7				ug/L	313052	Standard
[>	Rh	103	45.0	40.1				ug/L	40	Standard
	Mo	98	335.3	27.8	0.0564	0.034	60.5	ug/L	297	Standard
	Ag	107	133.0	8.0	0.0022	0.003	118.0	ug/L	112	Standard
	Cd	111	9.7	20.0	-0.0055	0.002	34.2	mg/L	9	Standard
	Cd	114	23.2	45.2	0.0041	0.003	83.2	ug/L	21	Standard
[>	In	115	373186.4	2.0				ug/L	367897	Standard
	Sn	118	128.7	2.9	0.0407	0.006	15.9	ug/L	96	Standard
	Sb	123	327.9	9.3	0.0376	0.010	27.5	ug/L	1191	Standard
	Ba	135	63.0	38.6	-0.4123	0.018	4.4	ug/L	59	Standard
	Ce	140	11.7	65.5				ug/L	13	Standard
[>	Tb	159	653056.9	3.3				ug/L	641594	Standard
	Ho	165	15.0	88.2				ug/L	5	Standard
	Tl	203	127.0	16.5	0.0015	0.002	141.4	ug/L	121	Standard
	Tl	205	283.3	33.8	0.0019	0.005	240.5	ug/L	280	Standard
	Pb	206	412.0	10.6	0.0055	0.005	99.2	ug/L	355	Standard
	Pb	207	335.0	6.8	0.0053	0.004	76.8	ug/L	304	Standard
	Pb	208	602.7	3.7	-0.0024	0.002	74.5	ug/L	522	Standard
	U	238	72.7	43.3	0.0063	0.003	52.4	ug/L	7	Standard
[>	Bi	209	500243.6	2.3				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	45.0	33.3	0.1112	0.248	223.0	mg/L	22	Standard
K	39	25.0	34.6	-0.1052	0.122	115.7	mg/L	5	Standard
Ca	43	28.3	53.9	-49.8572	37.976	76.2	mg/L	40	Standard
Fe	54	39.3	26.3	0.2386	0.177	74.1	mg/L	38	Standard
Fe	57	626.7	4.5	-2.1660	0.740	34.2	mg/L	577	Standard
Sc-1	45	21453.5	2.2				mg/L	20594	Standard
Cl	35	4.0	86.6				ug/L	2	Standard
Kr	83	5.3	10.8				ug/L	5	Standard
Br	81	1076.7	6.8				ug/L	1070	Standard
P	31	53.3	51.6				ug/L	42	Standard
S	34	68.3	11.2				ug/L	65	Standard
Sr	88	330.0	13.5				ug/L	372	Standard
C	12	10.0	100.0				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	12.7	43.5				mg/L	10	Standard
Ho-1	165	15.0	88.2				mg/L	5	Standard
Er	166	13.3	86.6				mg/L	7	Standard
I	127	11742.9	1.9				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		103.622	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 7

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	101.438
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.737
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

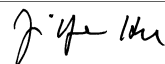
QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Ba	135	

Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: L1708136614

Sample Date/Time: Tuesday, August 29, 2017 12:11:59

Number of Replicates: 3

Autosampler Position: 321

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	145379.3	2.0				ug/L	142206	Standard
	Be	9	15.0	88.2	-0.0307	0.008	26.6	ug/L	20	Standard
	Al	27	9543833.9	1.2	72.3020	0.663	0.9	ug/L	3387	Standard
	Sc	45	20470.5	0.8				ug/L	20594	Standard
	Ti	47	85.7	1.3	0.3071	0.001	0.5	ug/L	34	Standard
	V	51	1040.7	24.2	-0.0756	0.038	50.4	ug/L	1465	Standard
	Cr	52	7826.0	1.7	-0.0474	0.009	18.8	ug/L	8276	Standard
	Cr	53	1838.4	10.3	0.5718	0.263	46.0	ug/L	1320	Standard
	Mn	55	1338608.1	0.5	135.1723	1.034	0.8	ug/L	2274	Standard
	Co	59	1621.4	1.2	0.1295	0.001	1.1	ug/L	628	Standard
	Ni	60	2178.2	2.8	1.0576	0.025	2.4	ug/L	395	Standard
	Cu	65	556.3	8.7	0.2389	0.034	14.2	ug/L	187	Standard
	Zn	66	2523.9	2.2	2.8975	0.098	3.4	ug/L	181	Standard
[>	Ge	72	339661.3	1.1				ug/L	341349	Standard
	As	75	404.3	9.2	0.5573	0.046	8.3	ug/L	-52	Standard
	Se	82	57.5	11.1	0.4967	0.096	19.3	ug/L	18	Standard
	Se-1	77	229.0	4.3	1.3452	0.168	12.5	ug/L	170	Standard
[>	Ga	71	65.0	40.0				mg/L	30	Standard
	Rb	85	20308.6	2.0				ug/L	55	Standard
	Y	89	301679.1	1.3				ug/L	313052	Standard
[>	Rh	103	105.0	4.8				ug/L	40	Standard
	Mo	98	465.9	5.1	0.1062	0.008	7.8	ug/L	297	Standard
	Ag	107	114.7	6.5	-0.0010	0.001	146.8	ug/L	112	Standard
	Cd	111	27.9	23.8	0.0127	0.007	51.9	mg/L	9	Standard
	Cd	114	79.0	25.8	0.0235	0.007	31.0	ug/L	21	Standard
[>	In	115	361910.4	1.5				ug/L	367897	Standard
	Sn	118	160.0	11.6	0.0865	0.026	29.7	ug/L	96	Standard
	Sb	123	184.9	9.6	-0.0016	0.004	274.2	ug/L	1191	Standard
	Ba	135	114485.7	2.3	83.9023	1.186	1.4	ug/L	59	Standard
	Ce	140	173.3	17.4				ug/L	13	Standard
[>	Tb	159	641032.0	2.2				ug/L	641594	Standard
	Ho	165	15.0	33.3				ug/L	5	Standard
	Tl	203	197.0	2.2	0.0110	0.000	3.1	ug/L	121	Standard
	Tl	205	465.0	7.4	0.0124	0.002	12.6	ug/L	280	Standard
	Pb	206	667.7	1.5	0.0503	0.003	5.4	ug/L	355	Standard
	Pb	207	556.0	0.6	0.0502	0.002	3.4	ug/L	304	Standard
	Pb	208	972.0	1.5	0.0394	0.002	4.8	ug/L	522	Standard
	U	238	451.0	2.7	0.0496	0.001	2.4	ug/L	7	Standard
[>	Bi	209	467024.4	1.1				ug/L	496583	Standard

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Na	23	143.3	7.3	33.7154	2.370	7.0	mg/L	0	Standard
Mg	24	1516.7	4.8	27.0175	1.543	5.7	mg/L	22	Standard
K	39	173.3	10.1	1.9755	0.261	13.2	mg/L	5	Standard
Ca	43	81.7	9.4	87.6426	20.886	23.8	mg/L	40	Standard
Fe	54	234.3	16.7	3.8002	0.691	18.2	mg/L	38	Standard
Fe	57	978.4	9.9	14.8191	4.081	27.5	mg/L	577	Standard
Sc-1	45	20470.5	0.8				mg/L	20594	Standard
Cl	35	2.0	173.2				ug/L	2	Standard
Kr	83	5.3	39.0				ug/L	5	Standard
Br	81	9749.8	7.2				ug/L	1070	Standard
P	31	71.7	14.5				ug/L	42	Standard
S	34	88.3	14.2				ug/L	65	Standard
Sr	88	360.0	4.8				ug/L	372	Standard
C	12	20.0	132.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	6.7	173.2				mg/L	3	Standard
Dy	164	23.0	49.0				mg/L	10	Standard
Ho-1	165	15.0	33.3				mg/L	5	Standard
Er	166	6.7	86.6				mg/L	7	Standard
I	127	51153.2	7.3				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		102.231	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		99.505	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	98.373
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	94.048
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1708136615

Sample Date/Time: Tuesday, August 29, 2017 12:15:04

Number of Replicates: 3

Autosampler Position: 322

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	146695.1	0.6				ug/L	142206	Standard
	Be	9	48.3	29.9	-0.0105	0.009	85.8	ug/L	20	Standard
	Al	27	9976544.2	1.6	74.9003	1.619	2.2	ug/L	3387	Standard
	Sc	45	20914.4	2.5				ug/L	20594	Standard
	Ti	47	85.3	14.5	0.3026	0.067	22.3	ug/L	34	Standard
	V	51	1301.1	16.9	-0.0360	0.032	89.9	ug/L	1465	Standard
	Cr	52	7873.0	3.0	-0.0464	0.031	66.1	ug/L	8276	Standard
	Cr	53	1985.1	8.1	0.7437	0.207	27.9	ug/L	1320	Standard
	Mn	55	1463082.2	0.5	146.9997	1.591	1.1	ug/L	2274	Standard
	Co	59	1728.8	2.1	0.1420	0.005	3.2	ug/L	628	Standard
	Ni	60	2171.2	4.5	1.0470	0.058	5.5	ug/L	395	Standard
	Cu	65	495.0	3.2	0.1970	0.013	6.7	ug/L	187	Standard
	Zn	66	1422.7	0.6	1.5270	0.023	1.5	ug/L	181	Standard
[>	Ge	72	341419.1	0.9				ug/L	341349	Standard
	As	75	456.4	2.8	0.6176	0.016	2.6	ug/L	-52	Standard
	Se	82	61.6	13.6	0.5506	0.116	21.0	ug/L	18	Standard
	Se-1	77	246.0	5.1	1.6588	0.226	13.6	ug/L	170	Standard
[>	Ga	71	46.7	16.4				mg/L	30	Standard
	Rb	85	21832.4	1.7				ug/L	55	Standard
	Y	89	301879.7	1.4				ug/L	313052	Standard
[>	Rh	103	98.3	12.8				ug/L	40	Standard
	Mo	98	1393.1	5.2	0.4379	0.029	6.5	ug/L	297	Standard
	Ag	107	124.0	15.4	0.0011	0.004	369.9	ug/L	112	Standard
	Cd	111	9.6	31.5	-0.0053	0.003	57.7	mg/L	9	Standard
	Cd	114	39.7	19.2	0.0100	0.003	26.8	ug/L	21	Standard
[>	In	115	361306.5	0.9				ug/L	367897	Standard
	Sn	118	137.0	4.4	0.0568	0.007	11.6	ug/L	96	Standard
	Sb	123	175.2	12.8	-0.0044	0.006	143.6	ug/L	1191	Standard
	Ba	135	126553.8	1.9	92.9497	1.134	1.2	ug/L	59	Standard
	Ce	140	151.7	15.6				ug/L	13	Standard
[>	Tb	159	645441.7	1.7				ug/L	641594	Standard
	Ho	165	11.7	24.7				ug/L	5	Standard
	Tl	203	181.0	6.7	0.0089	0.001	12.6	ug/L	121	Standard
	Tl	205	443.3	18.2	0.0110	0.004	35.4	ug/L	280	Standard
	Pb	206	464.0	5.4	0.0174	0.003	16.9	ug/L	355	Standard
	Pb	207	372.0	4.3	0.0156	0.002	14.1	ug/L	304	Standard
	Pb	208	699.0	5.7	0.0109	0.005	42.0	ug/L	522	Standard
	U	238	441.7	3.0	0.0480	0.001	1.7	ug/L	7	Standard
[>	Bi	209	471484.6	1.8				ug/L	496583	Standard

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Na	23	148.3	14.0	34.1825	5.070	14.8	mg/L	0	Standard
Mg	24	1568.4	9.7	27.3739	3.108	11.4	mg/L	22	Standard
K	39	233.3	11.8	2.7417	0.380	13.9	mg/L	5	Standard
Ca	43	85.0	21.2	90.9943	41.900	46.0	mg/L	40	Standard
Fe	54	235.6	22.8	3.7248	0.889	23.9	mg/L	38	Standard
Fe	57	1010.0	6.2	15.2828	2.243	14.7	mg/L	577	Standard
Sc-1	45	20914.4	2.5				mg/L	20594	Standard
Cl	35	4.7	65.5				ug/L	2	Standard
Kr	83	5.7	71.3				ug/L	5	Standard
Br	81	9980.0	8.9				ug/L	1070	Standard
P	31	58.3	17.8				ug/L	42	Standard
S	34	68.3	15.2				ug/L	65	Standard
Sr	88	323.3	12.4				ug/L	372	Standard
C	12	46.7	12.4				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	6.7	173.2				mg/L	3	Standard
Dy	164	19.4	3.8				mg/L	10	Standard
Ho-1	165	11.7	24.7				mg/L	5	Standard
Er	166	13.3	114.6				mg/L	7	Standard
I	127	54548.6	9.6				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		103.157	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		100.020	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.208
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	94.946
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1708136615

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Method 6020 - Summary Report

Sample ID: L1708136617

Sample Date/Time: Tuesday, August 29, 2017 12:18:54

Number of Replicates: 3

Autosampler Position: 323

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	140552.6	2.9				ug/L	142206	Standard
	Be	9	16.7	17.3	-0.0294	0.002	5.9	ug/L	20	Standard
	Al	27	9933437.4	1.7	77.8784	2.801	3.6	ug/L	3387	Standard
	Sc	45	20138.4	4.4				ug/L	20594	Standard
	Ti	47	49.0	5.4	0.1020	0.016	15.9	ug/L	34	Standard
	V	51	1506.8	14.1	0.0003	0.047	15080.5	ug/L	1465	Standard
	Cr	52	9429.6	4.3	0.2280	0.137	60.3	ug/L	8276	Standard
	Cr	53	2893.6	21.8	1.9604	0.969	49.4	ug/L	1320	Standard
	Mn	55	220701.3	1.5	22.2925	1.319	5.9	ug/L	2274	Standard
	Co	59	2854.3	2.0	0.2896	0.026	9.0	ug/L	628	Standard
	Ni	60	2906.6	1.3	1.5055	0.096	6.4	ug/L	395	Standard
	Cu	65	710.7	6.4	0.3425	0.012	3.4	ug/L	187	Standard
	Zn	66	1780.4	1.9	1.9962	0.162	8.1	ug/L	181	Standard
[>	Ge	72	337728.8	5.2				ug/L	341349	Standard
	As	75	160.5	11.2	0.2629	0.020	7.8	ug/L	-52	Standard
	Se	82	49.0	9.0	0.3807	0.100	26.2	ug/L	18	Standard
	Se-1	77	271.3	11.9	2.2475	0.888	39.5	ug/L	170	Standard
[>	Ga	71	45.0	58.8				mg/L	30	Standard
	Rb	85	5912.8	2.5				ug/L	55	Standard
	Y	89	304190.7	6.8				ug/L	313052	Standard
[>	Rh	103	178.3	5.8				ug/L	40	Standard
	Mo	98	2139.1	2.5	0.7228	0.051	7.0	ug/L	297	Standard
	Ag	107	100.0	18.7	-0.0038	0.003	88.4	ug/L	112	Standard
	Cd	111	29.9	29.2	0.0154	0.009	56.3	mg/L	9	Standard
	Cd	114	89.1	23.9	0.0276	0.007	25.5	ug/L	21	Standard
[>	In	115	353382.8	4.1				ug/L	367897	Standard
	Sn	118	156.0	29.6	0.0877	0.070	80.2	ug/L	96	Standard
	Sb	123	240.7	7.5	0.0167	0.008	49.8	ug/L	1191	Standard
	Ba	135	48523.6	1.3	36.1989	1.463	4.0	ug/L	59	Standard
	Ce	140	318.3	5.5				ug/L	13	Standard
[>	Tb	159	622683.4	3.7				ug/L	641594	Standard
	Ho	165	13.3	78.1				ug/L	5	Standard
	Tl	203	401.3	7.0	0.0365	0.004	11.9	ug/L	121	Standard
	Tl	205	915.0	10.6	0.0363	0.002	6.8	ug/L	280	Standard
	Pb	206	488.7	7.4	0.0228	0.002	9.3	ug/L	355	Standard
	Pb	207	389.0	7.7	0.0202	0.004	17.6	ug/L	304	Standard
	Pb	208	739.0	0.2	0.0167	0.005	27.9	ug/L	522	Standard
	U	238	1826.8	3.9	0.2080	0.016	7.8	ug/L	7	Standard
[>	Bi	209	461548.2	6.0				ug/L	496583	Standard

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Na	23	105.0	12.6	25.2229	4.208	16.7	mg/L	0	Standard
Mg	24	1530.1	6.1	27.7527	2.226	8.0	mg/L	22	Standard
K	39	141.7	22.7	1.5569	0.388	24.9	mg/L	5	Standard
Ca	43	46.7	27.0	1.8843	35.957	1908.2	mg/L	40	Standard
Fe	54	25.6	22.4	0.0346	0.122	352.1	mg/L	38	Standard
Fe	57	770.0	10.5	6.2418	5.151	82.5	mg/L	577	Standard
Sc-1	45	20138.4	4.4				mg/L	20594	Standard
Cl	35	2.0	100.0				ug/L	2	Standard
Kr	83	4.7	32.7				ug/L	5	Standard
Br	81	7865.4	5.6				ug/L	1070	Standard
P	31	71.7	14.5				ug/L	42	Standard
S	34	50.0	65.6				ug/L	65	Standard
Sr	88	403.3	12.5				ug/L	372	Standard
C	12	13.3	43.3				mg/L	17	Standard
N	14	3.3	173.2				mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	26.2	57.8				mg/L	10	Standard
Ho-1	165	13.3	78.1				mg/L	5	Standard
Er	166	10.0	173.2				mg/L	7	Standard
I	127	18125.8	3.3				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		98.837	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		98.939	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	96.055
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	92.945
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1708136617

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Method 6020 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Tuesday, August 29, 2017 12:22:00

Number of Replicates: 3

Autosampler Position: 203

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	134381.9	2.6				ug/L	142206	Standard
	Be	9	21.7	35.3	-0.0255	0.005	20.0	ug/L	20	Standard
	Al	27	5807593.8	0.8	47.6086	1.551	3.3	ug/L	3387	Standard
	Sc	45	18140.9	3.1				ug/L	20594	Standard
	Ti	47	17563.2	0.6	107.4225	0.909	0.8	ug/L	34	Standard
	V	51	52.8	339.8	-0.2288	0.030	13.2	ug/L	1465	Standard
	Cr	52	5733.1	3.2	-0.3097	0.036	11.7	ug/L	8276	Standard
	Cr	53	3847.2	8.6	3.5381	0.474	13.4	ug/L	1320	Standard
	Mn	55	1510.7	2.6	-0.0320	0.005	14.5	ug/L	2274	Standard
	Co	59	483.0	4.9	-0.0104	0.003	31.1	ug/L	628	Standard
	Ni	60	626.3	3.3	0.1638	0.015	8.9	ug/L	395	Standard
	Cu	65	396.0	5.3	0.1557	0.014	9.1	ug/L	187	Standard
	Zn	66	1449.7	1.9	1.7214	0.036	2.1	ug/L	181	Standard
[>	Ge	72	313089.8	0.4				ug/L	341349	Standard
	As	75	15.2	475.0	0.0872	0.095	108.9	ug/L	-52	Standard
	Se	82	19.2	7.0	-0.0353	0.022	62.4	ug/L	18	Standard
	Se-1	77	383.0	8.4	5.0645	0.725	14.3	ug/L	170	Standard
[>	Ga	71	155.0	18.0				mg/L	30	Standard
	Rb	85	590.0	8.2				ug/L	55	Standard
	Y	89	276463.2	1.6				ug/L	313052	Standard
[>	Rh	103	36.7	39.4				ug/L	40	Standard
	Mo	98	260858.5	0.6	97.2306	0.710	0.7	ug/L	297	Standard
	Ag	107	131.7	9.1	0.0042	0.003	68.4	ug/L	112	Standard
	Cd	111	-78.5	23.9	-0.0958	0.019	20.0	mg/L	9	Standard
	Cd	114	356.7	19.7	0.1237	0.024	19.4	ug/L	21	Standard
[>	In	115	346154.3	1.2				ug/L	367897	Standard
	Sn	118	61.0	9.8	-0.0386	0.009	23.0	ug/L	96	Standard
	Sb	123	65.6	5.2	-0.0358	0.001	2.4	ug/L	1191	Standard
	Ba	135	65.3	7.7	-0.4072	0.003	0.8	ug/L	59	Standard
	Ce	140	63.3	12.1				ug/L	13	Standard
[>	Tb	159	635392.4	1.3				ug/L	641594	Standard
	Ho	165	11.7	24.7				ug/L	5	Standard
	Tl	203	71.7	22.2	-0.0039	0.002	51.2	ug/L	121	Standard
	Tl	205	181.7	8.4	-0.0021	0.001	37.7	ug/L	280	Standard
	Pb	206	458.3	7.2	0.0192	0.005	27.4	ug/L	355	Standard
	Pb	207	362.0	4.4	0.0162	0.003	18.4	ug/L	304	Standard
	Pb	208	631.7	6.0	0.0064	0.004	62.3	ug/L	522	Standard
	U	238	5.0	34.6	-0.0008	0.000	25.5	ug/L	7	Standard
[>	Bi	209	454551.3	0.2				ug/L	496583	Standard

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Na	23	40.0	21.7	10.5916	2.091	19.7	mg/L	0	Standard
Mg	24	763.4	7.2	15.0823	1.610	10.7	mg/L	22	Standard
K	39	391.7	18.4	5.7358	1.301	22.7	mg/L	5	Standard
Ca	43	40.0	21.7	-3.9918	27.497	688.8	mg/L	40	Standard
Fe	54	642.5	3.2	12.6926	0.464	3.7	mg/L	38	Standard
Fe	57	930.0	6.2	17.9812	1.480	8.2	mg/L	577	Standard
Sc-1	45	18140.9	3.1				mg/L	20594	Standard
Cl	35	3.3	124.9				ug/L	2	Standard
Kr	83	4.3	48.0				ug/L	5	Standard
Br	81	960.0	11.0				ug/L	1070	Standard
P	31	55.0	24.1				ug/L	42	Standard
S	34	76.7	35.9				ug/L	65	Standard
Sr	88	310.0	14.0				ug/L	372	Standard
C	12	56.7	36.7				mg/L	17	Standard
N	14	3.3	173.2				mg/L	3	Standard
Hg	202	6.7	173.2				mg/L	3	Standard
Dy	164	12.1	54.5				mg/L	10	Standard
Ho-1	165	11.7	24.7				mg/L	5	Standard
Er	166	26.7	108.3				mg/L	7	Standard
I	127	22299.7	2.1				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27	0.952		
Sc	45			
Ti	47	107.422		
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		91.721	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 4

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98	97.231	
[	Ag	107		
[	Cd	111		
[	Cd	114		
>	In	115		94.090
[	Sn	118		
[	Sb	123		
[	Ba	135		
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203		
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208		
[	U	238		
>	Bi	209		91.536
[	Na	23	84.733	
[	Mg	24	301.646	
[	K	39	114.717	
[	Ca	43	-26.612	
[	Fe	54	101.541	
[	Fe	57	143.850	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

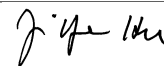
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 4	Al	27	
QC Std 4	Ba	135	
QC Std 4	Mg	24	

Sample ID: QC Std 4

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QC Std 4	Ca	43
QC Std 4	Fe	57

Sample ID: QC Std 4
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Method 6020 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Tuesday, August 29, 2017 12:25:06

Number of Replicates: 3

Autosampler Position: 204

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	137329.6	0.9				ug/L	142206	Standard
	Be	9	158223.8	2.1	103.0321	1.290	1.3	ug/L	20	Standard
	Al	27	5959588.7	2.2	47.7802	1.034	2.2	ug/L	3387	Standard
	Sc	45	18960.2	3.0				ug/L	20594	Standard
	Ti	47	17826.8	0.9	104.1228	0.909	0.9	ug/L	34	Standard
	V	51	612677.2	0.9	98.7914	0.832	0.8	ug/L	1465	Standard
	Cr	52	587185.3	0.9	98.0855	0.829	0.8	ug/L	8276	Standard
	Cr	53	78276.7	1.4	101.2749	1.342	1.3	ug/L	1320	Standard
	Mn	55	954299.5	1.0	99.7835	0.969	1.0	ug/L	2274	Standard
	Co	59	756195.0	1.1	99.8048	1.037	1.0	ug/L	628	Standard
	Ni	60	163725.3	1.6	100.9492	1.650	1.6	ug/L	395	Standard
	Cu	65	150040.4	1.5	101.7417	1.525	1.5	ug/L	187	Standard
	Zn	66	85233.8	1.3	108.9139	1.429	1.3	ug/L	181	Standard
[>	Ge	72	327837.5	0.1				ug/L	341349	Standard
	As	75	84982.1	0.8	106.8192	0.839	0.8	ug/L	-52	Standard
	Se	82	7360.7	1.3	110.4034	1.470	1.3	ug/L	18	Standard
	Se-1	77	5689.1	1.1	114.2483	1.186	1.0	ug/L	170	Standard
[>	Ga	71	156.7	26.6				mg/L	30	Standard
	Rb	85	596.7	10.1				ug/L	55	Standard
	Y	89	286866.2	2.5				ug/L	313052	Standard
[>	Rh	103	95.0	13.9				ug/L	40	Standard
	Mo	98	275288.6	0.7	99.2506	0.569	0.6	ug/L	297	Standard
	Ag	107	416851.4	1.6	94.4474	2.557	2.7	ug/L	112	Standard
	Cd	111	106741.0	1.2	106.4698	0.493	0.5	mg/L	9	Standard
	Cd	114	292281.1	2.6	101.0214	1.610	1.6	ug/L	21	Standard
[>	In	115	357866.5	1.1				ug/L	367897	Standard
	Sn	118	149.0	10.7	0.0744	0.023	31.0	ug/L	96	Standard
	Sb	123	342921.5	2.6	101.7948	1.547	1.5	ug/L	1191	Standard
	Ba	135	139222.8	3.0	103.2781	2.066	2.0	ug/L	59	Standard
	Ce	140	73.3	10.4				ug/L	13	Standard
[>	Tb	159	642122.0	1.8				ug/L	641594	Standard
	Ho	165	10.0					ug/L	5	Standard
	Tl	203	836322.1	0.5	100.4905	1.707	1.7	ug/L	121	Standard
	Tl	205	1956377.3	0.6	101.2051	0.921	0.9	ug/L	280	Standard
	Pb	206	651839.8	0.5	102.2042	1.778	1.7	ug/L	355	Standard
	Pb	207	541179.4	0.4	99.0930	1.572	1.6	ug/L	304	Standard
	Pb	208	985811.5	2.1	99.9249	3.383	3.4	ug/L	522	Standard
	U	238	914839.2	1.2	102.6295	2.470	2.4	ug/L	7	Standard
[>	Bi	209	470330.1	1.3				ug/L	496583	Standard

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[	Na	23	55.0	9.1	13.9917	1.529	10.9	mg/L	0	Standard
	Mg	24	696.7	10.1	13.0793	1.663	12.7	mg/L	22	Standard
	K	39	398.3	13.2	5.5675	0.966	17.4	mg/L	5	Standard
	Ca	43	33.3	8.7	-27.5357	8.251	30.0	mg/L	40	Standard
	Fe	54	670.3	7.9	12.6511	0.639	5.0	mg/L	38	Standard
	Fe	57	855.0	8.7	12.3768	3.559	28.8	mg/L	577	Standard
[>	Sc-1	45	18960.2	3.0				mg/L	20594	Standard
	Cl	35	2.7	114.6				ug/L	2	Standard
	Kr	83	3.3	75.5				ug/L	5	Standard
	Br	81	1013.4	10.9				ug/L	1070	Standard
	P	31	41.7	30.2				ug/L	42	Standard
	S	34	66.7	22.9				ug/L	65	Standard
	Sr	88	363.3	12.4				ug/L	372	Standard
	C	12	46.7	12.4				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	16.7	91.7				mg/L	3	Standard
	Dy	164	22.4	25.9				mg/L	10	Standard
	Ho-1	165	10.0					mg/L	5	Standard
	Er	166	20.0	50.0				mg/L	7	Standard
	I	127	20794.3	3.2				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
[> Li	6			
Be	9	103.032		
Al	27	0.956		
[Sc	45			
Ti	47	104.123		
V	51	98.791		
Cr	52	98.085		
Cr	53			
Mn	55	99.783		
Co	59	99.805		
Ni	60	100.949		
Cu	65	101.742		
Zn	66	108.914		
[> Ge	72		96.042	
As	75	106.819		
Se	82	110.403		
[Se-1	77			
[> Ga	71			

Sample ID: QC Std 5

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98	99.251	
[	Ag	107	94.447	
[	Cd	111	106.470	
[	Cd	114		
>	In	115		97.273
[	Sn	118		
[	Sb	123	101.795	
[	Ba	135	103.278	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.491	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.925	
[	U	238	102.629	
>	Bi	209		94.713
[	Na	23	111.933	
[	Mg	24	261.586	
[	K	39	111.350	
[	Ca	43	-183.571	
[	Fe	54	101.208	
[	Fe	57	99.015	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

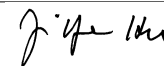
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Al	27	
QC Std 5	Mg	24	
QC Std 5	Ca	43	

Sample ID: QC Std 5

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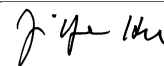


Sample ID: QC Std 5

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, August 29, 2017 12:28:13

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	144888.0	2.1				ug/L	142206	Standard
	Be	9	80768.1	1.8	49.8603	1.923	3.9	ug/L	20	Standard
	Al	27	6555536.6	0.5	49.8330	1.184	2.4	ug/L	3387	Standard
	Sc	45	20485.5	2.2				ug/L	20594	Standard
	Ti	47	18246.3	1.9	100.3608	4.055	4.0	ug/L	34	Standard
	V	51	330108.8	1.2	50.0087	1.743	3.5	ug/L	1465	Standard
	Cr	52	321523.7	0.5	49.9302	1.430	2.9	ug/L	8276	Standard
	Cr	53	41919.6	0.4	50.1911	1.281	2.6	ug/L	1320	Standard
	Mn	55	514140.2	0.6	50.5246	1.494	3.0	ug/L	2274	Standard
	Co	59	407636.0	1.3	50.6279	1.820	3.6	ug/L	628	Standard
	Ni	60	87571.0	0.3	50.7156	1.039	2.0	ug/L	395	Standard
	Cu	65	78844.3	0.7	50.2804	1.509	3.0	ug/L	187	Standard
	Zn	66	41809.3	1.0	50.1898	1.653	3.3	ug/L	181	Standard
>	Ge	72	348319.7	2.4				ug/L	341349	Standard
	As	75	42300.6	0.1	50.0979	1.184	2.4	ug/L	-52	Standard
	Se	82	3742.3	1.7	52.6598	0.469	0.9	ug/L	18	Standard
	Se-1	77	2767.3	2.2	50.5612	0.273	0.5	ug/L	170	Standard
>	Ga	71	43.3	37.1				mg/L	30	Standard
	Rb	85	706.7	16.7				ug/L	55	Standard
	Y	89	311513.6	1.5				ug/L	313052	Standard
>	Rh	103	50.0	36.1				ug/L	40	Standard
	Mo	98	303033.5	1.3	103.8422	0.521	0.5	ug/L	297	Standard
	Ag	107	242522.8	1.3	52.2058	0.305	0.6	ug/L	112	Standard
	Cd	111	56067.0	0.6	53.1494	0.121	0.2	mg/L	9	Standard
	Cd	114	154941.4	1.6	50.9085	1.027	2.0	ug/L	21	Standard
>	In	115	376503.3	0.8				ug/L	367897	Standard
	Sn	118	39991.7	2.0	49.8222	0.901	1.8	ug/L	96	Standard
	Sb	123	185328.6	1.4	52.2715	0.832	1.6	ug/L	1191	Standard
	Ba	135	72240.5	1.7	50.7141	0.976	1.9	ug/L	59	Standard
	Ce	140	51.7	36.6				ug/L	13	Standard
>	Tb	159	641875.6	1.3				ug/L	641594	Standard
	Ho	165	13.3	43.3				ug/L	5	Standard
	Tl	203	440717.5	1.0	50.2605	0.803	1.6	ug/L	121	Standard
	Tl	205	1034026.3	2.2	50.7797	1.609	3.2	ug/L	280	Standard
	Pb	206	337138.1	1.5	50.1481	0.916	1.8	ug/L	355	Standard
	Pb	207	297520.4	1.3	51.6879	0.977	1.9	ug/L	304	Standard
	Pb	208	503495.5	3.2	48.4415	2.790	5.8	ug/L	522	Standard
	U	238	475571.2	1.9	50.6606	2.128	4.2	ug/L	7	Standard
>	Bi	209	495549.4	2.6				ug/L	496583	Standard

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Na	23	10.0	132.3	2.3170	3.048	131.6	mg/L	0	Standard
Mg	24	310.0	15.6	4.9976	1.011	20.2	mg/L	22	Standard
K	39	400.0	5.4	5.1319	0.427	8.3	mg/L	5	Standard
Ca	43	38.3	19.9	-21.7499	18.913	87.0	mg/L	40	Standard
Fe	54	320.9	12.8	5.3791	0.874	16.3	mg/L	38	Standard
Fe	57	723.4	10.6	3.4228	3.365	98.3	mg/L	577	Standard
Sc-1	45	20485.5	2.2				mg/L	20594	Standard
Cl	35	3.3	69.3				ug/L	2	Standard
Kr	83	4.7	53.9				ug/L	5	Standard
Br	81	1010.0	16.9				ug/L	1070	Standard
P	31	75.0	35.3				ug/L	42	Standard
S	34	70.0	18.9				ug/L	65	Standard
Sr	88	385.0	5.7				ug/L	372	Standard
C	12	26.7	78.1				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	13.0	113.4				mg/L	10	Standard
Ho-1	165	13.3	43.3				mg/L	5	Standard
Er	166	6.7	173.2				mg/L	7	Standard
I	127	3142.0	6.2				mg/L	13743	Standard

QC Calculated Values

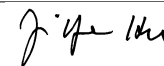
Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	99.721		
Al	27	99.666		
Sc	45			
Ti	47	100.361		
V	51	100.017		
Cr	52	99.860		
Cr	53			
Mn	55	101.049		
Co	59	101.256		
Ni	60	101.431		
Cu	65	100.561		
Zn	66	100.380		
Ge	72		102.042	
As	75	100.196		
Se	82	105.320		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98	103.842	
[	Ag	107	104.412	
[	Cd	111	106.299	
[	Cd	114		
>	In	115		102.339
[	Sn	118	99.644	
[	Sb	123	104.543	
[	Ba	135	101.428	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.521	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	96.883	
[	U	238	101.321	
>	Bi	209		99.792
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type Analyte Mass Out of Limits Message

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, August 29, 2017 12:31:18

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	144302.3	1.5				ug/L	142206	Standard
	Be	9	46.7	16.4	-0.0111	0.004	38.5	ug/L	20	Standard
	Al	27	2895.3	4.7	-0.0063	0.001	12.7	ug/L	3387	Standard
	Sc	45	19774.6	1.1				ug/L	20594	Standard
	Ti	47	28.7	10.1	-0.0184	0.018	99.2	ug/L	34	Standard
	V	51	1274.3	2.6	-0.0435	0.008	17.2	ug/L	1465	Standard
	Cr	52	7152.4	2.9	-0.1850	0.014	7.7	ug/L	8276	Standard
	Cr	53	1233.4	6.3	-0.2363	0.068	28.9	ug/L	1320	Standard
	Mn	55	1604.4	7.5	-0.0394	0.009	22.4	ug/L	2274	Standard
	Co	59	419.3	3.3	-0.0250	0.003	10.3	ug/L	628	Standard
	Ni	60	282.3	2.6	-0.0771	0.003	3.7	ug/L	395	Standard
	Cu	65	225.7	8.9	0.0186	0.012	63.2	ug/L	187	Standard
	Zn	66	171.0	11.7	-0.0160	0.024	153.5	ug/L	181	Standard
[>	Ge	72	347825.0	1.9				ug/L	341349	Standard
	As	75	-65.8	70.6	-0.0116	0.056	482.8	ug/L	-52	Standard
	Se	82	13.8	52.9	-0.1426	0.102	71.7	ug/L	18	Standard
	Se-1	77	146.7	0.8	-0.3628	0.071	19.6	ug/L	170	Standard
[>	Ga	71	45.0	40.1				mg/L	30	Standard
	Rb	85	41.7	27.7				ug/L	55	Standard
	Y	89	314227.6	3.5				ug/L	313052	Standard
[>	Rh	103	50.0	10.0				ug/L	40	Standard
	Mo	98	515.1	18.2	0.1168	0.032	27.3	ug/L	297	Standard
	Ag	107	155.7	7.5	0.0069	0.002	33.0	ug/L	112	Standard
	Cd	111	10.2	43.5	-0.0052	0.004	81.3	mg/L	9	Standard
	Cd	114	24.8	41.8	0.0046	0.003	75.2	ug/L	21	Standard
[>	In	115	376051.9	0.8				ug/L	367897	Standard
	Sn	118	133.3	10.5	0.0451	0.016	36.0	ug/L	96	Standard
	Sb	123	1143.1	6.3	0.2672	0.021	7.7	ug/L	1191	Standard
	Ba	135	44.7	1.3	-0.4258	0.000	0.1	ug/L	59	Standard
	Ce	140	25.0	40.0				ug/L	13	Standard
[>	Tb	159	643689.4	1.7				ug/L	641594	Standard
	Ho	165	15.0	33.3				ug/L	5	Standard
	Tl	203	128.3	11.6	0.0017	0.002	89.2	ug/L	121	Standard
	Tl	205	316.7	11.2	0.0036	0.002	43.2	ug/L	280	Standard
	Pb	206	400.3	4.0	0.0040	0.003	75.9	ug/L	355	Standard
	Pb	207	322.7	7.0	0.0033	0.003	101.2	ug/L	304	Standard
	Pb	208	589.3	6.0	-0.0035	0.003	77.1	ug/L	522	Standard
	U	238	50.7	16.8	0.0040	0.001	21.5	ug/L	7	Standard
[>	Bi	209	498879.5	1.2				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	40.0	25.0	0.0866	0.194	224.2	mg/L	22	Standard
K	39	21.7	35.3	-0.1264	0.111	87.4	mg/L	5	Standard
Ca	43	35.0	14.3	-27.0534	12.072	44.6	mg/L	40	Standard
Fe	54	24.1	41.9	0.0096	0.185	1927.8	mg/L	38	Standard
Fe	57	755.0	10.8	6.0237	3.444	57.2	mg/L	577	Standard
Sc-1	45	19774.6	1.1				mg/L	20594	Standard
Cl	35	1.3	173.2				ug/L	2	Standard
Kr	83	5.0	60.0				ug/L	5	Standard
Br	81	1080.0	5.6				ug/L	1070	Standard
P	31	83.3	28.4				ug/L	42	Standard
S	34	58.3	27.6				ug/L	65	Standard
Sr	88	331.7	8.7				ug/L	372	Standard
C	12	13.3	86.6				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	12.9	173.2				mg/L	10	Standard
Ho-1	165	15.0	33.3				mg/L	5	Standard
Er	166	10.0	173.2				mg/L	7	Standard
I	127	11007.3	2.2				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		101.897	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	102.216
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	100.462
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Sb	123	
QC Std 7	Ba	135	

Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Tuesday, August 29, 2017 12:34:25

Number of Replicates: 3

Autosampler Position: 202

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	143188.5	1.2				ug/L	142206	Standard
	Be	9	326.7	10.2	0.1642	0.022	13.2	ug/L	20	Standard
	Al	27	2698.6	10.5	-0.0076	0.002	32.1	ug/L	3387	Standard
	Sc	45	20260.2	2.5				ug/L	20594	Standard
	Ti	47	29.3	7.9	-0.0129	0.015	114.3	ug/L	34	Standard
	V	51	3609.0	2.4	0.3184	0.011	3.4	ug/L	1465	Standard
	Cr	52	11021.7	0.6	0.4531	0.021	4.6	ug/L	8276	Standard
	Cr	53	1725.1	3.8	0.4003	0.110	27.5	ug/L	1320	Standard
	Mn	55	6265.0	1.4	0.4282	0.017	4.1	ug/L	2274	Standard
	Co	59	3463.1	1.2	0.3589	0.009	2.5	ug/L	628	Standard
	Ni	60	2890.3	2.9	1.4613	0.028	1.9	ug/L	395	Standard
	Cu	65	1375.4	4.4	0.7645	0.036	4.7	ug/L	187	Standard
	Zn	66	5080.9	0.2	5.9811	0.091	1.5	ug/L	181	Standard
[>	Ge	72	343858.9	1.4				ug/L	341349	Standard
	As	75	307.2	5.5	0.4349	0.018	4.1	ug/L	-52	Standard
	Se	82	47.4	11.3	0.3408	0.071	20.7	ug/L	18	Standard
	Se-1	77	156.0	10.6	-0.1471	0.321	218.0	ug/L	170	Standard
[>	Ga	71	30.0	16.7				mg/L	30	Standard
	Rb	85	48.3	21.5				ug/L	55	Standard
	Y	89	312019.9	2.7				ug/L	313052	Standard
[>	Rh	103	61.7	36.6				ug/L	40	Standard
	Mo	98	180.4	20.1	0.0034	0.012	368.3	ug/L	297	Standard
	Ag	107	1865.8	0.7	0.3850	0.003	0.8	ug/L	112	Standard
	Cd	111	247.8	5.4	0.2259	0.012	5.4	mg/L	9	Standard
	Cd	114	709.2	2.2	0.2351	0.004	1.9	ug/L	21	Standard
[>	In	115	367497.9	0.6				ug/L	367897	Standard
	Sn	118	93.3	7.0	-0.0021	0.008	364.6	ug/L	96	Standard
	Sb	123	1755.8	4.7	0.4519	0.021	4.6	ug/L	1191	Standard
	Ba	135	1018.0	8.4	0.2811	0.058	20.8	ug/L	59	Standard
	Ce	140	15.0	33.3				ug/L	13	Standard
[>	Tb	159	641031.0	1.9				ug/L	641594	Standard
	Ho	165	5.0	0.0				ug/L	5	Standard
	Tl	203	740.7	2.8	0.0724	0.003	3.9	ug/L	121	Standard
	Tl	205	1681.8	10.6	0.0714	0.009	12.8	ug/L	280	Standard
	Pb	206	1633.1	2.6	0.1900	0.007	3.8	ug/L	355	Standard
	Pb	207	1335.4	2.2	0.1817	0.006	3.0	ug/L	304	Standard
	Pb	208	2460.1	3.5	0.1789	0.009	5.1	ug/L	522	Standard
	U	238	3516.1	3.2	0.3762	0.015	4.0	ug/L	7	Standard
[>	Bi	209	491404.4	0.9				ug/L	496583	Standard

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Na	23	3.3	86.6	0.8073	0.695	86.1	mg/L	0	Standard
Mg	24	55.0	47.2	0.3442	0.480	139.4	mg/L	22	Standard
K	39	16.7	96.4	-0.2035	0.226	111.2	mg/L	5	Standard
Ca	43	43.3	40.5	-8.2226	43.128	524.5	mg/L	40	Standard
Fe	54	14.2	35.2	-0.1803	0.090	50.0	mg/L	38	Standard
Fe	57	600.0	3.0	-1.7747	1.186	66.8	mg/L	577	Standard
Sc-1	45	20260.2	2.5				mg/L	20594	Standard
Cl	35	2.7	86.6				ug/L	2	Standard
Kr	83	5.7	27.0				ug/L	5	Standard
Br	81	1063.4	3.6				ug/L	1070	Standard
P	31	60.0	25.0				ug/L	42	Standard
S	34	66.7	28.4				ug/L	65	Standard
Sr	88	365.0	13.5				ug/L	372	Standard
C	12	30.0	57.7				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	-0.5	100.0				mg/L	10	Standard
Ho-1	165	5.0	0.0				mg/L	5	Standard
Er	166	10.0	100.0				mg/L	7	Standard
I	127	2835.3	5.2				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	82.109		
Al	27			
Sc	45			
Ti	47			
V	51	79.605		
Cr	52	56.635		
Cr	53			
Mn	55	85.647		
Co	59	89.733		
Ni	60	91.333		
Cu	65	95.562		
Zn	66	95.697		
Ge	72		100.735	
As	75	108.717		
Se	82	85.202		
Se-1	77			
Ga	71			

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98		
	Ag	107	96.252	
	Cd	111	94.135	
	Cd	114		
>	In	115		99.891
	Sn	118		
	Sb	123	112.970	
[	Ba	135	37.474	
[	Ce	140		
>	Tb	159		
[	Ho	165		
	Tl	203	90.492	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	89.462	
	U	238	94.041	
>	Bi	209		98.957
[	Na	23		
[	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		
	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Cr	52	
QC Std 8	Ba	135	

Sample ID: QC Std 8

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Method 6020 - Summary Report

Sample ID: PBW 8B WG626887-02

Sample Date/Time: Tuesday, August 29, 2017 12:43:36

Number of Replicates: 3

Autosampler Position: 205

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	145606.3	0.7				ug/L	142206	Standard
	Be	9	40.0	37.5	-0.0153	0.009	61.2	ug/L	20	Standard
	Al	27	2865.3	2.3	-0.0067	0.001	8.3	ug/L	3387	Standard
	Sc	45	20520.6	1.6				ug/L	20594	Standard
	Ti	47	29.7	20.6	-0.0146	0.032	216.1	ug/L	34	Standard
	V	51	-2898.9	18.4	-0.6758	0.081	12.0	ug/L	1465	Standard
	Cr	52	8346.0	1.9	-0.0052	0.001	24.3	ug/L	8276	Standard
	Cr	53	14924.0	5.9	16.6173	1.406	8.5	ug/L	1320	Standard
	Mn	55	2324.9	26.2	0.0293	0.055	187.4	ug/L	2274	Standard
	Co	59	376.3	0.9	-0.0308	0.001	1.8	ug/L	628	Standard
	Ni	60	305.3	3.7	-0.0651	0.008	11.9	ug/L	395	Standard
	Cu	65	223.0	7.8	0.0158	0.011	67.1	ug/L	187	Standard
	Zn	66	1064.4	3.3	1.0523	0.058	5.5	ug/L	181	Standard
[>	Ge	72	350675.2	1.8				ug/L	341349	Standard
	As	75	-154.6	38.2	-0.1147	0.070	61.3	ug/L	-52	Standard
	Se	82	17.5	37.2	-0.0936	0.088	93.7	ug/L	18	Standard
	Se-1	77	848.7	8.9	13.1841	1.720	13.0	ug/L	170	Standard
[>	Ga	71	50.0	10.0				mg/L	30	Standard
	Rb	85	41.7	30.2				ug/L	55	Standard
	Y	89	311757.5	2.3				ug/L	313052	Standard
[>	Rh	103	41.7	30.2				ug/L	40	Standard
	Mo	98	250.7	34.1	0.0291	0.030	103.6	ug/L	297	Standard
	Ag	107	128.7	3.5	0.0020	0.001	51.2	ug/L	112	Standard
	Cd	111	9.7	20.1	-0.0052	0.002	35.3	mg/L	9	Standard
	Cd	114	32.5	54.9	0.0074	0.006	80.7	ug/L	21	Standard
[>	In	115	363126.9	1.0				ug/L	367897	Standard
	Sn	118	94.0	7.4	0.0002	0.008	4512.2	ug/L	96	Standard
	Sb	123	442.6	26.0	0.0736	0.033	45.2	ug/L	1191	Standard
	Ba	135	50.0	8.0	-0.4208	0.003	0.8	ug/L	59	Standard
	Ce	140	35.0	14.3				ug/L	13	Standard
[>	Tb	159	627492.9	2.7				ug/L	641594	Standard
	Ho	165	8.3	34.6				ug/L	5	Standard
	Tl	203	158.0	14.9	0.0052	0.002	47.7	ug/L	121	Standard
	Tl	205	375.0	29.3	0.0065	0.005	78.5	ug/L	280	Standard
	Pb	206	460.0	10.9	0.0132	0.006	48.7	ug/L	355	Standard
	Pb	207	366.3	3.6	0.0113	0.002	13.5	ug/L	304	Standard
	Pb	208	655.0	2.2	0.0032	0.002	75.0	ug/L	522	Standard
	U	238	10.0	20.0	-0.0003	0.000	67.7	ug/L	7	Standard
[>	Bi	209	495568.1	1.7				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	31.7	32.9	-0.0933	0.192	205.9	mg/L	22	Standard
K	39	10.0	50.0	-0.3002	0.068	22.5	mg/L	5	Standard
Ca	43	33.3	48.2	-34.4458	40.665	118.1	mg/L	40	Standard
Fe	54	24.3	53.1	-0.0032	0.231	7174.2	mg/L	38	Standard
Fe	57	655.0	22.9	0.3486	6.931	1988.1	mg/L	577	Standard
Sc-1	45	20520.6	1.6				mg/L	20594	Standard
Cl	35	2.0	100.0				ug/L	2	Standard
Kr	83	3.7	41.7				ug/L	5	Standard
Br	81	1053.4	9.5				ug/L	1070	Standard
P	31	58.3	13.1				ug/L	42	Standard
S	34	78.3	16.1				ug/L	65	Standard
Sr	88	315.0	16.7				ug/L	372	Standard
C	12	13.3	114.6				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	10.0	100.0				mg/L	3	Standard
Dy	164	6.5	86.7				mg/L	10	Standard
Ho-1	165	8.3	34.6				mg/L	5	Standard
Er	166	3.3	173.2				mg/L	7	Standard
I	127	9434.6	6.0				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		102.391	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		102.732	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: PBW 8B WG626887-02

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	98.703
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	99.796
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
V 51 Lower	V	51	

Sample ID: PBW 8B WG626887-02
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Method 6020 - Summary Report

Sample ID: F BLANK WG626778-01

Sample Date/Time: Tuesday, August 29, 2017 12:46:41

Number of Replicates: 3

Autosampler Position: 206

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	153608.1	0.5				ug/L	142206	Standard
	Be	9	851.7	7.6	0.4562	0.040	8.7	ug/L	20	Standard
	Al	27	134240.4	1.2	0.9344	0.017	1.8	ug/L	3387	Standard
	Sc	45	20634.0	1.8				ug/L	20594	Standard
	Ti	47	1838.4	1.9	9.9256	0.082	0.8	ug/L	34	Standard
	V	51	57052.2	1.0	8.4238	0.043	0.5	ug/L	1465	Standard
	Cr	52	40155.1	0.4	5.0598	0.079	1.6	ug/L	8276	Standard
	Cr	53	35045.5	2.5	41.5795	1.671	4.0	ug/L	1320	Standard
	Mn	55	53034.0	1.5	5.0211	0.046	0.9	ug/L	2274	Standard
	Co	59	16727.6	0.4	1.9983	0.039	2.0	ug/L	628	Standard
	Ni	60	9013.3	2.0	4.9920	0.166	3.3	ug/L	395	Standard
	Cu	65	8257.9	0.7	5.1408	0.078	1.5	ug/L	187	Standard
	Zn	66	10178.4	0.3	12.0199	0.145	1.2	ug/L	181	Standard
>	Ge	72	349048.6	1.5				ug/L	341349	Standard
	As	75	3217.4	4.6	3.8626	0.151	3.9	ug/L	-52	Standard
	Se	82	317.1	7.2	4.1407	0.284	6.9	ug/L	18	Standard
	Se-1	77	1954.1	4.1	34.6977	2.073	6.0	ug/L	170	Standard
>	Ga	71	98.3	21.2				mg/L	30	Standard
	Rb	85	118.3	25.5				ug/L	55	Standard
	Y	89	307962.5	2.1				ug/L	313052	Standard
>	Rh	103	61.7	28.5				ug/L	40	Standard
	Mo	98	29346.5	1.2	10.2344	0.083	0.8	ug/L	297	Standard
	Ag	107	19602.3	0.5	4.2926	0.016	0.4	ug/L	112	Standard
	Cd	111	571.0	4.4	0.5392	0.025	4.7	mg/L	9	Standard
	Cd	114	2241.4	1.8	0.7498	0.013	1.7	ug/L	21	Standard
>	In	115	368011.0	0.5				ug/L	367897	Standard
	Sn	118	8031.1	4.2	10.1385	0.382	3.8	ug/L	96	Standard
	Sb	123	42939.4	2.0	12.3469	0.204	1.7	ug/L	1191	Standard
	Ba	135	13999.1	1.3	9.6870	0.098	1.0	ug/L	59	Standard
	Ce	140	26.7	39.0				ug/L	13	Standard
>	Tb	159	651134.3	2.2				ug/L	641594	Standard
	Ho	165	13.3	78.1				ug/L	5	Standard
	Tl	203	44014.5	0.4	5.1044	0.082	1.6	ug/L	121	Standard
	Tl	205	102799.3	1.9	5.1345	0.157	3.1	ug/L	280	Standard
	Pb	206	33270.8	0.5	4.9943	0.076	1.5	ug/L	355	Standard
	Pb	207	29307.0	1.0	5.1423	0.112	2.2	ug/L	304	Standard
	Pb	208	51758.5	3.6	5.0193	0.242	4.8	ug/L	522	Standard
	U	238	3.3	75.5	-0.0010	0.000	27.0	ug/L	7	Standard
>	Bi	209	486147.5	1.2				ug/L	496583	Standard

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Na	23	1.7	173.2	0.3995	0.683	171.0	mg/L	0	Standard
Mg	24	58.3	26.2	0.3834	0.258	67.3	mg/L	22	Standard
K	39	63.3	38.9	0.4401	0.352	80.0	mg/L	5	Standard
Ca	43	26.7	28.6	-51.8226	17.777	34.3	mg/L	40	Standard
Fe	54	29.2	29.8	0.0856	0.160	186.8	mg/L	38	Standard
Fe	57	648.3	8.5	-0.1404	2.366	1685.3	mg/L	577	Standard
Sc-1	45	20634.0	1.8				mg/L	20594	Standard
Cl	35	3.3	34.6				ug/L	2	Standard
Kr	83	5.0	60.0				ug/L	5	Standard
Br	81	1060.0	8.2				ug/L	1070	Standard
P	31	58.3	27.6				ug/L	42	Standard
S	34	61.7	12.4				ug/L	65	Standard
Sr	88	355.0	11.5				ug/L	372	Standard
C	12	10.0	100.0				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	16.3	69.8				mg/L	10	Standard
Ho-1	165	13.3	78.1				mg/L	5	Standard
Er	166	6.7	86.6				mg/L	7	Standard
I	127	9588.0	3.6				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.018	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		102.256	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.031
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.899
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: F BLANK WG626778-01

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Method 6020 - Summary Report

Sample ID: LCSW 8B WG626887-03

Sample Date/Time: Tuesday, August 29, 2017 12:49:46

Number of Replicates: 3

Autosampler Position: 207

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	144883.0	2.2				ug/L	142206	Standard
	Be	9	38.3	74.2	-0.0161	0.018	113.8	ug/L	20	Standard
	Al	27	8202.3	108.7	0.0350	0.070	200.2	ug/L	3387	Standard
	Sc	45	20710.8	3.1				ug/L	20594	Standard
	Ti	47	29.0	24.1	-0.0168	0.040	239.6	ug/L	34	Standard
	V	51	-4302.9	4.0	-0.8918	0.011	1.3	ug/L	1465	Standard
	Cr	52	8821.9	3.4	0.0791	0.054	68.0	ug/L	8276	Standard
	Cr	53	17591.9	3.3	20.0345	1.176	5.9	ug/L	1320	Standard
	Mn	55	3985.3	62.0	0.1966	0.249	126.6	ug/L	2274	Standard
	Co	59	497.0	43.2	-0.0153	0.028	179.8	ug/L	628	Standard
	Ni	60	338.3	14.6	-0.0445	0.032	71.7	ug/L	395	Standard
	Cu	65	253.0	17.7	0.0360	0.030	83.1	ug/L	187	Standard
	Zn	66	1263.4	3.8	1.3000	0.074	5.7	ug/L	181	Standard
[>	Ge	72	348526.3	2.3				ug/L	341349	Standard
	As	75	-224.7	52.0	-0.1970	0.134	67.9	ug/L	-52	Standard
	Se	82	19.3	14.7	-0.0645	0.045	70.5	ug/L	18	Standard
	Se-1	77	962.4	4.1	15.4874	1.095	7.1	ug/L	170	Standard
[>	Ga	71	60.0	8.3				mg/L	30	Standard
	Rb	85	55.0	32.8				ug/L	55	Standard
	Y	89	312361.4	2.4				ug/L	313052	Standard
[>	Rh	103	40.0	12.5				ug/L	40	Standard
	Mo	98	169.8	70.8	0.0004	0.043	10927.3	ug/L	297	Standard
	Ag	107	174.0	53.7	0.0121	0.021	174.2	ug/L	112	Standard
	Cd	111	23.2	103.1	0.0080	0.024	295.2	mg/L	9	Standard
	Cd	114	80.5	130.6	0.0239	0.036	150.7	ug/L	21	Standard
[>	In	115	364368.2	0.7				ug/L	367897	Standard
	Sn	118	105.7	12.6	0.0149	0.018	120.4	ug/L	96	Standard
	Sb	123	187.7	56.2	-0.0010	0.031	3167.8	ug/L	1191	Standard
	Ba	135	713.4	161.3	0.0683	0.849	1242.2	ug/L	59	Standard
	Ce	140	30.0	44.1				ug/L	13	Standard
[>	Tb	159	640039.1	0.5				ug/L	641594	Standard
	Ho	165	11.7	107.9				ug/L	5	Standard
	Tl	203	237.0	86.6	0.0149	0.025	165.2	ug/L	121	Standard
	Tl	205	585.0	97.7	0.0176	0.029	167.0	ug/L	280	Standard
	Pb	206	541.0	30.0	0.0265	0.026	99.8	ug/L	355	Standard
	Pb	207	433.3	31.4	0.0240	0.026	106.9	ug/L	304	Standard
	Pb	208	801.3	35.9	0.0185	0.030	162.6	ug/L	522	Standard
	U	238	118.7	168.1	0.0117	0.022	188.0	ug/L	7	Standard
[>	Bi	209	490609.3	2.9				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	43.3	17.6	0.1098	0.120	109.1	mg/L	22	Standard
K	39	16.7	17.3	-0.2088	0.043	20.8	mg/L	5	Standard
Ca	43	46.7	44.6	-1.1813	54.633	4625.0	mg/L	40	Standard
Fe	54	27.6	52.9	0.0482	0.242	502.1	mg/L	38	Standard
Fe	57	685.0	4.4	1.4214	2.242	157.8	mg/L	577	Standard
Sc-1	45	20710.8	3.1				mg/L	20594	Standard
Cl	35	4.0	50.0				ug/L	2	Standard
Kr	83	4.7	49.5				ug/L	5	Standard
Br	81	930.0	16.1				ug/L	1070	Standard
P	31	58.3	17.8				ug/L	42	Standard
S	34	88.3	22.9				ug/L	65	Standard
Sr	88	336.7	9.4				ug/L	372	Standard
C	12	13.3	114.6				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	22.2	26.6				mg/L	10	Standard
Ho-1	165	11.7	107.9				mg/L	5	Standard
Er	166	23.3	24.7				mg/L	7	Standard
I	127	9588.0	3.4				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		101.882	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		102.103	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.041
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	98.797
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

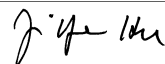
QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
V 51 Lower	V	51	

Sample ID: LCSW 8B WG626887-03

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Method 6020 - Summary Report

Sample ID: L1708117701 WG626887-01

Sample Date/Time: Tuesday, August 29, 2017 12:52:52

Number of Replicates: 3

Autosampler Position: 208

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	145377.5	0.7				ug/L	142206	Standard
	Be	9	23.3	44.6	-0.0256	0.006	24.9	ug/L	20	Standard
	Al	27	3815.5	2.7	0.0005	0.001	122.0	ug/L	3387	Standard
	Sc	45	20128.4	1.4				ug/L	20594	Standard
	Ti	47	30.0	8.8	-0.0092	0.018	193.9	ug/L	34	Standard
	V	51	26.0	130.0	-0.2337	0.005	2.2	ug/L	1465	Standard
	Cr	52	8286.3	6.2	0.0115	0.099	861.6	ug/L	8276	Standard
	Cr	53	6414.7	10.0	6.2718	0.638	10.2	ug/L	1320	Standard
	Mn	55	2089.5	12.6	0.0106	0.022	207.6	ug/L	2274	Standard
	Co	59	431.7	4.6	-0.0229	0.002	6.9	ug/L	628	Standard
	Ni	60	520.7	2.0	0.0651	0.001	1.2	ug/L	395	Standard
	Cu	65	312.7	3.2	0.0765	0.004	5.9	ug/L	187	Standard
	Zn	66	1062.0	0.6	1.0737	0.028	2.6	ug/L	181	Standard
[>	Ge	72	344060.0	2.1				ug/L	341349	Standard
	As	75	-105.8	61.5	-0.0586	0.075	128.3	ug/L	-52	Standard
	Se	82	96.2	7.3	1.0426	0.123	11.8	ug/L	18	Standard
	Se-1	77	847.4	1.4	13.4591	0.488	3.6	ug/L	170	Standard
[>	Ga	71	375.0	13.5				mg/L	30	Standard
	Rb	85	13033.9	1.2				ug/L	55	Standard
	Y	89	308294.3	2.3				ug/L	313052	Standard
[>	Rh	103	53.3	30.1				ug/L	40	Standard
	Mo	98	383.8	6.4	0.0760	0.011	14.1	ug/L	297	Standard
	Ag	107	116.0	7.4	-0.0009	0.002	190.2	ug/L	112	Standard
	Cd	111	11.9	17.2	-0.0031	0.002	70.9	mg/L	9	Standard
	Cd	114	25.7	22.7	0.0052	0.002	40.7	ug/L	21	Standard
[>	In	115	364626.9	1.5				ug/L	367897	Standard
	Sn	118	96.7	8.6	0.0032	0.012	358.0	ug/L	96	Standard
	Sb	123	175.7	14.7	-0.0046	0.008	180.1	ug/L	1191	Standard
	Ba	135	11478.3	1.5	7.9401	0.242	3.0	ug/L	59	Standard
	Ce	140	26.7	54.1				ug/L	13	Standard
[>	Tb	159	643710.1	1.6				ug/L	641594	Standard
	Ho	165	11.7	65.5				ug/L	5	Standard
	Tl	203	141.7	8.9	0.0037	0.001	35.3	ug/L	121	Standard
	Tl	205	323.3	12.9	0.0044	0.002	53.1	ug/L	280	Standard
	Pb	206	474.7	3.6	0.0171	0.004	22.5	ug/L	355	Standard
	Pb	207	363.3	6.1	0.0123	0.004	35.5	ug/L	304	Standard
	Pb	208	699.7	2.8	0.0091	0.003	34.2	ug/L	522	Standard
	U	238	6.0	44.1	-0.0007	0.000	38.4	ug/L	7	Standard
[>	Bi	209	484142.0	1.8				ug/L	496583	Standard

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Na	23	6.7	86.6	1.5891	1.372	86.3	mg/L	0	Standard
Mg	24	370.0	5.9	6.2012	0.494	8.0	mg/L	22	Standard
K	39	443.3	10.5	5.8341	0.598	10.2	mg/L	5	Standard
Ca	43	48.3	57.0	6.2715	72.229	1151.7	mg/L	40	Standard
Fe	54	34.2	38.1	0.1908	0.242	126.7	mg/L	38	Standard
Fe	57	690.0	0.7	2.4825	0.578	23.3	mg/L	577	Standard
Sc-1	45	20128.4	1.4				mg/L	20594	Standard
Cl	35	2.0	100.0				ug/L	2	Standard
Kr	83	3.3	69.3				ug/L	5	Standard
Br	81	1743.4	3.8				ug/L	1070	Standard
P	31	66.7	17.3				ug/L	42	Standard
S	34	68.3	33.0				ug/L	65	Standard
Sr	88	366.7	27.3				ug/L	372	Standard
C	12	16.7	34.6				mg/L	17	Standard
N	14	3.3	173.2				mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	22.7	67.5				mg/L	10	Standard
Ho-1	165	11.7	65.5				mg/L	5	Standard
Er	166	13.3	43.3				mg/L	7	Standard
I	127	14166.6	8.0				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		102.230	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		100.794	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1708117701 WG626887-01

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	99.111
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.495
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1708117701 WG626887-01

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Method 6020 - Summary Report

Sample ID: L1708117701S WG626887-04

Sample Date/Time: Tuesday, August 29, 2017 12:55:57

Number of Replicates: 3

Autosampler Position: 209

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	151628.3	0.6				ug/L	142206	Standard
	Be	9	848.4	3.8	0.4607	0.021	4.6	ug/L	20	Standard
	Al	27	132944.3	2.4	0.9375	0.023	2.4	ug/L	3387	Standard
	Sc	45	20251.9	2.3				ug/L	20594	Standard
	Ti	47	1901.8	2.5	10.3656	0.361	3.5	ug/L	34	Standard
	V	51	62299.9	1.4	9.3015	0.155	1.7	ug/L	1465	Standard
	Cr	52	39855.4	0.9	5.0660	0.080	1.6	ug/L	8276	Standard
	Cr	53	18978.5	2.1	21.8981	0.295	1.3	ug/L	1320	Standard
	Mn	55	51667.6	0.9	4.9304	0.072	1.5	ug/L	2274	Standard
	Co	59	16402.9	1.5	1.9753	0.043	2.2	ug/L	628	Standard
	Ni	60	9135.8	0.9	5.1075	0.086	1.7	ug/L	395	Standard
	Cu	65	8204.2	2.5	5.1516	0.173	3.4	ug/L	187	Standard
	Zn	66	9345.2	1.7	11.1142	0.282	2.5	ug/L	181	Standard
[>	Ge	72	346085.8	0.9				ug/L	341349	Standard
	As	75	3229.0	0.4	3.9097	0.048	1.2	ug/L	-52	Standard
	Se	82	376.8	5.0	5.0331	0.315	6.3	ug/L	18	Standard
	Se-1	77	1796.8	2.2	31.9315	1.072	3.4	ug/L	170	Standard
[>	Ga	71	363.3	9.0				mg/L	30	Standard
	Rb	85	13420.9	2.2				ug/L	55	Standard
	Y	89	307472.3	1.6				ug/L	313052	Standard
[>	Rh	103	56.7	13.5				ug/L	40	Standard
	Mo	98	29062.7	1.5	10.2179	0.161	1.6	ug/L	297	Standard
	Ag	107	18844.4	0.2	4.1593	0.011	0.3	ug/L	112	Standard
	Cd	111	556.9	3.5	0.5299	0.021	3.9	mg/L	9	Standard
	Cd	114	2222.9	8.0	0.7498	0.061	8.2	ug/L	21	Standard
[>	In	115	365047.4	0.3				ug/L	367897	Standard
	Sn	118	7725.6	1.0	9.8296	0.111	1.1	ug/L	96	Standard
	Sb	123	42027.7	2.4	12.1830	0.319	2.6	ug/L	1191	Standard
	Ba	135	25538.8	1.4	18.2005	0.315	1.7	ug/L	59	Standard
	Ce	140	40.0	25.0				ug/L	13	Standard
[>	Tb	159	652947.9	1.5				ug/L	641594	Standard
	Ho	165	10.0	100.0				ug/L	5	Standard
	Tl	203	42333.7	2.0	4.9689	0.067	1.4	ug/L	121	Standard
	Tl	205	99354.8	2.4	5.0215	0.037	0.7	ug/L	280	Standard
	Pb	206	32708.3	1.6	4.9698	0.083	1.7	ug/L	355	Standard
	Pb	207	28392.2	1.5	5.0416	0.088	1.7	ug/L	304	Standard
	Pb	208	51084.2	2.7	5.0176	0.287	5.7	ug/L	522	Standard
	U	238	7.0	14.3	-0.0006	0.000	17.1	ug/L	7	Standard
[>	Bi	209	480363.1	3.2				ug/L	496583	Standard

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Na	23	25.0	52.9	5.9977	3.319	55.3	mg/L	0	Standard
Mg	24	408.3	3.9	6.8665	0.393	5.7	mg/L	22	Standard
K	39	601.7	11.3	8.0218	0.851	10.6	mg/L	5	Standard
Ca	43	41.7	18.3	-12.1629	18.864	155.1	mg/L	40	Standard
Fe	54	34.3	24.4	0.1872	0.146	77.9	mg/L	38	Standard
Fe	57	726.7	7.5	3.9350	2.188	55.6	mg/L	577	Standard
Sc-1	45	20251.9	2.3				mg/L	20594	Standard
Cl	35	2.0	100.0				ug/L	2	Standard
Kr	83	6.3	24.1				ug/L	5	Standard
Br	81	1796.8	8.7				ug/L	1070	Standard
P	31	50.0	20.0				ug/L	42	Standard
S	34	80.0	18.8				ug/L	65	Standard
Sr	88	321.7	12.1				ug/L	372	Standard
C	12	16.7	69.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	6.7	173.2				mg/L	3	Standard
Dy	164	22.5	66.2				mg/L	10	Standard
Ho-1	165	10.0	100.0				mg/L	5	Standard
Er	166	16.7	91.7				mg/L	7	Standard
I	127	13681.2	2.8				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		106.626	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		101.388	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	99.225
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.734
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1708117701S WG626887-04

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Method 6020 - Summary Report

Sample ID: L1708117701SD WG626887-05

Sample Date/Time: Tuesday, August 29, 2017 12:59:02

Number of Replicates: 3

Autosampler Position: 210

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	150426.5	1.6				ug/L	142206	Standard
	Be	9	868.4	2.2	0.4765	0.011	2.2	ug/L	20	Standard
	Al	27	133568.1	2.5	0.9500	0.029	3.1	ug/L	3387	Standard
	Sc	45	20240.2	2.1				ug/L	20594	Standard
	Ti	47	1906.8	3.6	10.3578	0.436	4.2	ug/L	34	Standard
	V	51	62151.5	1.0	9.2476	0.153	1.7	ug/L	1465	Standard
	Cr	52	40528.5	1.6	5.1527	0.135	2.6	ug/L	8276	Standard
	Cr	53	23012.5	1.4	26.8378	0.577	2.1	ug/L	1320	Standard
	Mn	55	52891.8	1.7	5.0344	0.092	1.8	ug/L	2274	Standard
	Co	59	16493.3	0.5	1.9797	0.020	1.0	ug/L	628	Standard
	Ni	60	9270.5	2.3	5.1685	0.146	2.8	ug/L	395	Standard
	Cu	65	8136.5	1.2	5.0903	0.098	1.9	ug/L	187	Standard
	Zn	66	9640.1	1.3	11.4319	0.144	1.3	ug/L	181	Standard
[>	Ge	72	347232.2	0.7				ug/L	341349	Standard
	As	75	3153.5	3.8	3.8070	0.137	3.6	ug/L	-52	Standard
	Se	82	386.8	4.8	5.1563	0.280	5.4	ug/L	18	Standard
	Se-1	77	1969.8	6.8	35.1960	2.893	8.2	ug/L	170	Standard
[>	Ga	71	428.3	15.5				mg/L	30	Standard
	Rb	85	13080.6	1.8				ug/L	55	Standard
	Y	89	311923.2	0.9				ug/L	313052	Standard
[>	Rh	103	31.7	39.7				ug/L	40	Standard
	Mo	98	29184.4	1.8	10.1394	0.200	2.0	ug/L	297	Standard
	Ag	107	19431.1	1.8	4.2388	0.080	1.9	ug/L	112	Standard
	Cd	111	529.2	6.8	0.4966	0.034	6.8	mg/L	9	Standard
	Cd	114	2360.3	3.7	0.7869	0.031	3.9	ug/L	21	Standard
[>	In	115	369402.8	0.3				ug/L	367897	Standard
	Sn	118	7888.4	1.3	9.9196	0.154	1.6	ug/L	96	Standard
	Sb	123	42572.5	2.4	12.1951	0.299	2.5	ug/L	1191	Standard
	Ba	135	25266.4	1.5	17.7833	0.278	1.6	ug/L	59	Standard
	Ce	140	51.7	34.0				ug/L	13	Standard
[>	Tb	159	657306.0	1.7				ug/L	641594	Standard
	Ho	165	11.7	24.7				ug/L	5	Standard
	Tl	203	42797.0	0.4	5.0809	0.067	1.3	ug/L	121	Standard
	Tl	205	100696.9	1.4	5.1492	0.154	3.0	ug/L	280	Standard
	Pb	206	33025.3	0.9	5.0758	0.061	1.2	ug/L	355	Standard
	Pb	207	28705.5	0.7	5.1560	0.066	1.3	ug/L	304	Standard
	Pb	208	52229.9	2.7	5.1878	0.233	4.5	ug/L	522	Standard
	U	238	5.7	56.7	-0.0007	0.000	49.0	ug/L	7	Standard
[>	Bi	209	474894.6	1.7				ug/L	496583	Standard

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Na	23	15.0	33.3	3.5901	1.259	35.1	mg/L	0	Standard
Mg	24	463.3	1.6	7.8856	0.296	3.8	mg/L	22	Standard
K	39	590.0	2.2	7.8698	0.203	2.6	mg/L	5	Standard
Ca	43	30.0	28.9	-41.5647	23.481	56.5	mg/L	40	Standard
Fe	54	27.5	26.6	0.0629	0.131	207.7	mg/L	38	Standard
Fe	57	673.3	12.0	1.6066	4.204	261.7	mg/L	577	Standard
Sc-1	45	20240.2	2.1				mg/L	20594	Standard
Cl	35	2.0	0.0				ug/L	2	Standard
Kr	83	5.0	72.1				ug/L	5	Standard
Br	81	1766.8	13.8				ug/L	1070	Standard
P	31	71.7	20.1				ug/L	42	Standard
S	34	66.7	37.0				ug/L	65	Standard
Sr	88	323.3	7.9				ug/L	372	Standard
C	12	33.3	17.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	12.7	122.0				mg/L	10	Standard
Ho-1	165	11.7	24.7				mg/L	5	Standard
Er	166	13.3	43.3				mg/L	7	Standard
I	127	13559.4	5.7				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		105.781	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		101.723	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	100.409
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	95.633
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1708117701SD WG626887-05

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Method 6020 - Summary Report

Sample ID: L1708116402

Sample Date/Time: Tuesday, August 29, 2017 13:02:07

Number of Replicates: 3

Autosampler Position: 211

Sample Description: 10

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	160357.8	2.4				ug/L	142206	Standard
	Be	9	18.3	41.7	-0.0298	0.004	13.8	ug/L	20	Standard
	Al	27	3832.2	2.6	-0.0020	0.001	62.6	ug/L	3387	Standard
	Sc	45	21086.3	2.2				ug/L	20594	Standard
	Ti	47	51.3	4.1	0.1036	0.011	10.8	ug/L	34	Standard
	V	51	-18441.7	12.4	-3.0216	0.374	12.4	ug/L	1465	Standard
	Cr	52	16589.7	1.1	1.2951	0.069	5.4	ug/L	8276	Standard
	Cr	53	61098.8	10.3	73.3769	8.937	12.2	ug/L	1320	Standard
	Mn	55	2824.9	1.1	0.0785	0.007	9.2	ug/L	2274	Standard
	Co	59	372.3	5.6	-0.0313	0.003	8.9	ug/L	628	Standard
	Ni	60	369.7	8.3	-0.0283	0.020	70.3	ug/L	395	Standard
	Cu	65	1446.7	5.5	0.7904	0.038	4.9	ug/L	187	Standard
	Zn	66	3401.0	0.8	3.8418	0.093	2.4	ug/L	181	Standard
[>	Ge	72	351379.3	1.8				ug/L	341349	Standard
	As	75	-688.4	44.7	-0.7427	0.371	49.9	ug/L	-52	Standard
	Se	82	15.7	21.1	-0.1178	0.044	37.4	ug/L	18	Standard
	Se-1	77	4080.6	4.5	75.4499	4.878	6.5	ug/L	170	Standard
[>	Ga	71	110.0	24.1				mg/L	30	Standard
	Rb	85	58.3	55.8				ug/L	55	Standard
	Y	89	309269.8	3.1				ug/L	313052	Standard
[>	Rh	103	61.7	30.7				ug/L	40	Standard
	Mo	98	223.5	19.2	0.0155	0.015	94.8	ug/L	297	Standard
	Ag	107	130.3	5.1	0.0009	0.002	166.9	ug/L	112	Standard
	Cd	111	20.4	7.6	0.0043	0.001	31.1	mg/L	9	Standard
	Cd	114	69.1	36.2	0.0188	0.008	43.3	ug/L	21	Standard
[>	In	115	382656.4	0.6				ug/L	367897	Standard
	Sn	118	157.0	10.3	0.0715	0.021	29.3	ug/L	96	Standard
	Sb	123	193.9	9.2	-0.0020	0.005	237.1	ug/L	1191	Standard
	Ba	135	574.3	2.5	-0.0572	0.012	20.9	ug/L	59	Standard
	Ce	140	71.7	17.6				ug/L	13	Standard
[>	Tb	159	684467.4	1.4				ug/L	641594	Standard
	Ho	165	6.7	43.3				ug/L	5	Standard
	Tl	203	66.0	11.8	-0.0052	0.001	16.7	ug/L	121	Standard
	Tl	205	131.7	14.4	-0.0053	0.001	16.5	ug/L	280	Standard
	Pb	206	5790.4	1.7	0.8185	0.010	1.2	ug/L	355	Standard
	Pb	207	4917.5	1.1	0.8143	0.022	2.8	ug/L	304	Standard
	Pb	208	9181.1	3.0	0.8361	0.042	5.1	ug/L	522	Standard
	U	238	5.7	20.4	-0.0008	0.000	17.3	ug/L	7	Standard
[>	Bi	209	488960.1	1.8				ug/L	496583	Standard

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[	Na	23	1.7	173.2	0.3891	0.665	171.0	mg/L	0	Standard
	Mg	24	36.7	20.8	-0.0197	0.142	722.8	mg/L	22	Standard
	K	39	16.7	62.4	-0.2113	0.144	68.2	mg/L	5	Standard
	Ca	43	28.3	50.9	-48.7534	36.046	73.9	mg/L	40	Standard
	Fe	54	44.1	33.2	0.3386	0.272	80.3	mg/L	38	Standard
	Fe	57	648.3	3.6	-0.7398	1.346	182.0	mg/L	577	Standard
[>	Sc-1	45	21086.3	2.2				mg/L	20594	Standard
	Cl	35	2.7	43.3				ug/L	2	Standard
	Kr	83	4.3	35.3				ug/L	5	Standard
	Br	81	1523.4	1.4				ug/L	1070	Standard
	P	31	60.0	16.7				ug/L	42	Standard
	S	34	71.7	20.1				ug/L	65	Standard
	Sr	88	381.7	16.6				ug/L	372	Standard
	C	12	263.3	36.9				mg/L	17	Standard
	N	14	3.3	173.2				mg/L	3	Standard
	Hg	202	10.0	100.0				mg/L	3	Standard
	Dy	164	19.2	89.5				mg/L	10	Standard
	Ho-1	165	6.7	43.3				mg/L	5	Standard
	Er	166	16.7	34.6				mg/L	7	Standard
	I	127	15347.8	7.0				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
[> Li	6		112.764	
Be	9			
Al	27			
[Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
[> Ge	72		102.938	
As	75			
Se	82			
[Se-1	77			
[> Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	104.012
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	98.465
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
V 51 Lower	V	51	
As 75 Lower	As	75	

Sample ID: L1708116402

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Method 6020 - Summary Report

Sample ID: L1708116402PS WG627600-01

Sample Date/Time: Tuesday, August 29, 2017 13:05:13

Number of Replicates: 3

Autosampler Position: 212

Sample Description: 10

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	163236.4	1.3				ug/L	142206	Standard
	Be	9	81766.7	1.1	44.7822	0.912	2.0	ug/L	20	Standard
	Al	27	4332.3	4.3	0.0009	0.002	185.1	ug/L	3387	Standard
	Sc	45	21059.6	1.6				ug/L	20594	Standard
	Ti	47	51.7	15.5	0.1027	0.041	40.2	ug/L	34	Standard
	V	51	288558.0	0.7	42.8999	0.578	1.3	ug/L	1465	Standard
	Cr	52	311986.6	1.1	47.5281	0.884	1.9	ug/L	8276	Standard
	Cr	53	108812.9	3.0	130.7303	4.893	3.7	ug/L	1320	Standard
	Mn	55	488975.0	0.4	47.1834	0.438	0.9	ug/L	2274	Standard
	Co	59	384961.9	1.2	46.9532	0.929	2.0	ug/L	628	Standard
	Ni	60	83747.8	1.4	47.6334	1.006	2.1	ug/L	395	Standard
	Cu	65	79309.4	0.5	49.6753	0.551	1.1	ug/L	187	Standard
	Zn	66	43285.7	0.7	51.0398	0.719	1.4	ug/L	181	Standard
[>	Ge	72	354481.9	0.7				ug/L	341349	Standard
	As	75	40050.0	0.9	46.5991	0.780	1.7	ug/L	-52	Standard
	Se	82	3385.1	0.8	46.7625	0.191	0.4	ug/L	18	Standard
	Se-1	77	6789.2	2.8	126.4501	4.642	3.7	ug/L	170	Standard
[>	Ga	71	121.7	26.7				mg/L	30	Standard
	Rb	85	70.0	0.0				ug/L	55	Standard
	Y	89	315918.5	3.2				ug/L	313052	Standard
[>	Rh	103	83.3	19.3				ug/L	40	Standard
	Mo	98	218.5	2.8	0.0126	0.002	16.6	ug/L	297	Standard
	Ag	107	225040.6	0.8	46.8912	0.307	0.7	ug/L	112	Standard
	Cd	111	52095.9	0.6	47.8032	0.273	0.6	mg/L	9	Standard
	Cd	114	142736.7	1.4	45.3940	0.609	1.3	ug/L	21	Standard
[>	In	115	388946.1	0.2				ug/L	367897	Standard
	Sn	118	158.0	7.9	0.0695	0.015	22.2	ug/L	96	Standard
	Sb	123	166470.9	2.7	45.4411	1.192	2.6	ug/L	1191	Standard
	Ba	135	68549.8	2.7	46.5443	1.252	2.7	ug/L	59	Standard
	Ce	140	95.0	9.1				ug/L	13	Standard
[>	Tb	159	702171.3	1.6				ug/L	641594	Standard
	Ho	165	18.3	31.5				ug/L	5	Standard
	Tl	203	406232.5	1.7	46.2280	1.633	3.5	ug/L	121	Standard
	Tl	205	938814.7	0.2	45.9932	1.129	2.5	ug/L	280	Standard
	Pb	206	321441.3	0.4	47.7052	1.260	2.6	ug/L	355	Standard
	Pb	207	269045.7	0.2	46.6307	1.168	2.5	ug/L	304	Standard
	Pb	208	510283.9	3.0	48.9773	2.728	5.6	ug/L	522	Standard
	U	238	447295.7	1.5	47.5348	1.957	4.1	ug/L	7	Standard
[>	Bi	209	496751.9	2.7				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	40.0	25.0	0.0415	0.189	455.9	mg/L	22	Standard
K	39	20.0	50.0	-0.1671	0.139	83.2	mg/L	5	Standard
Ca	43	28.3	36.7	-48.5908	26.751	55.1	mg/L	40	Standard
Fe	54	19.5	10.6	-0.0975	0.032	32.5	mg/L	38	Standard
Fe	57	660.0	6.8	-0.1979	2.169	1096.0	mg/L	577	Standard
Sc-1	45	21059.6	1.6				mg/L	20594	Standard
Cl	35	2.7	114.6				ug/L	2	Standard
Kr	83	5.3	10.8				ug/L	5	Standard
Br	81	1246.7	3.8				ug/L	1070	Standard
P	31	68.3	48.7				ug/L	42	Standard
S	34	105.0	33.0				ug/L	65	Standard
Sr	88	328.3	14.1				ug/L	372	Standard
C	12	216.7	18.7				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	13.0	118.3				mg/L	10	Standard
Ho-1	165	18.3	31.5				mg/L	5	Standard
Er	166	6.7	173.2				mg/L	7	Standard
I	127	16175.4	11.1				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		114.789	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		103.847	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1708116402PS WG627600-01

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	105.721
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	100.034
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Cr 53 Upper, S, EEE	Cr	53	
Se-1 77 Upper, S, EEE	Se-1	77	

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Method 6020 - Summary Report

Sample ID: L1708116402SDL WG627600-02

Sample Date/Time: Tuesday, August 29, 2017 13:08:18

Number of Replicates: 3

Autosampler Position: 213

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	141092.4	1.8				ug/L	142206	Standard
	Be	9	38.3	15.1	-0.0157	0.003	21.2	ug/L	20	Standard
	Al	27	2688.6	4.1	-0.0074	0.001	7.9	ug/L	3387	Standard
	Sc	45	18566.4	0.8				ug/L	20594	Standard
	Ti	47	30.7	14.7	0.0056	0.027	490.0	ug/L	34	Standard
	V	51	-3492.8	22.9	-0.8118	0.138	17.0	ug/L	1465	Standard
	Cr	52	8100.2	1.4	0.0659	0.028	42.4	ug/L	8276	Standard
	Cr	53	15846.6	0.1	19.4082	0.294	1.5	ug/L	1320	Standard
	Mn	55	1254.1	1.5	-0.0644	0.002	2.6	ug/L	2274	Standard
	Co	59	359.0	5.6	-0.0291	0.003	10.8	ug/L	628	Standard
	Ni	60	279.0	1.3	-0.0665	0.004	5.9	ug/L	395	Standard
	Cu	65	340.7	3.2	0.1090	0.010	9.0	ug/L	187	Standard
	Zn	66	1463.4	2.4	1.6798	0.060	3.6	ug/L	181	Standard
[>	Ge	72	323019.4	1.4				ug/L	341349	Standard
	As	75	-92.8	51.7	-0.0518	0.063	121.3	ug/L	-52	Standard
	Se	82	13.1	52.9	-0.1395	0.103	73.9	ug/L	18	Standard
	Se-1	77	874.0	7.6	15.0996	1.393	9.2	ug/L	170	Standard
[>	Ga	71	43.3	52.0				mg/L	30	Standard
	Rb	85	50.0	36.1				ug/L	55	Standard
	Y	89	284792.0	1.5				ug/L	313052	Standard
[>	Rh	103	50.0	17.3				ug/L	40	Standard
	Mo	98	39.5	9.5	-0.0455	0.001	3.0	ug/L	297	Standard
	Ag	107	132.0	7.2	0.0038	0.002	56.1	ug/L	112	Standard
	Cd	111	13.3	26.4	-0.0013	0.004	277.3	mg/L	9	Standard
	Cd	114	46.5	21.9	0.0128	0.004	27.9	ug/L	21	Standard
[>	In	115	351043.9	0.4				ug/L	367897	Standard
	Sn	118	67.7	12.0	-0.0309	0.011	35.1	ug/L	96	Standard
	Sb	123	858.8	4.6	0.2041	0.011	5.6	ug/L	1191	Standard
	Ba	135	122.0	15.8	-0.3648	0.015	4.1	ug/L	59	Standard
	Ce	140	26.7	10.8				ug/L	13	Standard
[>	Tb	159	635517.0	1.1				ug/L	641594	Standard
	Ho	165	25.0	20.0				ug/L	5	Standard
	Tl	203	122.7	9.0	0.0022	0.001	66.4	ug/L	121	Standard
	Tl	205	250.0	20.3	0.0013	0.003	208.1	ug/L	280	Standard
	Pb	206	1208.4	1.4	0.1377	0.003	2.3	ug/L	355	Standard
	Pb	207	1000.0	4.5	0.1340	0.008	5.8	ug/L	304	Standard
	Pb	208	1895.0	2.7	0.1357	0.007	5.1	ug/L	522	Standard
	U	238	34.3	11.8	0.0025	0.000	19.0	ug/L	7	Standard
[>	Bi	209	462148.7	1.0				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	46.7	16.4	0.2697	0.161	59.9	mg/L	22	Standard
K	39	21.7	74.2	-0.1069	0.245	228.9	mg/L	5	Standard
Ca	43	40.0	21.7	-7.0691	24.446	345.8	mg/L	40	Standard
Fe	54	22.3	34.2	0.0039	0.152	3892.9	mg/L	38	Standard
Fe	57	690.0	3.3	5.1219	1.390	27.1	mg/L	577	Standard
Sc-1	45	18566.4	0.8				mg/L	20594	Standard
Cl	35	3.3	69.3				ug/L	2	Standard
Kr	83	7.7	37.7				ug/L	5	Standard
Br	81	846.7	18.1				ug/L	1070	Standard
P	31	70.0	37.8				ug/L	42	Standard
S	34	68.3	22.4				ug/L	65	Standard
Sr	88	363.3	6.5				ug/L	372	Standard
C	12	40.0	25.0				mg/L	17	Standard
N	14	3.3	173.2				mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	26.3	58.2				mg/L	10	Standard
Ho-1	165	25.0	20.0				mg/L	5	Standard
Er	166	6.7	86.6				mg/L	7	Standard
I	127	4725.7	3.1				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		99.217	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		94.630	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	95.419
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	93.066
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
V 51 Lower	V	51	

Sample ID: L1708116402SDL WG627600-02

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, August 29, 2017 13:11:25

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	142074.7	1.3				ug/L	142206	Standard
	Be	9	81011.0	1.8	50.9720	0.265	0.5	ug/L	20	Standard
	Al	27	6422821.2	1.5	49.7825	1.158	2.3	ug/L	3387	Standard
	Sc	45	20136.7	3.0				ug/L	20594	Standard
	Ti	47	17942.0	1.1	99.2246	1.977	2.0	ug/L	34	Standard
	V	51	325334.0	0.5	49.5570	0.945	1.9	ug/L	1465	Standard
	Cr	52	316054.6	1.1	49.3417	0.966	2.0	ug/L	8276	Standard
	Cr	53	41383.1	2.6	49.8075	0.938	1.9	ug/L	1320	Standard
	Mn	55	510044.4	1.2	50.3970	0.393	0.8	ug/L	2274	Standard
	Co	59	407128.6	0.9	50.8430	0.878	1.7	ug/L	628	Standard
	Ni	60	87521.4	0.3	50.9777	0.638	1.3	ug/L	395	Standard
	Cu	65	79016.5	0.6	50.6699	0.491	1.0	ug/L	187	Standard
	Zn	66	41471.7	0.6	50.0570	0.473	0.9	ug/L	181	Standard
[>	Ge	72	346273.8	1.5				ug/L	341349	Standard
	As	75	42293.6	0.3	50.3753	0.867	1.7	ug/L	-52	Standard
	Se	82	3638.9	1.5	51.4949	0.227	0.4	ug/L	18	Standard
	Se-1	77	2824.3	0.9	51.9958	0.373	0.7	ug/L	170	Standard
[>	Ga	71	61.7	20.4				mg/L	30	Standard
	Rb	85	630.0	7.1				ug/L	55	Standard
	Y	89	305940.1	1.7				ug/L	313052	Standard
[>	Rh	103	53.3	19.5				ug/L	40	Standard
	Mo	98	299778.6	0.3	104.7724	0.879	0.8	ug/L	297	Standard
	Ag	107	240666.0	0.4	52.8372	0.339	0.6	ug/L	112	Standard
	Cd	111	54800.6	0.4	52.9802	0.196	0.4	mg/L	9	Standard
	Cd	114	152742.3	0.4	51.1790	0.217	0.4	ug/L	21	Standard
[>	In	115	369174.6	0.5				ug/L	367897	Standard
	Sn	118	39113.4	1.2	49.6942	0.314	0.6	ug/L	96	Standard
	Sb	123	177532.2	1.9	51.0608	0.734	1.4	ug/L	1191	Standard
	Ba	135	70014.8	2.3	50.1169	0.932	1.9	ug/L	59	Standard
	Ce	140	68.3	23.5				ug/L	13	Standard
[>	Tb	159	643982.4	2.0				ug/L	641594	Standard
	Ho	165	6.7	173.2				ug/L	5	Standard
	Tl	203	436715.8	0.5	50.0706	1.445	2.9	ug/L	121	Standard
	Tl	205	1009512.8	2.2	49.8222	1.160	2.3	ug/L	280	Standard
	Pb	206	333598.7	0.8	49.8792	0.955	1.9	ug/L	355	Standard
	Pb	207	292555.5	0.6	51.0890	1.056	2.1	ug/L	304	Standard
	Pb	208	503135.1	2.9	48.6480	2.504	5.1	ug/L	522	Standard
	U	238	471854.5	1.6	50.5186	1.913	3.8	ug/L	7	Standard
[>	Bi	209	493004.6	2.4				ug/L	496583	Standard

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Na	23	8.3	34.6	2.0113	0.735	36.5	mg/L	0	Standard
Mg	24	296.7	18.6	4.8406	1.060	21.9	mg/L	22	Standard
K	39	396.7	8.1	5.1718	0.362	7.0	mg/L	5	Standard
Ca	43	50.0	60.8	8.6931	76.284	877.5	mg/L	40	Standard
Fe	54	302.8	9.7	5.1258	0.375	7.3	mg/L	38	Standard
Fe	57	805.0	3.2	7.7115	1.672	21.7	mg/L	577	Standard
Sc-1	45	20136.7	3.0				mg/L	20594	Standard
Cl	35	2.0	173.2				ug/L	2	Standard
Kr	83	2.0	50.0				ug/L	5	Standard
Br	81	1063.4	6.4				ug/L	1070	Standard
P	31	50.0	36.1				ug/L	42	Standard
S	34	63.3	19.9				ug/L	65	Standard
Sr	88	373.3	4.3				ug/L	372	Standard
C	12	16.7	124.9				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	6.2	87.4				mg/L	10	Standard
Ho-1	165	6.7	173.2				mg/L	5	Standard
Er	166	10.0	173.2				mg/L	7	Standard
I	127	3300.4	6.1				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	101.944		
Al	27	99.565		
Sc	45			
Ti	47	99.225		
V	51	99.114		
Cr	52	98.683		
Cr	53			
Mn	55	100.794		
Co	59	101.686		
Ni	60	101.955		
Cu	65	101.340		
Zn	66	100.114		
Ge	72		101.443	
As	75	100.751		
Se	82	102.990		
Se-1	77			
Ga	71			

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98	104.772	
[	Ag	107	105.674	
[	Cd	111	105.960	
[	Cd	114		
>	In	115		100.347
[	Sn	118	99.388	
[	Sb	123	102.122	
[	Ba	135	100.234	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.141	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	97.296	
[	U	238	101.037	
>	Bi	209		99.279
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, August 29, 2017 13:14:31

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	145921.0	0.5				ug/L	142206	Standard
	Be	9	21.7	13.3	-0.0267	0.002	6.8	ug/L	20	Standard
	Al	27	2656.9	2.4	-0.0083	0.000	5.4	ug/L	3387	Standard
	Sc	45	20251.9	2.4				ug/L	20594	Standard
	Ti	47	25.3	27.7	-0.0360	0.040	111.0	ug/L	34	Standard
	V	51	1033.5	2.0	-0.0795	0.001	1.8	ug/L	1465	Standard
	Cr	52	7067.6	1.5	-0.1922	0.024	12.5	ug/L	8276	Standard
	Cr	53	1590.1	1.1	0.2179	0.039	18.1	ug/L	1320	Standard
	Mn	55	2169.8	9.9	0.0175	0.018	105.5	ug/L	2274	Standard
	Co	59	429.7	4.8	-0.0235	0.002	9.3	ug/L	628	Standard
	Ni	60	266.3	0.2	-0.0856	0.002	2.8	ug/L	395	Standard
	Cu	65	208.3	10.6	0.0082	0.013	158.0	ug/L	187	Standard
	Zn	66	184.7	10.3	0.0018	0.025	1374.5	ug/L	181	Standard
>	Ge	72	345982.1	1.3				ug/L	341349	Standard
	As	75	-37.7	125.8	0.0227	0.055	244.9	ug/L	-52	Standard
	Se	82	18.4	37.4	-0.0753	0.101	133.8	ug/L	18	Standard
	Se-1	77	161.7	9.3	-0.0564	0.269	476.4	ug/L	170	Standard
>	Ga	71	45.0	33.3				mg/L	30	Standard
	Rb	85	45.0	11.1				ug/L	55	Standard
	Y	89	313064.3	2.6				ug/L	313052	Standard
>	Rh	103	48.3	26.0				ug/L	40	Standard
	Mo	98	321.9	16.9	0.0523	0.019	36.4	ug/L	297	Standard
	Ag	107	123.0	13.0	0.0002	0.004	1464.6	ug/L	112	Standard
	Cd	111	7.3	8.6	-0.0077	0.001	7.8	mg/L	9	Standard
	Cd	114	19.9	14.6	0.0031	0.001	31.9	ug/L	21	Standard
>	In	115	370343.0	0.1				ug/L	367897	Standard
	Sn	118	126.7	10.7	0.0393	0.017	43.4	ug/L	96	Standard
	Sb	123	568.3	3.9	0.1072	0.006	5.9	ug/L	1191	Standard
	Ba	135	40.3	13.7	-0.4285	0.004	0.9	ug/L	59	Standard
	Ce	140	16.7	45.8				ug/L	13	Standard
>	Tb	159	641885.7	2.3				ug/L	641594	Standard
	Ho	165	13.3	94.4				ug/L	5	Standard
	Tl	203	167.3	16.0	0.0062	0.003	47.0	ug/L	121	Standard
	Tl	205	341.7	36.4	0.0048	0.006	122.6	ug/L	280	Standard
	Pb	206	380.0	9.0	0.0012	0.005	405.3	ug/L	355	Standard
	Pb	207	333.0	9.6	0.0053	0.005	97.7	ug/L	304	Standard
	Pb	208	572.7	5.8	-0.0049	0.003	70.1	ug/L	522	Standard
	U	238	54.0	12.8	0.0044	0.001	16.4	ug/L	7	Standard
>	Bi	209	496744.9	0.7				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	30.0	44.1	-0.1203	0.234	194.9	mg/L	22	Standard
K	39	15.0	33.3	-0.2276	0.069	30.4	mg/L	5	Standard
Ca	43	40.0	33.1	-15.8084	36.574	231.4	mg/L	40	Standard
Fe	54	35.6	22.0	0.2107	0.139	66.2	mg/L	38	Standard
Fe	57	668.3	3.0	1.3326	1.610	120.8	mg/L	577	Standard
Sc-1	45	20251.9	2.4				mg/L	20594	Standard
Cl	35	2.7	114.6				ug/L	2	Standard
Kr	83	3.3	62.4				ug/L	5	Standard
Br	81	1046.7	9.6				ug/L	1070	Standard
P	31	58.3	21.6				ug/L	42	Standard
S	34	100.0	36.1				ug/L	65	Standard
Sr	88	360.0	1.4				ug/L	372	Standard
C	12	3.3	173.2				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	9.5	105.0				mg/L	10	Standard
Ho-1	165	13.3	94.4				mg/L	5	Standard
Er	166	10.0					mg/L	7	Standard
I	127	9679.8	4.2				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		101.357	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.665
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.033
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

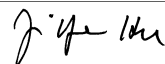
QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Ba	135	

Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: PBW 54 WG627573-02

Sample Date/Time: Tuesday, August 29, 2017 13:17:38

Number of Replicates: 3

Autosampler Position: 214

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	143412.5	2.7				ug/L	142206	Standard
	Be	9	25.0	111.4	-0.0245	0.017	71.2	ug/L	20	Standard
	Al	27	2846.9	3.0	-0.0065	0.001	13.1	ug/L	3387	Standard
	Sc	45	20432.1	4.5				ug/L	20594	Standard
	Ti	47	26.3	33.2	-0.0303	0.046	151.8	ug/L	34	Standard
	V	51	-1586.0	49.1	-0.4832	0.123	25.4	ug/L	1465	Standard
	Cr	52	7505.2	1.7	-0.1153	0.023	19.8	ug/L	8276	Standard
	Cr	53	9419.6	12.1	10.0666	1.613	16.0	ug/L	1320	Standard
	Mn	55	3003.0	28.3	0.1012	0.079	78.4	ug/L	2274	Standard
	Co	59	384.0	2.3	-0.0289	0.001	3.1	ug/L	628	Standard
	Ni	60	294.3	4.5	-0.0682	0.007	10.4	ug/L	395	Standard
	Cu	65	261.7	9.5	0.0437	0.018	41.9	ug/L	187	Standard
	Zn	66	1331.1	3.3	1.4024	0.079	5.6	ug/L	181	Standard
[>	Ge	72	344067.1	1.6				ug/L	341349	Standard
	As	75	-100.3	74.8	-0.0532	0.091	170.6	ug/L	-52	Standard
	Se	82	17.7	6.9	-0.0841	0.017	20.5	ug/L	18	Standard
	Se-1	77	700.0	9.7	10.5705	1.546	14.6	ug/L	170	Standard
[>	Ga	71	66.7	30.3				mg/L	30	Standard
	Rb	85	46.7	16.4				ug/L	55	Standard
	Y	89	307654.3	3.3				ug/L	313052	Standard
[>	Rh	103	30.0	44.1				ug/L	40	Standard
	Mo	98	141.3	11.8	-0.0099	0.006	64.6	ug/L	297	Standard
	Ag	107	122.3	7.3	0.0005	0.002	387.3	ug/L	112	Standard
	Cd	111	9.5	33.9	-0.0055	0.003	57.0	mg/L	9	Standard
	Cd	114	23.7	52.3	0.0044	0.004	94.8	ug/L	21	Standard
[>	In	115	364659.5	1.1				ug/L	367897	Standard
	Sn	118	111.3	9.6	0.0221	0.015	66.0	ug/L	96	Standard
	Sb	123	254.8	15.4	0.0185	0.012	65.8	ug/L	1191	Standard
	Ba	135	49.0	17.4	-0.4217	0.006	1.4	ug/L	59	Standard
	Ce	140	18.3	15.7				ug/L	13	Standard
[>	Tb	159	643198.0	1.2				ug/L	641594	Standard
	Ho	165	13.3	21.7				ug/L	5	Standard
	Tl	203	230.0	20.1	0.0139	0.005	34.5	ug/L	121	Standard
	Tl	205	486.7	28.0	0.0125	0.006	50.5	ug/L	280	Standard
	Pb	206	403.3	4.7	0.0061	0.002	29.7	ug/L	355	Standard
	Pb	207	365.7	1.1	0.0126	0.001	11.7	ug/L	304	Standard
	Pb	208	619.3	3.0	0.0011	0.002	206.7	ug/L	522	Standard
	U	238	18.0	20.0	0.0006	0.000	63.8	ug/L	7	Standard
[>	Bi	209	484846.1	2.0				ug/L	496583	Standard

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Na	23	1.7	173.2	0.3786	0.647	170.9	mg/L	0	Standard
Mg	24	43.3	24.0	0.1240	0.201	162.5	mg/L	22	Standard
K	39	11.7	65.5	-0.2756	0.109	39.7	mg/L	5	Standard
Ca	43	20.0	66.1	-66.9796	35.360	52.8	mg/L	40	Standard
Fe	54	34.1	44.3	0.1770	0.278	156.9	mg/L	38	Standard
Fe	57	651.7	16.2	0.4512	5.759	1276.3	mg/L	577	Standard
Sc-1	45	20432.1	4.5				mg/L	20594	Standard
Cl	35	3.3	91.7				ug/L	2	Standard
Kr	83	5.3	78.1				ug/L	5	Standard
Br	81	1166.7	13.4				ug/L	1070	Standard
P	31	66.7	35.4				ug/L	42	Standard
S	34	60.0	16.7				ug/L	65	Standard
Sr	88	285.0	3.0				ug/L	372	Standard
C	12	16.7	34.6				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	16.2	129.3				mg/L	10	Standard
Ho-1	165	13.3	21.7				mg/L	5	Standard
Er	166	10.0	100.0				mg/L	7	Standard
I	127	10765.5	1.9				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		100.848	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		100.796	
As	75			
Se	82			
Se-1	77			
> Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.120
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.636
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
V 51 Lower	V	51	

Sample ID: PBW 54 WG627573-02

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Method 6020 - Summary Report

Sample ID: LCSW 54 WG627573-03

Sample Date/Time: Tuesday, August 29, 2017 13:20:43

Number of Replicates: 3

Autosampler Position: 215

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	151648.5	0.6				ug/L	142206	Standard
	Be	9	921.7	5.6	0.5039	0.032	6.4	ug/L	20	Standard
	Al	27	130714.8	1.3	0.9213	0.017	1.9	ug/L	3387	Standard
	Sc	45	20490.5	1.3				ug/L	20594	Standard
	Ti	47	1841.1	3.2	10.0309	0.498	5.0	ug/L	34	Standard
	V	51	58038.5	1.5	8.6473	0.049	0.6	ug/L	1465	Standard
	Cr	52	39166.6	0.4	4.9553	0.112	2.3	ug/L	8276	Standard
	Cr	53	27625.3	9.4	32.7151	3.753	11.5	ug/L	1320	Standard
	Mn	55	52701.8	0.9	5.0322	0.044	0.9	ug/L	2274	Standard
	Co	59	16448.6	0.8	1.9808	0.036	1.8	ug/L	628	Standard
	Ni	60	8954.3	1.0	5.0004	0.058	1.2	ug/L	395	Standard
	Cu	65	8189.9	0.5	5.1412	0.067	1.3	ug/L	187	Standard
	Zn	66	11605.8	1.3	13.8529	0.135	1.0	ug/L	181	Standard
[>	Ge	72	346149.4	1.7				ug/L	341349	Standard
	As	75	3072.9	3.2	3.7223	0.056	1.5	ug/L	-52	Standard
	Se	82	295.4	6.4	3.8711	0.267	6.9	ug/L	18	Standard
	Se-1	77	1702.4	6.9	30.1047	2.817	9.4	ug/L	170	Standard
[>	Ga	71	71.7	32.2				mg/L	30	Standard
	Rb	85	108.3	14.1				ug/L	55	Standard
	Y	89	307275.6	2.3				ug/L	313052	Standard
[>	Rh	103	53.3	19.5				ug/L	40	Standard
	Mo	98	28478.8	0.7	9.9214	0.080	0.8	ug/L	297	Standard
	Ag	107	19270.6	1.4	4.2158	0.062	1.5	ug/L	112	Standard
	Cd	111	526.2	7.1	0.4952	0.036	7.2	mg/L	9	Standard
	Cd	114	2315.1	10.6	0.7741	0.084	10.9	ug/L	21	Standard
[>	In	115	368339.9	0.3				ug/L	367897	Standard
	Sn	118	8020.5	3.4	10.1173	0.360	3.6	ug/L	96	Standard
	Sb	123	42432.5	2.4	12.1902	0.305	2.5	ug/L	1191	Standard
	Ba	135	13810.3	0.8	9.5415	0.086	0.9	ug/L	59	Standard
	Ce	140	26.7	47.2				ug/L	13	Standard
[>	Tb	159	655418.2	2.1				ug/L	641594	Standard
	Ho	165	15.0	33.3				ug/L	5	Standard
	Tl	203	43088.5	0.3	4.9889	0.097	1.9	ug/L	121	Standard
	Tl	205	101040.8	1.1	5.0380	0.114	2.3	ug/L	280	Standard
	Pb	206	32756.0	0.3	4.9088	0.123	2.5	ug/L	355	Standard
	Pb	207	28914.9	0.4	5.0649	0.124	2.4	ug/L	304	Standard
	Pb	208	51889.2	3.4	5.0256	0.277	5.5	ug/L	522	Standard
	U	238	7.3	34.3	-0.0006	0.000	50.5	ug/L	7	Standard
[>	Bi	209	486989.3	2.3				ug/L	496583	Standard

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Na	23	1.7	173.2	0.3937	0.673	171.0	mg/L	0	Standard
Mg	24	75.0	29.1	0.6995	0.408	58.3	mg/L	22	Standard
K	39	55.0	18.2	0.3263	0.138	42.4	mg/L	5	Standard
Ca	43	33.3	8.7	-34.4117	6.192	18.0	mg/L	40	Standard
Fe	54	33.9	59.4	0.1760	0.373	211.9	mg/L	38	Standard
Fe	57	701.7	3.9	2.4578	1.627	66.2	mg/L	577	Standard
Sc-1	45	20490.5	1.3				mg/L	20594	Standard
Cl	35	2.7	43.3				ug/L	2	Standard
Kr	83	4.7	32.7				ug/L	5	Standard
Br	81	956.7	10.7				ug/L	1070	Standard
P	31	70.0	14.3				ug/L	42	Standard
S	34	68.3	18.4				ug/L	65	Standard
Sr	88	343.3	15.6				ug/L	372	Standard
C	12	3.3	173.2				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	10.0	100.0				mg/L	3	Standard
Dy	164	3.0	201.4				mg/L	10	Standard
Ho-1	165	15.0	33.3				mg/L	5	Standard
Er	166	6.7	173.2				mg/L	7	Standard
I	127	10720.5	4.5				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		106.640	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		101.406	
As	75			
Se	82			
Se-1	77			
> Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	100.120
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	98.068
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSW 54 WG627573-03

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Method 6020 - Summary Report

Sample ID: F BLANK WG627396-01

Sample Date/Time: Tuesday, August 29, 2017 13:23:49

Number of Replicates: 3

Autosampler Position: 216

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	147322.8	0.8				ug/L	142206	Standard
	Be	9	35.0	0.0	-0.0187	0.000	0.9	ug/L	20	Standard
	Al	27	2925.3	6.2	-0.0065	0.001	18.3	ug/L	3387	Standard
	Sc	45	20342.0	0.1				ug/L	20594	Standard
	Ti	47	23.0	24.2	-0.0495	0.032	63.9	ug/L	34	Standard
	V	51	-3207.6	7.2	-0.7268	0.036	4.9	ug/L	1465	Standard
	Cr	52	8055.8	2.3	-0.0398	0.017	42.9	ug/L	8276	Standard
	Cr	53	13537.7	2.4	15.0462	0.539	3.6	ug/L	1320	Standard
	Mn	55	2358.9	18.6	0.0350	0.040	114.1	ug/L	2274	Standard
	Co	59	397.7	3.4	-0.0277	0.002	8.5	ug/L	628	Standard
	Ni	60	295.3	4.0	-0.0694	0.006	8.1	ug/L	395	Standard
	Cu	65	200.7	3.2	0.0027	0.004	152.0	ug/L	187	Standard
	Zn	66	1026.7	2.3	1.0180	0.045	4.4	ug/L	181	Standard
[>	Ge	72	347585.0	1.6				ug/L	341349	Standard
	As	75	-132.4	15.9	-0.0900	0.026	28.7	ug/L	-52	Standard
	Se	82	19.2	40.9	-0.0641	0.116	181.7	ug/L	18	Standard
	Se-1	77	877.7	7.0	13.8900	1.460	10.5	ug/L	170	Standard
[>	Ga	71	68.3	40.3				mg/L	30	Standard
	Rb	85	36.7	78.7				ug/L	55	Standard
	Y	89	307023.9	2.4				ug/L	313052	Standard
[>	Rh	103	46.7	48.3				ug/L	40	Standard
	Mo	98	99.6	9.4	-0.0251	0.003	12.0	ug/L	297	Standard
	Ag	107	117.7	14.2	-0.0008	0.004	488.0	ug/L	112	Standard
	Cd	111	9.2	63.5	-0.0059	0.006	95.6	mg/L	9	Standard
	Cd	114	26.8	73.2	0.0054	0.007	121.2	ug/L	21	Standard
[>	In	115	368687.5	1.0				ug/L	367897	Standard
	Sn	118	119.3	16.2	0.0306	0.023	76.6	ug/L	96	Standard
	Sb	123	154.9	12.8	-0.0112	0.006	49.1	ug/L	1191	Standard
	Ba	135	49.7	15.4	-0.4215	0.006	1.4	ug/L	59	Standard
	Ce	140	38.3	19.9				ug/L	13	Standard
[>	Tb	159	650880.6	1.7				ug/L	641594	Standard
	Ho	165	11.7	24.7				ug/L	5	Standard
	Tl	203	126.7	12.2	0.0018	0.002	92.0	ug/L	121	Standard
	Tl	205	278.3	5.8	0.0019	0.001	43.9	ug/L	280	Standard
	Pb	206	402.3	5.3	0.0053	0.004	68.8	ug/L	355	Standard
	Pb	207	314.3	2.4	0.0028	0.002	69.5	ug/L	304	Standard
	Pb	208	601.0	4.9	-0.0014	0.002	128.7	ug/L	522	Standard
	U	238	15.0	61.1	0.0002	0.001	414.2	ug/L	7	Standard
[>	Bi	209	490459.6	1.8				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	223.3	14.9	3.4309	0.608	17.7	mg/L	22	Standard
K	39	15.0	57.7	-0.2285	0.121	53.1	mg/L	5	Standard
Ca	43	30.0	60.1	-42.1973	45.701	108.3	mg/L	40	Standard
Fe	54	26.1	9.2	0.0351	0.043	123.3	mg/L	38	Standard
Fe	57	680.0	10.8	1.6996	3.322	195.5	mg/L	577	Standard
Sc-1	45	20342.0	0.1				mg/L	20594	Standard
Cl	35	1.3	173.2				ug/L	2	Standard
Kr	83	7.0	14.3				ug/L	5	Standard
Br	81	1036.7	7.4				ug/L	1070	Standard
P	31	73.3	3.9				ug/L	42	Standard
S	34	65.0	20.4				ug/L	65	Standard
Sr	88	356.7	12.7				ug/L	372	Standard
C	12	26.7	57.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	11.9	48.5				mg/L	10	Standard
Ho-1	165	11.7	24.7				mg/L	5	Standard
Er	166	30.0	0.0				mg/L	7	Standard
I	127	10537.0	1.4				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		103.598	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		101.827	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.215
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	98.767
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

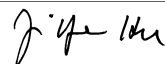
QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
V 51 Lower	V	51	

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Method 6020 - Summary Report

Sample ID: F BLANK WG627396-02

Sample Date/Time: Tuesday, August 29, 2017 13:26:54

Number of Replicates: 3

Autosampler Position: 217

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	143409.1	2.6				ug/L	142206	Standard
	Be	9	21.7	13.3	-0.0264	0.002	8.3	ug/L	20	Standard
	Al	27	2815.3	4.8	-0.0068	0.001	10.9	ug/L	3387	Standard
	Sc	45	20243.5	1.9				ug/L	20594	Standard
	Ti	47	30.3	9.5	-0.0065	0.015	233.0	ug/L	34	Standard
	V	51	-2615.7	6.5	-0.6433	0.031	4.8	ug/L	1465	Standard
	Cr	52	8342.3	2.8	0.0282	0.046	161.4	ug/L	8276	Standard
	Cr	53	14236.7	2.5	16.2104	0.744	4.6	ug/L	1320	Standard
	Mn	55	2481.5	17.3	0.0511	0.039	75.5	ug/L	2274	Standard
	Co	59	389.0	5.7	-0.0279	0.003	12.5	ug/L	628	Standard
	Ni	60	290.3	4.1	-0.0695	0.009	12.7	ug/L	395	Standard
	Cu	65	204.7	6.2	0.0074	0.008	101.6	ug/L	187	Standard
	Zn	66	3637.4	1.7	4.2446	0.146	3.4	ug/L	181	Standard
[>	Ge	72	341946.3	1.7				ug/L	341349	Standard
	As	75	-174.1	52.4	-0.1429	0.112	78.1	ug/L	-52	Standard
	Se	82	15.1	5.3	-0.1201	0.014	11.9	ug/L	18	Standard
	Se-1	77	837.7	4.2	13.3756	0.964	7.2	ug/L	170	Standard
[>	Ga	71	58.3	17.8				mg/L	30	Standard
	Rb	85	28.3	62.0				ug/L	55	Standard
	Y	89	307144.2	1.7				ug/L	313052	Standard
[>	Rh	103	43.3	48.0				ug/L	40	Standard
	Mo	98	63.9	21.4	-0.0373	0.005	13.0	ug/L	297	Standard
	Ag	107	107.7	1.4	-0.0027	0.001	20.7	ug/L	112	Standard
	Cd	111	10.9	18.4	-0.0041	0.002	46.3	mg/L	9	Standard
	Cd	114	23.3	12.3	0.0043	0.001	20.5	ug/L	21	Standard
[>	In	115	364372.9	1.1				ug/L	367897	Standard
	Sn	118	126.7	4.1	0.0420	0.007	17.2	ug/L	96	Standard
	Sb	123	112.5	9.3	-0.0231	0.003	14.3	ug/L	1191	Standard
	Ba	135	61.3	9.3	-0.4126	0.005	1.1	ug/L	59	Standard
	Ce	140	23.3	32.7				ug/L	13	Standard
[>	Tb	159	645826.2	1.8				ug/L	641594	Standard
	Ho	165	11.7	49.5				ug/L	5	Standard
	Tl	203	110.7	12.7	0.0001	0.002	1818.7	ug/L	121	Standard
	Tl	205	255.0	7.1	0.0009	0.001	79.9	ug/L	280	Standard
	Pb	206	397.7	1.5	0.0052	0.000	5.6	ug/L	355	Standard
	Pb	207	342.0	4.6	0.0083	0.003	32.3	ug/L	304	Standard
	Pb	208	615.3	4.1	0.0007	0.003	432.2	ug/L	522	Standard
	U	238	5.7	36.7	-0.0008	0.000	30.3	ug/L	7	Standard
[>	Bi	209	485141.8	1.3				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	43.3	17.6	0.1298	0.143	110.4	mg/L	22	Standard
K	39	8.3	91.7	-0.3221	0.106	32.8	mg/L	5	Standard
Ca	43	45.0	57.7	-3.0150	68.165	2260.9	mg/L	40	Standard
Fe	54	26.0	68.1	0.0355	0.327	922.2	mg/L	38	Standard
Fe	57	618.3	11.2	-0.9150	3.421	373.9	mg/L	577	Standard
Sc-1	45	20243.5	1.9				mg/L	20594	Standard
Cl	35	3.3	34.6				ug/L	2	Standard
Kr	83	2.7	21.7				ug/L	5	Standard
Br	81	1073.4	5.5				ug/L	1070	Standard
P	31	60.0	30.0				ug/L	42	Standard
S	34	63.3	25.4				ug/L	65	Standard
Sr	88	343.3	17.6				ug/L	372	Standard
C	12	23.3	24.7				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	6.5	86.7				mg/L	10	Standard
Ho-1	165	11.7	49.5				mg/L	5	Standard
Er	166	3.3	173.2				mg/L	7	Standard
I	127	10542.0	1.5				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		100.846	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		100.175	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.042
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.696
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
V 51 Lower	V	51	

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Method 6020 - Summary Report

Sample ID: L1708140503 WG627573-01

Sample Date/Time: Tuesday, August 29, 2017 13:30:00

Number of Replicates: 3

Autosampler Position: 218

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	143727.2	3.0				ug/L	142206	Standard
	Be	9	16.7	45.8	-0.0295	0.005	16.8	ug/L	20	Standard
	Al	27	32581.7	3.7	0.2213	0.004	1.7	ug/L	3387	Standard
	Sc	45	19646.1	1.5				ug/L	20594	Standard
	Ti	47	26.3	14.4	-0.0297	0.020	68.1	ug/L	34	Standard
	V	51	-1516.9	26.5	-0.4718	0.062	13.2	ug/L	1465	Standard
	Cr	52	8022.8	1.9	-0.0298	0.025	84.9	ug/L	8276	Standard
	Cr	53	10238.5	12.7	11.1017	1.681	15.1	ug/L	1320	Standard
	Mn	55	31574.5	0.4	2.9596	0.020	0.7	ug/L	2274	Standard
	Co	59	465.7	1.4	-0.0185	0.001	5.9	ug/L	628	Standard
	Ni	60	409.7	3.7	0.0001	0.007	14245.0	ug/L	395	Standard
	Cu	65	220.3	10.6	0.0171	0.016	94.9	ug/L	187	Standard
	Zn	66	2140.5	2.0	2.3938	0.072	3.0	ug/L	181	Standard
[>	Ge	72	343495.1	0.8				ug/L	341349	Standard
	As	75	-131.3	83.6	-0.0906	0.132	146.1	ug/L	-52	Standard
	Se	82	22.1	20.7	-0.0200	0.068	338.9	ug/L	18	Standard
	Se-1	77	868.0	3.4	13.8869	0.520	3.7	ug/L	170	Standard
[>	Ga	71	50.0	52.0				mg/L	30	Standard
	Rb	85	105.0	16.5				ug/L	55	Standard
	Y	89	305873.3	0.4				ug/L	313052	Standard
[>	Rh	103	36.7	67.3				ug/L	40	Standard
	Mo	98	68.1	18.6	-0.0361	0.004	11.6	ug/L	297	Standard
	Ag	107	116.0	17.9	-0.0011	0.004	389.5	ug/L	112	Standard
	Cd	111	8.3	38.9	-0.0068	0.003	45.0	mg/L	9	Standard
	Cd	114	36.9	83.0	0.0088	0.010	115.8	ug/L	21	Standard
[>	In	115	367457.5	1.5				ug/L	367897	Standard
	Sn	118	116.0	10.6	0.0269	0.015	56.6	ug/L	96	Standard
	Sb	123	111.6	23.6	-0.0237	0.007	30.6	ug/L	1191	Standard
	Ba	135	2229.5	1.4	1.1610	0.046	4.0	ug/L	59	Standard
	Ce	140	33.3	31.2				ug/L	13	Standard
[>	Tb	159	650000.8	2.6				ug/L	641594	Standard
	Ho	165	15.0	33.3				ug/L	5	Standard
	Tl	203	92.7	14.7	-0.0020	0.002	86.3	ug/L	121	Standard
	Tl	205	221.7	8.5	-0.0007	0.001	136.7	ug/L	280	Standard
	Pb	206	457.3	4.0	0.0143	0.002	13.5	ug/L	355	Standard
	Pb	207	365.0	6.8	0.0125	0.005	41.1	ug/L	304	Standard
	Pb	208	695.3	2.1	0.0085	0.002	19.9	ug/L	522	Standard
	U	238	67.0	15.7	0.0059	0.001	19.5	ug/L	7	Standard
[>	Bi	209	485214.7	1.3				ug/L	496583	Standard

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Na	23	10.0	86.6	2.4472	2.099	85.8	mg/L	0	Standard
Mg	24	171.7	16.8	2.5924	0.528	20.4	mg/L	22	Standard
K	39	23.3	61.9	-0.0980	0.217	221.0	mg/L	5	Standard
Ca	43	30.0	76.4	-39.0619	61.168	156.6	mg/L	40	Standard
Fe	54	39.1	25.8	0.2959	0.182	61.4	mg/L	38	Standard
Fe	57	686.7	4.3	3.0869	1.058	34.3	mg/L	577	Standard
Sc-1	45	19646.1	1.5				mg/L	20594	Standard
Cl	35	2.7	114.6				ug/L	2	Standard
Kr	83	3.7	31.5				ug/L	5	Standard
Br	81	960.0	3.6				ug/L	1070	Standard
P	31	63.3	24.1				ug/L	42	Standard
S	34	66.7	15.6				ug/L	65	Standard
Sr	88	366.7	9.1				ug/L	372	Standard
C	12	26.7	94.4				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	15.4	41.1				mg/L	10	Standard
Ho-1	165	15.0	33.3				mg/L	5	Standard
Er	166	26.7	43.3				mg/L	7	Standard
I	127	10248.5	4.0				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		101.070	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		100.629	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.880
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.711
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
V 51 Lower	V	51	

Sample ID: L1708140503 WG627573-01

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Method 6020 - Summary Report

Sample ID: L1708140503S WG627573-05

Sample Date/Time: Tuesday, August 29, 2017 13:33:06

Number of Replicates: 3

Autosampler Position: 219

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	152559.3	1.6				ug/L	142206	Standard
	Be	9	950.0	14.1	0.5175	0.082	15.8	ug/L	20	Standard
	Al	27	196258.8	18.8	1.3909	0.283	20.3	ug/L	3387	Standard
	Sc	45	20832.6	0.9				ug/L	20594	Standard
	Ti	47	1897.5	4.3	10.1456	0.562	5.5	ug/L	34	Standard
	V	51	63820.6	2.0	9.3519	0.294	3.1	ug/L	1465	Standard
	Cr	52	39968.0	2.5	4.9647	0.228	4.6	ug/L	8276	Standard
	Cr	53	19644.4	6.2	22.2596	1.235	5.5	ug/L	1320	Standard
	Mn	55	88099.8	6.8	8.3853	0.660	7.9	ug/L	2274	Standard
	Co	59	17601.9	3.8	2.0844	0.105	5.0	ug/L	628	Standard
	Ni	60	9423.3	2.0	5.1728	0.172	3.3	ug/L	395	Standard
	Cu	65	8397.0	1.8	5.1741	0.158	3.1	ug/L	187	Standard
	Zn	66	10734.5	1.7	12.5546	0.342	2.7	ug/L	181	Standard
[>	Ge	72	352737.1	1.2				ug/L	341349	Standard
	As	75	3280.8	2.6	3.8986	0.148	3.8	ug/L	-52	Standard
	Se	82	301.2	2.4	3.8729	0.049	1.3	ug/L	18	Standard
	Se-1	77	1684.8	7.0	29.1351	2.668	9.2	ug/L	170	Standard
[>	Ga	71	71.7	4.0				mg/L	30	Standard
	Rb	85	246.7	5.9				ug/L	55	Standard
	Y	89	311925.5	3.4				ug/L	313052	Standard
[>	Rh	103	45.0	29.4				ug/L	40	Standard
	Mo	98	29748.5	0.9	10.1814	0.121	1.2	ug/L	297	Standard
	Ag	107	19909.1	1.9	4.2786	0.093	2.2	ug/L	112	Standard
	Cd	111	626.9	13.4	0.5822	0.082	14.0	mg/L	9	Standard
	Cd	114	2389.8	16.1	0.7850	0.129	16.4	ug/L	21	Standard
[>	In	115	375000.3	0.3				ug/L	367897	Standard
	Sn	118	8153.5	1.7	10.1023	0.197	2.0	ug/L	96	Standard
	Sb	123	43784.6	1.8	12.3562	0.260	2.1	ug/L	1191	Standard
	Ba	135	22930.6	28.1	15.8584	4.623	29.2	ug/L	59	Standard
	Ce	140	106.7	53.9				ug/L	13	Standard
[>	Tb	159	662821.1	2.0				ug/L	641594	Standard
	Ho	165	16.7	45.8				ug/L	5	Standard
	Tl	203	44682.1	1.5	5.0821	0.178	3.5	ug/L	121	Standard
	Tl	205	103797.7	0.5	5.0832	0.126	2.5	ug/L	280	Standard
	Pb	206	34086.0	1.8	5.0187	0.193	3.8	ug/L	355	Standard
	Pb	207	29965.6	0.8	5.1558	0.128	2.5	ug/L	304	Standard
	Pb	208	53435.5	4.4	5.0836	0.322	6.3	ug/L	522	Standard
	U	238	598.0	85.3	0.0630	0.055	87.8	ug/L	7	Standard
[>	Bi	209	495853.9	2.0				ug/L	496583	Standard

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Na	23	13.3	78.1	3.0995	2.436	78.6	mg/L	0	Standard
Mg	24	260.0	16.4	3.9946	0.784	19.6	mg/L	22	Standard
K	39	96.7	21.5	0.8825	0.275	31.1	mg/L	5	Standard
Ca	43	41.7	6.9	-15.0894	7.276	48.2	mg/L	40	Standard
Fe	54	26.9	46.3	0.0380	0.219	577.5	mg/L	38	Standard
Fe	57	661.7	4.2	0.1693	1.005	593.7	mg/L	577	Standard
Sc-1	45	20832.6	0.9				mg/L	20594	Standard
Cl	35	1.3	86.6				ug/L	2	Standard
Kr	83	3.0	88.2				ug/L	5	Standard
Br	81	1113.4	10.4				ug/L	1070	Standard
P	31	56.7	10.2				ug/L	42	Standard
S	34	85.0	23.5				ug/L	65	Standard
Sr	88	336.7	15.0				ug/L	372	Standard
C	12	16.7	69.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	15.5	106.0				mg/L	10	Standard
Ho-1	165	16.7	45.8				mg/L	5	Standard
Er	166	23.3	107.9				mg/L	7	Standard
I	127	10210.1	3.1				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		107.280	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		103.336	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	101.931
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	99.853
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1708140503S WG627573-05

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Method 6020 - Summary Report

Sample ID: L1708140503SD WG627573-06

Sample Date/Time: Tuesday, August 29, 2017 13:36:11

Number of Replicates: 3

Autosampler Position: 220

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

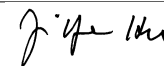
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	153667.0	0.9				ug/L	142206	Standard
	Be	9	783.4	11.2	0.4160	0.050	12.0	ug/L	20	Standard
	Al	27	170116.5	1.7	1.1912	0.020	1.7	ug/L	3387	Standard
	Sc	45	20864.4	1.8				ug/L	20594	Standard
	Ti	47	1920.1	3.6	10.3003	0.326	3.2	ug/L	34	Standard
	V	51	64413.1	1.8	9.4739	0.247	2.6	ug/L	1465	Standard
	Cr	52	40114.4	1.2	5.0082	0.068	1.4	ug/L	8276	Standard
	Cr	53	19782.9	0.9	22.5235	0.261	1.2	ug/L	1320	Standard
	Mn	55	83369.7	0.8	7.9498	0.153	1.9	ug/L	2274	Standard
	Co	59	16961.8	1.3	2.0125	0.037	1.8	ug/L	628	Standard
	Ni	60	9229.1	2.7	5.0792	0.174	3.4	ug/L	395	Standard
	Cu	65	8242.6	1.9	5.0938	0.101	2.0	ug/L	187	Standard
	Zn	66	10335.5	2.0	12.1231	0.377	3.1	ug/L	181	Standard
[>	Ge	72	351507.3	1.1				ug/L	341349	Standard
	As	75	3325.8	2.4	3.9633	0.064	1.6	ug/L	-52	Standard
	Se	82	302.5	5.2	3.9066	0.241	6.2	ug/L	18	Standard
	Se-1	77	1690.4	2.9	29.3446	1.301	4.4	ug/L	170	Standard
[>	Ga	71	73.3	14.2				mg/L	30	Standard
	Rb	85	223.3	27.1				ug/L	55	Standard
	Y	89	308943.3	1.3				ug/L	313052	Standard
[>	Rh	103	56.7	20.4				ug/L	40	Standard
	Mo	98	29157.3	0.7	9.9767	0.055	0.6	ug/L	297	Standard
	Ag	107	19653.1	0.5	4.2227	0.015	0.4	ug/L	112	Standard
	Cd	111	555.2	4.1	0.5137	0.022	4.3	mg/L	9	Standard
	Cd	114	2486.7	3.7	0.8167	0.032	3.9	ug/L	21	Standard
[>	In	115	375031.5	0.3				ug/L	367897	Standard
	Sn	118	8022.8	1.7	9.9371	0.166	1.7	ug/L	96	Standard
	Sb	123	43607.4	2.5	12.3041	0.287	2.3	ug/L	1191	Standard
	Ba	135	16586.7	1.9	11.3374	0.225	2.0	ug/L	59	Standard
	Ce	140	41.7	59.2				ug/L	13	Standard
[>	Tb	159	664909.8	1.4				ug/L	641594	Standard
	Ho	165	13.3	21.7				ug/L	5	Standard
	Tl	203	44095.4	0.8	5.0262	0.171	3.4	ug/L	121	Standard
	Tl	205	102368.1	1.8	5.0229	0.090	1.8	ug/L	280	Standard
	Pb	206	33654.0	1.1	4.9636	0.081	1.6	ug/L	355	Standard
	Pb	207	29909.5	0.9	5.1580	0.170	3.3	ug/L	304	Standard
	Pb	208	53199.0	2.8	5.0720	0.276	5.4	ug/L	522	Standard
	U	238	72.0	13.2	0.0063	0.001	14.6	ug/L	7	Standard
[>	Bi	209	494833.5	2.7				ug/L	496583	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	0	Standard
Mg	24	228.3	24.2	3.4303	1.054	30.7	mg/L	22	Standard
K	39	41.7	13.9	0.1300	0.074	56.7	mg/L	5	Standard
Ca	43	30.0	28.9	-44.2400	20.790	47.0	mg/L	40	Standard
Fe	54	32.4	16.8	0.1348	0.086	63.5	mg/L	38	Standard
Fe	57	670.0	6.5	0.4877	1.652	338.8	mg/L	577	Standard
Sc-1	45	20864.4	1.8				mg/L	20594	Standard
Cl	35	2.7	43.3				ug/L	2	Standard
Kr	83	5.7	97.2				ug/L	5	Standard
Br	81	1066.7	8.5				ug/L	1070	Standard
P	31	75.0	24.0				ug/L	42	Standard
S	34	66.7	30.3				ug/L	65	Standard
Sr	88	296.7	13.6				ug/L	372	Standard
C	12	6.7	86.6				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	2.9	217.0				mg/L	10	Standard
Ho-1	165	13.3	21.7				mg/L	5	Standard
Er	166	10.0	100.0				mg/L	7	Standard
I	127	10121.7	0.4				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.059	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		102.976	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1708140503SD WG627573-06

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	101.939
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	99.648
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type Analyte Mass Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1708132601

Sample Date/Time: Tuesday, August 29, 2017 13:39:17

Number of Replicates: 3

Autosampler Position: 221

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	145899.4	2.8				ug/L	142206	Standard
	Be	9	16.7	45.8	-0.0298	0.004	14.7	ug/L	20	Standard
	Al	27	171552.8	2.5	1.2682	0.068	5.3	ug/L	3387	Standard
	Sc	45	19807.9	3.1				ug/L	20594	Standard
	Ti	47	31.3	26.8	-0.0051	0.044	852.8	ug/L	34	Standard
	V	51	-1291.7	25.5	-0.4333	0.049	11.4	ug/L	1465	Standard
	Cr	52	8166.9	0.4	-0.0302	0.017	56.4	ug/L	8276	Standard
	Cr	53	9244.5	5.9	9.6420	0.734	7.6	ug/L	1320	Standard
	Mn	55	72923.1	0.3	6.9630	0.073	1.0	ug/L	2274	Standard
	Co	59	1026.4	1.9	0.0498	0.001	2.7	ug/L	628	Standard
	Ni	60	987.0	1.3	0.3301	0.001	0.2	ug/L	395	Standard
	Cu	65	233.0	2.3	0.0225	0.004	17.5	ug/L	187	Standard
	Zn	66	2909.9	2.6	3.2702	0.114	3.5	ug/L	181	Standard
[>	Ge	72	349812.1	1.2				ug/L	341349	Standard
	As	75	-174.9	53.2	-0.1398	0.112	79.9	ug/L	-52	Standard
	Se	82	19.6	7.1	-0.0621	0.023	36.5	ug/L	18	Standard
	Se-1	77	820.0	3.0	12.6554	0.668	5.3	ug/L	170	Standard
[>	Ga	71	58.3	13.1				mg/L	30	Standard
	Rb	85	10283.5	4.5				ug/L	55	Standard
	Y	89	310970.7	1.2				ug/L	313052	Standard
[>	Rh	103	56.7	13.5				ug/L	40	Standard
	Mo	98	110.3	11.0	-0.0213	0.004	19.6	ug/L	297	Standard
	Ag	107	113.7	11.4	-0.0017	0.003	168.2	ug/L	112	Standard
	Cd	111	9.9	46.3	-0.0052	0.004	84.9	mg/L	9	Standard
	Cd	114	35.4	63.1	0.0083	0.007	90.3	ug/L	21	Standard
[>	In	115	368354.9	0.3				ug/L	367897	Standard
	Sn	118	170.0	12.9	0.0955	0.028	29.3	ug/L	96	Standard
	Sb	123	859.2	1.1	0.1921	0.003	1.4	ug/L	1191	Standard
	Ba	135	12059.1	1.6	8.2732	0.143	1.7	ug/L	59	Standard
	Ce	140	208.3	16.0				ug/L	13	Standard
[>	Tb	159	652431.6	0.9				ug/L	641594	Standard
	Ho	165	18.3	56.8				ug/L	5	Standard
	Tl	203	114.3	28.6	0.0005	0.004	689.0	ug/L	121	Standard
	Tl	205	275.0	19.7	0.0019	0.002	127.1	ug/L	280	Standard
	Pb	206	555.3	4.4	0.0294	0.002	7.6	ug/L	355	Standard
	Pb	207	484.7	1.4	0.0339	0.001	3.3	ug/L	304	Standard
	Pb	208	883.3	2.2	0.0272	0.001	5.3	ug/L	522	Standard
	U	238	20.0	108.3	0.0008	0.002	293.9	ug/L	7	Standard
[>	Bi	209	483816.4	1.8				ug/L	496583	Standard

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Na	23	3.3	86.6	0.8062	0.694	86.1	mg/L	0	Standard
Mg	24	711.7	7.5	12.7551	0.996	7.8	mg/L	22	Standard
K	39	438.3	8.3	5.8757	0.620	10.5	mg/L	5	Standard
Ca	43	23.3	68.9	-57.8631	41.109	71.0	mg/L	40	Standard
Fe	54	37.6	20.4	0.2658	0.160	60.3	mg/L	38	Standard
Fe	57	695.0	9.0	3.2083	2.627	81.9	mg/L	577	Standard
Sc-1	45	19807.9	3.1				mg/L	20594	Standard
Cl	35	2.0	0.0				ug/L	2	Standard
Kr	83	7.3	41.7				ug/L	5	Standard
Br	81	1443.4	15.4				ug/L	1070	Standard
P	31	71.7	29.0				ug/L	42	Standard
S	34	61.7	12.4				ug/L	65	Standard
Sr	88	326.7	10.9				ug/L	372	Standard
C	12	40.0	50.0				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	6.7	173.2				mg/L	3	Standard
Dy	164	16.3	126.9				mg/L	10	Standard
Ho-1	165	18.3	56.8				mg/L	5	Standard
Er	166	6.7	86.6				mg/L	7	Standard
I	127	10627.1	2.7				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		102.597	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		102.479	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	100.124
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.429
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
V 51 Lower	V	51	

Sample ID: L1708132601

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Method 6020 - Summary Report

Sample ID: L1708132601PS WG627632-01

Sample Date/Time: Tuesday, August 29, 2017 13:42:22

Number of Replicates: 3

Autosampler Position: 222

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	145897.6	1.8				ug/L	142206	Standard
	Be	9	81279.1	0.9	49.8178	1.335	2.7	ug/L	20	Standard
	Al	27	171126.0	1.0	1.2641	0.030	2.3	ug/L	3387	Standard
	Sc	45	20800.9	1.8				ug/L	20594	Standard
	Ti	47	33.3	14.8	0.0061	0.028	459.7	ug/L	34	Standard
	V	51	322173.5	0.5	48.5294	0.614	1.3	ug/L	1465	Standard
	Cr	52	316814.0	0.1	48.9048	0.563	1.2	ug/L	8276	Standard
	Cr	53	50377.0	1.8	60.3450	1.753	2.9	ug/L	1320	Standard
	Mn	55	572746.5	0.1	55.9985	0.726	1.3	ug/L	2274	Standard
	Co	59	404790.8	0.7	49.9960	0.858	1.7	ug/L	628	Standard
	Ni	60	87587.4	0.8	50.4565	0.923	1.8	ug/L	395	Standard
	Cu	65	81167.8	0.4	51.4825	0.668	1.3	ug/L	187	Standard
	Zn	66	43383.7	0.6	51.8020	0.894	1.7	ug/L	181	Standard
[>	Ge	72	350100.6	1.2				ug/L	341349	Standard
	As	75	42662.2	1.3	50.2590	1.177	2.3	ug/L	-52	Standard
	Se	82	3471.8	0.4	48.5778	0.573	1.2	ug/L	18	Standard
	Se-1	77	3349.4	3.3	61.5540	2.537	4.1	ug/L	170	Standard
[>	Ga	71	60.0	44.1				mg/L	30	Standard
	Rb	85	10645.4	1.6				ug/L	55	Standard
	Y	89	304723.3	2.5				ug/L	313052	Standard
[>	Rh	103	60.0	14.4				ug/L	40	Standard
	Mo	98	82.3	20.2	-0.0313	0.006	18.5	ug/L	297	Standard
	Ag	107	230220.2	1.8	50.2581	0.836	1.7	ug/L	112	Standard
	Cd	111	54669.0	1.3	52.5552	0.420	0.8	mg/L	9	Standard
	Cd	114	148267.1	1.6	49.4001	0.674	1.4	ug/L	21	Standard
[>	In	115	371252.7	0.6				ug/L	367897	Standard
	Sn	118	121.3	12.1	0.0322	0.019	57.7	ug/L	96	Standard
	Sb	123	173313.5	2.4	49.5660	0.925	1.9	ug/L	1191	Standard
	Ba	135	82043.6	1.7	58.4761	0.763	1.3	ug/L	59	Standard
	Ce	140	215.0	14.5				ug/L	13	Standard
[>	Tb	159	661673.2	2.1				ug/L	641594	Standard
	Ho	165	15.0	33.3				ug/L	5	Standard
	Tl	203	430980.6	0.1	49.8183	0.940	1.9	ug/L	121	Standard
	Tl	205	1013501.5	0.8	50.4456	1.286	2.6	ug/L	280	Standard
	Pb	206	335324.4	0.6	50.5575	0.976	1.9	ug/L	355	Standard
	Pb	207	281369.9	1.4	49.5385	0.717	1.4	ug/L	304	Standard
	Pb	208	509919.9	2.8	49.7095	2.293	4.6	ug/L	522	Standard
	U	238	469374.7	0.8	50.6632	1.326	2.6	ug/L	7	Standard
[>	Bi	209	488884.8	1.9				ug/L	496583	Standard

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[	Na	23	3.3	173.2	0.7877	1.356	172.1	mg/L	0	Standard
	Mg	24	640.0	5.9	10.8213	0.561	5.2	mg/L	22	Standard
	K	39	441.7	9.5	5.6180	0.654	11.6	mg/L	5	Standard
	Ca	43	25.0	52.9	-56.0719	33.340	59.5	mg/L	40	Standard
	Fe	54	21.3	77.5	-0.0631	0.291	461.0	mg/L	38	Standard
	Fe	57	676.7	5.4	0.9041	2.152	238.0	mg/L	577	Standard
[>	Sc-1	45	20800.9	1.8				mg/L	20594	Standard
	Cl	35	1.3	86.6				ug/L	2	Standard
	Kr	83	8.0	12.5				ug/L	5	Standard
	Br	81	1310.1	8.8				ug/L	1070	Standard
	P	31	50.0	45.8				ug/L	42	Standard
	S	34	66.7	22.9				ug/L	65	Standard
	Sr	88	391.7	2.9				ug/L	372	Standard
	C	12	43.3	48.0				mg/L	17	Standard
	N	14	3.3	173.2				mg/L	3	Standard
	Hg	202	3.3	173.2				mg/L	3	Standard
	Dy	164	28.7	1.0				mg/L	10	Standard
	Ho-1	165	15.0	33.3				mg/L	5	Standard
	Er	166	26.7	21.7				mg/L	7	Standard
	I	127	10487.0	1.0				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
[> Li	6		102.596	
Be	9			
Al	27			
[Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
[> Ge	72		102.564	
As	75			
Se	82			
[Se-1	77			
[> Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	100.912
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	98.450
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type Analyte Mass Out of Limits Message

Approved: August 29, 2017


Method 6020 - Summary Report

Sample ID: L1708132601SDL WG627632-02

Sample Date/Time: Tuesday, August 29, 2017 13:45:28

Number of Replicates: 3

Autosampler Position: 223

Sample Description: 250

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	136021.2	1.1				ug/L	142206	Standard
	Be	9	30.0	28.9	-0.0203	0.006	27.3	ug/L	20	Standard
	Al	27	33298.2	3.0	0.2414	0.010	4.1	ug/L	3387	Standard
	Sc	45	18439.5	0.8				ug/L	20594	Standard
	Ti	47	25.3	11.4	-0.0268	0.017	62.2	ug/L	34	Standard
	V	51	293.9	57.3	-0.1898	0.027	14.5	ug/L	1465	Standard
	Cr	52	6022.9	1.1	-0.2955	0.018	6.1	ug/L	8276	Standard
	Cr	53	4068.9	4.5	3.6486	0.273	7.5	ug/L	1320	Standard
	Mn	55	14558.7	1.1	1.3439	0.021	1.6	ug/L	2274	Standard
	Co	59	491.7	2.0	-0.0116	0.002	14.0	ug/L	628	Standard
	Ni	60	409.3	1.0	0.0141	0.001	7.0	ug/L	395	Standard
	Cu	65	146.0	4.5	-0.0256	0.005	19.6	ug/L	187	Standard
	Zn	66	1246.7	2.3	1.3912	0.046	3.3	ug/L	181	Standard
[>	Ge	72	324377.9	0.7				ug/L	341349	Standard
	As	75	-47.1	153.2	0.0069	0.092	1321.9	ug/L	-52	Standard
	Se	82	15.1	40.8	-0.1093	0.092	84.5	ug/L	18	Standard
	Se-1	77	314.7	3.5	3.3496	0.268	8.0	ug/L	170	Standard
[>	Ga	71	40.0	33.1				mg/L	30	Standard
	Rb	85	1876.8	3.8				ug/L	55	Standard
	Y	89	282569.3	1.5				ug/L	313052	Standard
[>	Rh	103	43.3	6.7				ug/L	40	Standard
	Mo	98	22.4	6.9	-0.0517	0.001	1.1	ug/L	297	Standard
	Ag	107	123.0	7.3	0.0018	0.002	118.8	ug/L	112	Standard
	Cd	111	12.3	40.9	-0.0022	0.005	228.6	mg/L	9	Standard
	Cd	114	24.5	83.1	0.0051	0.007	142.1	ug/L	21	Standard
[>	In	115	350312.0	0.1				ug/L	367897	Standard
	Sn	118	79.7	8.5	-0.0146	0.009	62.0	ug/L	96	Standard
	Sb	123	1168.8	7.7	0.2988	0.027	9.1	ug/L	1191	Standard
	Ba	135	2309.8	5.4	1.3009	0.093	7.1	ug/L	59	Standard
	Ce	140	56.7	65.0				ug/L	13	Standard
[>	Tb	159	633626.9	1.1				ug/L	641594	Standard
	Ho	165	5.0	0.0				ug/L	5	Standard
	Tl	203	103.0	4.9	-0.0003	0.001	212.4	ug/L	121	Standard
	Tl	205	221.7	35.1	-0.0003	0.004	1271.2	ug/L	280	Standard
	Pb	206	401.0	3.7	0.0081	0.002	23.0	ug/L	355	Standard
	Pb	207	333.3	1.5	0.0091	0.001	15.3	ug/L	304	Standard
	Pb	208	614.0	4.3	0.0029	0.002	73.3	ug/L	522	Standard
	U	238	45.0	5.9	0.0037	0.000	9.4	ug/L	7	Standard
[>	Bi	209	466785.7	1.0				ug/L	496583	Standard

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[	Na	23	1.7	173.2	0.4432	0.759	171.3	mg/L	0	Standard
	Mg	24	146.7	18.8	2.3029	0.569	24.7	mg/L	22	Standard
	K	39	95.0	19.0	1.0307	0.286	27.7	mg/L	5	Standard
	Ca	43	20.0	25.0	-62.2540	14.400	23.1	mg/L	40	Standard
	Fe	54	29.3	45.4	0.1475	0.265	179.8	mg/L	38	Standard
	Fe	57	693.3	6.9	5.5033	2.121	38.5	mg/L	577	Standard
[>	Sc-1	45	18439.5	0.8				mg/L	20594	Standard
	Cl	35	2.0	0.0				ug/L	2	Standard
	Kr	83	3.7	68.6				ug/L	5	Standard
	Br	81	940.0	5.5				ug/L	1070	Standard
	P	31	51.7	14.8				ug/L	42	Standard
	S	34	58.3	47.2				ug/L	65	Standard
	Sr	88	381.7	12.1				ug/L	372	Standard
	C	12	10.0	173.2				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	12.2	124.3				mg/L	10	Standard
	Ho-1	165	5.0	0.0				mg/L	5	Standard
	Er	166	23.3	65.5				mg/L	7	Standard
	I	127	4038.9	2.9				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
[> Li	6		95.651	
Be	9			
Al	27			
[Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
[> Ge	72		95.028	
As	75			
Se	82			
[Se-1	77			
[> Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	95.220
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	94.000
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1708132601SDL WG627632-02

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, August 29, 2017 13:48:36

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	142633.7	3.2				ug/L	142206	Standard
	Be	9	81967.8	1.2	51.4123	1.894	3.7	ug/L	20	Standard
	Al	27	6524824.9	2.2	50.3907	1.503	3.0	ug/L	3387	Standard
	Sc	45	20066.6	3.4				ug/L	20594	Standard
	Ti	47	18390.5	0.7	100.7717	3.352	3.3	ug/L	34	Standard
	V	51	331255.9	1.0	49.9988	1.829	3.7	ug/L	1465	Standard
	Cr	52	321487.8	1.1	49.7465	2.047	4.1	ug/L	8276	Standard
	Cr	53	42205.4	2.6	50.3663	2.389	4.7	ug/L	1320	Standard
	Mn	55	516051.4	0.8	50.5228	1.455	2.9	ug/L	2274	Standard
	Co	59	408119.1	1.0	50.4985	1.727	3.4	ug/L	628	Standard
	Ni	60	87968.7	1.3	50.7616	1.470	2.9	ug/L	395	Standard
	Cu	65	79885.7	0.7	50.7580	1.604	3.2	ug/L	187	Standard
	Zn	66	41859.1	0.8	50.0549	1.238	2.5	ug/L	181	Standard
[>	Ge	72	349656.5	3.0				ug/L	341349	Standard
	As	75	43071.7	1.1	50.8151	0.951	1.9	ug/L	-52	Standard
	Se	82	3684.5	1.5	51.6512	0.802	1.6	ug/L	18	Standard
	Se-1	77	2819.6	0.6	51.3983	1.583	3.1	ug/L	170	Standard
[>	Ga	71	61.7	24.8				mg/L	30	Standard
	Rb	85	596.7	13.5				ug/L	55	Standard
	Y	89	309118.1	4.0				ug/L	313052	Standard
[>	Rh	103	50.0	20.0				ug/L	40	Standard
	Mo	98	303753.6	0.9	106.8533	2.776	2.6	ug/L	297	Standard
	Ag	107	243827.4	1.0	53.8846	1.636	3.0	ug/L	112	Standard
	Cd	111	55718.6	1.7	54.2254	1.894	3.5	mg/L	9	Standard
	Cd	114	155991.5	4.0	52.6151	2.682	5.1	ug/L	21	Standard
[>	In	115	366955.3	2.9				ug/L	367897	Standard
	Sn	118	39670.6	3.0	50.7491	2.484	4.9	ug/L	96	Standard
	Sb	123	180000.0	2.7	52.1276	2.449	4.7	ug/L	1191	Standard
	Ba	135	70719.7	2.7	50.9707	2.166	4.2	ug/L	59	Standard
	Ce	140	98.3	20.5				ug/L	13	Standard
[>	Tb	159	640062.3	2.6				ug/L	641594	Standard
	Ho	165	18.3	15.7				ug/L	5	Standard
	Tl	203	442302.6	0.9	51.3076	1.961	3.8	ug/L	121	Standard
	Tl	205	1029815.8	1.4	51.4453	2.412	4.7	ug/L	280	Standard
	Pb	206	333362.1	0.4	50.4442	2.100	4.2	ug/L	355	Standard
	Pb	207	294502.7	0.8	52.0506	2.309	4.4	ug/L	304	Standard
	Pb	208	512209.0	3.6	50.1163	3.213	6.4	ug/L	522	Standard
	U	238	475791.8	2.4	51.5549	2.970	5.8	ug/L	7	Standard
[>	Bi	209	487496.4	3.7				ug/L	496583	Standard

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Na	23	16.7	17.3	3.9949	0.583	14.6	mg/L	0	Standard
Mg	24	306.7	10.6	5.0525	0.760	15.0	mg/L	22	Standard
K	39	428.3	9.5	5.6617	0.790	14.0	mg/L	5	Standard
Ca	43	33.3	70.9	-32.4469	60.316	185.9	mg/L	40	Standard
Fe	54	298.2	2.8	5.0709	0.221	4.3	mg/L	38	Standard
Fe	57	705.0	10.7	3.3241	4.188	126.0	mg/L	577	Standard
Sc-1	45	20066.6	3.4				mg/L	20594	Standard
Cl	35	2.7	43.3				ug/L	2	Standard
Kr	83	3.7	68.6				ug/L	5	Standard
Br	81	963.4	4.3				ug/L	1070	Standard
P	31	56.7	18.4				ug/L	42	Standard
S	34	71.7	35.8				ug/L	65	Standard
Sr	88	346.7	7.1				ug/L	372	Standard
C	12	13.3	114.6				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	2.7	235.5				mg/L	10	Standard
Ho-1	165	18.3	15.7				mg/L	5	Standard
Er	166	13.3	114.6				mg/L	7	Standard
I	127	2716.9	3.0				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	102.825		
Al	27	100.781		
Sc	45			
Ti	47	100.772		
V	51	99.998		
Cr	52	99.493		
Cr	53			
Mn	55	101.046		
Co	59	100.997		
Ni	60	101.523		
Cu	65	101.516		
Zn	66	100.110		
Ge	72		102.434	
As	75	101.630		
Se	82	103.302		
Se-1	77			
Ga	71			

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98	106.853	
[	Ag	107	107.769	
[	Cd	111	108.451	
[	Cd	114		
>	In	115		99.744
[	Sn	118	101.498	
[	Sb	123	104.255	
[	Ba	135	101.941	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	102.615	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	100.233	
[	U	238	103.110	
>	Bi	209		98.170
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, August 29, 2017 13:51:41

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	143908.6	1.4				ug/L	142206	Standard
	Be	9	30.0	57.7	-0.0212	0.011	51.6	ug/L	20	Standard
	Al	27	2748.6	4.3	-0.0073	0.001	15.9	ug/L	3387	Standard
	Sc	45	20186.8	1.2				ug/L	20594	Standard
	Ti	47	34.7	10.9	0.0166	0.017	104.6	ug/L	34	Standard
	V	51	1248.7	10.6	-0.0452	0.021	46.3	ug/L	1465	Standard
	Cr	52	7082.0	0.8	-0.1827	0.018	10.0	ug/L	8276	Standard
	Cr	53	1361.7	5.7	-0.0560	0.108	192.1	ug/L	1320	Standard
	Mn	55	1717.4	9.2	-0.0263	0.012	47.3	ug/L	2274	Standard
	Co	59	415.0	4.2	-0.0250	0.002	6.7	ug/L	628	Standard
	Ni	60	259.3	1.7	-0.0887	0.002	2.1	ug/L	395	Standard
	Cu	65	212.7	14.8	0.0117	0.018	152.9	ug/L	187	Standard
	Zn	66	177.3	8.8	-0.0058	0.019	333.2	ug/L	181	Standard
[>	Ge	72	343810.6	1.9				ug/L	341349	Standard
	As	75	-63.4	56.8	-0.0087	0.043	494.2	ug/L	-52	Standard
	Se	82	10.8	49.1	-0.1829	0.078	42.5	ug/L	18	Standard
	Se-1	77	150.3	4.0	-0.2579	0.116	44.9	ug/L	170	Standard
[>	Ga	71	45.0	0.0				mg/L	30	Standard
	Rb	85	36.7	15.7				ug/L	55	Standard
	Y	89	311462.7	3.4				ug/L	313052	Standard
[>	Rh	103	50.0	52.0				ug/L	40	Standard
	Mo	98	340.9	18.8	0.0581	0.021	36.9	ug/L	297	Standard
	Ag	107	142.7	10.2	0.0043	0.003	67.7	ug/L	112	Standard
	Cd	111	9.7	17.4	-0.0055	0.002	27.2	mg/L	9	Standard
	Cd	114	38.1	27.3	0.0091	0.003	37.0	ug/L	21	Standard
[>	In	115	372510.9	1.2				ug/L	367897	Standard
	Sn	118	131.3	1.9	0.0443	0.003	7.1	ug/L	96	Standard
	Sb	123	601.0	9.7	0.1155	0.015	12.8	ug/L	1191	Standard
	Ba	135	43.3	17.9	-0.4265	0.006	1.3	ug/L	59	Standard
	Ce	140	16.7	34.6				ug/L	13	Standard
[>	Tb	159	648556.1	1.2				ug/L	641594	Standard
	Ho	165	6.7	43.3				ug/L	5	Standard
	Tl	203	130.0	5.4	0.0019	0.001	31.0	ug/L	121	Standard
	Tl	205	333.3	29.0	0.0043	0.004	102.1	ug/L	280	Standard
	Pb	206	386.3	5.2	0.0018	0.004	211.2	ug/L	355	Standard
	Pb	207	336.0	10.9	0.0055	0.006	100.5	ug/L	304	Standard
	Pb	208	593.3	6.7	-0.0033	0.003	89.8	ug/L	522	Standard
	U	238	86.7	30.6	0.0078	0.003	34.9	ug/L	7	Standard
[>	Bi	209	499859.9	1.6				ug/L	496583	Standard

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[	Na	23	1.7	173.2	0.4067	0.696	171.1	mg/L	0	Standard
	Mg	24	63.3	37.3	0.4989	0.422	84.5	mg/L	22	Standard
	K	39	26.7	39.0	-0.0627	0.145	230.7	mg/L	5	Standard
	Ca	43	36.7	56.8	-24.9419	51.843	207.9	mg/L	40	Standard
	Fe	54	20.9	37.0	-0.0584	0.136	233.6	mg/L	38	Standard
	Fe	57	610.0	8.7	-1.2338	2.444	198.1	mg/L	577	Standard
[>	Sc-1	45	20186.8	1.2				mg/L	20594	Standard
	Cl	35	4.0	100.0				ug/L	2	Standard
	Kr	83	5.3	43.3				ug/L	5	Standard
	Br	81	996.7	18.1				ug/L	1070	Standard
	P	31	61.7	33.8				ug/L	42	Standard
	S	34	60.0	16.7				ug/L	65	Standard
	Sr	88	340.0	12.0				ug/L	372	Standard
	C	12	13.3	43.3				mg/L	17	Standard
	N	14	0.0					mg/L	3	Standard
	Hg	202	0.0					mg/L	3	Standard
	Dy	164	9.4	3.0				mg/L	10	Standard
	Ho-1	165	6.7	43.3				mg/L	5	Standard
	Er	166	13.3	43.3				mg/L	7	Standard
	I	127	8385.7	3.9				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
[> Li	6			
Be	9			
Al	27			
[Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
[> Ge	72		100.721	
As	75			
Se	82			
[Se-1	77			
[> Ga	71			

Sample ID: QC Std 7

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	101.254
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	100.660
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Ba	135	

Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: L1708132602

Sample Date/Time: Tuesday, August 29, 2017 13:54:49

Number of Replicates: 3

Autosampler Position: 224

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	147809.2	1.2				ug/L	142206	Standard
	Be	9	13.3	57.3	-0.0319	0.005	14.3	ug/L	20	Standard
	Al	27	5049.2	7.7	0.0093	0.003	34.8	ug/L	3387	Standard
	Sc	45	20510.5	0.8				ug/L	20594	Standard
	Ti	47	29.0	6.9	-0.0159	0.013	85.0	ug/L	34	Standard
	V	51	560.2	24.4	-0.1520	0.021	13.9	ug/L	1465	Standard
	Cr	52	7977.1	3.2	-0.0473	0.055	116.5	ug/L	8276	Standard
	Cr	53	4233.9	6.3	3.5127	0.386	11.0	ug/L	1320	Standard
	Mn	55	2735.3	24.1	0.0729	0.061	83.3	ug/L	2274	Standard
	Co	59	428.0	5.9	-0.0237	0.003	13.0	ug/L	628	Standard
	Ni	60	491.3	6.3	0.0459	0.019	40.8	ug/L	395	Standard
	Cu	65	559.3	2.2	0.2338	0.013	5.6	ug/L	187	Standard
	Zn	66	1405.7	1.4	1.4817	0.041	2.8	ug/L	181	Standard
[>	Ge	72	346351.6	1.6				ug/L	341349	Standard
	As	75	-117.3	29.8	-0.0729	0.044	59.7	ug/L	-52	Standard
	Se	82	26.0	4.8	0.0324	0.013	38.8	ug/L	18	Standard
	Se-1	77	669.7	6.9	9.8818	1.106	11.2	ug/L	170	Standard
[>	Ga	71	598.3	11.1				mg/L	30	Standard
	Rb	85	13300.8	3.7				ug/L	55	Standard
	Y	89	309624.3	2.3				ug/L	313052	Standard
[>	Rh	103	48.3	15.8				ug/L	40	Standard
	Mo	98	585.8	1.7	0.1463	0.004	3.0	ug/L	297	Standard
	Ag	107	119.3	10.5	-0.0003	0.003	871.9	ug/L	112	Standard
	Cd	111	10.1	30.4	-0.0050	0.003	59.0	mg/L	9	Standard
	Cd	114	43.4	24.2	0.0111	0.004	32.3	ug/L	21	Standard
[>	In	115	366610.3	0.5				ug/L	367897	Standard
	Sn	118	121.3	11.0	0.0341	0.016	48.3	ug/L	96	Standard
	Sb	123	339.1	12.6	0.0424	0.012	28.2	ug/L	1191	Standard
	Ba	135	7541.5	0.3	5.0286	0.034	0.7	ug/L	59	Standard
	Ce	140	20.0	25.0				ug/L	13	Standard
[>	Tb	159	652079.2	2.7				ug/L	641594	Standard
	Ho	165	21.7	35.3				ug/L	5	Standard
	Tl	203	172.7	18.0	0.0071	0.004	53.2	ug/L	121	Standard
	Tl	205	355.0	3.7	0.0057	0.001	8.8	ug/L	280	Standard
	Pb	206	558.7	0.6	0.0285	0.002	8.7	ug/L	355	Standard
	Pb	207	467.3	5.2	0.0294	0.003	10.7	ug/L	304	Standard
	Pb	208	872.3	4.6	0.0247	0.004	17.4	ug/L	522	Standard
	U	238	15.7	30.2	0.0003	0.001	175.1	ug/L	7	Standard
[>	Bi	209	492277.0	2.4				ug/L	496583	Standard

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Na	23	10.0	50.0	2.3537	1.183	50.3	mg/L	0	Standard
Mg	24	423.3	14.0	7.0467	1.137	16.1	mg/L	22	Standard
K	39	483.3	11.4	6.2766	0.764	12.2	mg/L	5	Standard
Ca	43	51.7	43.6	11.9066	57.342	481.6	mg/L	40	Standard
Fe	54	19.3	27.0	-0.0922	0.091	99.1	mg/L	38	Standard
Fe	57	696.7	3.4	2.1974	1.290	58.7	mg/L	577	Standard
Sc-1	45	20510.5	0.8				mg/L	20594	Standard
Cl	35	2.0	0.0				ug/L	2	Standard
Kr	83	5.7	10.2				ug/L	5	Standard
Br	81	1850.1	8.7				ug/L	1070	Standard
P	31	56.7	35.7				ug/L	42	Standard
S	34	63.3	37.3				ug/L	65	Standard
Sr	88	303.3	28.0				ug/L	372	Standard
C	12	13.3	43.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	10.0	100.0				mg/L	3	Standard
Dy	164	18.7	94.0				mg/L	10	Standard
Ho-1	165	21.7	35.3				mg/L	5	Standard
Er	166	26.7	43.3				mg/L	7	Standard
I	127	14069.9	5.1				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		103.940	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		101.465	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	99.650
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	99.133
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1708132602

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Method 6020 - Summary Report

Sample ID: L1708132603

Sample Date/Time: Tuesday, August 29, 2017 13:57:54

Number of Replicates: 3

Autosampler Position: 225

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	148975.5	0.9				ug/L	142206	Standard
	Be	9	35.0	24.7	-0.0190	0.005	26.9	ug/L	20	Standard
	Al	27	2268729.2	1.8	16.7513	0.449	2.7	ug/L	3387	Standard
	Sc	45	20360.3	1.1				ug/L	20594	Standard
	Ti	47	25.7	4.5	-0.0360	0.005	14.2	ug/L	34	Standard
	V	51	-968.8	57.6	-0.3848	0.085	22.1	ug/L	1465	Standard
	Cr	52	9068.7	2.8	0.1117	0.054	48.4	ug/L	8276	Standard
	Cr	53	8787.6	12.5	9.0723	1.429	15.8	ug/L	1320	Standard
	Mn	55	17503.8	1.2	1.5193	0.004	0.2	ug/L	2274	Standard
	Co	59	398.0	1.4	-0.0280	0.001	3.9	ug/L	628	Standard
	Ni	60	360.7	1.1	-0.0328	0.004	11.2	ug/L	395	Standard
	Cu	65	221.3	3.7	0.0150	0.006	42.8	ug/L	187	Standard
	Zn	66	1208.7	2.5	1.2270	0.049	4.0	ug/L	181	Standard
[>	Ge	72	350149.0	1.0				ug/L	341349	Standard
	As	75	-167.3	10.3	-0.1296	0.019	14.4	ug/L	-52	Standard
	Se	82	18.6	21.7	-0.0760	0.057	74.5	ug/L	18	Standard
	Se-1	77	775.0	5.3	11.7665	0.827	7.0	ug/L	170	Standard
[>	Ga	71	81.7	18.7				mg/L	30	Standard
	Rb	85	10473.6	1.5				ug/L	55	Standard
	Y	89	304935.6	2.2				ug/L	313052	Standard
[>	Rh	103	48.3	47.8				ug/L	40	Standard
	Mo	98	76.6	29.2	-0.0331	0.008	23.4	ug/L	297	Standard
	Ag	107	107.7	2.8	-0.0030	0.001	23.3	ug/L	112	Standard
	Cd	111	10.6	23.6	-0.0045	0.002	52.8	mg/L	9	Standard
	Cd	114	33.9	37.6	0.0078	0.004	55.4	ug/L	21	Standard
[>	In	115	367738.1	0.4				ug/L	367897	Standard
	Sn	118	103.3	11.7	0.0106	0.015	143.2	ug/L	96	Standard
	Sb	123	218.2	7.9	0.0072	0.005	66.2	ug/L	1191	Standard
	Ba	135	48590.1	2.0	34.7789	0.580	1.7	ug/L	59	Standard
	Ce	140	25.0	34.6				ug/L	13	Standard
[>	Tb	159	652759.2	1.2				ug/L	641594	Standard
	Ho	165	11.7	65.5				ug/L	5	Standard
	Tl	203	94.7	14.4	-0.0016	0.002	107.8	ug/L	121	Standard
	Tl	205	220.0	15.9	-0.0007	0.002	221.7	ug/L	280	Standard
	Pb	206	669.7	3.5	0.0476	0.003	5.6	ug/L	355	Standard
	Pb	207	569.0	4.0	0.0497	0.005	11.0	ug/L	304	Standard
	Pb	208	1058.3	5.6	0.0453	0.008	16.8	ug/L	522	Standard
	U	238	10.0	43.6	-0.0003	0.000	184.2	ug/L	7	Standard
[>	Bi	209	480464.5	1.8				ug/L	496583	Standard

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Na	23	6.7	114.6	1.5690	1.781	113.5	mg/L	0	Standard
Mg	24	611.7	8.2	10.5517	0.893	8.5	mg/L	22	Standard
K	39	495.0	13.6	6.4884	0.930	14.3	mg/L	5	Standard
Ca	43	41.7	18.3	-12.8314	18.151	141.5	mg/L	40	Standard
Fe	54	25.9	22.6	0.0310	0.104	337.4	mg/L	38	Standard
Fe	57	678.3	2.4	1.5969	0.683	42.8	mg/L	577	Standard
Sc-1	45	20360.3	1.1				mg/L	20594	Standard
Cl	35	1.3	86.6				ug/L	2	Standard
Kr	83	5.7	56.7				ug/L	5	Standard
Br	81	1826.8	4.1				ug/L	1070	Standard
P	31	53.3	10.8				ug/L	42	Standard
S	34	56.7	18.4				ug/L	65	Standard
Sr	88	325.0	25.6				ug/L	372	Standard
C	12	16.7	34.6				mg/L	17	Standard
N	14	3.3	173.2				mg/L	3	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	5.9	94.0				mg/L	10	Standard
Ho-1	165	11.7	65.5				mg/L	5	Standard
Er	166	16.7	69.3				mg/L	7	Standard
I	127	11717.9	6.9				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		104.760	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		102.578	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1708132603

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.957
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	96.754
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1708132603

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Method 6020 - Summary Report

Sample ID: L1708132604

Sample Date/Time: Tuesday, August 29, 2017 14:01:00

Number of Replicates: 3

Autosampler Position: 226

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	147504.6	1.2				ug/L	142206	Standard
	Be	9	25.0	20.0	-0.0248	0.003	12.4	ug/L	20	Standard
	Al	27	2032537.0	3.1	15.1522	0.445	2.9	ug/L	3387	Standard
	Sc	45	20300.3	1.9				ug/L	20594	Standard
	Ti	47	28.7	28.2	-0.0203	0.044	216.0	ug/L	34	Standard
	V	51	-1259.9	3.3	-0.4277	0.004	1.0	ug/L	1465	Standard
	Cr	52	10178.1	1.4	0.2818	0.051	18.2	ug/L	8276	Standard
	Cr	53	10935.6	4.4	11.6710	0.804	6.9	ug/L	1320	Standard
	Mn	55	23300.2	0.8	2.0797	0.034	1.6	ug/L	2274	Standard
	Co	59	393.3	5.7	-0.0287	0.004	12.4	ug/L	628	Standard
	Ni	60	348.3	4.7	-0.0406	0.012	30.6	ug/L	395	Standard
	Cu	65	199.7	9.4	0.0008	0.014	1692.5	ug/L	187	Standard
	Zn	66	1212.4	1.0	1.2259	0.028	2.3	ug/L	181	Standard
[>	Ge	72	351465.7	1.9				ug/L	341349	Standard
	As	75	-195.3	112.2	-0.1652	0.259	156.7	ug/L	-52	Standard
	Se	82	18.3	41.6	-0.0827	0.102	123.0	ug/L	18	Standard
	Se-1	77	829.0	3.4	12.7593	0.838	6.6	ug/L	170	Standard
[>	Ga	71	80.0	28.6				mg/L	30	Standard
	Rb	85	12296.7	4.0				ug/L	55	Standard
	Y	89	308485.5	0.7				ug/L	313052	Standard
[>	Rh	103	63.3	27.7				ug/L	40	Standard
	Mo	98	57.2	11.0	-0.0398	0.002	5.2	ug/L	297	Standard
	Ag	107	114.7	5.6	-0.0013	0.002	122.3	ug/L	112	Standard
	Cd	111	9.9	40.3	-0.0051	0.004	77.6	mg/L	9	Standard
	Cd	114	20.4	28.1	0.0033	0.002	56.9	ug/L	21	Standard
[>	In	115	366346.4	0.8				ug/L	367897	Standard
	Sn	118	109.7	8.0	0.0193	0.011	58.6	ug/L	96	Standard
	Sb	123	158.9	23.3	-0.0098	0.010	104.9	ug/L	1191	Standard
	Ba	135	53901.4	1.7	38.7814	0.654	1.7	ug/L	59	Standard
	Ce	140	23.3	53.9				ug/L	13	Standard
[>	Tb	159	659813.1	2.2				ug/L	641594	Standard
	Ho	165	5.0	0.0				ug/L	5	Standard
	Tl	203	86.0	7.1	-0.0028	0.001	21.8	ug/L	121	Standard
	Tl	205	165.0	18.4	-0.0036	0.002	42.1	ug/L	280	Standard
	Pb	206	390.0	4.7	0.0041	0.003	69.8	ug/L	355	Standard
	Pb	207	328.0	3.6	0.0059	0.003	44.7	ug/L	304	Standard
	Pb	208	557.7	1.1	-0.0050	0.001	27.0	ug/L	522	Standard
	U	238	9.7	21.5	-0.0003	0.000	75.9	ug/L	7	Standard
[>	Bi	209	484990.1	1.4				ug/L	496583	Standard

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Na	23	6.7	114.6	1.5979	1.818	113.8	mg/L	0	Standard
Mg	24	740.0	6.5	12.9474	0.838	6.5	mg/L	22	Standard
K	39	583.3	4.7	7.7474	0.241	3.1	mg/L	5	Standard
Ca	43	41.7	25.0	-12.0375	28.243	234.6	mg/L	40	Standard
Fe	54	47.5	26.1	0.4260	0.217	50.9	mg/L	38	Standard
Fe	57	556.7	13.6	-3.8169	3.154	82.6	mg/L	577	Standard
Sc-1	45	20300.3	1.9				mg/L	20594	Standard
Cl	35	1.3	86.6				ug/L	2	Standard
Kr	83	4.7	24.7				ug/L	5	Standard
Br	81	1716.8	9.0				ug/L	1070	Standard
P	31	45.0	11.1				ug/L	42	Standard
S	34	63.3	16.4				ug/L	65	Standard
Sr	88	320.0	8.7				ug/L	372	Standard
C	12	26.7	57.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	9.4	107.0				mg/L	10	Standard
Ho-1	165	5.0	0.0				mg/L	5	Standard
Er	166	13.3	86.6				mg/L	7	Standard
I	127	12498.5	4.2				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6		103.726	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
> Ge	72		102.964	
As	75			
Se	82			
Se-1	77			
> Ga	71			

Sample ID: L1708132604

Report Date/Time: Tuesday, August 29, 2017 14:03:11

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	99.578
	Sn	118	
	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
	Tl	203	
	Tl	205	
	Pb	206	
	Pb	207	
	Pb	208	
	U	238	
>	Bi	209	97.665
[	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
V 51 Lower	V	51	

Sample ID: L1708132604
 Report Date/Time: Tuesday, August 29, 2017 14:03:11
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Approved: August 29, 2017


Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Tuesday, August 29, 2017 14:04:07

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	145518.9	1.8				ug/L	142206	Standard
	Be	9	80789.8	1.2	49.6413	1.054	2.1	ug/L	20	Standard
	Al	27	6439227.1	1.4	48.7359	1.406	2.9	ug/L	3387	Standard
	Sc	45	20365.4	5.5				ug/L	20594	Standard
	Ti	47	18154.9	1.5	99.9440	2.080	2.1	ug/L	34	Standard
	V	51	326772.4	1.7	49.5552	1.531	3.1	ug/L	1465	Standard
	Cr	52	315502.2	1.0	49.0275	1.212	2.5	ug/L	8276	Standard
	Cr	53	41122.4	1.8	49.2513	0.432	0.9	ug/L	1320	Standard
	Mn	55	509327.8	0.7	50.1041	1.057	2.1	ug/L	2274	Standard
	Co	59	406231.2	0.5	50.5027	1.045	2.1	ug/L	628	Standard
	Ni	60	87377.9	1.2	50.6642	1.083	2.1	ug/L	395	Standard
	Cu	65	79689.4	1.0	50.8696	0.660	1.3	ug/L	187	Standard
	Zn	66	41838.4	1.3	50.2777	1.247	2.5	ug/L	181	Standard
[>	Ge	72	347864.1	1.7				ug/L	341349	Standard
	As	75	42674.5	1.2	50.5917	0.471	0.9	ug/L	-52	Standard
	Se	82	3688.7	0.9	51.9702	0.644	1.2	ug/L	18	Standard
	Se-1	77	2815.6	1.1	51.5811	1.073	2.1	ug/L	170	Standard
[>	Ga	71	55.0	24.1				mg/L	30	Standard
	Rb	85	653.3	13.0				ug/L	55	Standard
	Y	89	306281.6	1.0				ug/L	313052	Standard
[>	Rh	103	65.0	27.7				ug/L	40	Standard
	Mo	98	298600.7	1.0	103.9812	0.800	0.8	ug/L	297	Standard
	Ag	107	241302.7	0.2	52.7863	0.264	0.5	ug/L	112	Standard
	Cd	111	54954.3	1.0	52.9365	0.298	0.6	mg/L	9	Standard
	Cd	114	152775.2	1.1	51.0053	0.479	0.9	ug/L	21	Standard
[>	In	115	370506.4	0.5				ug/L	367897	Standard
	Sn	118	39269.2	1.8	49.7117	0.687	1.4	ug/L	96	Standard
	Sb	123	177702.9	1.6	50.9268	0.618	1.2	ug/L	1191	Standard
	Ba	135	70590.8	2.1	50.3505	0.874	1.7	ug/L	59	Standard
	Ce	140	63.3	12.1				ug/L	13	Standard
[>	Tb	159	653403.9	1.6				ug/L	641594	Standard
	Ho	165	3.3	173.2				ug/L	5	Standard
	Tl	203	437457.5	0.7	50.9485	0.570	1.1	ug/L	121	Standard
	Tl	205	1013440.4	1.4	50.8229	1.132	2.2	ug/L	280	Standard
	Pb	206	331752.5	1.0	50.3974	0.796	1.6	ug/L	355	Standard
	Pb	207	290417.1	1.8	51.5225	0.860	1.7	ug/L	304	Standard
	Pb	208	512386.3	2.9	50.3230	2.045	4.1	ug/L	522	Standard
	U	238	473514.1	1.3	51.4975	1.313	2.5	ug/L	7	Standard
[>	Bi	209	485149.9	1.2				ug/L	496583	Standard

Sample ID: QC Std 6

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Na	23	18.3	103.3	4.1919	4.121	98.3	mg/L	0	Standard
Mg	24	350.0	21.0	5.7146	0.968	16.9	mg/L	22	Standard
K	39	431.7	4.4	5.6229	0.578	10.3	mg/L	5	Standard
Ca	43	30.0	16.7	-41.7661	15.909	38.1	mg/L	40	Standard
Fe	54	351.3	5.3	5.9539	0.083	1.4	mg/L	38	Standard
Fe	57	793.4	7.9	6.8753	4.121	59.9	mg/L	577	Standard
Sc-1	45	20365.4	5.5				mg/L	20594	Standard
Cl	35	2.0	100.0				ug/L	2	Standard
Kr	83	6.7	45.8				ug/L	5	Standard
Br	81	1023.4	7.4				ug/L	1070	Standard
P	31	73.3	58.8				ug/L	42	Standard
S	34	66.7	26.3				ug/L	65	Standard
Sr	88	355.0	19.5				ug/L	372	Standard
C	12	13.3	43.3				mg/L	17	Standard
N	14	0.0					mg/L	3	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	12.9	45.1				mg/L	10	Standard
Ho-1	165	3.3	173.2				mg/L	5	Standard
Er	166	10.0	100.0				mg/L	7	Standard
I	127	2733.6	3.8				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	99.283		
Al	27	97.472		
Sc	45			
Ti	47	99.944		
V	51	99.110		
Cr	52	98.055		
Cr	53			
Mn	55	100.208		
Co	59	101.005		
Ni	60	101.328		
Cu	65	101.739		
Zn	66	100.555		
Ge	72		101.909	
As	75	101.183		
Se	82	103.940		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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[	Rb	85		
[	Y	89		
>	Rh	103		
[	Mo	98	103.981	
[	Ag	107	105.573	
[	Cd	111	105.873	
[	Cd	114		
>	In	115		100.709
[	Sn	118	99.423	
[	Sb	123	101.854	
[	Ba	135	100.701	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	101.897	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	100.646	
[	U	238	102.995	
>	Bi	209		97.698
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6

Report Date/Time: Tuesday, August 29, 2017 14:06:18

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Tuesday, August 29, 2017 14:07:12

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
[>	Li	6	145606.3	0.9				ug/L	142206	Standard
	Be	9	35.0	37.8	-0.0184	0.008	44.8	ug/L	20	Standard
	Al	27	2791.9	6.5	-0.0073	0.001	19.8	ug/L	3387	Standard
	Sc	45	19751.2	3.2				ug/L	20594	Standard
	Ti	47	24.7	8.4	-0.0402	0.012	31.1	ug/L	34	Standard
	V	51	1173.4	8.0	-0.0585	0.015	25.1	ug/L	1465	Standard
	Cr	52	7037.0	0.5	-0.2003	0.003	1.3	ug/L	8276	Standard
	Cr	53	1318.4	3.5	-0.1254	0.069	55.2	ug/L	1320	Standard
	Mn	55	1582.1	9.1	-0.0411	0.013	32.5	ug/L	2274	Standard
	Co	59	409.0	2.0	-0.0262	0.001	2.8	ug/L	628	Standard
	Ni	60	278.7	5.0	-0.0788	0.009	11.0	ug/L	395	Standard
	Cu	65	205.7	9.7	0.0061	0.012	195.8	ug/L	187	Standard
	Zn	66	194.7	11.3	0.0131	0.025	192.5	ug/L	181	Standard
[>	Ge	72	346905.5	0.7				ug/L	341349	Standard
	As	75	-68.6	22.0	-0.0145	0.018	126.1	ug/L	-52	Standard
	Se	82	8.2	50.4	-0.2225	0.058	26.0	ug/L	18	Standard
	Se-1	77	160.3	6.9	-0.0900	0.200	222.0	ug/L	170	Standard
[>	Ga	71	41.7	27.7				mg/L	30	Standard
	Rb	85	25.0	52.9				ug/L	55	Standard
	Y	89	310662.9	1.4				ug/L	313052	Standard
[>	Rh	103	41.7	13.9				ug/L	40	Standard
	Mo	98	325.4	18.2	0.0530	0.021	39.3	ug/L	297	Standard
	Ag	107	124.3	22.1	0.0005	0.006	1356.9	ug/L	112	Standard
	Cd	111	12.7	31.8	-0.0026	0.004	154.2	mg/L	9	Standard
	Cd	114	19.9	64.7	0.0030	0.004	140.2	ug/L	21	Standard
[>	In	115	371840.3	1.5				ug/L	367897	Standard
	Sn	118	127.3	22.8	0.0394	0.036	91.7	ug/L	96	Standard
	Sb	123	359.1	15.9	0.0468	0.016	35.1	ug/L	1191	Standard
	Ba	135	43.3	35.5	-0.4263	0.011	2.7	ug/L	59	Standard
	Ce	140	18.3	78.7				ug/L	13	Standard
[>	Tb	159	650271.7	1.7				ug/L	641594	Standard
	Ho	165	5.0	0.0				ug/L	5	Standard
	Tl	203	120.0	18.8	0.0009	0.003	285.6	ug/L	121	Standard
	Tl	205	290.0	22.0	0.0024	0.003	129.6	ug/L	280	Standard
	Pb	206	373.7	6.5	0.0004	0.004	866.9	ug/L	355	Standard
	Pb	207	334.0	4.5	0.0057	0.003	50.9	ug/L	304	Standard
	Pb	208	582.3	1.9	-0.0038	0.001	36.6	ug/L	522	Standard
	U	238	68.0	15.6	0.0059	0.001	18.5	ug/L	7	Standard
[>	Bi	209	495424.3	0.7				ug/L	496583	Standard

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Na	23	1.7	173.2	0.3981	0.681	171.0	mg/L	0	Standard
Mg	24	33.3	22.9	-0.0405	0.136	337.0	mg/L	22	Standard
K	39	10.0	50.0	-0.2949	0.072	24.3	mg/L	5	Standard
Ca	43	28.3	20.4	-44.1966	15.465	35.0	mg/L	40	Standard
Fe	54	25.7	41.1	0.0413	0.193	467.2	mg/L	38	Standard
Fe	57	660.0	8.0	1.7335	3.008	173.5	mg/L	577	Standard
Sc-1	45	19751.2	3.2				mg/L	20594	Standard
Cl	35	5.3	21.7				ug/L	2	Standard
Kr	83	6.0	16.7				ug/L	5	Standard
Br	81	1110.0	13.3				ug/L	1070	Standard
P	31	55.0	27.3				ug/L	42	Standard
S	34	53.3	37.9				ug/L	65	Standard
Sr	88	335.0	18.3				ug/L	372	Standard
C	12	23.3	107.9				mg/L	17	Standard
N	14	6.7	173.2				mg/L	3	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	16.3	96.6				mg/L	10	Standard
Ho-1	165	5.0	0.0				mg/L	5	Standard
Er	166	6.7	173.2				mg/L	7	Standard
I	127	7890.4	2.7				mg/L	13743	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		101.628	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 7

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[	Rb	85	
[	Y	89	
>	Rh	103	
[	Mo	98	
[	Ag	107	
[	Cd	111	
[	Cd	114	
>	In	115	101.072
[	Sn	118	
[	Sb	123	
[	Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	99.767
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Se	82	
QC Std 7	Ba	135	

Sample ID: QC Std 7

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3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
September 11, 2017

001 - BIO-CHEM TESTING WVDEP 220	002 - REIC Consultants, Inc. WVDEP 060
003 - Sturm Environmental	004 - MICROBAC PITTSBURGH
005 - ES LABORATORIES	006 - ALCOSAN LABORATORIES
007 - ALS LABORATORIES	008 - BENCHMARK LABORATORIES
010 - MICROBAC CHICAGOLAND	AC - AMBER R. CARMICHAEL
ADC - ANTHONY D. CANTER	ADG - APRIL D. GREENE
ALS - ADRIANE L. STEED	AWE - ANDREW W. ESSIG
AZH - AFTER HOURS	BJO - BRIAN J. OGDEN
BLG - BRENDA L. GREENWALT	BLR - BRANDON L. RICHARDS
BNB - Brandi N. Bentley	BRG - BRENDA R. GREGORY
CAS - Craig A. Smith	CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD	CLS - CARA L. STRICKLER
CPD - CHAD P. DAVIS	CSH - CHRIS S. HILL
CV - Carl Volkman	DAK - DEAN A. KETELSEN
DCM - DAVID C. MERCKLE	DEV - DAVID E. VANDENBERG
DIH - DEANNA I. HESSON	DLB - DAVID L. BUMGARNER
DLP - DOROTHY L. PAYNE	DSM - DAVID S. MOSSOR
DTG - DOMINIC T. GEHRET	ECL - ERIC C. LAWSON
EPT - ETHAN P. TIDD	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	HRF - HEATHER R. FAIRCHILD
JDH - JUSTIN D. HESSON	JDS - JARED D. SMITH
JKP - JACQUELINE K. PARSONS	JLD - JESSICA L. DELONG
JST - JOSHUA S. TAYLOR	JTP - JOSHUA T. PEMBERTON
JWR - JOHN W. RICHARDS	JWS - JACK W. SHEAVES
JYH - JI Y. HU	KAK - KATHY A. KIRBY
KDD - Katelyn D. Daley	KEB - KATIE E. BARNES
KHR - KIM H. RHODES	KKB - KERRI K. BUCK
KRA - KATHY R. ALBERTSON	KRP - KATHY R. PARSONS
LJH - Lacey J. Hendershot	LLS - LARRY L. STEPHENS
LSB - LESLIE S. BUCINA	LSJ - LAURA S. JONES
MAP - MARLA A. PORTER	MBK - MORGAN B. KNOWLTON
MES - MARY E. SCHILLING	MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR	OJE - OMOYEMWEN J. ENGLISH
PDM - PIERCE D. MORRIS	PIT - MICROBAC WARRENDALE
REK - BOB E. KYER	RLB - BOB BUCHANAN
RNP - RICK N. PETTY	SAV - SARAH A. VANDENBERG
SCA - SUEELLEN C. ADAMS	SCB - SARAH C. BOGOLIN
SCJ - SUE ELLEN C. JOHNSON	SDC - SHALYN D. CONLEY
TB - TODD BOYLE	TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS	VC - VICKI COLLIER
WTD - WADE T. DELONG	XXX - UNAVAILABLE OR SUBCONTRACT
ZTB - ZACH T. BARNES	

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Result is greater than the associated numerical value.
>,H1	Result is greater than the associated numerical value. Sample analysis performed past holding time.
A	See the report narrative
B	Analyte detected in the method blank
B,H1	Analyte present in method blank. Sample analysis performed past holding time.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to interference.
E	Semiquantitative result (out of calibration range)
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for requ
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration.
J	The analyte was positively identified, but the quantitation was below the RL.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value; the analyte concentration was less than the RL/LOQ.
J,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	Analyte detected in both the method blank and sample above the MDL.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Tentatively identified compound(TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.
U	Not detected at or above adjusted sample detection limit.



UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below





COOLER TEMP >6° C LOG

Cooler ID: 5097[illegible]

pH	Exceptions

pH Lot # AC60354

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6
PRESERVATIVE EXCEPTIONS <u>✓</u> NONE <u> </u> AS NOTED <u>CMO 8/25/17</u>						

Document Control # 1957
Last 10-07-2016

Issued to: Document Master File

Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

Samplenum **Container ID** **Products****L17081366-01** 955255

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:20	CLS	AWE	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:20	CLS	AWE	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:20	CLS	AWE	

Comments:Products cancelled.

Samplenum **Container ID** **Products****L17081366-01** 955256 SPECIA 8260C 827-PAHL

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	EXT	29-AUG-2017 09:24	CPD	BRG	
3	ANALYZ*	EXT	SEMI	29-AUG-2017 16:43	SCB	CPD	

****Sample extract/digestate/leachate***

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		25-AUG-2017 15:30	CLS		

****Sample extract/digestate/leachate***

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366**Account:** 2736**Project:** 2736.061**Samples:** 18**Due Date:** 08-SEP-2017

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-01	955257	AL AS-MS CA FE K MG MN NA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

****Sample extract/digestate/leachate***

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-02	955258	AL-D AS-MSD FE-D MN-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

****Sample extract/digestate/leachate***

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-03	955259	AS-AX CD-AX PB-AX

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:20	CLS	AWE	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:20	CLS	AWE	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:20	CLS	AWE	

Comments:Products cancelled.

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-03	955260	AS-AX CD-AX PB-AX 8260C 827-PAHL

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	EXT	29-AUG-2017 09:24	CPD	BRG	
3	ANALYZ*	EXT	SEMI	29-AUG-2017 16:43	SCB	CPD	

***Sample extract/digestate/leachate**

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		25-AUG-2017 15:30	CLS		

***Sample extract/digestate/leachate**

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366**Account:** 2736**Project:** 2736.061**Samples:** 18**Due Date:** 08-SEP-2017

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-03	955261	AS-AX CD-AX PB-AX AL AS-MS CA FE K MG MN NA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

****Sample extract/digestate/leachate***

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-04	955262	AS-AX CD-AX PB-AX AL-D AS-MSD FE-D MN-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

****Sample extract/digestate/leachate***

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

Samplenum **Container ID** **Products**
L17081366-05 955263 AS-AX CD-AX PB-AX

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:20	CLS	AWE	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:20	CLS	AWE	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments:Products cancelled.

Samplenum **Container ID** **Products**
L17081366-05 955264 AS-AX CD-AX PB-AX 8260C 827-PAHL

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	EXT	29-AUG-2017 09:24	CPD	BRG	
3	ANALYZ*	EXT	SEMI	29-AUG-2017 16:43	SCB	CPD	
4	DISP	EXT	DISP	08-SEP-2017 14:05	JDH	ZTB	

**Sample extract/digestate/leachate*

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		25-AUG-2017 15:30	CLS		

**Sample extract/digestate/leachate*

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-05	955265	AS-AX CD-AX PB-AX AL AS-MS CA FE K MG MN NA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

**Sample extract/digestate/leachate*

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-06	955266	AS-AX CD-AX PB-AX AL-D AS-MSD FE-D MN-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

**Sample extract/digestate/leachate*

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-07	955267	AS-AX CD-AX PB-AX

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments:Products cancelled.

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

Samplenum **Container ID** **Products**
L17081366-07 955268 PCT-S 8260C 827-PAHL

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	EXT	29-AUG-2017 09:24	CPD	BRG	
3	ANALYZ*	EXT	SEMI	29-AUG-2017 16:43	SCB	CPD	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L17081366-07 955269 PCT-S AL AS-MS CA FE K MG MN NA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L17081366-08 955270 PCT-S AL-D AS-MSD FE-D MN-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

**Sample extract/digestate/leachate*

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-09	955271	PCT-S 8260C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-10	955272	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-10	955273	PCT-S 8260C 827-PAHL

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	EXT	29-AUG-2017 09:24	CPD	BRG	
3	ANALYZ*	EXT	SEMI	29-AUG-2017 16:43	SCB	CPD	

**Sample extract/digestate/leachate*

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		25-AUG-2017 15:30	CLS		

**Sample extract/digestate/leachate*

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-10	955274	PCT-S AL AS-MS CA FE K MG MN NA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

**Sample extract/digestate/leachate*

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-11	955275	PCT-S AL-D AS-MSD FE-D MN-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

**Sample extract/digestate/leachate*

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-12	955276	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	25-AUG-2017 15:30	CLS		
2	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-12	955277	PCT-S 8260C 827-PAHL

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	EXT	29-AUG-2017 09:24	CPD	BRG	
3	ANALYZ*	EXT	SEMI	29-AUG-2017 16:43	SCB	CPD	

***Sample extract/digestate/leachate**

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		25-AUG-2017 15:30	CLS		

***Sample extract/digestate/leachate**

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

Samplenum **Container ID** **Products**
L17081366-13 955278 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments:Products cancelled.

Samplenum **Container ID** **Products**
L17081366-13 955279 PCT-S 8260C 827-PAHL

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	EXT	29-AUG-2017 09:24	CPD	BRG	
3	ANALYZ*	EXT	SEMI	29-AUG-2017 16:43	SCB	CPD	
4	DISP	EXT	DISP	08-SEP-2017 14:05	JDH	ZTB	

**Sample extract/digestate/leachate*

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		25-AUG-2017 15:30	CLS		

**Sample extract/digestate/leachate*

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

Samplenum **Container ID** **Products**
L17081366-14 955280 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:19	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments:Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:19	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments:Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	

Samplenum **Container ID** **Products**
L17081366-14 955281 PCT-S 8260C 827-PAHL

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	EXT	29-AUG-2017 09:24	CPD	BRG	
3	ANALYZ*	EXT	SEMI	29-AUG-2017 16:43	SCB	CPD	

**Sample extract/digestate/leachate*

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		25-AUG-2017 15:30	CLS		

**Sample extract/digestate/leachate*

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-14	955282	PCT-S AL AS-MS CA FE K MG MN NA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

**Sample extract/digestate/leachate*

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-15	955283	PCT-S AL-D AS-MSD FE-D MN-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

**Sample extract/digestate/leachate*

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-16	955284	PCT-S 8260C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:20	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-17	955285	PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:19	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments: Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:19	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments: Products cancelled.

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	25-AUG-2017 15:30	CLS		
2	ANALYZ	V1	ORG4	28-AUG-2017 07:19	AWE	CLS	
3	STORE	ORG4	A2	08-SEP-2017 07:19	CLS	AWE	

Comments: Products cancelled.

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L17081366-17	955286	PCT-S 8260C 827-PAHL 827-SPE-DIOX

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	ANALYZ	W1	EXT	28-AUG-2017 11:24	JLD	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		25-AUG-2017 15:30	CLS		

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L17081366

Account: 2736

Project: 2736.061

Samples: 18

Due Date: 08-SEP-2017

Samplenum **Container ID** **Products**
L17081366-17 955287 PCT-S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	EXT	29-AUG-2017 09:24	CPD	BRG	

Comments: Products cancelled.

3	DISP	EXT	DISP	08-SEP-2017 14:05	JDH	ZTB	

Comments: Products cancelled.

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER		25-AUG-2017 15:30	CLS		

Samplenum **Container ID** **Products**
L17081366-17 955288 PCT-S AL AS-MS CA FE K MG MN NA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L17081366-18 955289 PCT-S AL-D AS-MSD FE-D MN-D

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	25-AUG-2017 15:30	CLS		
2	PREP	W1	DIG	28-AUG-2017 12:28	ERP	BRG	
3	ANALYZ*	DIG	METALS	29-AUG-2017 09:10	JYH	ERP	
4	STORE	DIG	A2	30-AUG-2017 12:34	BRG	VC	

**Sample extract/digestate/leachate*

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



NELAP Addendum - January 4, 2016

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO₃)
Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS

Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1
ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

SOLID AND HAZARDOUS CHEMICALS

OVD MSS01/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVD MSV01/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)