Microbac



**Laboratory Report Number:** L17081498

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 18 2017

Leslie Bucina – Managing Director

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

Microbac

**Lab Report #:** L17081498
**Lab Project #:** 2736.061
**Project Name:** DOW WATERLOO GW
**Lab Contact:** Michelle Taylor

# 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 |
|---|---|
| Sample ID: MW20-082517. 1 of 3 voa vials received broken. BRG | Please proceed. MRT |
| Sample ID: TB-082517. Both voa vials received w/headspace >6mm. BRG | Please proceed. MRT |

## Coolers

| Cooler # | Temperature Gun | Temperature | COC # | Airbill # | Temp Required? |
|---|---|---|---|---|---|
| 00115017 | H | 0.0 | | 1001891784210004575000787533922679 | X |
| 0019158 | H | 1.0 | | 1001891784210004575000787533823227 | X |
| 001-000859 | H | 0.0 | | 1001891784210004575000787533875603 | 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)? | No |

Microbac

**Lab Report #:** L17081498
**Lab Project #:** 2736.061
**Project Name:** DOW WATERLOO GW
**Lab Contact:** Michelle Taylor

**Samples Received**

| Client ID | Laboratory ID | Date Collected | Date Received |
|---|---|---|---|
| MW07-082517 | L17081498-01 | 08/25/2017 10:34 | 08/29/2017 10:51 |
| MW07-082517 | L17081498-02 | 08/25/2017 10:34 | 08/29/2017 10:51 |
| MW06-082517 | L17081498-03 | 08/25/2017 13:54 | 08/29/2017 10:51 |
| MW06-082517 | L17081498-04 | 08/25/2017 13:54 | 08/29/2017 10:51 |
| MW06-082517-MS | L17081498-05 | 08/25/2017 13:54 | 08/29/2017 10:51 |
| MW06-082517-MSD | L17081498-06 | 08/25/2017 13:54 | 08/29/2017 10:51 |
| MW10-082517 | L17081498-07 | 08/25/2017 10:20 | 08/29/2017 10:51 |
| MW10-082517 | L17081498-08 | 08/25/2017 10:20 | 08/29/2017 10:51 |
| MW20-082517 | L17081498-09 | 08/25/2017 14:10 | 08/29/2017 10:51 |
| MW20-082517 | L17081498-10 | 08/25/2017 14:10 | 08/29/2017 10:51 |
| TB-082517 | L17081498-11 | 08/25/2017 08:00 | 08/29/2017 10:51 |
| FB-082517 | L17081498-12 | 08/25/2017 12:40 | 08/29/2017 10:51 |

# Microbac REPORT L17081498
# PREPARED FOR CH2MHILL, Inc
# WORK ID:


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# 1.0 Summary Data

# 1.1 Narratives

**Login Number:** L17081498
**Department**: Semivolatiles
**Analyst:** Mary Schilling

**METHOD**

**Preparation** 3510C/1311

**Analysis** SW-846 8270C

**HOLDING TIMES**

**Sample Preparation:** Samples 01, 03, 05-07 and 09 were re-extracted out of hold. All other 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 analytes: Benzoic Acid, 2,4-Dinitrophenol. Please see the applicable QC report for a detailed presentation of the failures.

**Continuing Calibration and Tune:** Recoveries out of range were observed for the following analytes: 4-Nitrophenol, Benzoic Acid. 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:** Recoveries out of range were observed for the following analytes: 1,4-Dioxane failed low in the LCS/LCSD, 2,4-Dinitrophenol exceeded % RPD criteria only. Please see the applicable QC report for a detailed presentation of the failures. Samples 01, 03, 05-07 and 09 were re-extracted due to the LCS not being spiked for 1,1-biphenyl. The re-extract LCS/LCSD yielded acceptable recoveries for 1,1-biphenyl; both extractions were reported.

| Sample # | Analyte | Date | Result | Lower | Upper | Type |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| WG627757-02 | 1,4-Dioxane | 2017-08-31 10:44:00 | 32.0 | 50 | 150 | Recovery |
| WG628510-02 | 1,4-Dioxane | 2017-09-12 17:21:00 | 27.0 | 50 | 150 | Recovery |
| WG628510-03 | 1,4-Dioxane | 2017-09-12 17:51:00 | 26.0 | 50 | 150 | Recovery |
| WG628510-03 | 2,4-Dinitrophenol | 2017-09-12 17:51:00 | 36.7 | | 30 | RPD |

**Matrix Spikes:** Recoveries out of range were observed for the following analyte: 1,4-Dioxane failed low in the MS/MSD. Please see the applicable QC report for a detailed presentation of the failures.

| Sample # | Analyte | Date | Result | Lower | Upper | Type |
|---|---|---|---|---|---|---|
| L17081498-05 | 1,4-Dioxane | 2017-08-31 13:27:00 | 36.1 | 50 | 150 | Recovery |
| L17081498-06 | 1,4-Dioxane | 2017-08-31 14:01:00 | 43.9 | 50 | 150 | Recovery |

**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 peakcompletely.

**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 andbenzo(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:** 129402
**Approved By:** Mary Schilling



**Login Number:** L17081498
**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:** 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.

**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 peakcompletely.

**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 andbenzo(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:** 129010
**Approved By:** Mary Schilling



**Login Number:** L17081498
**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:** WG628174 - All acceptance criteria were met.

**Matrix Spikes:** All acceptance criteria were met.

**SAMPLES**

**Samples:** All acceptance criteria were met.

**Narrative ID:** 128977
**Approved By:** Kim Rhodes

**Login Number:** L17081498
**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:** WG628140 - All acceptance criteria were met.

**Matrix Spikes:** All acceptance criteria were met.

**SAMPLES**

**Samples:** All acceptance criteria were met.

**Narrative ID:** 128949
**Approved By:** Kerri Buck

# 1.2 Certificate of Analysis

## Certificate of Analysis

**Sample #:** L17081498-01 | **PrePrep Method:** N/A | **Instrument:** HPMS9
**Client ID:** MW07-082517 | **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 19:23
**Collect Date:** 08/25/2017 10:34 | **Dilution:** 1 | **File ID:** 9M982281
**Sample Tag:** 01 | **Units:** ug/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| unknown | | 9.57 | | 0.000 | 0.000 |

**Sample #:** L17081498-01 | **PrePrep Method:** N/A | **Instrument:** HPMS9
**Client ID:** MW07-082517 | **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 18:46
**Collect Date:** 08/25/2017 10:34 | **Dilution:** 1 | **File ID:** 9M982378
**Sample Tag:** 02 | **Units:** ug/L

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

**Sample #:** L17081498-01 | **PrePrep Method:** N/A | **Instrument:** HPMS9
**Client ID:** MW07-082517 | **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 18:46
**Collect Date:** 08/25/2017 10:34 | **Dilution:** 1 | **File ID:** 9M982378
**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 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 | 3.20 | 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 |

Certificate of Analysis

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | 80 | 120 | |
| Dibromofluoromethane | 100 | 86 | 118 | |
| p-Bromofluorobenzene | 109 | 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 #:** L17081498-01
**Client ID:** MW07-082517
**Matrix:** Water
**Workgroup #:** WG627873
**Collect Date:** 08/25/2017 10:34
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D
**Analyst:** SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS12
**Prep Date:** 08/30/2017 12:10
**Cal Date:** 08/03/2017 13:41
**Run Date:** 08/31/2017 12:22
**File ID:** 12M64170

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 21.3 | 2.66 |
| 1,3,5-Trinitrobenzene | 99-35-4 | | U | 5.32 | 2.66 |
| 1,3-Dinitrobenzene | 99-65-0 | | U | 5.32 | 2.66 |
| 1,4-Dioxane | 123-91-1 | | U | 10.6 | 5.32 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 5.32 | 2.66 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 5.32 | 2.66 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 5.32 | 2.66 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 5.32 | 2.66 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 26.6 | 13.3 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 5.32 | 2.66 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 5.32 | 2.66 |
| 2-Chloronaphthalene | 91-58-7 | | U | 5.32 | 2.66 |
| 2-Chlorophenol | 95-57-8 | | U | 5.32 | 2.66 |
| 2-Methylnaphthalene | 91-57-6 | | U | 5.32 | 2.66 |
| 2-Methylphenol | 95-48-7 | | U | 5.32 | 2.66 |
| 2-Nitroaniline | 88-74-4 | | U | 26.6 | 13.3 |
| 2-Nitrophenol | 88-75-5 | | U | 5.32 | 2.66 |
| 3-Nitroaniline | 99-09-2 | | U | 26.6 | 13.3 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 5.32 | 2.66 |
| 3-,4-Methylphenol | 65794-96-9 | | U | 5.32 | 2.66 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 5.32 | 2.66 |
| 4-Chloroaniline | 106-47-8 | | U | 5.32 | 2.66 |
| 4-Nitrophenol | 100-02-7 | | U | 26.6 | 13.3 |
| Acenaphthene | 83-32-9 | | U | 5.32 | 2.66 |
| Acenaphthylene | 208-96-8 | | U | 5.32 | 2.66 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Anthracene | 120-12-7 | | U | 5.32 | 2.66 |
| Benzo(a)anthracene | 56-55-3 | | U | 5.32 | 2.66 |
| Benzo(a)pyrene | 50-32-8 | | U | 5.32 | 2.66 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 5.32 | 2.66 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 5.32 | 2.66 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 5.32 | 2.66 |
| Benzoic acid | 65-85-0 | | U | 21.3 | 10.6 |
| Benzyl alcohol | 100-51-6 | | U | 5.32 | 2.66 |
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 5.32 | 2.66 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 5.32 | 2.66 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 5.32 | 2.66 |
| Butylbenzylphthalate | 85-68-7 | | U | 5.32 | 2.66 |
| Carbazole | 86-74-8 | | U | 21.3 | 2.66 |
| Chrysene | 218-01-9 | | U | 5.32 | 2.66 |
| Di-N-Butylphthalate | 84-74-2 | | U | 5.32 | 2.66 |
| Di-n-octylphthalate | 117-84-0 | | U | 5.32 | 2.66 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 5.32 | 2.66 |
| Dibenzofuran | 132-64-9 | | U | 5.32 | 2.66 |
| Diethylphthalate | 84-66-2 | | U | 5.32 | 2.66 |
| Dimethylphthalate | 131-11-3 | | U | 5.32 | 2.66 |
| Fluoranthene | 206-44-0 | | U | 5.32 | 2.66 |
| Fluorene | 86-73-7 | | U | 5.32 | 2.66 |
| Hexachlorobenzene | 118-74-1 | | U | 5.32 | 2.66 |
| Hexachlorobutadiene | 87-68-3 | | U | 5.32 | 2.66 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 5.32 | 2.66 |
| Hexachloroethane | 67-72-1 | | U | 5.32 | 2.66 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 5.32 | 2.66 |
| Isophorone | 78-59-1 | | U | 5.32 | 2.66 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | | U | 5.32 | 2.66 |
| Naphthalene | 91-20-3 | | U | 5.32 | 2.66 |
| Nitrobenzene | 98-95-3 | | U | 5.32 | 2.66 |
| Pentachlorophenol | 87-86-5 | | U | 26.6 | 13.3 |
| Phenanthrene | 85-01-8 | | U | 5.32 | 2.66 |
| Phenol | 108-95-2 | | U | 5.32 | 2.66 |
| Pyrene | 129-00-0 | | U | 5.32 | 2.66 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 114 | 10 | 123 | |
| 2-Fluorobiphenyl | 89.0 | 43 | 116 | |
| 2-Fluorophenol | 49.0 | 21 | 100 | |

| | | | | |
|---|---|---|---|---|
| Nitrobenzene-d5 | 76.8 | 35 | 114 | |
| p-Terphenyl-d14 | 90.0 | 33 | 141 | |
| Phenol-d5 | 33.6 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-01 **PrePrep Method:** N/A **Instrument:** HPMS12
**Client ID:** MW07-082517 **Prep Method:** 3510C **Prep Date:** 08/30/2017 12:10
**Matrix:** Water **Analytical Method:** 8270D **Cal Date:** 08/03/2017 13:41
**Workgroup #:** WG627873 **Analyst:** SCB **Run Date:** 08/31/2017 12:22
**Collect Date:** 08/25/2017 10:34 **Dilution:** 1 **File ID:** 12M64170
**Sample Tag:** 01 **Units:** ug/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| n-Hexadecanoic acid | | 8.66 | | 0.000 | 0.000 |
| Octadecanoic acid | | 12.8 | | 0.000 | 0.000 |
| Hentriacontane | | 7.15 | | 0.000 | 0.000 |
| Hexadecane, 2,6,10,14-tetramethyl- | | 12.3 | | 0.000 | 0.000 |
| UNKNOWN | | 4.46 | | 0.000 | 0.000 |
| Pentacosane | | 18.4 | | 0.000 | 0.000 |
| Tetratetracontane | | 22.2 | | 0.000 | 0.000 |
| Eicosane | | 20.6 | | 0.000 | 0.000 |
| Tetratetracontane | | 13.7 | | 0.000 | 0.000 |
| Tetratriacontane | | 7.50 | | 0.000 | 0.000 |
| Tetrapentacontane | | 6.54 | | 0.000 | 0.000 |

**Sample #:** L17081498-01 **PrePrep Method:** N/A **Instrument:** HPMS19
**Client ID:** MW07-082517 **Prep Method:** 3510C **Prep Date:** 09/06/2017 15:00
**Matrix:** Water **Analytical Method:** 8270D **Cal Date:** 08/15/2017 20:30
**Workgroup #:** WG628781 **Analyst:** SCB **Run Date:** 09/13/2017 15:58
**Collect Date:** 08/25/2017 10:34 **Dilution:** 1 **File ID:** 19M000544
**Sample Tag:** RE **Units:** ug/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 22.7 | 2.84 |
| 1,3,5-Trinitrobenzene | 99-35-4 | | U | 5.68 | 2.84 |
| 1,3-Dinitrobenzene | 99-65-0 | | U | 5.68 | 2.84 |
| 1,4-Dioxane | 123-91-1 | | U | 11.4 | 5.68 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 5.68 | 2.84 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 5.68 | 2.84 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 5.68 | 2.84 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 5.68 | 2.84 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 2,4-Dinitrophenol | 51-28-5 | | U | 28.4 | 14.2 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 5.68 | 2.84 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 5.68 | 2.84 |
| 2-Chloronaphthalene | 91-58-7 | | U | 5.68 | 2.84 |
| 2-Chlorophenol | 95-57-8 | | U | 5.68 | 2.84 |
| 2-Methylnaphthalene | 91-57-6 | | U | 5.68 | 2.84 |
| 2-Methylphenol | 95-48-7 | | U | 5.68 | 2.84 |
| 2-Nitroaniline | 88-74-4 | | U | 28.4 | 14.2 |
| 2-Nitrophenol | 88-75-5 | | U | 5.68 | 2.84 |
| 3-Nitroaniline | 99-09-2 | | U | 28.4 | 14.2 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 5.68 | 2.84 |
| 3-,4-Methylphenol | 65794-96-9 | | U | 5.68 | 2.84 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 5.68 | 2.84 |
| 4-Chloroaniline | 106-47-8 | | U | 5.68 | 2.84 |
| 4-Nitrophenol | 100-02-7 | | U | 28.4 | 14.2 |
| Acenaphthene | 83-32-9 | | U | 5.68 | 2.84 |
| Acenaphthylene | 208-96-8 | | U | 5.68 | 2.84 |
| Anthracene | 120-12-7 | | U | 5.68 | 2.84 |
| Benzo(a)anthracene | 56-55-3 | | U | 5.68 | 2.84 |
| Benzo(a)pyrene | 50-32-8 | | U | 5.68 | 2.84 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 5.68 | 2.84 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 5.68 | 2.84 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 5.68 | 2.84 |
| Benzoic acid | 65-85-0 | | U | 22.7 | 11.4 |
| Benzyl alcohol | 100-51-6 | | U | 5.68 | 2.84 |
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 5.68 | 2.84 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 5.68 | 2.84 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 5.68 | 2.84 |
| Butylbenzylphthalate | 85-68-7 | | U | 5.68 | 2.84 |
| Carbazole | 86-74-8 | | U | 22.7 | 2.84 |
| Chrysene | 218-01-9 | | U | 5.68 | 2.84 |
| Di-N-Butylphthalate | 84-74-2 | | U | 5.68 | 2.84 |
| Di-n-octylphthalate | 117-84-0 | | U | 5.68 | 2.84 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 5.68 | 2.84 |
| Dibenzofuran | 132-64-9 | | U | 5.68 | 2.84 |
| Diethylphthalate | 84-66-2 | | U | 5.68 | 2.84 |
| Dimethylphthalate | 131-11-3 | | U | 5.68 | 2.84 |
| Fluoranthene | 206-44-0 | | U | 5.68 | 2.84 |
| Fluorene | 86-73-7 | | U | 5.68 | 2.84 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Hexachlorobenzene | 118-74-1 | | U | 5.68 | 2.84 |
| Hexachlorobutadiene | 87-68-3 | | U | 5.68 | 2.84 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 5.68 | 2.84 |
| Hexachloroethane | 67-72-1 | | U | 5.68 | 2.84 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 5.68 | 2.84 |
| Isophorone | 78-59-1 | | U | 5.68 | 2.84 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | | U | 5.68 | 2.84 |
| Naphthalene | 91-20-3 | | U | 5.68 | 2.84 |
| Nitrobenzene | 98-95-3 | | U | 5.68 | 2.84 |
| Pentachlorophenol | 87-86-5 | | U | 28.4 | 14.2 |
| Phenanthrene | 85-01-8 | | U | 5.68 | 2.84 |
| Phenol | 108-95-2 | | U | 5.68 | 2.84 |
| Pyrene | 129-00-0 | | U | 5.68 | 2.84 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 81.6 | 10 | 123 | |
| 2-Fluorobiphenyl | 57.4 | 43 | 116 | |
| 2-Fluorophenol | 33.2 | 21 | 100 | |
| Nitrobenzene-d5 | 58.7 | 35 | 114 | |
| p-Terphenyl-d14 | 91.7 | 33 | 141 | |
| Phenol-d5 | 23.5 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-01
**Client ID:** MW07-082517
**Matrix:** Water
**Workgroup #:** WG628159
**Collect Date:** 08/25/2017 10:34
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D_SIM
**Analyst:** LJH/SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS15
**Prep Date:** 08/31/2017 16:00
**Cal Date:** 09/02/2017 12:13
**Run Date:** 09/02/2017 17:22
**File ID:** 15M21962

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 2-Methylnaphthalene | 91-57-6 | | U | 0.0510 | 0.0255 |
| Acenaphthene | 83-32-9 | | U | 0.0510 | 0.0255 |
| Acenaphthylene | 208-96-8 | | U | 0.0510 | 0.0255 |
| Anthracene | 120-12-7 | | U | 0.0510 | 0.0255 |
| Benzo(a)anthracene | 56-55-3 | | U | 0.0510 | 0.0255 |
| Benzo(a)pyrene | 50-32-8 | | U | 0.0510 | 0.0255 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 0.0510 | 0.0255 |
| Benzo(g,h,i)perylene | 191-24-2 | | U | 0.0510 | 0.0255 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 0.0510 | 0.0255 |
| Chrysene | 218-01-9 | | U | 0.0510 | 0.0255 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Dibenzo(a,h)anthracene | 53-70-3 | | U | 0.0510 | 0.0255 |
| Fluoranthene | 206-44-0 | | U | 0.0510 | 0.0255 |
| Fluorene | 86-73-7 | | U | 0.0510 | 0.0255 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 0.0510 | 0.0255 |
| Naphthalene | 91-20-3 | 0.0414 | J | 0.0510 | 0.0255 |
| Phenanthrene | 85-01-8 | | U | 0.0510 | 0.0255 |
| Pyrene | 129-00-0 | | U | 0.0510 | 0.0255 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 78.4 | 43 | 116 | |
| Nitrobenzene-d5 | 84.2 | 35 | 114 | |
| p-Terphenyl-d14 | 95.2 | 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 #:** L17081498-01
**Client ID:** MW07-082517
**Matrix:** Water
**Workgroup #:** WG628174
**Collect Date:** 08/25/2017 10:34
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3015A
**Analytical Method:** 6010C
**Analyst:** KKB
**Dilution:** 1
**Units:** mg/L

**Instrument:** ICP-THERMO4
**Prep Date:** 08/31/2017 07:16
**Cal Date:** 09/01/2017 12:40
**Run Date:** 09/01/2017 17:05
**File ID:** T4.090117.170541

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Aluminum, Total | 7429-90-5 | 0.145 | J | 0.200 | 0.100 |
| Calcium, Total | 7440-70-2 | 96.7 | | 0.500 | 0.250 |
| Iron, Total | 7439-89-6 | 0.152 | | 0.100 | 0.0500 |
| Magnesium, Total | 7439-95-4 | 14.7 | | 0.500 | 0.250 |
| Manganese, Total | 7439-96-5 | 0.254 | | 0.0100 | 0.00500 |
| Potassium, Total | 7440-09-7 | 4.28 | | 1.00 | 0.500 |
| Sodium, Total | 7440-23-5 | 262 | | 0.500 | 0.250 |

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

**Sample #:** L17081498-01
**Client ID:** MW07-082517
**Matrix:** Water
**Workgroup #:** WG628140
**Collect Date:** 08/25/2017 10:34
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3015A
**Analytical Method:** 6020A
**Analyst:** JYH
**Dilution:** 1
**Units:** mg/L

**Instrument:** ICP-MS2
**Prep Date:** 08/31/2017 09:05
**Cal Date:** 09/01/2017 12:04
**Run Date:** 09/01/2017 13:18
**File ID:** NI.090117.131831

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Total | 7440-38-2 | 0.00238 | | 0.00100 | 0.000500 |

Certificate of Analysis

**Sample #:** L17081498-02 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW07-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:09
**Collect Date:** 08/25/2017 10:34 **Dilution:** 1 **File ID:** T4.090117.170922
**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 | | U | 0.100 | 0.0500 |
| Manganese, Dissolved | 7439-96-5 | 0.296 | | 0.0100 | 0.00500 |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-02 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW07-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 13:21
**Collect Date:** 08/25/2017 10:34 **Dilution:** 1 **File ID:** NI.090117.132136
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Dissolved | 7440-38-2 | 0.00191 | | 0.00100 | 0.000500 |

**Sample #:** L17081498-03 **PrePrep Method:** N/A **Instrument:** HPMS9
**Client ID:** MW06-082517 **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 19:15
**Collect Date:** 08/25/2017 13:54 **Dilution:** 1 **File ID:** 9M982379
**Sample Tag:** 02 **Units:** ug/L

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

**Sample #:** L17081498-03 **PrePrep Method:** N/A **Instrument:** HPMS9
**Client ID:** MW06-082517 **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 18:52
**Collect Date:** 08/25/2017 13:54 **Dilution:** 1 **File ID:** 9M982280
**Sample Tag:** 01 **Units:** ug/L

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Sulfur dioxide | | 17.4 | | 0.000 | 0.000 |

**Sample #:** L17081498-03 **PrePrep Method:** N/A **Instrument:** HPMS9
**Client ID:** MW06-082517 **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 19:15
**Collect Date:** 08/25/2017 13:54 **Dilution:** 1 **File ID:** 9M982379
**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 | 2.52 | 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 | 108 | 80 | 120 | |
| Dibromofluoromethane | 103 | 86 | 118 | |
| p-Bromofluorobenzene | 112 | 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 #:** L17081498-03
**Client ID:** MW06-082517
**Matrix:** Water
**Workgroup #:** WG627873
**Collect Date:** 08/25/2017 13:54
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D
**Analyst:** SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS12
**Prep Date:** 08/30/2017 12:10
**Cal Date:** 08/03/2017 13:41
**Run Date:** 08/31/2017 12:54
**File ID:** 12M64171

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Benzenesulfonamide, N-butyl- | | 4.80 | | 0.000 | 0.000 |
| n-Hexadecanoic acid | | 6.72 | | 0.000 | 0.000 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| UNKNOWN | | 10.1 | | 0.000 | 0.000 |
| UNKNOWN2 | | 5.35 | | 0.000 | 0.000 |
| Tetratriacontane | | 7.66 | | 0.000 | 0.000 |
| Octacosane | | 10.9 | | 0.000 | 0.000 |
| UNKNOWN3 | | 4.37 | | 0.000 | 0.000 |
| Octacosane | | 16.3 | | 0.000 | 0.000 |
| Eicosane | | 20.2 | | 0.000 | 0.000 |
| Octacosane | | 18.5 | | 0.000 | 0.000 |
| Tetratriacontane | | 12.5 | | 0.000 | 0.000 |
| Tetratetracontane | | 6.95 | | 0.000 | 0.000 |
| UNKNOWN4 | | 6.48 | | 0.000 | 0.000 |

**Sample #:** L17081498-03
**Client ID:** MW06-082517
**Matrix:** Water
**Workgroup #:** WG628781
**Collect Date:** 08/25/2017 13:54
**Sample Tag:** RE

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D
**Analyst:** SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS19
**Prep Date:** 09/06/2017 15:00
**Cal Date:** 08/15/2017 20:30
**Run Date:** 09/13/2017 16:28
**File ID:** 19M000545

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 21.3 | 2.66 |
| 1,3,5-Trinitrobenzene | 99-35-4 | | U | 5.32 | 2.66 |
| 1,3-Dinitrobenzene | 99-65-0 | | U | 5.32 | 2.66 |
| 1,4-Dioxane | 123-91-1 | | U | 10.6 | 5.32 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 5.32 | 2.66 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 5.32 | 2.66 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 5.32 | 2.66 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 5.32 | 2.66 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 26.6 | 13.3 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 5.32 | 2.66 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 5.32 | 2.66 |
| 2-Chloronaphthalene | 91-58-7 | | U | 5.32 | 2.66 |
| 2-Chlorophenol | 95-57-8 | | U | 5.32 | 2.66 |
| 2-Methylnaphthalene | 91-57-6 | | U | 5.32 | 2.66 |
| 2-Methylphenol | 95-48-7 | | U | 5.32 | 2.66 |
| 2-Nitroaniline | 88-74-4 | | U | 26.6 | 13.3 |
| 2-Nitrophenol | 88-75-5 | | U | 5.32 | 2.66 |
| 3-Nitroaniline | 99-09-2 | | U | 26.6 | 13.3 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 5.32 | 2.66 |
| 3-,4-Methylphenol | 65794-96-9 | | U | 5.32 | 2.66 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 5.32 | 2.66 |
| 4-Chloroaniline | 106-47-8 | | U | 5.32 | 2.66 |
| 4-Nitrophenol | 100-02-7 | | U | 26.6 | 13.3 |
| Acenaphthene | 83-32-9 | | U | 5.32 | 2.66 |
| Acenaphthylene | 208-96-8 | | U | 5.32 | 2.66 |
| Anthracene | 120-12-7 | | U | 5.32 | 2.66 |
| Benzo(a)anthracene | 56-55-3 | | U | 5.32 | 2.66 |
| Benzo(a)pyrene | 50-32-8 | | U | 5.32 | 2.66 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 5.32 | 2.66 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 5.32 | 2.66 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 5.32 | 2.66 |
| Benzoic acid | 65-85-0 | | U | 21.3 | 10.6 |
| Benzyl alcohol | 100-51-6 | | U | 5.32 | 2.66 |
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 5.32 | 2.66 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 5.32 | 2.66 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 5.32 | 2.66 |
| Butylbenzylphthalate | 85-68-7 | | U | 5.32 | 2.66 |
| Carbazole | 86-74-8 | | U | 21.3 | 2.66 |
| Chrysene | 218-01-9 | | U | 5.32 | 2.66 |
| Di-N-Butylphthalate | 84-74-2 | | U | 5.32 | 2.66 |
| Di-n-octylphthalate | 117-84-0 | | U | 5.32 | 2.66 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 5.32 | 2.66 |
| Dibenzofuran | 132-64-9 | | U | 5.32 | 2.66 |
| Diethylphthalate | 84-66-2 | | U | 5.32 | 2.66 |
| Dimethylphthalate | 131-11-3 | | U | 5.32 | 2.66 |
| Fluoranthene | 206-44-0 | | U | 5.32 | 2.66 |
| Fluorene | 86-73-7 | | U | 5.32 | 2.66 |
| Hexachlorobenzene | 118-74-1 | | U | 5.32 | 2.66 |
| Hexachlorobutadiene | 87-68-3 | | U | 5.32 | 2.66 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 5.32 | 2.66 |
| Hexachloroethane | 67-72-1 | | U | 5.32 | 2.66 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 5.32 | 2.66 |
| Isophorone | 78-59-1 | | U | 5.32 | 2.66 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | | U | 5.32 | 2.66 |
| Naphthalene | 91-20-3 | | U | 5.32 | 2.66 |
| Nitrobenzene | 98-95-3 | | U | 5.32 | 2.66 |
| Pentachlorophenol | 87-86-5 | | U | 26.6 | 13.3 |
| Phenanthrene | 85-01-8 | | U | 5.32 | 2.66 |
| Phenol | 108-95-2 | | U | 5.32 | 2.66 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Pyrene | 129-00-0 | | U | 5.32 | 2.66 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 89.2 | 10 | 123 | |
| 2-Fluorobiphenyl | 67.0 | 43 | 116 | |
| 2-Fluorophenol | 37.1 | 21 | 100 | |
| Nitrobenzene-d5 | 70.6 | 35 | 114 | |
| p-Terphenyl-d14 | 93.5 | 33 | 141 | |
| Phenol-d5 | 25.5 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-03
**Client ID:** MW06-082517
**Matrix:** Water
**Workgroup #:** WG627873
**Collect Date:** 08/25/2017 13:54
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D
**Analyst:** SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS12
**Prep Date:** 08/30/2017 12:10
**Cal Date:** 08/03/2017 13:41
**Run Date:** 08/31/2017 12:54
**File ID:** 12M64171

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 21.1 | 2.63 |
| 1,3,5-Trinitrobenzene | 99-35-4 | | U | 5.26 | 2.63 |
| 1,3-Dinitrobenzene | 99-65-0 | | U | 5.26 | 2.63 |
| 1,4-Dioxane | 123-91-1 | | U | 10.5 | 5.26 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 5.26 | 2.63 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 5.26 | 2.63 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 5.26 | 2.63 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 5.26 | 2.63 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 26.3 | 13.2 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 5.26 | 2.63 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 5.26 | 2.63 |
| 2-Chloronaphthalene | 91-58-7 | | U | 5.26 | 2.63 |
| 2-Chlorophenol | 95-57-8 | | U | 5.26 | 2.63 |
| 2-Methylnaphthalene | 91-57-6 | | U | 5.26 | 2.63 |
| 2-Methylphenol | 95-48-7 | | U | 5.26 | 2.63 |
| 2-Nitroaniline | 88-74-4 | | U | 26.3 | 13.2 |
| 2-Nitrophenol | 88-75-5 | | U | 5.26 | 2.63 |
| 3-Nitroaniline | 99-09-2 | | U | 26.3 | 13.2 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 5.26 | 2.63 |
| 3-,4-Methylphenol | 65794-96-9 | | U | 5.26 | 2.63 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 5.26 | 2.63 |
| 4-Chloroaniline | 106-47-8 | | U | 5.26 | 2.63 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 4-Nitrophenol | 100-02-7 | | U | 26.3 | 13.2 |
| Acenaphthene | 83-32-9 | | U | 5.26 | 2.63 |
| Acenaphthylene | 208-96-8 | | U | 5.26 | 2.63 |
| Anthracene | 120-12-7 | | U | 5.26 | 2.63 |
| Benzo(a)anthracene | 56-55-3 | | U | 5.26 | 2.63 |
| Benzo(a)pyrene | 50-32-8 | | U | 5.26 | 2.63 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 5.26 | 2.63 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 5.26 | 2.63 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 5.26 | 2.63 |
| Benzoic acid | 65-85-0 | | U | 21.1 | 10.5 |
| Benzyl alcohol | 100-51-6 | | U | 5.26 | 2.63 |
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 5.26 | 2.63 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 5.26 | 2.63 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 5.26 | 2.63 |
| Butylbenzylphthalate | 85-68-7 | | U | 5.26 | 2.63 |
| Carbazole | 86-74-8 | | U | 21.1 | 2.63 |
| Chrysene | 218-01-9 | | U | 5.26 | 2.63 |
| Di-N-Butylphthalate | 84-74-2 | | U | 5.26 | 2.63 |
| Di-n-octylphthalate | 117-84-0 | | U | 5.26 | 2.63 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 5.26 | 2.63 |
| Dibenzofuran | 132-64-9 | | U | 5.26 | 2.63 |
| Diethylphthalate | 84-66-2 | | U | 5.26 | 2.63 |
| Dimethylphthalate | 131-11-3 | | U | 5.26 | 2.63 |
| Fluoranthene | 206-44-0 | | U | 5.26 | 2.63 |
| Fluorene | 86-73-7 | | U | 5.26 | 2.63 |
| Hexachlorobenzene | 118-74-1 | | U | 5.26 | 2.63 |
| Hexachlorobutadiene | 87-68-3 | | U | 5.26 | 2.63 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 5.26 | 2.63 |
| Hexachloroethane | 67-72-1 | | U | 5.26 | 2.63 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 5.26 | 2.63 |
| Isophorone | 78-59-1 | | U | 5.26 | 2.63 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | | U | 5.26 | 2.63 |
| Naphthalene | 91-20-3 | | U | 5.26 | 2.63 |
| Nitrobenzene | 98-95-3 | | U | 5.26 | 2.63 |
| Pentachlorophenol | 87-86-5 | | U | 26.3 | 13.2 |
| Phenanthrene | 85-01-8 | | U | 5.26 | 2.63 |
| Phenol | 108-95-2 | | U | 5.26 | 2.63 |
| Pyrene | 129-00-0 | | U | 5.26 | 2.63 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|

Certificate of Analysis

| | | | | |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 116 | 10 | 123 | |
| 2-Fluorobiphenyl | 93.1 | 43 | 116 | |
| 2-Fluorophenol | 49.1 | 21 | 100 | |
| Nitrobenzene-d5 | 91.6 | 35 | 114 | |
| p-Terphenyl-d14 | 97.7 | 33 | 141 | |
| Phenol-d5 | 34.7 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-03
**Client ID:** MW06-082517
**Matrix:** Water
**Workgroup #:** WG628159
**Collect Date:** 08/25/2017 13:54
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D_SIM
**Analyst:** LJH/SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS15
**Prep Date:** 08/31/2017 16:00
**Cal Date:** 09/02/2017 12:13
**Run Date:** 09/02/2017 15:58
**File ID:** 15M21959

| 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 | | U | 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 | 77.6 | 43 | 116 | |
| Nitrobenzene-d5 | 81.0 | 35 | 114 | |
| p-Terphenyl-d14 | 96.7 | 33 | 141 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

## Certificate of Analysis

**Sample #:** L17081498-03 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW06-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:13
**Collect Date:** 08/25/2017 13:54 **Dilution:** 1 **File ID:** T4.090117.171302
**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 | 114 | | 0.500 | 0.250 |
| Iron, Total | 7439-89-6 | | U | 0.100 | 0.0500 |
| Magnesium, Total | 7439-95-4 | 25.8 | | 0.500 | 0.250 |
| Manganese, Total | 7439-96-5 | 0.0658 | | 0.0100 | 0.00500 |
| Potassium, Total | 7440-09-7 | 1.77 | | 1.00 | 0.500 |
| Sodium, Total | 7440-23-5 | 43.6 | | 0.500 | 0.250 |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-03 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW06-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 13:24
**Collect Date:** 08/25/2017 13:54 **Dilution:** 1 **File ID:** NI.090117.132442
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Total | 7440-38-2 | 0.000929 | J | 0.00100 | 0.000500 |

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

**Sample #:** L17081498-04 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW06-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:16
**Collect Date:** 08/25/2017 13:54 **Dilution:** 1 **File ID:** T4.090117.171644
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Aluminum, Dissolved | 7429-90-5 | 0.217 | | 0.200 | 0.100 |
| Iron, Dissolved | 7439-89-6 | | U | 0.100 | 0.0500 |
| Manganese, Dissolved | 7439-96-5 | 0.0258 | | 0.0100 | 0.00500 |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-04 | **PrePrep Method:** | N/A | **Instrument:** | ICP-MS2 |
| **Client ID:** | MW06-082517 | **Prep Method:** | 3015A | **Prep Date:** | 08/31/2017 09:05 |
| **Matrix:** | Water | **Analytical Method:** | 6020A | **Cal Date:** | 09/01/2017 12:04 |
| **Workgroup #:** | WG628140 | **Analyst:** | JYH | **Run Date:** | 09/01/2017 13:27 |
| **Collect Date:** | 08/25/2017 13:54 | **Dilution:** | 1 | **File ID:** | NI.090117.132747 |
| **Sample Tag:** | 01 | **Units:** | mg/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Dissolved | 7440-38-2 | 0.000985 | J | 0.00100 | 0.000500 |

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-05 | **PrePrep Method:** | N/A | **Instrument:** | HPMS19 |
| **Client ID:** | MW06-082517-MS | **Prep Method:** | 3510C | **Prep Date:** | 09/06/2017 15:00 |
| **Matrix:** | Water | **Analytical Method:** | 8270D | **Cal Date:** | 08/15/2017 20:30 |
| **Workgroup #:** | WG628781 | **Analyst:** | SCB | **Run Date:** | 09/13/2017 16:58 |
| **Collect Date:** | 08/25/2017 13:54 | **Dilution:** | 1 | **File ID:** | 19M000546 |
| **Sample Tag:** | RE | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | 36.7 | | 22.0 | 2.75 |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.1 | | 5.49 | 2.75 |
| 1,3-Dinitrobenzene | 99-65-0 | 50.8 | | 5.49 | 2.75 |
| 1,4-Dioxane | 123-91-1 | 14.1 | | 11.0 | 5.49 |
| 2,4,5-Trichlorophenol | 95-95-4 | 43.2 | | 5.49 | 2.75 |
| 2,4,6-Trichlorophenol | 88-06-2 | 39.6 | | 5.49 | 2.75 |
| 2,4-Dichlorophenol | 120-83-2 | 36.3 | | 5.49 | 2.75 |
| 2,4-Dimethylphenol | 105-67-9 | 36.8 | | 5.49 | 2.75 |
| 2,4-Dinitrophenol | 51-28-5 | 48.3 | | 27.5 | 13.7 |
| 2,4-Dinitrotoluene | 121-14-2 | 54.7 | | 5.49 | 2.75 |
| 2,6-Dinitrotoluene | 606-20-2 | 48.4 | | 5.49 | 2.75 |
| 2-Chloronaphthalene | 91-58-7 | 31.8 | | 5.49 | 2.75 |
| 2-Chlorophenol | 95-57-8 | 29.7 | | 5.49 | 2.75 |
| 2-Methylnaphthalene | 91-57-6 | 29.8 | | 5.49 | 2.75 |
| 2-Methylphenol | 95-48-7 | 29.3 | | 5.49 | 2.75 |
| 2-Nitroaniline | 88-74-4 | 46.5 | | 27.5 | 13.7 |
| 2-Nitrophenol | 88-75-5 | 34.6 | | 5.49 | 2.75 |
| 3-Nitroaniline | 99-09-2 | 48.6 | | 27.5 | 13.7 |
| 3,3'-Dichlorobenzidine | 91-94-1 | 57.7 | | 5.49 | 2.75 |
| 3-,4-Methylphenol | 65794-96-9 | 26.8 | | 5.49 | 2.75 |
| 4-Bromophenyl-phenylether | 101-55-3 | 43.0 | | 5.49 | 2.75 |
| 4-Chloroaniline | 106-47-8 | 32.7 | | 5.49 | 2.75 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 4-Nitrophenol | 100-02-7 | 25.4 | J | 27.5 | 13.7 |
| Acenaphthene | 83-32-9 | 40.5 | | 5.49 | 2.75 |
| Acenaphthylene | 208-96-8 | 38.1 | | 5.49 | 2.75 |
| Anthracene | 120-12-7 | 49.6 | | 5.49 | 2.75 |
| Benzo(a)anthracene | 56-55-3 | 54.7 | | 5.49 | 2.75 |
| Benzo(a)pyrene | 50-32-8 | 56.5 | | 5.49 | 2.75 |
| Benzo(b)fluoranthene | 205-99-2 | 57.9 | | 5.49 | 2.75 |
| Benzo(g,h,i)Perylene | 191-24-2 | 63.4 | | 5.49 | 2.75 |
| Benzo(k)fluoranthene | 207-08-9 | 53.6 | | 5.49 | 2.75 |
| Benzoic acid | 65-85-0 | 18.0 | J | 22.0 | 11.0 |
| Benzyl alcohol | 100-51-6 | 30.2 | | 5.49 | 2.75 |
| Bis(2-Chloroethyl)ether | 111-44-4 | 29.4 | | 5.49 | 2.75 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | 27.9 | | 5.49 | 2.75 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | 59.9 | | 5.49 | 2.75 |
| Butylbenzylphthalate | 85-68-7 | 60.7 | | 5.49 | 2.75 |
| Carbazole | 86-74-8 | 55.2 | | 22.0 | 2.75 |
| Chrysene | 218-01-9 | 57.2 | | 5.49 | 2.75 |
| Di-N-Butylphthalate | 84-74-2 | 53.7 | | 5.49 | 2.75 |
| Di-n-octylphthalate | 117-84-0 | 60.9 | | 5.49 | 2.75 |
| Dibenzo(a,h)Anthracene | 53-70-3 | 56.9 | | 5.49 | 2.75 |
| Dibenzofuran | 132-64-9 | 40.0 | | 5.49 | 2.75 |
| Diethylphthalate | 84-66-2 | 47.8 | | 5.49 | 2.75 |
| Dimethylphthalate | 131-11-3 | 44.6 | | 5.49 | 2.75 |
| Fluoranthene | 206-44-0 | 53.0 | | 5.49 | 2.75 |
| Fluorene | 86-73-7 | 44.1 | | 5.49 | 2.75 |
| Hexachlorobenzene | 118-74-1 | 46.1 | | 5.49 | 2.75 |
| Hexachlorobutadiene | 87-68-3 | 23.2 | | 5.49 | 2.75 |
| Hexachlorocyclopentadiene | 77-47-4 | 24.7 | | 5.49 | 2.75 |
| Hexachloroethane | 67-72-1 | 20.7 | | 5.49 | 2.75 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 59.0 | | 5.49 | 2.75 |
| Isophorone | 78-59-1 | 35.2 | | 5.49 | 2.75 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | 46.6 | | 5.49 | 2.75 |
| Naphthalene | 91-20-3 | 28.4 | | 5.49 | 2.75 |
| Nitrobenzene | 98-95-3 | 30.1 | | 5.49 | 2.75 |
| Pentachlorophenol | 87-86-5 | 60.3 | | 27.5 | 13.7 |
| Phenanthrene | 85-01-8 | 50.0 | | 5.49 | 2.75 |
| Phenol | 108-95-2 | 12.9 | | 5.49 | 2.75 |
| Pyrene | 129-00-0 | 54.5 | | 5.49 | 2.75 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|

Certificate of Analysis

| | | | | |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 101 | 10 | 123 | |
| 2-Fluorobiphenyl | 67.7 | 43 | 116 | |
| 2-Fluorophenol | 33.5 | 21 | 100 | |
| Nitrobenzene-d5 | 62.5 | 35 | 114 | |
| p-Terphenyl-d14 | 95.4 | 33 | 141 | |
| Phenol-d5 | 23.8 | 10 | 94 | |

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

**Sample #:** L17081498-05
**Client ID:** MW06-082517-MS
**Matrix:** Water
**Workgroup #:** WG627873
**Collect Date:** 08/25/2017 13:54
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D
**Analyst:** SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS12
**Prep Date:** 08/30/2017 12:10
**Cal Date:** 08/03/2017 13:41
**Run Date:** 08/31/2017 13:27
**File ID:** 12M64172

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 21.3 | 2.66 |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.5 | | 5.32 | 2.66 |
| 1,3-Dinitrobenzene | 99-65-0 | 49.8 | | 5.32 | 2.66 |
| 1,4-Dioxane | 123-91-1 | 19.2 | | 10.6 | 5.32 |
| 2,4,5-Trichlorophenol | 95-95-4 | 53.8 | | 5.32 | 2.66 |
| 2,4,6-Trichlorophenol | 88-06-2 | 52.6 | | 5.32 | 2.66 |
| 2,4-Dichlorophenol | 120-83-2 | 48.5 | | 5.32 | 2.66 |
| 2,4-Dimethylphenol | 105-67-9 | 49.6 | | 5.32 | 2.66 |
| 2,4-Dinitrophenol | 51-28-5 | 27.9 | | 26.6 | 13.3 |
| 2,4-Dinitrotoluene | 121-14-2 | 54.5 | | 5.32 | 2.66 |
| 2,6-Dinitrotoluene | 606-20-2 | 54.9 | | 5.32 | 2.66 |
| 2-Chloronaphthalene | 91-58-7 | 41.4 | | 5.32 | 2.66 |
| 2-Chlorophenol | 95-57-8 | 36.7 | | 5.32 | 2.66 |
| 2-Methylnaphthalene | 91-57-6 | 37.7 | | 5.32 | 2.66 |
| 2-Methylphenol | 95-48-7 | 40.7 | | 5.32 | 2.66 |
| 2-Nitroaniline | 88-74-4 | 59.9 | | 26.6 | 13.3 |
| 2-Nitrophenol | 88-75-5 | 43.0 | | 5.32 | 2.66 |
| 3-Nitroaniline | 99-09-2 | 51.0 | | 26.6 | 13.3 |
| 3,3'-Dichlorobenzidine | 91-94-1 | 60.8 | | 5.32 | 2.66 |
| 3-,4-Methylphenol | 65794-96-9 | 38.3 | | 5.32 | 2.66 |
| 4-Bromophenyl-phenylether | 101-55-3 | 50.9 | | 5.32 | 2.66 |
| 4-Chloroaniline | 106-47-8 | 50.0 | | 5.32 | 2.66 |
| 4-Nitrophenol | 100-02-7 | 28.1 | | 26.6 | 13.3 |
| Acenaphthene | 83-32-9 | 48.8 | | 5.32 | 2.66 |
| Acenaphthylene | 208-96-8 | 50.4 | | 5.32 | 2.66 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Anthracene | 120-12-7 | 52.1 | | 5.32 | 2.66 |
| Benzo(a)anthracene | 56-55-3 | 57.0 | | 5.32 | 2.66 |
| Benzo(a)pyrene | 50-32-8 | 56.2 | | 5.32 | 2.66 |
| Benzo(b)fluoranthene | 205-99-2 | 50.2 | | 5.32 | 2.66 |
| Benzo(g,h,i)Perylene | 191-24-2 | 59.0 | | 5.32 | 2.66 |
| Benzo(k)fluoranthene | 207-08-9 | 57.3 | | 5.32 | 2.66 |
| Benzoic acid | 65-85-0 | 24.3 | | 21.3 | 10.6 |
| Benzyl alcohol | 100-51-6 | 43.6 | | 5.32 | 2.66 |
| Bis(2-Chloroethyl)ether | 111-44-4 | 41.9 | | 5.32 | 2.66 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | 37.3 | | 5.32 | 2.66 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | 56.2 | | 5.32 | 2.66 |
| Butylbenzylphthalate | 85-68-7 | 53.4 | | 5.32 | 2.66 |
| Carbazole | 86-74-8 | 56.6 | | 21.3 | 2.66 |
| Chrysene | 218-01-9 | 60.7 | | 5.32 | 2.66 |
| Di-N-Butylphthalate | 84-74-2 | 53.5 | | 5.32 | 2.66 |
| Di-n-octylphthalate | 117-84-0 | 52.7 | | 5.32 | 2.66 |
| Dibenzo(a,h)Anthracene | 53-70-3 | 33.4 | | 5.32 | 2.66 |
| Dibenzofuran | 132-64-9 | 48.4 | | 5.32 | 2.66 |
| Diethylphthalate | 84-66-2 | 55.3 | | 5.32 | 2.66 |
| Dimethylphthalate | 131-11-3 | 53.4 | | 5.32 | 2.66 |
| Fluoranthene | 206-44-0 | 56.2 | | 5.32 | 2.66 |
| Fluorene | 86-73-7 | 52.0 | | 5.32 | 2.66 |
| Hexachlorobenzene | 118-74-1 | 61.3 | | 5.32 | 2.66 |
| Hexachlorobutadiene | 87-68-3 | 33.5 | | 5.32 | 2.66 |
| Hexachlorocyclopentadiene | 77-47-4 | 24.2 | | 5.32 | 2.66 |
| Hexachloroethane | 67-72-1 | 26.8 | | 5.32 | 2.66 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 53.2 | | 5.32 | 2.66 |
| Isophorone | 78-59-1 | 55.1 | | 5.32 | 2.66 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | 51.6 | | 5.32 | 2.66 |
| Naphthalene | 91-20-3 | 34.1 | | 5.32 | 2.66 |
| Nitrobenzene | 98-95-3 | 43.2 | | 5.32 | 2.66 |
| Pentachlorophenol | 87-86-5 | 61.5 | | 26.6 | 13.3 |
| Phenanthrene | 85-01-8 | 54.0 | | 5.32 | 2.66 |
| Phenol | 108-95-2 | 19.2 | | 5.32 | 2.66 |
| Pyrene | 129-00-0 | 53.0 | | 5.32 | 2.66 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 117 | 10 | 123 | |
| 2-Fluorobiphenyl | 94.9 | 43 | 116 | |
| 2-Fluorophenol | 48.6 | 21 | 100 | |

Certificate of Analysis

| | | | | |
|---|---|---|---|---|
| Nitrobenzene-d5 | 90.9 | 35 | 114 | |
| p-Terphenyl-d14 | 92.1 | 33 | 141 | |
| Phenol-d5 | 34.7 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-06
**Client ID:** MW06-082517-MSD
**Matrix:** Water
**Workgroup #:** WG628781
**Collect Date:** 08/25/2017 13:54
**Sample Tag:** RE

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D
**Analyst:** SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS19
**Prep Date:** 09/06/2017 15:00
**Cal Date:** 08/15/2017 20:30
**Run Date:** 09/13/2017 17:28
**File ID:** 19M000547

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | 36.6 | | 21.5 | 2.69 |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.4 | | 5.38 | 2.69 |
| 1,3-Dinitrobenzene | 99-65-0 | 52.2 | | 5.38 | 2.69 |
| 1,4-Dioxane | 123-91-1 | 15.0 | | 10.8 | 5.38 |
| 2,4,5-Trichlorophenol | 95-95-4 | 43.5 | | 5.38 | 2.69 |
| 2,4,6-Trichlorophenol | 88-06-2 | 39.1 | | 5.38 | 2.69 |
| 2,4-Dichlorophenol | 120-83-2 | 36.9 | | 5.38 | 2.69 |
| 2,4-Dimethylphenol | 105-67-9 | 39.9 | | 5.38 | 2.69 |
| 2,4-Dinitrophenol | 51-28-5 | 48.3 | | 26.9 | 13.4 |
| 2,4-Dinitrotoluene | 121-14-2 | 55.1 | | 5.38 | 2.69 |
| 2,6-Dinitrotoluene | 606-20-2 | 49.4 | | 5.38 | 2.69 |
| 2-Chloronaphthalene | 91-58-7 | 30.8 | | 5.38 | 2.69 |
| 2-Chlorophenol | 95-57-8 | 31.3 | | 5.38 | 2.69 |
| 2-Methylnaphthalene | 91-57-6 | 28.9 | | 5.38 | 2.69 |
| 2-Methylphenol | 95-48-7 | 30.5 | | 5.38 | 2.69 |
| 2-Nitroaniline | 88-74-4 | 47.4 | | 26.9 | 13.4 |
| 2-Nitrophenol | 88-75-5 | 35.3 | | 5.38 | 2.69 |
| 3-Nitroaniline | 99-09-2 | 51.2 | | 26.9 | 13.4 |
| 3,3'-Dichlorobenzidine | 91-94-1 | 59.4 | | 5.38 | 2.69 |
| 3-,4-Methylphenol | 65794-96-9 | 28.0 | | 5.38 | 2.69 |
| 4-Bromophenyl-phenylether | 101-55-3 | 44.6 | | 5.38 | 2.69 |
| 4-Chloroaniline | 106-47-8 | 33.8 | | 5.38 | 2.69 |
| 4-Nitrophenol | 100-02-7 | 26.4 | J | 26.9 | 13.4 |
| Acenaphthene | 83-32-9 | 39.5 | | 5.38 | 2.69 |
| Acenaphthylene | 208-96-8 | 37.2 | | 5.38 | 2.69 |
| Anthracene | 120-12-7 | 51.0 | | 5.38 | 2.69 |
| Benzo(a)anthracene | 56-55-3 | 53.9 | | 5.38 | 2.69 |
| Benzo(a)pyrene | 50-32-8 | 55.5 | | 5.38 | 2.69 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Benzo(b)fluoranthene | 205-99-2 | 53.6 | | 5.38 | 2.69 |
| Benzo(g,h,i)Perylene | 191-24-2 | 62.3 | | 5.38 | 2.69 |
| Benzo(k)fluoranthene | 207-08-9 | 51.0 | | 5.38 | 2.69 |
| Benzoic acid | 65-85-0 | 13.2 | J | 21.5 | 10.8 |
| Benzyl alcohol | 100-51-6 | 31.0 | | 5.38 | 2.69 |
| Bis(2-Chloroethyl)ether | 111-44-4 | 30.7 | | 5.38 | 2.69 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | 28.4 | | 5.38 | 2.69 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | 59.1 | | 5.38 | 2.69 |
| Butylbenzylphthalate | 85-68-7 | 60.1 | | 5.38 | 2.69 |
| Carbazole | 86-74-8 | 56.1 | | 21.5 | 2.69 |
| Chrysene | 218-01-9 | 56.0 | | 5.38 | 2.69 |
| Di-N-Butylphthalate | 84-74-2 | 53.9 | | 5.38 | 2.69 |
| Di-n-octylphthalate | 117-84-0 | 60.0 | | 5.38 | 2.69 |
| Dibenzo(a,h)Anthracene | 53-70-3 | 47.9 | | 5.38 | 2.69 |
| Dibenzofuran | 132-64-9 | 39.2 | | 5.38 | 2.69 |
| Diethylphthalate | 84-66-2 | 49.0 | | 5.38 | 2.69 |
| Dimethylphthalate | 131-11-3 | 45.4 | | 5.38 | 2.69 |
| Fluoranthene | 206-44-0 | 53.4 | | 5.38 | 2.69 |
| Fluorene | 86-73-7 | 44.2 | | 5.38 | 2.69 |
| Hexachlorobenzene | 118-74-1 | 47.5 | | 5.38 | 2.69 |
| Hexachlorobutadiene | 87-68-3 | 20.9 | | 5.38 | 2.69 |
| Hexachlorocyclopentadiene | 77-47-4 | 23.6 | | 5.38 | 2.69 |
| Hexachloroethane | 67-72-1 | 19.2 | | 5.38 | 2.69 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 56.5 | | 5.38 | 2.69 |
| Isophorone | 78-59-1 | 34.6 | | 5.38 | 2.69 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | 48.4 | | 5.38 | 2.69 |
| Naphthalene | 91-20-3 | 27.9 | | 5.38 | 2.69 |
| Nitrobenzene | 98-95-3 | 31.0 | | 5.38 | 2.69 |
| Pentachlorophenol | 87-86-5 | 63.0 | | 26.9 | 13.4 |
| Phenanthrene | 85-01-8 | 51.4 | | 5.38 | 2.69 |
| Phenol | 108-95-2 | 14.0 | | 5.38 | 2.69 |
| Pyrene | 129-00-0 | 53.7 | | 5.38 | 2.69 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 106 | 10 | 123 | |
| 2-Fluorobiphenyl | 69.0 | 43 | 116 | |
| 2-Fluorophenol | 37.1 | 21 | 100 | |
| Nitrobenzene-d5 | 65.7 | 35 | 114 | |
| p-Terphenyl-d14 | 90.9 | 33 | 141 | |
| Phenol-d5 | 26.1 | 10 | 94 | |

Certificate of Analysis

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-06 | **PrePrep Method:** | N/A | **Instrument:** | HPMS12 |
| **Client ID:** | MW06-082517-MSD | **Prep Method:** | 3510C | **Prep Date:** | 08/30/2017 12:10 |
| **Matrix:** | Water | **Analytical Method:** | 8270D | **Cal Date:** | 08/03/2017 13:41 |
| **Workgroup #:** | WG627873 | **Analyst:** | SCB | **Run Date:** | 08/31/2017 14:01 |
| **Collect Date:** | 08/25/2017 13:54 | **Dilution:** | 1 | **File ID:** | 12M64173 |
| **Sample Tag:** | 01 | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 22.0 | 2.75 |
| 1,3,5-Trinitrobenzene | 99-35-4 | 11.2 | | 5.49 | 2.75 |
| 1,3-Dinitrobenzene | 99-65-0 | 53.2 | | 5.49 | 2.75 |
| 1,4-Dioxane | 123-91-1 | 24.1 | | 11.0 | 5.49 |
| 2,4,5-Trichlorophenol | 95-95-4 | 57.9 | | 5.49 | 2.75 |
| 2,4,6-Trichlorophenol | 88-06-2 | 57.1 | | 5.49 | 2.75 |
| 2,4-Dichlorophenol | 120-83-2 | 55.8 | | 5.49 | 2.75 |
| 2,4-Dimethylphenol | 105-67-9 | 53.7 | | 5.49 | 2.75 |
| 2,4-Dinitrophenol | 51-28-5 | 30.2 | | 27.5 | 13.7 |
| 2,4-Dinitrotoluene | 121-14-2 | 57.0 | | 5.49 | 2.75 |
| 2,6-Dinitrotoluene | 606-20-2 | 58.0 | | 5.49 | 2.75 |
| 2-Chloronaphthalene | 91-58-7 | 46.8 | | 5.49 | 2.75 |
| 2-Chlorophenol | 95-57-8 | 43.3 | | 5.49 | 2.75 |
| 2-Methylnaphthalene | 91-57-6 | 44.2 | | 5.49 | 2.75 |
| 2-Methylphenol | 95-48-7 | 42.7 | | 5.49 | 2.75 |
| 2-Nitroaniline | 88-74-4 | 51.5 | | 27.5 | 13.7 |
| 2-Nitrophenol | 88-75-5 | 51.4 | | 5.49 | 2.75 |
| 3-Nitroaniline | 99-09-2 | 54.2 | | 27.5 | 13.7 |
| 3,3'-Dichlorobenzidine | 91-94-1 | 67.0 | | 5.49 | 2.75 |
| 3-,4-Methylphenol | 65794-96-9 | 39.6 | | 5.49 | 2.75 |
| 4-Bromophenyl-phenylether | 101-55-3 | 53.6 | | 5.49 | 2.75 |
| 4-Chloroaniline | 106-47-8 | 47.7 | | 5.49 | 2.75 |
| 4-Nitrophenol | 100-02-7 | 23.7 | J | 27.5 | 13.7 |
| Acenaphthene | 83-32-9 | 51.7 | | 5.49 | 2.75 |
| Acenaphthylene | 208-96-8 | 53.1 | | 5.49 | 2.75 |
| Anthracene | 120-12-7 | 54.4 | | 5.49 | 2.75 |
| Benzo(a)anthracene | 56-55-3 | 60.5 | | 5.49 | 2.75 |
| Benzo(a)pyrene | 50-32-8 | 59.9 | | 5.49 | 2.75 |
| Benzo(b)fluoranthene | 205-99-2 | 54.2 | | 5.49 | 2.75 |
| Benzo(g,h,i)Perylene | 191-24-2 | 63.0 | | 5.49 | 2.75 |
| Benzo(k)fluoranthene | 207-08-9 | 59.9 | | 5.49 | 2.75 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Benzoic acid | 65-85-0 | 34.6 | | 22.0 | 11.0 |
| Benzyl alcohol | 100-51-6 | 45.8 | | 5.49 | 2.75 |
| Bis(2-Chloroethyl)ether | 111-44-4 | 40.6 | | 5.49 | 2.75 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | 37.4 | | 5.49 | 2.75 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | 59.3 | | 5.49 | 2.75 |
| Butylbenzylphthalate | 85-68-7 | 61.2 | | 5.49 | 2.75 |
| Carbazole | 86-74-8 | 58.9 | | 22.0 | 2.75 |
| Chrysene | 218-01-9 | 64.8 | | 5.49 | 2.75 |
| Di-N-Butylphthalate | 84-74-2 | 54.6 | | 5.49 | 2.75 |
| Di-n-octylphthalate | 117-84-0 | 56.8 | | 5.49 | 2.75 |
| Dibenzo(a,h)Anthracene | 53-70-3 | 35.9 | | 5.49 | 2.75 |
| Dibenzofuran | 132-64-9 | 52.0 | | 5.49 | 2.75 |
| Diethylphthalate | 84-66-2 | 54.1 | | 5.49 | 2.75 |
| Dimethylphthalate | 131-11-3 | 55.5 | | 5.49 | 2.75 |
| Fluoranthene | 206-44-0 | 54.6 | | 5.49 | 2.75 |
| Fluorene | 86-73-7 | 54.4 | | 5.49 | 2.75 |
| Hexachlorobenzene | 118-74-1 | 64.2 | | 5.49 | 2.75 |
| Hexachlorobutadiene | 87-68-3 | 41.7 | | 5.49 | 2.75 |
| Hexachlorocyclopentadiene | 77-47-4 | 29.1 | | 5.49 | 2.75 |
| Hexachloroethane | 67-72-1 | 30.4 | | 5.49 | 2.75 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 56.9 | | 5.49 | 2.75 |
| Isophorone | 78-59-1 | 51.8 | | 5.49 | 2.75 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | 58.7 | | 5.49 | 2.75 |
| Naphthalene | 91-20-3 | 41.2 | | 5.49 | 2.75 |
| Nitrobenzene | 98-95-3 | 43.5 | | 5.49 | 2.75 |
| Pentachlorophenol | 87-86-5 | 64.7 | | 27.5 | 13.7 |
| Phenanthrene | 85-01-8 | 56.8 | | 5.49 | 2.75 |
| Phenol | 108-95-2 | 20.3 | | 5.49 | 2.75 |
| Pyrene | 129-00-0 | 56.6 | | 5.49 | 2.75 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 123 | 10 | 123 | |
| 2-Fluorobiphenyl | 102 | 43 | 116 | |
| 2-Fluorophenol | 53.3 | 21 | 100 | |
| Nitrobenzene-d5 | 89.3 | 35 | 114 | |
| p-Terphenyl-d14 | 91.6 | 33 | 141 | |
| Phenol-d5 | 35.7 | 10 | 94 | |

| | |
|---|---|
| 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 #:** L17081498-07 **PrePrep Method:** N/A **Instrument:** HPMS9
**Client ID:** MW10-082517 **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 20:23
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** 9M982283
**Sample Tag:** 01 **Units:** ug/L

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

**Sample #:** L17081498-07 **PrePrep Method:** N/A **Instrument:** HPMS9
**Client ID:** MW10-082517 **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 19:45
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** 9M982380
**Sample Tag:** 02 **Units:** ug/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| unknown | | 7.15 | | 0.000 | 0.000 |

**Sample #:** L17081498-07 **PrePrep Method:** N/A **Instrument:** HPMS9
**Client ID:** MW10-082517 **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 19:45
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** 9M982380
**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 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 | 3.66 | 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 |

Certificate of Analysis

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | 80 | 120 | |
| Dibromofluoromethane | 101 | 86 | 118 | |
| p-Bromofluorobenzene | 110 | 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 #:** L17081498-07 **PrePrep Method:** N/A **Instrument:** HPMS12
**Client ID:** MW10-082517 **Prep Method:** 3510C **Prep Date:** 08/30/2017 12:10
**Matrix:** Water **Analytical Method:** 8270D **Cal Date:** 08/03/2017 13:41
**Workgroup #:** WG627873 **Analyst:** SCB **Run Date:** 08/31/2017 14:31
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** 12M64174
**Sample Tag:** 01 **Units:** ug/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| n-Hexadecanoic acid | | 6.22 | | 0.000 | 0.000 |
| UNKNOWN | | 5.24 | | 0.000 | 0.000 |
| UNKNOWN2 | | 5.51 | | 0.000 | 0.000 |
| UNKNOWN3 | | 5.82 | | 0.000 | 0.000 |
| UNKNOWN4 | | 4.52 | | 0.000 | 0.000 |
| UNKNOWN5 | | 7.13 | | 0.000 | 0.000 |
| Hexadecane | | 7.82 | | 0.000 | 0.000 |
| Eicosane | | 11.7 | | 0.000 | 0.000 |
| Eicosane | | 14.1 | | 0.000 | 0.000 |
| Tetratriacontane | | 13.6 | | 0.000 | 0.000 |
| Tetratriacontane | | 9.18 | | 0.000 | 0.000 |
| UNKNOWN6 | | 5.02 | | 0.000 | 0.000 |
| UNKNOWN7 | | 5.96 | | 0.000 | 0.000 |

**Sample #:** L17081498-07 **PrePrep Method:** N/A **Instrument:** HPMS19
**Client ID:** MW10-082517 **Prep Method:** 3510C **Prep Date:** 09/06/2017 15:00
**Matrix:** Water **Analytical Method:** 8270D **Cal Date:** 08/15/2017 20:30
**Workgroup #:** WG628781 **Analyst:** SCB **Run Date:** 09/13/2017 17:59
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** 19M000548
**Sample Tag:** RE **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 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 |
| 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 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 |
| 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 | 71.3 | 10 | 123 | |
| 2-Fluorobiphenyl | 57.8 | 43 | 116 | |
| 2-Fluorophenol | 33.0 | 21 | 100 | |
| Nitrobenzene-d5 | 59.3 | 35 | 114 | |
| p-Terphenyl-d14 | 83.0 | 33 | 141 | |
| Phenol-d5 | 21.7 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-07
**Client ID:** MW10-082517
**Matrix:** Water
**Workgroup #:** WG627873
**Collect Date:** 08/25/2017 10:20
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D
**Analyst:** SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS12
**Prep Date:** 08/30/2017 12:10
**Cal Date:** 08/03/2017 13:41
**Run Date:** 08/31/2017 14:31
**File ID:** 12M64174

| 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 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 |
| 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 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 |
| 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 | 109 | 10 | 123 | |
| 2-Fluorobiphenyl | 85.8 | 43 | 116 | |
| 2-Fluorophenol | 46.1 | 21 | 100 | |
| Nitrobenzene-d5 | 73.3 | 35 | 114 | |
| p-Terphenyl-d14 | 90.6 | 33 | 141 | |
| Phenol-d5 | 30.5 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-07
**Client ID:** MW10-082517
**Matrix:** Water
**Workgroup #:** WG628159
**Collect Date:** 08/25/2017 10:20
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D_SIM
**Analyst:** LJH/SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS15
**Prep Date:** 08/31/2017 16:00
**Cal Date:** 09/02/2017 12:13
**Run Date:** 09/02/2017 16:26
**File ID:** 15M21960

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 2-Methylnaphthalene | 91-57-6 | | U | 0.0532 | 0.0266 |
| Acenaphthene | 83-32-9 | | U | 0.0532 | 0.0266 |
| Acenaphthylene | 208-96-8 | | U | 0.0532 | 0.0266 |
| Anthracene | 120-12-7 | | U | 0.0532 | 0.0266 |
| Benzo(a)anthracene | 56-55-3 | | U | 0.0532 | 0.0266 |
| Benzo(a)pyrene | 50-32-8 | | U | 0.0532 | 0.0266 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 0.0532 | 0.0266 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Benzo(g,h,i)perylene | 191-24-2 | | U | 0.0532 | 0.0266 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 0.0532 | 0.0266 |
| Chrysene | 218-01-9 | | U | 0.0532 | 0.0266 |
| Dibenzo(a,h)anthracene | 53-70-3 | | U | 0.0532 | 0.0266 |
| Fluoranthene | 206-44-0 | | U | 0.0532 | 0.0266 |
| Fluorene | 86-73-7 | | U | 0.0532 | 0.0266 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 0.0532 | 0.0266 |
| Naphthalene | 91-20-3 | | U | 0.0532 | 0.0266 |
| Phenanthrene | 85-01-8 | | U | 0.0532 | 0.0266 |
| Pyrene | 129-00-0 | | U | 0.0532 | 0.0266 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 75.8 | 43 | 116 | |
| Nitrobenzene-d5 | 85.2 | 35 | 114 | |
| p-Terphenyl-d14 | 90.4 | 33 | 141 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-07 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW10-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:20
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** T4.090117.172026
**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 | 82.4 | | 0.500 | 0.250 |
| Iron, Total | 7439-89-6 | 0.276 | | 0.100 | 0.0500 |
| Magnesium, Total | 7439-95-4 | 20.1 | | 0.500 | 0.250 |
| Manganese, Total | 7439-96-5 | 0.221 | | 0.0100 | 0.00500 |
| Potassium, Total | 7440-09-7 | 2.41 | | 1.00 | 0.500 |
| Sodium, Total | 7440-23-5 | 172 | | 0.500 | 0.250 |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-07 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW10-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 13:30
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** NI.090117.133053
**Sample Tag:** 01 **Units:** mg/L

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Total | 7440-38-2 | 0.00468 | | 0.00100 | 0.000500 |

**Sample #:** L17081498-08 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW10-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:24
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** T4.090117.172407
**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 | 1.85 | | 0.100 | 0.0500 |
| Manganese, Dissolved | 7439-96-5 | 0.129 | | 0.0100 | 0.00500 |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-08 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW10-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 12:41
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** NI.090117.124123
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Dissolved | 7440-38-2 | 0.00455 | | 0.00100 | 0.000500 |

**Sample #:** L17081498-09 **PrePrep Method:** N/A **Instrument:** HPMS9
**Client ID:** MW20-082517 **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 20:14
**Collect Date:** 08/25/2017 14:10 **Dilution:** 1 **File ID:** 9M982381
**Sample Tag:** 02 **Units:** ug/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| unknown | | 5.96 | | 0.000 | 0.000 |

## Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-09 | **PrePrep Method:** | N/A | **Instrument:** | HPMS9 |
| **Client ID:** | MW20-082517 | **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 20:53 |
| **Collect Date:** | 08/25/2017 14:10 | **Dilution:** | 1 | **File ID:** | 9M982284 |
| **Sample Tag:** | 01 | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| unknown | | 5.43 | | 0.000 | 0.000 |

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-09 | **PrePrep Method:** | N/A | **Instrument:** | HPMS9 |
| **Client ID:** | MW20-082517 | **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 20:14 |
| **Collect Date:** | 08/25/2017 14:10 | **Dilution:** | 1 | **File ID:** | 9M982381 |
| **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 | 7.78 | 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 | 100 | 86 | 118 | |
| p-Bromofluorobenzene | 109 | 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. |

Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-09 | **PrePrep Method:** | N/A | **Instrument:** | HPMS12 |
| **Client ID:** | MW20-082517 | **Prep Method:** | 3510C | **Prep Date:** | 08/30/2017 12:10 |
| **Matrix:** | Water | **Analytical Method:** | 8270D | **Cal Date:** | 08/03/2017 13:41 |
| **Workgroup #:** | WG627873 | **Analyst:** | SCB | **Run Date:** | 08/31/2017 15:04 |
| **Collect Date:** | 08/25/2017 14:10 | **Dilution:** | 1 | **File ID:** | 12M64175 |
| **Sample Tag:** | 01 | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| UNKNOWN | | 4.53 | | 0.000 | 0.000 |
| UNKNOWN2 | | 14.1 | | 0.000 | 0.000 |
| UNKNOWN3 | | 5.44 | | 0.000 | 0.000 |
| UNKNOWN4 | | 6.81 | | 0.000 | 0.000 |
| Tetratriacontane | | 5.64 | | 0.000 | 0.000 |
| UNKNOWN5 | | 8.10 | | 0.000 | 0.000 |
| Nonadecane, 2,3-dimethyl- | | 8.24 | | 0.000 | 0.000 |
| Heptadecane | | 11.5 | | 0.000 | 0.000 |
| Eicosane | | 10.3 | | 0.000 | 0.000 |
| UNKNOWN6 | | 5.82 | | 0.000 | 0.000 |
| Tetratriacontane | | 6.83 | | 0.000 | 0.000 |
| UNKNOWN7 | | 5.06 | | 0.000 | 0.000 |

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-09 | **PrePrep Method:** | N/A | **Instrument:** | HPMS12 |
| **Client ID:** | MW20-082517 | **Prep Method:** | 3510C | **Prep Date:** | 08/30/2017 12:10 |
| **Matrix:** | Water | **Analytical Method:** | 8270D | **Cal Date:** | 08/03/2017 13:41 |
| **Workgroup #:** | WG627873 | **Analyst:** | SCB | **Run Date:** | 08/31/2017 15:04 |
| **Collect Date:** | 08/25/2017 14:10 | **Dilution:** | 1 | **File ID:** | 12M64175 |
| **Sample Tag:** | 01 | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 20.2 | 2.53 |
| 1,3,5-Trinitrobenzene | 99-35-4 | | U | 5.05 | 2.53 |
| 1,3-Dinitrobenzene | 99-65-0 | | U | 5.05 | 2.53 |
| 1,4-Dioxane | 123-91-1 | | U | 10.1 | 5.05 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 5.05 | 2.53 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 5.05 | 2.53 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 5.05 | 2.53 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 5.05 | 2.53 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 25.3 | 12.6 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 5.05 | 2.53 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 5.05 | 2.53 |
| 2-Chloronaphthalene | 91-58-7 | | U | 5.05 | 2.53 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 2-Chlorophenol | 95-57-8 | | U | 5.05 | 2.53 |
| 2-Methylnaphthalene | 91-57-6 | | U | 5.05 | 2.53 |
| 2-Methylphenol | 95-48-7 | | U | 5.05 | 2.53 |
| 2-Nitroaniline | 88-74-4 | | U | 25.3 | 12.6 |
| 2-Nitrophenol | 88-75-5 | | U | 5.05 | 2.53 |
| 3-Nitroaniline | 99-09-2 | | U | 25.3 | 12.6 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 5.05 | 2.53 |
| 3-,4-Methylphenol | 65794-96-9 | | U | 5.05 | 2.53 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 5.05 | 2.53 |
| 4-Chloroaniline | 106-47-8 | | U | 5.05 | 2.53 |
| 4-Nitrophenol | 100-02-7 | | U | 25.3 | 12.6 |
| Acenaphthene | 83-32-9 | | U | 5.05 | 2.53 |
| Acenaphthylene | 208-96-8 | | U | 5.05 | 2.53 |
| Anthracene | 120-12-7 | | U | 5.05 | 2.53 |
| Benzo(a)anthracene | 56-55-3 | | U | 5.05 | 2.53 |
| Benzo(a)pyrene | 50-32-8 | | U | 5.05 | 2.53 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 5.05 | 2.53 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 5.05 | 2.53 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 5.05 | 2.53 |
| Benzoic acid | 65-85-0 | | U | 20.2 | 10.1 |
| Benzyl alcohol | 100-51-6 | | U | 5.05 | 2.53 |
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 5.05 | 2.53 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 5.05 | 2.53 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 5.05 | 2.53 |
| Butylbenzylphthalate | 85-68-7 | | U | 5.05 | 2.53 |
| Carbazole | 86-74-8 | | U | 20.2 | 2.53 |
| Chrysene | 218-01-9 | | U | 5.05 | 2.53 |
| Di-N-Butylphthalate | 84-74-2 | | U | 5.05 | 2.53 |
| Di-n-octylphthalate | 117-84-0 | | U | 5.05 | 2.53 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 5.05 | 2.53 |
| Dibenzofuran | 132-64-9 | | U | 5.05 | 2.53 |
| Diethylphthalate | 84-66-2 | | U | 5.05 | 2.53 |
| Dimethylphthalate | 131-11-3 | | U | 5.05 | 2.53 |
| Fluoranthene | 206-44-0 | | U | 5.05 | 2.53 |
| Fluorene | 86-73-7 | | U | 5.05 | 2.53 |
| Hexachlorobenzene | 118-74-1 | | U | 5.05 | 2.53 |
| Hexachlorobutadiene | 87-68-3 | | U | 5.05 | 2.53 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 5.05 | 2.53 |
| Hexachloroethane | 67-72-1 | | U | 5.05 | 2.53 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 5.05 | 2.53 |
| Isophorone | 78-59-1 | | U | 5.05 | 2.53 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | | U | 5.05 | 2.53 |
| Naphthalene | 91-20-3 | | U | 5.05 | 2.53 |
| Nitrobenzene | 98-95-3 | | U | 5.05 | 2.53 |
| Pentachlorophenol | 87-86-5 | | U | 25.3 | 12.6 |
| Phenanthrene | 85-01-8 | | U | 5.05 | 2.53 |
| Phenol | 108-95-2 | | U | 5.05 | 2.53 |
| Pyrene | 129-00-0 | | U | 5.05 | 2.53 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 114 | 10 | 123 | |
| 2-Fluorobiphenyl | 97.1 | 43 | 116 | |
| 2-Fluorophenol | 51.9 | 21 | 100 | |
| Nitrobenzene-d5 | 84.4 | 35 | 114 | |
| p-Terphenyl-d14 | 94.5 | 33 | 141 | |
| Phenol-d5 | 32.7 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-09
**Client ID:** MW20-082517
**Matrix:** Water
**Workgroup #:** WG628781
**Collect Date:** 08/25/2017 14:10
**Sample Tag:** RE

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D
**Analyst:** SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS19
**Prep Date:** 09/06/2017 15:00
**Cal Date:** 08/15/2017 20:30
**Run Date:** 09/13/2017 18:29
**File ID:** 19M000549

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 21.1 | 2.63 |
| 1,3,5-Trinitrobenzene | 99-35-4 | | U | 5.26 | 2.63 |
| 1,3-Dinitrobenzene | 99-65-0 | | U | 5.26 | 2.63 |
| 1,4-Dioxane | 123-91-1 | | U | 10.5 | 5.26 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 5.26 | 2.63 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 5.26 | 2.63 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 5.26 | 2.63 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 5.26 | 2.63 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 26.3 | 13.2 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 5.26 | 2.63 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 5.26 | 2.63 |
| 2-Chloronaphthalene | 91-58-7 | | U | 5.26 | 2.63 |
| 2-Chlorophenol | 95-57-8 | | U | 5.26 | 2.63 |
| 2-Methylnaphthalene | 91-57-6 | | U | 5.26 | 2.63 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 2-Methylphenol | 95-48-7 | | U | 5.26 | 2.63 |
| 2-Nitroaniline | 88-74-4 | | U | 26.3 | 13.2 |
| 2-Nitrophenol | 88-75-5 | | U | 5.26 | 2.63 |
| 3-Nitroaniline | 99-09-2 | | U | 26.3 | 13.2 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 5.26 | 2.63 |
| 3-,4-Methylphenol | 65794-96-9 | | U | 5.26 | 2.63 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 5.26 | 2.63 |
| 4-Chloroaniline | 106-47-8 | | U | 5.26 | 2.63 |
| 4-Nitrophenol | 100-02-7 | | U | 26.3 | 13.2 |
| Acenaphthene | 83-32-9 | | U | 5.26 | 2.63 |
| Acenaphthylene | 208-96-8 | | U | 5.26 | 2.63 |
| Anthracene | 120-12-7 | | U | 5.26 | 2.63 |
| Benzo(a)anthracene | 56-55-3 | | U | 5.26 | 2.63 |
| Benzo(a)pyrene | 50-32-8 | | U | 5.26 | 2.63 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 5.26 | 2.63 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 5.26 | 2.63 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 5.26 | 2.63 |
| Benzoic acid | 65-85-0 | | U | 21.1 | 10.5 |
| Benzyl alcohol | 100-51-6 | | U | 5.26 | 2.63 |
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 5.26 | 2.63 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 5.26 | 2.63 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 5.26 | 2.63 |
| Butylbenzylphthalate | 85-68-7 | | U | 5.26 | 2.63 |
| Carbazole | 86-74-8 | | U | 21.1 | 2.63 |
| Chrysene | 218-01-9 | | U | 5.26 | 2.63 |
| Di-N-Butylphthalate | 84-74-2 | | U | 5.26 | 2.63 |
| Di-n-octylphthalate | 117-84-0 | | U | 5.26 | 2.63 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 5.26 | 2.63 |
| Dibenzofuran | 132-64-9 | | U | 5.26 | 2.63 |
| Diethylphthalate | 84-66-2 | | U | 5.26 | 2.63 |
| Dimethylphthalate | 131-11-3 | | U | 5.26 | 2.63 |
| Fluoranthene | 206-44-0 | | U | 5.26 | 2.63 |
| Fluorene | 86-73-7 | | U | 5.26 | 2.63 |
| Hexachlorobenzene | 118-74-1 | | U | 5.26 | 2.63 |
| Hexachlorobutadiene | 87-68-3 | | U | 5.26 | 2.63 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 5.26 | 2.63 |
| Hexachloroethane | 67-72-1 | | U | 5.26 | 2.63 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 5.26 | 2.63 |
| Isophorone | 78-59-1 | | U | 5.26 | 2.63 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | | U | 5.26 | 2.63 |
| Naphthalene | 91-20-3 | | U | 5.26 | 2.63 |
| Nitrobenzene | 98-95-3 | | U | 5.26 | 2.63 |
| Pentachlorophenol | 87-86-5 | | U | 26.3 | 13.2 |
| Phenanthrene | 85-01-8 | | U | 5.26 | 2.63 |
| Phenol | 108-95-2 | | U | 5.26 | 2.63 |
| Pyrene | 129-00-0 | | U | 5.26 | 2.63 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 67.7 | 10 | 123 | |
| 2-Fluorobiphenyl | 67.3 | 43 | 116 | |
| 2-Fluorophenol | 37.2 | 21 | 100 | |
| Nitrobenzene-d5 | 67.4 | 35 | 114 | |
| p-Terphenyl-d14 | 86.5 | 33 | 141 | |
| Phenol-d5 | 24.5 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-09
**Client ID:** MW20-082517
**Matrix:** Water
**Workgroup #:** WG628159
**Collect Date:** 08/25/2017 14:10
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D_SIM
**Analyst:** LJH/SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS15
**Prep Date:** 08/31/2017 16:00
**Cal Date:** 09/02/2017 12:13
**Run Date:** 09/02/2017 16:54
**File ID:** 15M21961

| 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 | 0.0342 | J | 0.0500 | 0.0250 |
| Phenanthrene | 85-01-8 | | U | 0.0500 | 0.0250 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Pyrene | 129-00-0 | | U | 0.0500 | 0.0250 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 87.9 | 43 | 116 | |
| Nitrobenzene-d5 | 98.1 | 35 | 114 | |
| p-Terphenyl-d14 | 61.0 | 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 #:** L17081498-09 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW20-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:42
**Collect Date:** 08/25/2017 14:10 **Dilution:** 1 **File ID:** T4.090117.174210
**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 | 111 | | 0.500 | 0.250 |
| Iron, Total | 7439-89-6 | 0.0789 | J | 0.100 | 0.0500 |
| Magnesium, Total | 7439-95-4 | 30.1 | | 0.500 | 0.250 |
| Manganese, Total | 7439-96-5 | 0.0328 | | 0.0100 | 0.00500 |
| Potassium, Total | 7440-09-7 | 3.69 | | 1.00 | 0.500 |
| Sodium, Total | 7440-23-5 | 22.9 | | 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 #:** L17081498-09 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW20-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 13:33
**Collect Date:** 08/25/2017 14:10 **Dilution:** 1 **File ID:** NI.090117.133358
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Total | 7440-38-2 | 0.000821 | J | 0.00100 | 0.000500 |

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-10 | **PrePrep Method:** | N/A | **Instrument:** | ICP-THERMO4 |
| **Client ID:** | MW20-082517 | **Prep Method:** | 3015A | **Prep Date:** | 08/31/2017 07:16 |
| **Matrix:** | Water | **Analytical Method:** | 6010C | **Cal Date:** | 09/01/2017 12:40 |
| **Workgroup #:** | WG628174 | **Analyst:** | KKB | **Run Date:** | 09/01/2017 17:45 |
| **Collect Date:** | 08/25/2017 14:10 | **Dilution:** | 1 | **File ID:** | T4.090117.174552 |
| **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 | 0.0750 | J | 0.100 | 0.0500 |
| Manganese, Dissolved | 7439-96-5 | 0.125 | | 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. |

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-10 | **PrePrep Method:** | N/A | **Instrument:** | ICP-MS2 |
| **Client ID:** | MW20-082517 | **Prep Method:** | 3015A | **Prep Date:** | 08/31/2017 09:05 |
| **Matrix:** | Water | **Analytical Method:** | 6020A | **Cal Date:** | 09/01/2017 12:04 |
| **Workgroup #:** | WG628140 | **Analyst:** | JYH | **Run Date:** | 09/01/2017 13:37 |
| **Collect Date:** | 08/25/2017 14:10 | **Dilution:** | 1 | **File ID:** | NI.090117.133704 |
| **Sample Tag:** | 01 | **Units:** | mg/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Dissolved | 7440-38-2 | 0.000672 | J | 0.00100 | 0.000500 |

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-11 | **PrePrep Method:** | N/A | **Instrument:** | HPMS9 |
| **Client ID:** | TB-082517 | **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 16:45 |
| **Collect Date:** | 08/25/2017 08:00 | **Dilution:** | 1 | **File ID:** | 9M982374 |
| **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 |

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 | 4.91 | 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 |

Certificate of Analysis

| 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 | 108 | 80 | 120 | |
| Dibromofluoromethane | 101 | 86 | 118 | |
| p-Bromofluorobenzene | 118 | 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 #:** L17081498-12 **PrePrep Method:** N/A **Instrument:** HPMS9
**Client ID:** FB-082517 **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 17:52
**Collect Date:** 08/25/2017 12:40 **Dilution:** 1 **File ID:** 9M982278
**Sample Tag:** 01 **Units:** ug/L

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

**Sample #:** L17081498-12 **PrePrep Method:** N/A **Instrument:** HPMS9
**Client ID:** FB-082517 **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 17:15
**Collect Date:** 08/25/2017 12:40 **Dilution:** 1 **File ID:** 9M982375
**Sample Tag:** 02 **Units:** ug/L

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

**Sample #:** L17081498-12 **PrePrep Method:** N/A **Instrument:** HPMS9
**Client ID:** FB-082517 **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 17:15
**Collect Date:** 08/25/2017 12:40 **Dilution:** 1 **File ID:** 9M982375
**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 | 2.81 | 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 | 2.58 | | 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 | 108 | 80 | 120 | |
| Dibromofluoromethane | 101 | 86 | 118 | |
| p-Bromofluorobenzene | 115 | 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

# 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:** L17081498
**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: 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:** Recoveries marginally above the UCL were observed for the following analytes in sample 11: p-Bromofluorobenzene. Please see the applicable QC report for a detailed presentation of the failures. No target analytes were detected above the RL in sample 11.

| Sample # | Analyte | Date | Result | Lower | Upper | Type |
|---|---|---|---|---|---|---|
| L17081498-11 | p-Bromofluorobenzene | 2017-09-06 16:45:00 | 118 | 86 | 115 | Recovery |

**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:** 129222
**Approved By:** Anthony Canter



# Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-01 | **PrePrep Method:** | N/A | **Instrument:** | HPMS9 |
| **Client ID:** | MW07-082517 | **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 18:46 |
| **Collect Date:** | 08/25/2017 10:34 | **Dilution:** | 1 | **File ID:** | 9M982378 |
| **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 | 3.20 | 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 | 106 | 80 | 120 | |
| Dibromofluoromethane | 100 | 86 | 118 | |
| p-Bromofluorobenzene | 109 | 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 #:** L17081498-03
**Client ID:** MW06-082517
**Matrix:** Water
**Workgroup #:** WG628579
**Collect Date:** 08/25/2017 13:54
**Sample Tag:** 02

**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:** 09/06/2017 19:15
**File ID:** 9M982379

| 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 | 2.52 | 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 |

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 | 108 | 80 | 120 | |
| Dibromofluoromethane | 103 | 86 | 118 | |
| p-Bromofluorobenzene | 112 | 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 #:** L17081498-07
**Client ID:** MW10-082517
**Matrix:** Water
**Workgroup #:** WG628579
**Collect Date:** 08/25/2017 10:20
**Sample Tag:** 02

**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:** 09/06/2017 19:45
**File ID:** 9M982380

| 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 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 | 3.66 | 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 | 105 | 80 | 120 | |
| Dibromofluoromethane | 101 | 86 | 118 | |

Certificate of Analysis

| | | | | |
|---|---|---|---|---|
| p-Bromofluorobenzene | 110 | 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 #:** L17081498-09
**Client ID:** MW20-082517
**Matrix:** Water
**Workgroup #:** WG628579
**Collect Date:** 08/25/2017 14:10
**Sample Tag:** 02

**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:** 09/06/2017 20:14
**File ID:** 9M982381

| 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 | 7.78 | 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 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 | 100 | 86 | 118 | |
| p-Bromofluorobenzene | 109 | 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 #:** L17081498-11
**Client ID:** TB-082517
**Matrix:** Water
**Workgroup #:** WG628579
**Collect Date:** 08/25/2017 08:00
**Sample Tag:** 02

**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:** 09/06/2017 16:45
**File ID:** 9M982374

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 | 4.91 | 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 | 108 | 80 | 120 | |
| Dibromofluoromethane | 101 | 86 | 118 | |
| p-Bromofluorobenzene | 118 | 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 #:** L17081498-12
**Client ID:** FB-082517
**Matrix:** Water
**Workgroup #:** WG628579
**Collect Date:** 08/25/2017 12:40
**Sample Tag:** 02

**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:** 09/06/2017 17:15
**File ID:** 9M982375

| 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 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 | 2.81 | 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 | 2.58 | | 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 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 | 108 | 80 | 120 | |
| Dibromofluoromethane | 101 | 86 | 118 | |
| p-Bromofluorobenzene | 115 | 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. |

# 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) ]

| where: | Example |
|---|---|
| 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) ]

| where: | **Example** |
|---|---|
| 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) ]

| where: | **Example** |
|---|---|
| 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

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

**Step 4: Solve for analyte concentration Cx**

Cx = ( Cis )( 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 quantiation 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

Tiffany Bailey

Page: 1

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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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

Page: 2

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

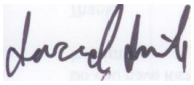
Microbac Laboratories Inc.

Data Checklist

Date: 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



CHECKLIST1 - Modified 03/05/2008
Generated: SEP-07-2017 17:01:01

Microbac Laboratories Inc.

# HOLDING TIMES
# EQUIVALENT TO AFCEE FORM 9

**Analytical Method:** 8260C **AAB#:** WG628579

**Login Number:** L17081498

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW07-082517 | 01 | 08/25/17 | | | | | 09/06/2017 | 12.3 | 14 | | 09/06/17 | 12.3 | 14 | |
| MW06-082517 | 03 | 08/25/17 | | | | | 09/06/2017 | 12.2 | 14 | | 09/06/17 | 12.2 | 14 | |
| MW10-082517 | 07 | 08/25/17 | | | | | 09/06/2017 | 12.4 | 14 | | 09/06/17 | 12.4 | 14 | |
| MW20-082517 | 09 | 08/25/17 | | | | | 09/06/2017 | 12.3 | 14 | | 09/06/17 | 12.3 | 14 | |
| TB-082517 | 11 | 08/25/17 | | | | | 09/06/2017 | 12.4 | 14 | | 09/06/17 | 12.4 | 14 | |
| FB-082517 | 12 | 08/25/17 | | | | | 09/06/2017 | 12.2 | 14 | | 09/06/17 | 12.2 | 14 | |

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5461657
Report generated 09/07/2017 16:56

**Microbac Laboratories Inc.**
**SURROGATE STANDARDS**

**Login Number:** L17081498 **Method:** 8260C
**Instrument Id:** HPMS9 **CAL ID:** HPMS9-14-AUG-17
**Workgroup (AAB#):** WG628579 **Matrix:** Water

| Sample Number | Dilution | Tag | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| L17081498-01 | 1.00 | 02 | 106 | 100 | 109 | 104 |
| L17081498-03 | 1.00 | 02 | 108 | 103 | 112 | 107 |
| L17081498-07 | 1.00 | 02 | 105 | 101 | 110 | 105 |
| L17081498-09 | 1.00 | 02 | 106 | 100 | 109 | 104 |
| L17081498-11 | 1.00 | 02 | 108 | 101 | 118 | 107 |
| L17081498-12 | 1.00 | 02 | 108 | 101 | 115 | 107 |
| 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

SURROGATES - Modified 03/06/2008
PDF File ID: 5461665
Report generated: 09/07/2017 16:56

Microbac Laboratories Inc.

## METHOD BLANK SUMMARY

Login Number: L17081498
Work Group: WG628579
Blank File ID: 9M982369
Blank Sample ID: WG628579-01
Prep Date: 09/06/17 14:16
Instrument ID: HPMS9
Analyzed Date: 09/06/17 14:16
Method: 8260C
Analyst: JDS

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 |
| TB-082517 | L17081498-11 | 9M982374 | 09/06/17 16:45 | 02 |
| FB-082517 | L17081498-12 | 9M982375 | 09/06/17 17:15 | 02 |
| MW07-082517 | L17081498-01 | 9M982378 | 09/06/17 18:46 | 02 |
| MW06-082517 | L17081498-03 | 9M982379 | 09/06/17 19:15 | 02 |
| MW10-082517 | L17081498-07 | 9M982380 | 09/06/17 19:45 | 02 |
| MW20-082517 | L17081498-09 | 9M982381 | 09/06/17 20:14 | 02 |

Report Name: BLANK_SUMMARY
PDF File ID: 5461658
Report generated 09/07/2017 16:56

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L17081498 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: 5461659
07-SEP-2017 16:56

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L17081498 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: 5461659
07-SEP-2017 16:56

Login Number: L17081498 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 |
|---|---|---|---|---|---|
| 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 | |

LCS - Modified 03/06/2008
PDF File ID: 5461660
Report generated: 09/07/2017 16:56

# Microbac Laboratories Inc.
## LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17081498 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
PDF File ID: 5461660
Report generated: 09/07/2017 16:56

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L17081498
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: 5461662
Report generated 09/07/2017 16:56

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L17081498
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 | |
| L17081498-11 | TB-082517 | 02 | 09/06/2017 16:45 | |
| L17081498-12 | FB-082517 | 02 | 09/06/2017 17:15 | |
| L17081498-01 | MW07-082517 | 02 | 09/06/2017 18:46 | |
| L17081498-03 | MW06-082517 | 02 | 09/06/2017 19:15 | |
| L17081498-07 | MW10-082517 | 02 | 09/06/2017 19:45 | |
| L17081498-09 | MW20-082517 | 02 | 09/06/2017 20:14 | |

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5461662
Report generated 09/07/2017 16:56

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

| Compound | 0.5<br>9M981990.D | 1<br>9M981994.D | 2<br>9M981992.D | 5<br>9M981993.D | 20<br>9M981995.D | 50<br>9M981996.D | 100<br>9M981997.D | 200<br>9M981998.D | 300<br>9M981999.D | Avg | %RSD | R^2<br>Linear | <br>Quadratic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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-Trifluoroet | | | 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 | 8.8006 | | |
| 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 | 9.77686 | |
| Bromobenzene | 0.79142 | 0.77525 | 0.9108 | 0.92161 | 0.93029 | 0.85346 | 0.87142 | | 0.86489 | 7.19124 | |
| 1,3,5-Trimethylbenzene | 2.43793 | 2.26808 | 2.68607 | 2.91025 | 2.95587 | 2.66641 | 2.63276 | | 2.65105 | 9.16215 | |
| 2-Chlorotoluene | 2.28954 | 2.27869 | 2.18882 | 2.34678 | 2.44985 | 2.12323 | 2.16323 | | 2.26288 | 5.03455 | |
| 4-Chlorotoluene | 1.58639 | 1.67466 | 1.8971 | 2.29573 | 2.33151 | 2.16186 | 2.1338 | | 2.01158 | 14.7473 | |
| a-Methylstyrene | | 0.91962 | 1.20508 | 1.44797 | 1.61913 | 1.51006 | 1.60159 | 1.53571 | 1.40559 | 18.1391 | |
| tert-Butylbenzene | 0.45998 | 0.52263 | 0.60263 | 0.6194 | 0.62492 | 0.57226 | 0.59203 | | 0.57055 | 10.4567 | |
| 1,2,4-Trimethylbenzene | 2.42342 | 2.37071 | 2.79005 | 3.02279 | 3.08775 | 2.78128 | 2.76524 | | 2.74875 | 9.87201 | |
| sec-Butylbenzene | 2.76019 | 2.77242 | 3.22203 | 3.54512 | 3.70135 | 3.3203 | 3.26719 | | 3.22694 | 11.0371 | |
| p-Isopropyltoluene | 2.06118 | 2.13167 | 2.70949 | 3.01673 | 3.14876 | 2.8766 | 2.88407 | | 2.68979 | 15.8984 | |
| 1,3-Dichlorobenzene | 1.28191 | 1.29743 | 1.495 | 1.61386 | 1.70928 | 1.62336 | 1.68262 | | 1.52907 | 11.5777 | |
| 1,4-Dichlorobenzene | 1.41193 | 1.42204 | 1.54522 | 1.63198 | 1.69729 | 1.65868 | 1.71778 | | 1.58356 | 7.98574 | |
| n-Butylbenzene | 1.43148 | 1.61523 | 1.99998 | 2.34876 | 2.64134 | 2.50828 | 2.57445 | | 2.15993 | 22.4716 | 0.999 |
| 1,2-Dichlorobenzene | 1.45044 | 1.41924 | 1.6392 | 1.74601 | 1.82688 | 1.74475 | 1.75565 | | 1.6546 | 9.67268 | |
| 1,2-Dibromo-3-Chloropropane | | 0.14363 | 0.21413 | 0.27859 | 0.32946 | 0.3086 | 0.31936 | | 0.26563 | 27.4126 | 0.999 |
| 1,2,4-Trichlorobenzene | 0.74729 | 0.72717 | 0.92655 | 1.11571 | 1.28664 | 1.21227 | 1.25193 | | 1.03822 | 22.8457 | 0.999 |
| Hexachlorobutadiene | 0.27338 | 0.36381 | 0.44889 | 0.47704 | 0.56012 | 0.54453 | 0.55867 | | 0.46092 | 23.6661 | 0.999 |
| Naphthalene | 2.60143 | 2.67067 | 3.48684 | 4.14419 | 4.57953 | 4.00693 | 3.65977 | | 3.59277 | 20.6359 | 0.993 |
| 1,2,3-Trichlorobenzene | 0.82933 | 0.86284 | 1.04721 | 1.2484 | 1.39547 | 1.27179 | 1.28414 | | 1.13417 | 19.6122 | |

Mon Aug 14 15:51:36 2017

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081498 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: WATERLOO
ICal Workgroup: WG625140 Cal ID: HPMS9 - 14-AUG-17

| 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 | |

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5461661
Report generated 09/07/2017 16:56

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081498 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: WATERLOO
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

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5461661
Report generated 09/07/2017 16:56

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 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: WATERLOO

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 | |

CCV - Modified 03/05/2008

PDF File ID: 5461663

Report generated 09/07/2017 16:56

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 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: WATERLOO
Workgroup (AAB#): WG628579 Cal ID: HPMS9 - 14-AUG-17
Matrix: WATER

| 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

CCV - Modified 03/05/2008
PDF File ID: 5461663
Report generated 09/07/2017 16:56

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L17081498
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 |
| L17081498-01 | 1.00 | 02 | 152786 | 335580 | 451597 |
| L17081498-03 | 1.00 | 02 | 155673 | 338027 | 453482 |
| L17081498-07 | 1.00 | 02 | 157268 | 343005 | 461057 |
| L17081498-09 | 1.00 | 02 | 154130 | 334089 | 444988 |
| L17081498-11 | 1.00 | 02 | 168784 | 368435 | 491548 |
| L17081498-12 | 1.00 | 02 | 159920 | 347899 | 468103 |
| 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

INTERNAL_STD - Modified 03/06/2008
PDF File ID: 5461664
Report generated 09/07/2017 16:56

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number: L17081498
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 |
| L17081498-01 | 1.00 | 02 | 17.58 | 14.56 | 10.7 |
| L17081498-03 | 1.00 | 02 | 17.58 | 14.56 | 10.7 |
| L17081498-07 | 1.00 | 02 | 17.58 | 14.56 | 10.7 |
| L17081498-09 | 1.00 | 02 | 17.58 | 14.56 | 10.7 |
| L17081498-11 | 1.00 | 02 | 17.58 | 14.56 | 10.7 |
| L17081498-12 | 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
PDF File ID: 5461666
Report generated 09/07/2017 16:56

# 2.1.1.3 Sample Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\090617\9M982378.D Vial: 16
Acq On : 6 Sep 2017 18:46 Operator: JDS
Sample : L17081498-01 B 826-SPE Inst : hpms9
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 07 09:46:21 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

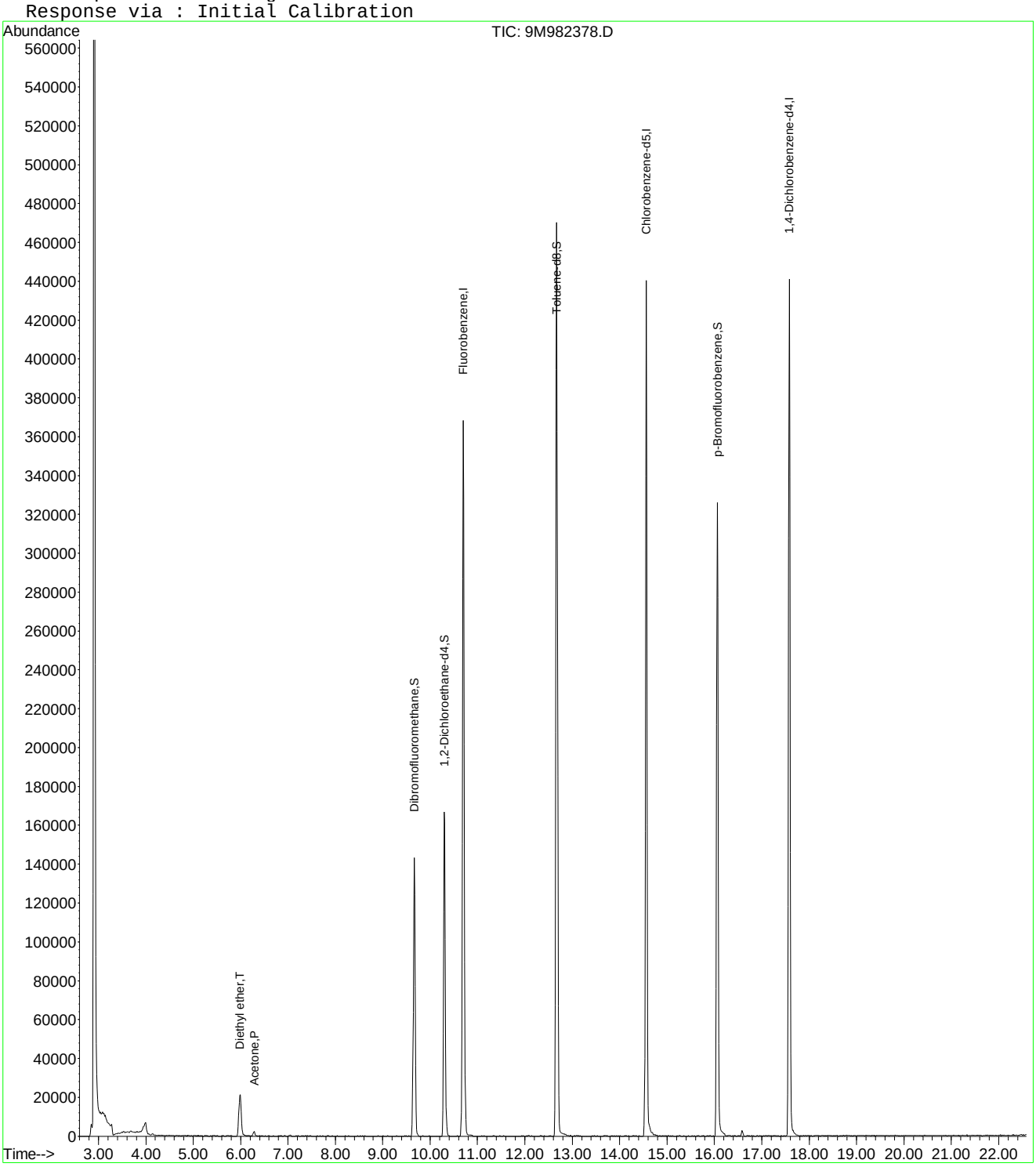
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene | 10.70 | 96 | 451597 | 50.00 | ug/L | 0.00 |
| 57) Chlorobenzene-d5 | 14.56 | 117 | 335580 | 50.00 | ug/L | 0.00 |
| 77) 1,4-Dichlorobenzene-d4 | 17.58 | 152 | 152786 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 37) Dibromofluoromethane | 9.66 | 111 | 126993 | 50.2233 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 86 - 118 | | Recovery = 100.44% | | | |
| 43) 1,2-Dichloroethane-d4 | 10.30 | 65 | 156912 | 53.1269 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 106.26% | | | |
| 58) Toluene-d8 | 12.67 | 98 | 428017 | 51.8084 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 88 - 110 | | Recovery = 103.62% | | | |
| 79) p-Bromofluorobenzene | 16.06 | 95 | 148088 | 54.6631 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 86 - 115 | | Recovery = 109.32% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 9) Diethyl ether | 5.98 | 59 | 1694 | 0.6588 | ug/L # | 1 |
| 13) Acetone | 6.29 | 43 | 4396 | 3.2034 | ug/L | 91 |

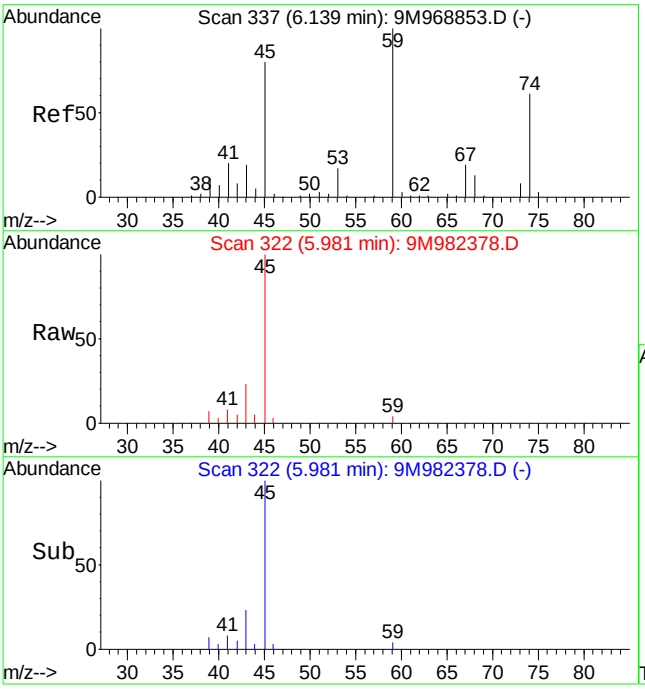
(#) = qualifier out of range (m) = manual integration
9M982378.D 8260C.M Thu Sep 07 09:46:21 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\090617\9M982378.D Vial: 16
Acq On : 6 Sep 2017 18:46 Operator: JDS
Sample : L17081498-01 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

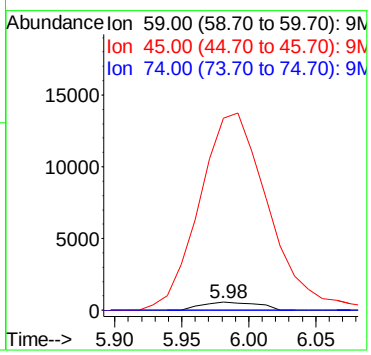


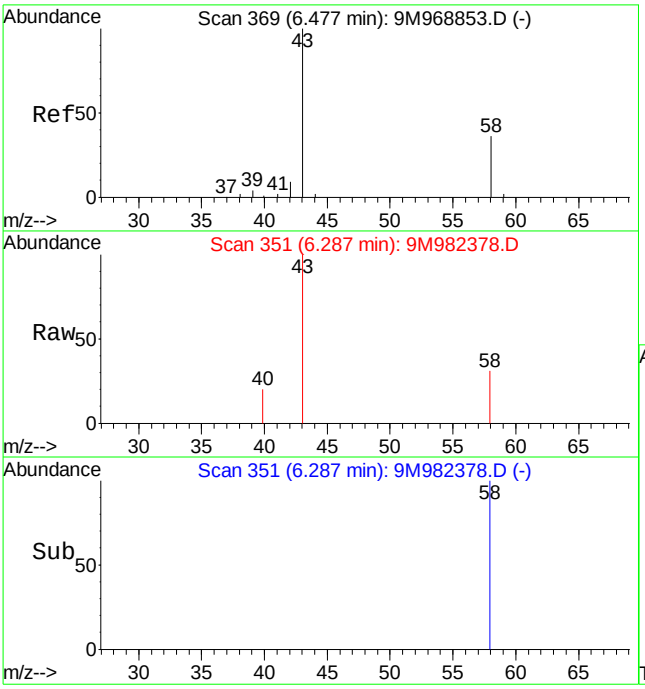



#9
Diethyl ether
Concen: 0.66 ug/L
RT: 5.98 min Scan# 322
Delta R.T. 0.04 min
Lab File: 9M982378.D
Acq: 6 Sep 2017 18:46

Tgt Ion: 59 Resp: 1694

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 59 | 100 | | |
| 45 | 2920.0 | 48.1 | 112.3# |
| 74 | 0.0 | 37.1 | 86.5# |

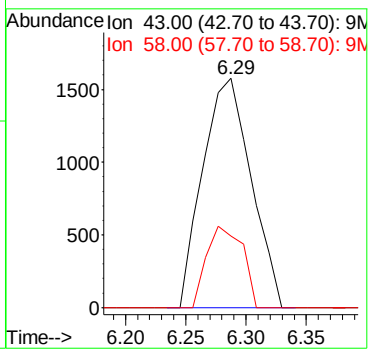



#13
Acetone
Concen: 3.20 ug/L
RT: 6.29 min Scan# 351
Delta R.T. 0.01 min
Lab File: 9M982378.D
Acq: 6 Sep 2017 18:46

Tgt Ion: 43 Resp: 4396

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 26.4 | 18.9 | 44.1 |



LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\090617\9M982378.D Vial: 16
Acq On : 6 Sep 2017 18:46 Operator: JDS
Sample : L17081498-01 B 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

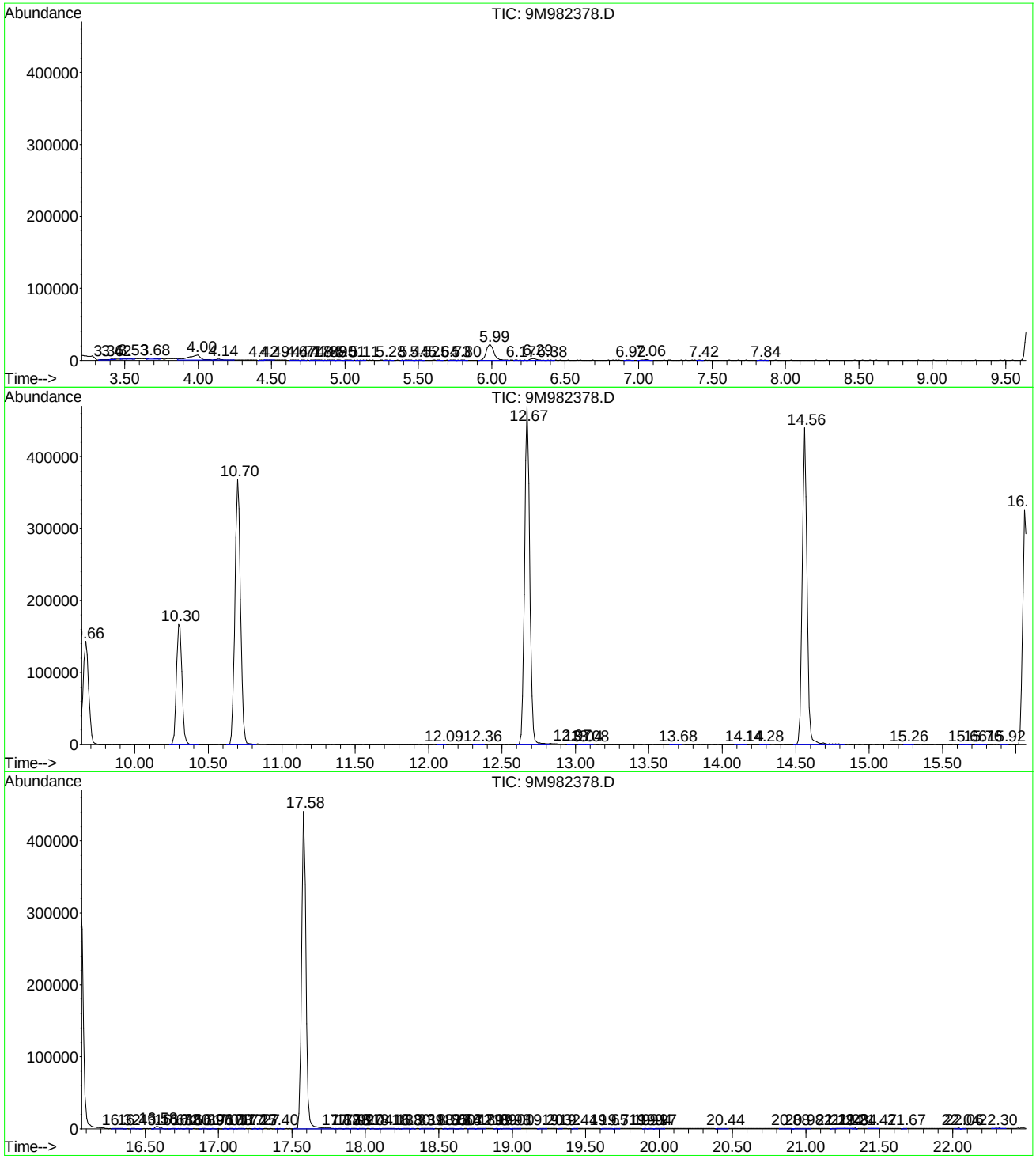
Signal : TIC

| peak # | R.T. min | first scan | max scan | last scan | PK TY | peak height | corr. area | corr. % max. | % of total |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 3.364 | 70 | 74 | 77 | rBV | 736 | 2635 | 0.23% | 0.045% |
| 2 | 3.417 | 77 | 79 | 81 | rVV2 | 474 | 941 | 0.08% | 0.016% |
| 3 | 3.533 | 84 | 90 | 93 | rVV2 | 934 | 3668 | 0.32% | 0.063% |
| 4 | 3.681 | 101 | 104 | 110 | rBV3 | 808 | 2741 | 0.24% | 0.047% |
| 5 | 3.997 | 121 | 134 | 144 | rVB4 | 6637 | 37506 | 3.27% | 0.645% |
| 6 | 4.145 | 144 | 148 | 157 | rVB | 900 | 2336 | 0.20% | 0.040% |
| 7 | 4.419 | 173 | 174 | 177 | rBV | 393 | 904 | 0.08% | 0.016% |
| 8 | 4.493 | 177 | 181 | 183 | rVV | 232 | 703 | 0.06% | 0.012% |
| 9 | 4.673 | 193 | 198 | 200 | rBB | 433 | 1344 | 0.12% | 0.023% |
| 10 | 4.715 | 200 | 202 | 204 | rBB | 460 | 716 | 0.06% | 0.012% |
| 11 | 4.768 | 206 | 207 | 210 | rBV | 337 | 802 | 0.07% | 0.014% |
| 12 | 4.841 | 210 | 214 | 215 | rVB | 473 | 1031 | 0.09% | 0.018% |
| 13 | 4.884 | 215 | 218 | 223 | rBB | 634 | 1531 | 0.13% | 0.026% |
| 14 | 4.947 | 223 | 224 | 227 | rBB | 372 | 659 | 0.06% | 0.011% |
| 15 | 5.010 | 228 | 230 | 234 | rBB | 432 | 1175 | 0.10% | 0.020% |
| 16 | 5.105 | 236 | 239 | 242 | rBB | 635 | 891 | 0.08% | 0.015% |
| 17 | 5.285 | 254 | 256 | 260 | rBB | 358 | 629 | 0.05% | 0.011% |
| 18 | 5.443 | 265 | 271 | 274 | rBB | 395 | 1300 | 0.11% | 0.022% |
| 19 | 5.517 | 274 | 278 | 280 | rBB | 384 | 652 | 0.06% | 0.011% |
| 20 | 5.644 | 288 | 290 | 292 | rBB | 352 | 424 | 0.04% | 0.007% |
| 21 | 5.728 | 296 | 298 | 301 | rBB | 325 | 789 | 0.07% | 0.014% |
| 22 | 5.802 | 301 | 305 | 308 | rBB | 349 | 832 | 0.07% | 0.014% |
| 23 | 5.992 | 315 | 323 | 335 | rBB | 21459 | 77549 | 6.75% | 1.334% |
| 24 | 6.171 | 338 | 340 | 344 | rBB | 367 | 664 | 0.06% | 0.011% |
| 25 | 6.287 | 344 | 351 | 358 | rBB | 2379 | 6824 | 0.59% | 0.117% |
| 26 | 6.382 | 359 | 360 | 364 | rBB | 376 | 436 | 0.04% | 0.008% |
| 27 | 6.920 | 409 | 411 | 415 | rBB | 360 | 643 | 0.06% | 0.011% |
| 28 | 7.058 | 418 | 424 | 427 | rBB | 683 | 1745 | 0.15% | 0.030% |
| 29 | 7.416 | 456 | 458 | 460 | rBB | 398 | 444 | 0.04% | 0.008% |
| 30 | 7.838 | 495 | 498 | 502 | rBB | 358 | 639 | 0.06% | 0.011% |
| 31 | 9.664 | 664 | 671 | 681 | rBB | 143439 | 388083 | 33.80% | 6.677% |
| 32 | 10.297 | 725 | 731 | 743 | rBB | 166929 | 432193 | 37.65% | 7.436% |
| 33 | 10.698 | 762 | 769 | 781 | rBV | 368424 | 975577 | 84.98% | 16.784% |
| 34 | 12.091 | 898 | 901 | 903 | rBB | 386 | 632 | 0.06% | 0.011% |
| 35 | 12.355 | 921 | 926 | 928 | rBB | 358 | 649 | 0.06% | 0.011% |
| 36 | 12.672 | 949 | 956 | 970 | rBV | 470325 | 1148058 | 100.00% | 19.752% |
| 37 | 12.967 | 982 | 984 | 986 | rBB | 655 | 616 | 0.05% | 0.011% |
| 38 | 13.041 | 989 | 991 | 993 | rBB | 413 | 481 | 0.04% | 0.008% |
| 39 | 13.083 | 994 | 995 | 998 | rBB | 319 | 586 | 0.05% | 0.010% |
| 40 | 13.685 | 1048 | 1052 | 1055 | rBB | 363 | 833 | 0.07% | 0.014% |
| 41 | 14.139 | 1090 | 1095 | 1097 | rBB | 374 | 666 | 0.06% | 0.011% |
| 42 | 14.276 | 1106 | 1108 | 1112 | rBB | 327 | 607 | 0.05% | 0.010% |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 43 | 14.561 | 1128 | 1135 | 1160 | rBB | 440404 | 1007909 | 87.79% | 17.340% |
| 44 | 15.257 | 1199 | 1201 | 1205 | rBB | 332 | 807 | 0.07% | 0.014% |
| 45 | 15.658 | 1235 | 1239 | 1242 | rBB | 356 | 643 | 0.06% | 0.011% |
| 46 | 15.764 | 1245 | 1249 | 1252 | rBB | 309 | 579 | 0.05% | 0.010% |
| 47 | 15.922 | 1261 | 1264 | 1266 | rBB | 385 | 643 | 0.06% | 0.011% |
| 48 | 16.059 | 1272 | 1277 | 1295 | rBB | 326188 | 720379 | 62.75% | 12.394% |
| 49 | 16.323 | 1297 | 1302 | 1306 | rBB | 411 | 1551 | 0.14% | 0.027% |
| 50 | 16.428 | 1309 | 1312 | 1316 | rBB | 395 | 868 | 0.08% | 0.015% |
| 51 | 16.576 | 1323 | 1326 | 1332 | rBB | 2952 | 6651 | 0.58% | 0.114% |
| 52 | 16.682 | 1334 | 1336 | 1339 | rBB | 324 | 592 | 0.05% | 0.010% |
| 53 | 16.724 | 1339 | 1340 | 1343 | rBB | 400 | 451 | 0.04% | 0.008% |
| 54 | 16.798 | 1344 | 1347 | 1349 | rBB | 322 | 592 | 0.05% | 0.010% |
| 55 | 16.893 | 1354 | 1356 | 1360 | rBB | 361 | 671 | 0.06% | 0.012% |
| 56 | 16.956 | 1361 | 1362 | 1365 | rBB | 404 | 498 | 0.04% | 0.009% |
| 57 | 17.051 | 1369 | 1371 | 1372 | rBB | 368 | 456 | 0.04% | 0.008% |
| 58 | 17.083 | 1372 | 1374 | 1376 | rBB | 403 | 700 | 0.06% | 0.012% |
| 59 | 17.167 | 1376 | 1382 | 1383 | rBB | 391 | 1112 | 0.10% | 0.019% |
| 60 | 17.252 | 1388 | 1390 | 1391 | rBB | 381 | 432 | 0.04% | 0.007% |
| 61 | 17.273 | 1391 | 1392 | 1394 | rBB | 359 | 424 | 0.04% | 0.007% |
| 62 | 17.399 | 1403 | 1404 | 1408 | rBB | 378 | 460 | 0.04% | 0.008% |
| 63 | 17.579 | 1414 | 1421 | 1441 | rBB | 441102 | 923183 | 80.41% | 15.883% |
| 64 | 17.821 | 1441 | 1444 | 1446 | rBB | 395 | 662 | 0.06% | 0.011% |
| 65 | 17.885 | 1447 | 1450 | 1451 | rBB | 384 | 671 | 0.06% | 0.012% |
| 66 | 17.916 | 1451 | 1453 | 1456 | rBB | 423 | 886 | 0.08% | 0.015% |
| 67 | 17.969 | 1456 | 1458 | 1461 | rBB | 406 | 881 | 0.08% | 0.015% |
| 68 | 18.043 | 1464 | 1465 | 1468 | rBB | 417 | 463 | 0.04% | 0.008% |
| 69 | 18.159 | 1469 | 1476 | 1483 | rBB | 408 | 2458 | 0.21% | 0.042% |
| 70 | 18.296 | 1484 | 1489 | 1490 | rBB | 412 | 1087 | 0.09% | 0.019% |
| 71 | 18.328 | 1490 | 1492 | 1493 | rBB | 401 | 458 | 0.04% | 0.008% |
| 72 | 18.391 | 1496 | 1498 | 1505 | rBB | 396 | 1795 | 0.16% | 0.031% |
| 73 | 18.550 | 1511 | 1513 | 1514 | rBB | 406 | 469 | 0.04% | 0.008% |
| 74 | 18.602 | 1514 | 1518 | 1520 | rBB | 381 | 899 | 0.08% | 0.015% |
| 75 | 18.645 | 1521 | 1522 | 1524 | rBB | 372 | 471 | 0.04% | 0.008% |
| 76 | 18.718 | 1527 | 1529 | 1532 | rBB | 528 | 939 | 0.08% | 0.016% |
| 77 | 18.792 | 1532 | 1536 | 1538 | rBV | 556 | 1485 | 0.13% | 0.026% |
| 78 | 18.887 | 1544 | 1545 | 1547 | rBB | 384 | 465 | 0.04% | 0.008% |
| 79 | 18.982 | 1547 | 1554 | 1555 | rBB | 398 | 1337 | 0.12% | 0.023% |
| 80 | 19.003 | 1555 | 1556 | 1561 | rBV | 384 | 1282 | 0.11% | 0.022% |
| 81 | 19.204 | 1572 | 1575 | 1578 | rBV | 490 | 1436 | 0.13% | 0.025% |
| 82 | 19.320 | 1585 | 1586 | 1588 | rBV | 491 | 796 | 0.07% | 0.014% |
| 83 | 19.436 | 1594 | 1597 | 1598 | rBV | 431 | 900 | 0.08% | 0.015% |
| 84 | 19.647 | 1613 | 1617 | 1621 | rBB | 464 | 1634 | 0.14% | 0.028% |
| 85 | 19.710 | 1621 | 1623 | 1625 | rBV | 419 | 1021 | 0.09% | 0.018% |
| 86 | 19.911 | 1640 | 1642 | 1643 | rBB | 438 | 484 | 0.04% | 0.008% |
| 87 | 19.943 | 1643 | 1645 | 1647 | rBB | 457 | 722 | 0.06% | 0.012% |
| 88 | 19.974 | 1647 | 1648 | 1654 | rBV | 396 | 1599 | 0.14% | 0.028% |
| 89 | 20.439 | 1687 | 1692 | 1695 | rBV | 518 | 2139 | 0.19% | 0.037% |
| 90 | 20.882 | 1728 | 1734 | 1737 | rVB | 499 | 2021 | 0.18% | 0.035% |
| 91 | 20.977 | 1737 | 1743 | 1748 | rBV | 470 | 2713 | 0.24% | 0.047% |
| 92 | 21.188 | 1761 | 1763 | 1765 | rBV | 426 | 981 | 0.09% | 0.017% |
| 93 | 21.241 | 1765 | 1768 | 1770 | rVV | 432 | 1073 | 0.09% | 0.018% |
| 94 | 21.283 | 1770 | 1772 | 1775 | rVV | 346 | 934 | 0.08% | 0.016% |
| 95 | 21.336 | 1775 | 1777 | 1778 | rVB | 835 | 781 | 0.07% | 0.013% |
| 96 | 21.473 | 1785 | 1790 | 1792 | rVV | 242 | 756 | 0.07% | 0.013% |
| 97 | 21.673 | 1807 | 1809 | 1810 | rBV | 464 | 754 | 0.07% | 0.013% |
| 98 | 22.043 | 1841 | 1844 | 1845 | rVB | 791 | 1184 | 0.10% | 0.020% |
| 99 | 22.064 | 1845 | 1846 | 1848 | rBV | 512 | 899 | 0.08% | 0.015% |
| 100 | 22.296 | 1865 | 1868 | 1874 | rVB | 597 | 1232 | 0.11% | 0.021% |

Sum of corrected areas: 5812502

File : C:\MSDCHEM\1\DATA\090617\9M982378.D
Operator : JDS
Acquired : 6 Sep 2017 18:46 using AcqMethod 8260C
Instrument : hpms9
Sample Name: L17081498-01 B 826-SPE
Misc Info : 1,1
Vial Number: 16
Quant File :8260C.RES (RTE Integrator)



Tentatively Identified Compound (LSC) summary

Operator ID: JDS  Date Acquired:  6 Sep 2017  18:46
Data File: C:\MSDCHEM\1\DATA\090617\9M982378.D
Name: L17081498-01 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

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

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\090617\9M982379.D Vial: 17
Acq On : 6 Sep 2017 19:15 Operator: JDS
Sample : L17081498-03 B 826-SPE Inst : hpms9
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 07 09:46:22 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

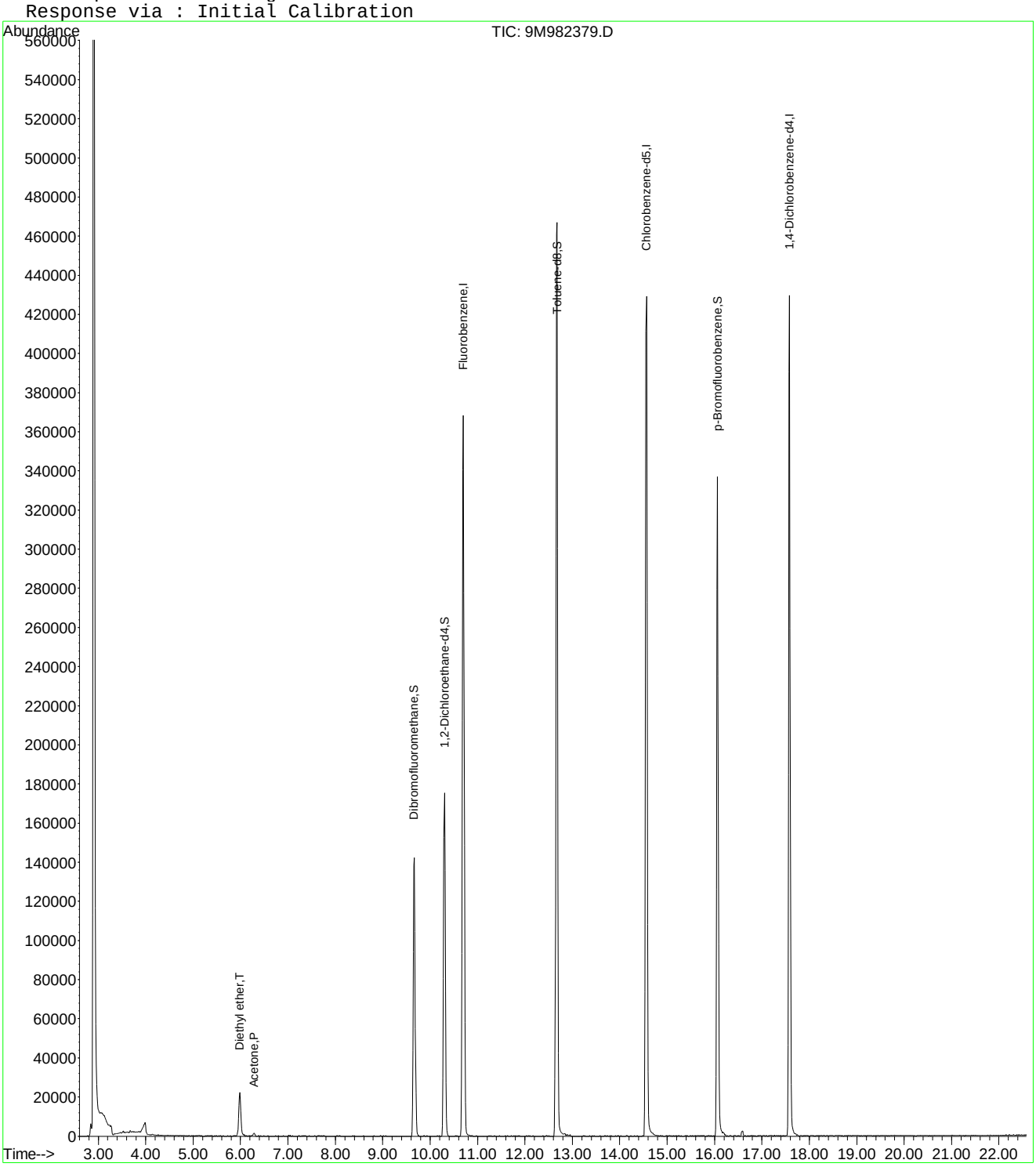
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene | 10.70 | 96 | 453482 | 50.00 | ug/L | 0.00 |
| 57) Chlorobenzene-d5 | 14.56 | 117 | 338027 | 50.00 | ug/L | 0.00 |
| 77) 1,4-Dichlorobenzene-d4 | 17.58 | 152 | 155673 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 37) Dibromofluoromethane | 9.66 | 111 | 130498 | 51.3949 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 86 - 118 | | Recovery = 102.78% | | | |
| 43) 1,2-Dichloroethane-d4 | 10.30 | 65 | 160131 | 53.9914 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 107.98% | | | |
| 58) Toluene-d8 | 12.68 | 98 | 446116 | 53.6083 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 88 - 110 | | Recovery = 107.22% | | | |
| 79) p-Bromofluorobenzene | 16.06 | 95 | 154312 | 55.9042 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 86 - 115 | | Recovery = 111.80% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 9) Diethyl ether | 5.97 | 59 | 1521 | 0.5891 | ug/L # | 1 |
| 13) Acetone | 6.28 | 43 | 3468 | 2.5166 | ug/L | 80 |

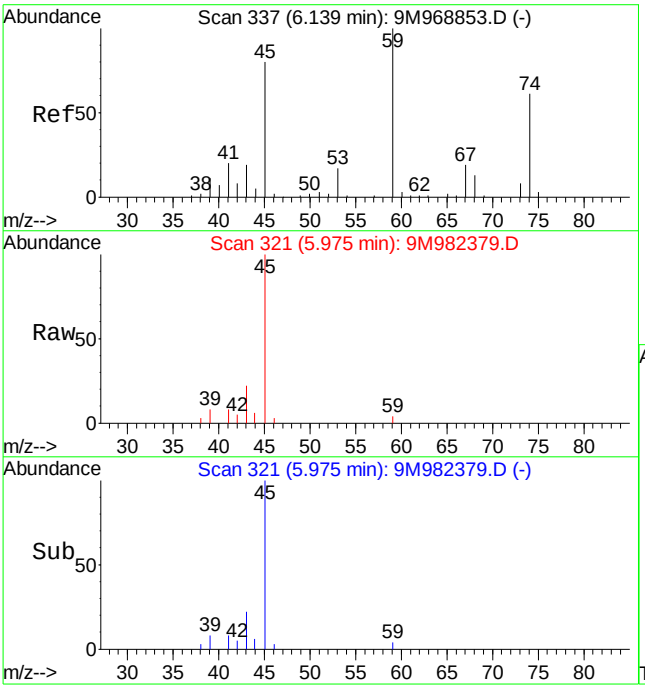
(#) = qualifier out of range (m) = manual integration
9M982379.D 8260C.M Thu Sep 07 09:46:22 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\090617\9M982379.D Vial: 17
Acq On : 6 Sep 2017 19:15 Operator: JDS
Sample : L17081498-03 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

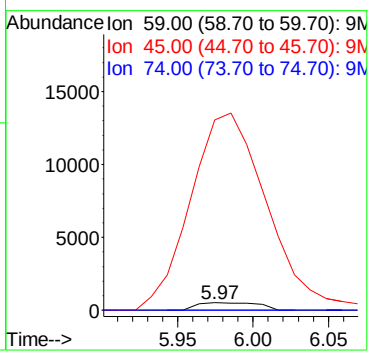


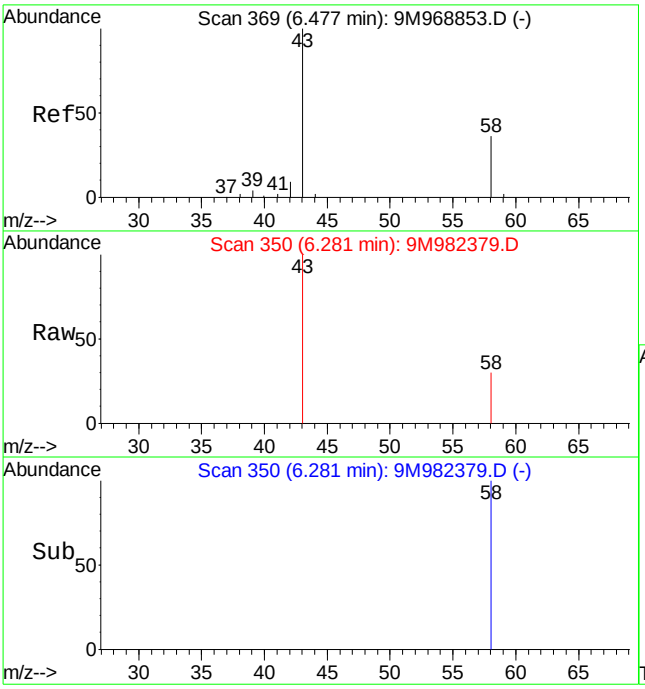



#9
Diethyl ether
Concen: 0.59 ug/L
RT: 5.97 min Scan# 321
Delta R.T. 0.04 min
Lab File: 9M982379.D
Acq: 6 Sep 2017 19:15

Tgt Ion: 59 Resp: 1521

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 59 | 100 | | |
| 45 | 3173.8 | 48.1 | 112.3# |
| 74 | 0.0 | 37.1 | 86.5# |

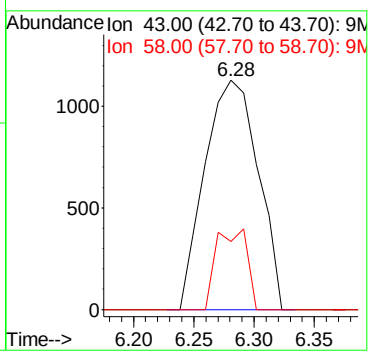



#13
Acetone
Concen: 2.52 ug/L
RT: 6.28 min Scan# 350
Delta R.T. 0.00 min
Lab File: 9M982379.D
Acq: 6 Sep 2017 19:15

Tgt Ion: 43 Resp: 3468

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 20.2 | 18.9 | 44.1 |



LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\090617\9M982379.D Vial: 17
Acq On : 6 Sep 2017 19:15 Operator: JDS
Sample : L17081498-03 B 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

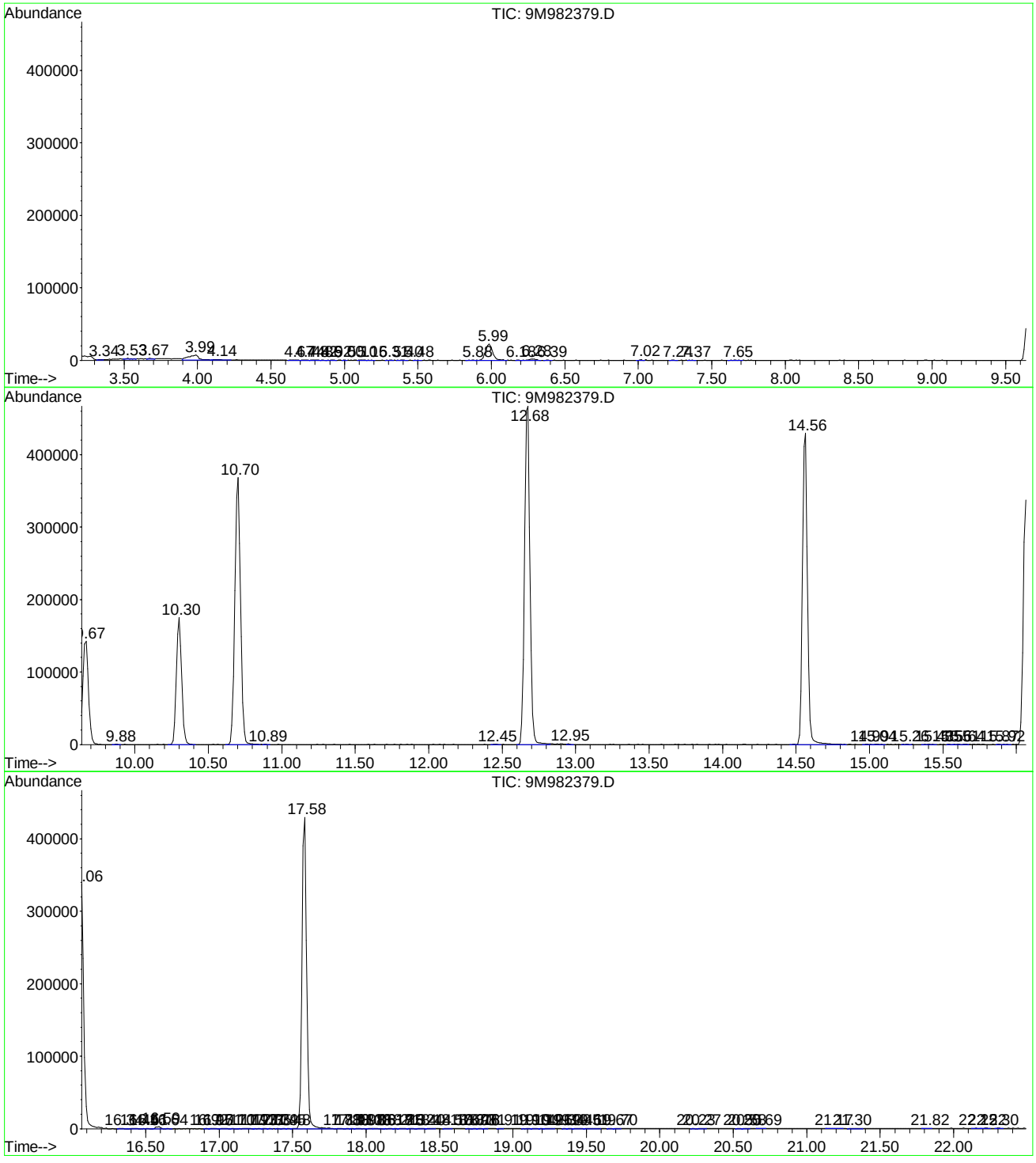
Signal : TIC

| peak # | R.T. min | first scan | max scan | last scan | PK TY | peak height | corr. area | corr. % max. | % of total |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 3.336 | 69 | 71 | 73 | rBV2 | 687 | 1436 | 0.12% | 0.024% |
| 2 | 3.526 | 86 | 89 | 94 | rBV2 | 1223 | 2572 | 0.22% | 0.044% |
| 3 | 3.674 | 101 | 103 | 106 | rBV3 | 945 | 1408 | 0.12% | 0.024% |
| 4 | 3.991 | 124 | 133 | 143 | rVB4 | 6412 | 29700 | 2.49% | 0.502% |
| 5 | 4.138 | 143 | 147 | 155 | rVB | 710 | 1844 | 0.15% | 0.031% |
| 6 | 4.666 | 192 | 197 | 200 | rBB | 472 | 1586 | 0.13% | 0.027% |
| 7 | 4.740 | 200 | 204 | 206 | rBB | 425 | 1172 | 0.10% | 0.020% |
| 8 | 4.824 | 206 | 212 | 213 | rBB | 451 | 1314 | 0.11% | 0.022% |
| 9 | 4.856 | 213 | 215 | 217 | rBB | 349 | 434 | 0.04% | 0.007% |
| 10 | 4.919 | 217 | 221 | 223 | rBB | 364 | 874 | 0.07% | 0.015% |
| 11 | 5.004 | 227 | 229 | 230 | rBB | 351 | 426 | 0.04% | 0.007% |
| 12 | 5.099 | 237 | 238 | 243 | rBB | 412 | 1152 | 0.10% | 0.019% |
| 13 | 5.162 | 243 | 244 | 248 | rBB | 393 | 450 | 0.04% | 0.008% |
| 14 | 5.310 | 255 | 258 | 260 | rBB | 391 | 645 | 0.05% | 0.011% |
| 15 | 5.405 | 262 | 267 | 269 | rBB | 326 | 806 | 0.07% | 0.014% |
| 16 | 5.479 | 273 | 274 | 278 | rBB | 385 | 448 | 0.04% | 0.008% |
| 17 | 5.880 | 307 | 312 | 313 | rBB | 335 | 613 | 0.05% | 0.010% |
| 18 | 5.985 | 313 | 322 | 333 | rBB | 22455 | 76191 | 6.40% | 1.289% |
| 19 | 6.175 | 339 | 340 | 343 | rBB | 354 | 428 | 0.04% | 0.007% |
| 20 | 6.281 | 343 | 350 | 355 | rBB | 1461 | 4789 | 0.40% | 0.081% |
| 21 | 6.386 | 357 | 360 | 362 | rBB | 378 | 436 | 0.04% | 0.007% |
| 22 | 7.019 | 417 | 420 | 422 | rBB | 665 | 619 | 0.05% | 0.010% |
| 23 | 7.241 | 438 | 441 | 443 | rBB | 413 | 461 | 0.04% | 0.008% |
| 24 | 7.368 | 450 | 453 | 455 | rBB | 352 | 424 | 0.04% | 0.007% |
| 25 | 7.652 | 476 | 480 | 485 | rBB | 351 | 812 | 0.07% | 0.014% |
| 26 | 9.668 | 664 | 671 | 682 | rBB | 142218 | 398572 | 33.47% | 6.743% |
| 27 | 9.879 | 688 | 691 | 693 | rBB | 385 | 443 | 0.04% | 0.007% |
| 28 | 10.301 | 724 | 731 | 741 | rBB | 175357 | 440105 | 36.96% | 7.445% |
| 29 | 10.702 | 761 | 769 | 783 | rBB | 368278 | 986768 | 82.87% | 16.693% |
| 30 | 10.892 | 785 | 787 | 789 | rBB | 360 | 426 | 0.04% | 0.007% |
| 31 | 12.454 | 932 | 935 | 938 | rBB | 332 | 602 | 0.05% | 0.010% |
| 32 | 12.676 | 949 | 956 | 970 | rBV | 467043 | 1190700 | 100.00% | 20.143% |
| 33 | 12.950 | 981 | 982 | 985 | rVB | 731 | 657 | 0.06% | 0.011% |
| 34 | 14.565 | 1125 | 1135 | 1161 | rBB | 429350 | 1023788 | 85.98% | 17.319% |
| 35 | 14.987 | 1172 | 1175 | 1178 | rBB | 341 | 622 | 0.05% | 0.011% |
| 36 | 15.039 | 1179 | 1180 | 1186 | rBB | 315 | 776 | 0.07% | 0.013% |
| 37 | 15.261 | 1197 | 1201 | 1203 | rBB | 356 | 628 | 0.05% | 0.011% |
| 38 | 15.430 | 1210 | 1217 | 1219 | rBB | 343 | 852 | 0.07% | 0.014% |
| 39 | 15.546 | 1226 | 1228 | 1230 | rBB | 364 | 448 | 0.04% | 0.008% |
| 40 | 15.609 | 1230 | 1234 | 1235 | rBB | 311 | 588 | 0.05% | 0.010% |
| 41 | 15.641 | 1236 | 1237 | 1240 | rBB | 407 | 671 | 0.06% | 0.011% |
| 42 | 15.873 | 1258 | 1259 | 1261 | rBB | 366 | 423 | 0.04% | 0.007% |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 43 | 15.915 | 1262 | 1263 | 1267 | rBB | 380 | 464 | 0.04% | 0.008% |
| 44 | 16.063 | 1270 | 1277 | 1295 | rBB | 337130 | 747536 | 62.78% | 12.646% |
| 45 | 16.337 | 1300 | 1303 | 1306 | rBB | 392 | 897 | 0.08% | 0.015% |
| 46 | 16.443 | 1307 | 1313 | 1315 | rBB | 364 | 1062 | 0.09% | 0.018% |
| 47 | 16.506 | 1316 | 1319 | 1322 | rBB | 325 | 594 | 0.05% | 0.010% |
| 48 | 16.591 | 1323 | 1327 | 1330 | rBB2 | 2707 | 5884 | 0.49% | 0.100% |
| 49 | 16.643 | 1331 | 1332 | 1335 | rBB2 | 351 | 433 | 0.04% | 0.007% |
| 50 | 16.918 | 1356 | 1358 | 1359 | rBB2 | 392 | 444 | 0.04% | 0.008% |
| 51 | 16.949 | 1359 | 1361 | 1365 | rBB | 400 | 1107 | 0.09% | 0.019% |
| 52 | 17.013 | 1366 | 1367 | 1372 | rBB | 398 | 1120 | 0.09% | 0.019% |
| 53 | 17.097 | 1373 | 1375 | 1377 | rBB | 347 | 423 | 0.04% | 0.007% |
| 54 | 17.192 | 1378 | 1384 | 1388 | rBB | 367 | 1428 | 0.12% | 0.024% |
| 55 | 17.266 | 1388 | 1391 | 1393 | rBB | 484 | 714 | 0.06% | 0.012% |
| 56 | 17.308 | 1393 | 1395 | 1397 | rBB | 371 | 667 | 0.06% | 0.011% |
| 57 | 17.350 | 1397 | 1399 | 1400 | rBB | 421 | 466 | 0.04% | 0.008% |
| 58 | 17.393 | 1402 | 1403 | 1405 | rBB | 358 | 443 | 0.04% | 0.007% |
| 59 | 17.445 | 1406 | 1408 | 1409 | rBB | 360 | 450 | 0.04% | 0.008% |
| 60 | 17.477 | 1409 | 1411 | 1412 | rBB | 354 | 425 | 0.04% | 0.007% |
| 61 | 17.583 | 1412 | 1421 | 1440 | rBB | 429720 | 932048 | 78.28% | 15.767% |
| 62 | 17.825 | 1441 | 1444 | 1446 | rBB | 439 | 921 | 0.08% | 0.016% |
| 63 | 17.878 | 1447 | 1449 | 1450 | rBB | 364 | 448 | 0.04% | 0.008% |
| 64 | 17.910 | 1450 | 1452 | 1453 | rBB | 396 | 470 | 0.04% | 0.008% |
| 65 | 17.984 | 1453 | 1459 | 1460 | rBB | 327 | 1022 | 0.09% | 0.017% |
| 66 | 18.026 | 1461 | 1463 | 1465 | rBV | 380 | 863 | 0.07% | 0.015% |
| 67 | 18.058 | 1465 | 1466 | 1472 | rVB | 447 | 1061 | 0.09% | 0.018% |
| 68 | 18.174 | 1472 | 1477 | 1478 | rBB | 369 | 851 | 0.07% | 0.014% |
| 69 | 18.205 | 1478 | 1480 | 1481 | rBB | 431 | 463 | 0.04% | 0.008% |
| 70 | 18.247 | 1481 | 1484 | 1487 | rBB | 390 | 1156 | 0.10% | 0.020% |
| 71 | 18.321 | 1487 | 1491 | 1492 | rBB | 439 | 936 | 0.08% | 0.016% |
| 72 | 18.395 | 1493 | 1498 | 1499 | rBB | 415 | 1173 | 0.10% | 0.020% |
| 73 | 18.437 | 1499 | 1502 | 1505 | rBV | 365 | 1244 | 0.10% | 0.021% |
| 74 | 18.575 | 1510 | 1515 | 1516 | rBV | 397 | 1346 | 0.11% | 0.023% |
| 75 | 18.691 | 1525 | 1526 | 1528 | rBB | 478 | 514 | 0.04% | 0.009% |
| 76 | 18.733 | 1529 | 1530 | 1532 | rBB | 385 | 440 | 0.04% | 0.007% |
| 77 | 18.765 | 1532 | 1533 | 1536 | rBB | 354 | 627 | 0.05% | 0.011% |
| 78 | 18.807 | 1536 | 1537 | 1539 | rBV | 407 | 681 | 0.06% | 0.012% |
| 79 | 18.912 | 1545 | 1547 | 1549 | rBV | 383 | 909 | 0.08% | 0.015% |
| 80 | 19.102 | 1561 | 1565 | 1567 | rBB | 417 | 931 | 0.08% | 0.016% |
| 81 | 19.144 | 1567 | 1569 | 1572 | rBB | 439 | 1006 | 0.08% | 0.017% |
| 82 | 19.187 | 1572 | 1573 | 1575 | rBB | 453 | 569 | 0.05% | 0.010% |
| 83 | 19.261 | 1575 | 1580 | 1582 | rBV | 444 | 1649 | 0.14% | 0.028% |
| 84 | 19.345 | 1587 | 1588 | 1590 | rBB | 359 | 440 | 0.04% | 0.007% |
| 85 | 19.387 | 1590 | 1592 | 1594 | rBB | 368 | 666 | 0.06% | 0.011% |
| 86 | 19.461 | 1594 | 1599 | 1601 | rBB | 394 | 1339 | 0.11% | 0.023% |
| 87 | 19.514 | 1601 | 1604 | 1612 | rBV | 454 | 2726 | 0.23% | 0.046% |
| 88 | 19.672 | 1616 | 1619 | 1620 | rBB | 392 | 729 | 0.06% | 0.012% |
| 89 | 19.704 | 1620 | 1622 | 1625 | rBV | 350 | 1053 | 0.09% | 0.018% |
| 90 | 20.231 | 1670 | 1672 | 1673 | rBB | 426 | 487 | 0.04% | 0.008% |
| 91 | 20.274 | 1674 | 1676 | 1680 | rBV | 478 | 1475 | 0.12% | 0.025% |
| 92 | 20.548 | 1699 | 1702 | 1703 | rBB | 441 | 767 | 0.06% | 0.013% |
| 93 | 20.580 | 1703 | 1705 | 1708 | rBV | 443 | 1263 | 0.11% | 0.021% |
| 94 | 20.685 | 1712 | 1715 | 1718 | rVV | 143 | 439 | 0.04% | 0.007% |
| 95 | 21.171 | 1757 | 1761 | 1768 | rBV | 215 | 641 | 0.05% | 0.011% |
| 96 | 21.297 | 1771 | 1773 | 1781 | rBV | 517 | 2675 | 0.22% | 0.045% |
| 97 | 21.825 | 1819 | 1823 | 1825 | rBV | 196 | 481 | 0.04% | 0.008% |
| 98 | 22.152 | 1851 | 1854 | 1857 | rVB | 453 | 548 | 0.05% | 0.009% |
| 99 | 22.215 | 1857 | 1860 | 1863 | rBV | 421 | 820 | 0.07% | 0.014% |
| 100 | 22.300 | 1866 | 1868 | 1871 | rBV | 459 | 685 | 0.06% | 0.012% |

Sum of corrected areas: 5911228

File : C:\MSDCHEM\1\DATA\090617\9M982379.D
Operator : JDS
Acquired : 6 Sep 2017 19:15 using AcqMethod 8260C
Instrument : hpms9
Sample Name: L17081498-03 B 826-SPE
Misc Info : 1,1
Vial Number: 17
Quant File :8260C.RES (RTE Integrator)



Tentatively Identified Compound (LSC) summary

Operator ID: JDS  Date Acquired:  6 Sep 2017  19:15
Data File: C:\MSDCHEM\1\DATA\090617\9M982379.D
Name: L17081498-03 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

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

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\090617\9M982380.D Vial: 18
Acq On : 6 Sep 2017 19:45 Operator: JDS
Sample : L17081498-07 B 826-SPE Inst : hpms9
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 07 09:46:23 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

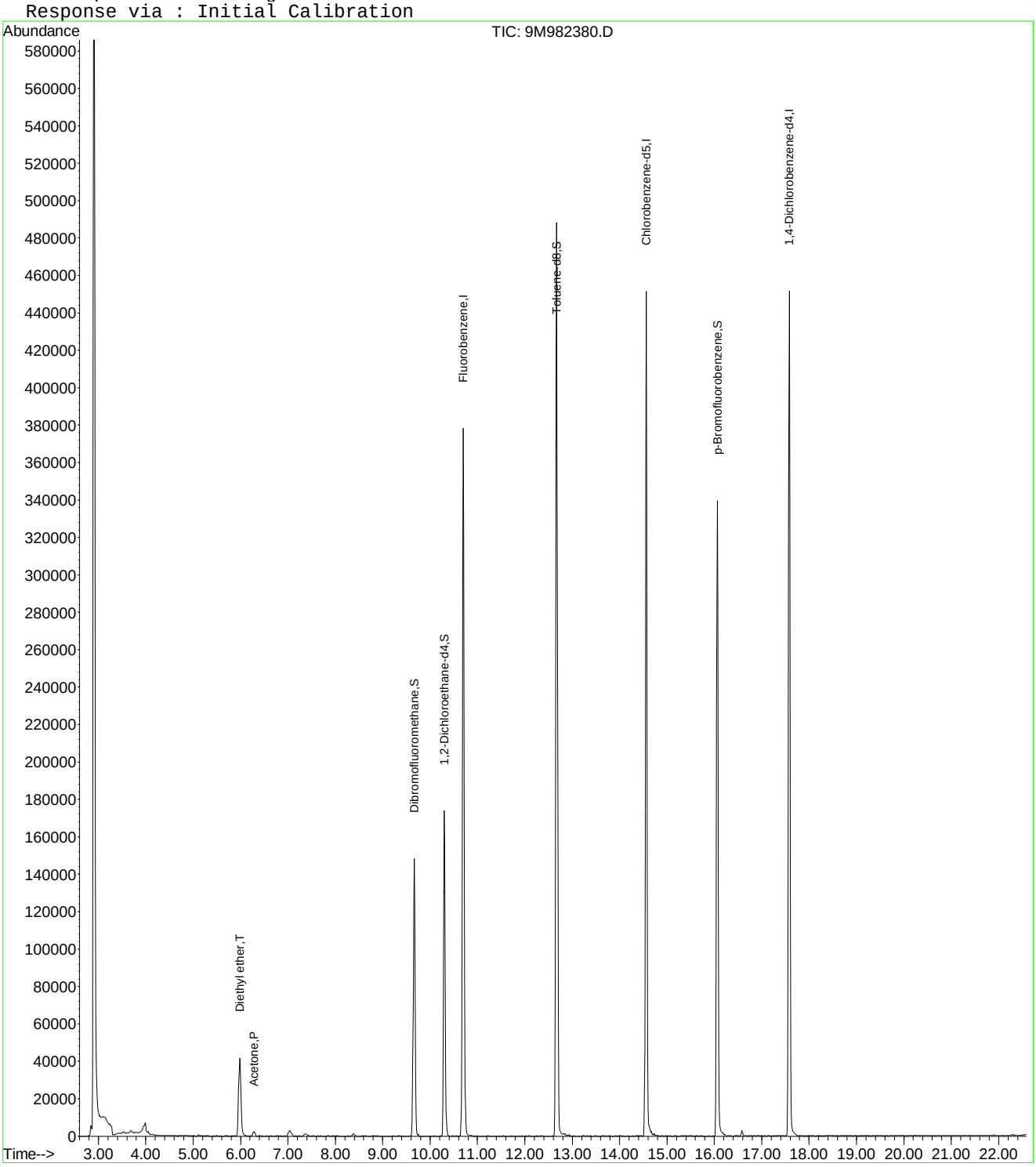
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene | 10.70 | 96 | 461057 | 50.00 | ug/L | 0.00 |
| 57) Chlorobenzene-d5 | 14.56 | 117 | 343005 | 50.00 | ug/L | 0.00 |
| 77) 1,4-Dichlorobenzene-d4 | 17.58 | 152 | 157268 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 37) Dibromofluoromethane | 9.67 | 111 | 129759 | 50.2643 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 86 - 118 | | Recovery = 100.52% | | | |
| 43) 1,2-Dichloroethane-d4 | 10.30 | 65 | 157947 | 52.3801 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 104.76% | | | |
| 58) Toluene-d8 | 12.67 | 98 | 441490 | 52.2824 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 88 - 110 | | Recovery = 104.56% | | | |
| 79) p-Bromofluorobenzene | 16.06 | 95 | 152697 | 54.7580 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 86 - 115 | | Recovery = 109.52% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 9) Diethyl ether | 5.98 | 59 | 3310 | 1.2609 | ug/L # | 1 |
| 13) Acetone | 6.28 | 43 | 5122 | 3.6558 | ug/L | 93 |

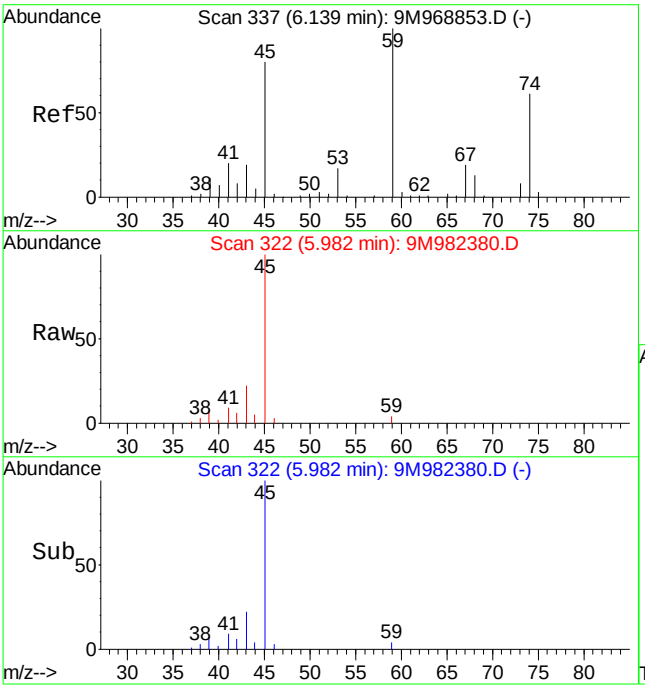
(#) = qualifier out of range (m) = manual integration
9M982380.D 8260C.M Thu Sep 07 09:46:23 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\090617\9M982380.D Vial: 18
Acq On : 6 Sep 2017 19:45 Operator: JDS
Sample : L17081498-07 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

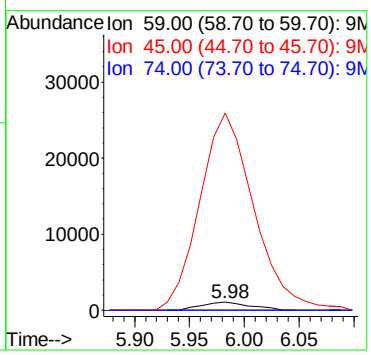


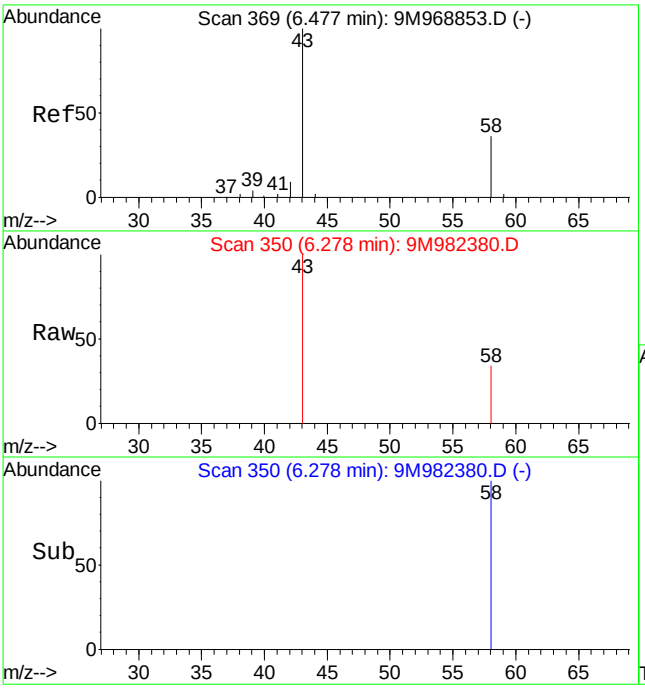



#9
Diethyl ether
Concen: 1.26 ug/L
RT: 5.98 min Scan# 322
Delta R.T. 0.04 min
Lab File: 9M982380.D
Acq: 6 Sep 2017 19:45

Tgt Ion: 59 Resp: 3310

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 59 | 100 | | |
| 45 | 2697.6 | 48.1 | 112.3# |
| 74 | 0.0 | 37.1 | 86.5# |

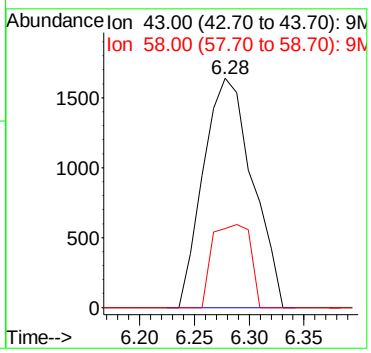



#13
Acetone
Concen: 3.66 ug/L
RT: 6.28 min Scan# 350
Delta R.T. 0.00 min
Lab File: 9M982380.D
Acq: 6 Sep 2017 19:45

Tgt Ion: 43 Resp: 5122

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 27.9 | 18.9 | 44.1 |



LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\090617\9M982380.D Vial: 18
Acq On : 6 Sep 2017 19:45 Operator: JDS
Sample : L17081498-07 B 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

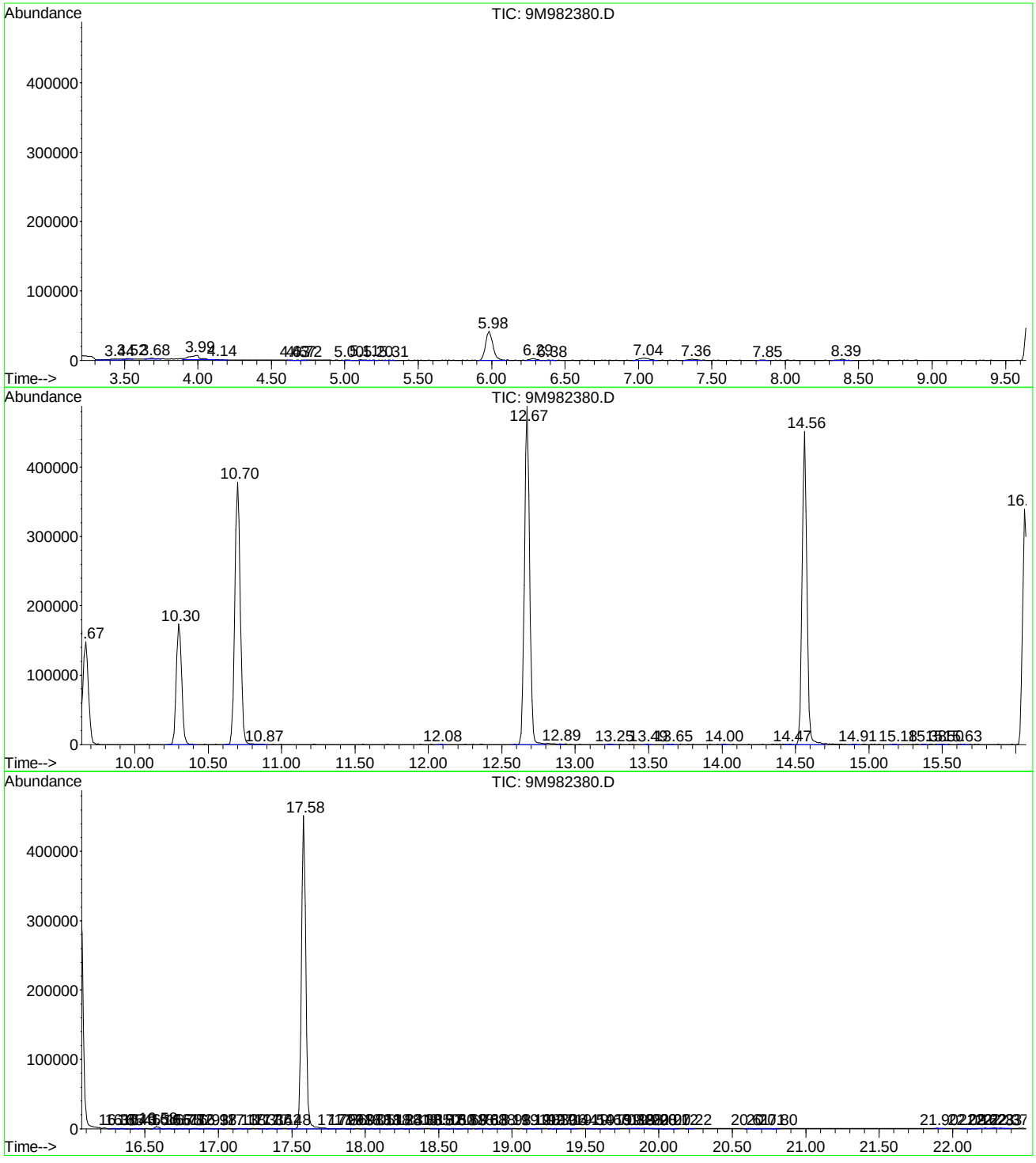
Signal : TIC

| peak # | R.T. min | first scan | max scan | last scan | PK TY | peak height | corr. area | corr. % max. | % of total |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 3.439 | 69 | 81 | 85 | rBV2 | 1086 | 7596 | 0.64% | 0.126% |
| 2 | 3.523 | 86 | 89 | 92 | rVV2 | 1148 | 1987 | 0.17% | 0.033% |
| 3 | 3.682 | 100 | 104 | 110 | rVB3 | 1325 | 3759 | 0.32% | 0.062% |
| 4 | 3.988 | 124 | 133 | 144 | rVB5 | 6413 | 34531 | 2.91% | 0.571% |
| 5 | 4.136 | 145 | 147 | 153 | rVB | 642 | 1749 | 0.15% | 0.029% |
| 6 | 4.632 | 192 | 194 | 196 | rVB | 441 | 828 | 0.07% | 0.014% |
| 7 | 4.674 | 197 | 198 | 200 | rBB | 425 | 480 | 0.04% | 0.008% |
| 8 | 4.716 | 200 | 202 | 205 | rBV | 393 | 1037 | 0.09% | 0.017% |
| 9 | 5.001 | 228 | 229 | 234 | rBB | 330 | 814 | 0.07% | 0.013% |
| 10 | 5.106 | 236 | 239 | 244 | rBB | 748 | 1513 | 0.13% | 0.025% |
| 11 | 5.201 | 244 | 248 | 250 | rBB | 316 | 592 | 0.05% | 0.010% |
| 12 | 5.307 | 254 | 258 | 262 | rBB | 374 | 875 | 0.07% | 0.014% |
| 13 | 5.982 | 315 | 322 | 333 | rBB | 41795 | 142722 | 12.03% | 2.360% |
| 14 | 6.288 | 346 | 351 | 356 | rBB2 | 2506 | 7410 | 0.62% | 0.123% |
| 15 | 6.383 | 358 | 360 | 365 | rBB2 | 336 | 616 | 0.05% | 0.010% |
| 16 | 7.038 | 415 | 422 | 430 | rBB | 3095 | 14321 | 1.21% | 0.237% |
| 17 | 7.365 | 447 | 453 | 459 | rBB | 1358 | 5531 | 0.47% | 0.091% |
| 18 | 7.850 | 495 | 499 | 502 | rBB | 364 | 842 | 0.07% | 0.014% |
| 19 | 8.388 | 543 | 550 | 556 | rBB | 1426 | 3987 | 0.34% | 0.066% |
| 20 | 9.665 | 661 | 671 | 681 | rBB | 148272 | 399536 | 33.68% | 6.607% |
| 21 | 10.298 | 723 | 731 | 742 | rBB | 174029 | 439402 | 37.04% | 7.267% |
| 22 | 10.699 | 760 | 769 | 783 | rBV | 378472 | 998118 | 84.14% | 16.506% |
| 23 | 10.868 | 784 | 785 | 788 | rVB | 646 | 613 | 0.05% | 0.010% |
| 24 | 12.082 | 898 | 900 | 903 | rBB | 368 | 440 | 0.04% | 0.007% |
| 25 | 12.673 | 946 | 956 | 968 | rBV | 488376 | 1186327 | 100.00% | 19.619% |
| 26 | 12.894 | 976 | 977 | 979 | rBV | 730 | 1086 | 0.09% | 0.018% |
| 27 | 13.253 | 1006 | 1011 | 1013 | rBB | 347 | 814 | 0.07% | 0.013% |
| 28 | 13.485 | 1031 | 1033 | 1036 | rBB | 367 | 453 | 0.04% | 0.007% |
| 29 | 13.654 | 1045 | 1049 | 1052 | rBB | 389 | 643 | 0.05% | 0.011% |
| 30 | 14.002 | 1081 | 1082 | 1086 | rBB | 355 | 613 | 0.05% | 0.010% |
| 31 | 14.467 | 1122 | 1126 | 1128 | rBB | 374 | 672 | 0.06% | 0.011% |
| 32 | 14.562 | 1129 | 1135 | 1148 | rBV | 451495 | 1029343 | 86.77% | 17.023% |
| 33 | 14.910 | 1164 | 1168 | 1170 | rBB | 338 | 608 | 0.05% | 0.010% |
| 34 | 15.184 | 1190 | 1194 | 1196 | rBB | 331 | 595 | 0.05% | 0.010% |
| 35 | 15.385 | 1210 | 1213 | 1214 | rBB | 325 | 597 | 0.05% | 0.010% |
| 36 | 15.501 | 1221 | 1224 | 1227 | rBB | 339 | 807 | 0.07% | 0.013% |
| 37 | 15.628 | 1235 | 1236 | 1240 | rBB | 403 | 481 | 0.04% | 0.008% |
| 38 | 16.060 | 1271 | 1277 | 1291 | rBV | 339603 | 746658 | 62.94% | 12.348% |
| 39 | 16.303 | 1296 | 1300 | 1301 | rBB | 391 | 843 | 0.07% | 0.014% |
| 40 | 16.345 | 1302 | 1304 | 1307 | rBB | 351 | 642 | 0.05% | 0.011% |
| 41 | 16.430 | 1310 | 1312 | 1314 | rBB | 372 | 469 | 0.04% | 0.008% |
| 42 | 16.461 | 1314 | 1315 | 1317 | rBB | 351 | 442 | 0.04% | 0.007% |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 43 | 16.577 | 1323 | 1326 | 1330 | rBB | 3058 | 6100 | 0.51% | 0.101% |
| 44 | 16.662 | 1331 | 1334 | 1337 | rBB | 415 | 878 | 0.07% | 0.015% |
| 45 | 16.746 | 1338 | 1342 | 1343 | rBB | 360 | 633 | 0.05% | 0.010% |
| 46 | 16.767 | 1343 | 1344 | 1347 | rBB | 366 | 674 | 0.06% | 0.011% |
| 47 | 16.820 | 1348 | 1349 | 1354 | rBB | 391 | 1121 | 0.09% | 0.019% |
| 48 | 16.926 | 1354 | 1359 | 1363 | rBB | 362 | 1505 | 0.13% | 0.025% |
| 49 | 16.978 | 1363 | 1364 | 1370 | rBB | 389 | 923 | 0.08% | 0.015% |
| 50 | 17.126 | 1376 | 1378 | 1382 | rBB | 382 | 871 | 0.07% | 0.014% |
| 51 | 17.179 | 1382 | 1383 | 1386 | rBB | 365 | 452 | 0.04% | 0.007% |
| 52 | 17.305 | 1392 | 1395 | 1397 | rBB | 384 | 669 | 0.06% | 0.011% |
| 53 | 17.358 | 1397 | 1400 | 1403 | rBB | 361 | 1036 | 0.09% | 0.017% |
| 54 | 17.422 | 1403 | 1406 | 1407 | rBV | 359 | 834 | 0.07% | 0.014% |
| 55 | 17.485 | 1411 | 1412 | 1415 | rBB | 375 | 676 | 0.06% | 0.011% |
| 56 | 17.580 | 1415 | 1421 | 1437 | rBB | 451834 | 944309 | 79.60% | 15.617% |
| 57 | 17.791 | 1437 | 1441 | 1442 | rBB | 330 | 606 | 0.05% | 0.010% |
| 58 | 17.865 | 1442 | 1448 | 1449 | rBB | 393 | 1075 | 0.09% | 0.018% |
| 59 | 17.907 | 1450 | 1452 | 1453 | rBB | 396 | 454 | 0.04% | 0.008% |
| 60 | 17.981 | 1458 | 1459 | 1463 | rBB | 447 | 938 | 0.08% | 0.016% |
| 61 | 18.055 | 1463 | 1466 | 1467 | rBB | 399 | 660 | 0.06% | 0.011% |
| 62 | 18.107 | 1467 | 1471 | 1473 | rBB | 427 | 888 | 0.07% | 0.015% |
| 63 | 18.181 | 1474 | 1478 | 1480 | rBB | 351 | 629 | 0.05% | 0.010% |
| 64 | 18.245 | 1480 | 1484 | 1487 | rBB | 390 | 906 | 0.08% | 0.015% |
| 65 | 18.308 | 1487 | 1490 | 1492 | rBB | 396 | 741 | 0.06% | 0.012% |
| 66 | 18.382 | 1494 | 1497 | 1498 | rBV | 410 | 890 | 0.08% | 0.015% |
| 67 | 18.498 | 1503 | 1508 | 1509 | rVB | 457 | 1312 | 0.11% | 0.022% |
| 68 | 18.519 | 1509 | 1510 | 1514 | rBB | 401 | 915 | 0.08% | 0.015% |
| 69 | 18.603 | 1515 | 1518 | 1521 | rBB | 365 | 864 | 0.07% | 0.014% |
| 70 | 18.688 | 1521 | 1526 | 1529 | rBB | 371 | 1325 | 0.11% | 0.022% |
| 71 | 18.762 | 1532 | 1533 | 1535 | rBV | 369 | 645 | 0.05% | 0.011% |
| 72 | 18.825 | 1536 | 1539 | 1541 | rVB | 473 | 1027 | 0.09% | 0.017% |
| 73 | 18.878 | 1541 | 1544 | 1548 | rBB | 431 | 1406 | 0.12% | 0.023% |
| 74 | 18.983 | 1550 | 1554 | 1555 | rBV | 385 | 1163 | 0.10% | 0.019% |
| 75 | 19.121 | 1563 | 1567 | 1569 | rBB | 411 | 914 | 0.08% | 0.015% |
| 76 | 19.184 | 1569 | 1573 | 1575 | rBV | 430 | 1401 | 0.12% | 0.023% |
| 77 | 19.268 | 1579 | 1581 | 1582 | rBB | 408 | 479 | 0.04% | 0.008% |
| 78 | 19.300 | 1582 | 1584 | 1585 | rBB | 366 | 463 | 0.04% | 0.008% |
| 79 | 19.363 | 1585 | 1590 | 1593 | rBB | 415 | 1455 | 0.12% | 0.024% |
| 80 | 19.437 | 1593 | 1597 | 1598 | rBV | 402 | 1125 | 0.09% | 0.019% |
| 81 | 19.543 | 1604 | 1607 | 1609 | rVB | 450 | 974 | 0.08% | 0.016% |
| 82 | 19.659 | 1611 | 1618 | 1619 | rBB | 420 | 1508 | 0.13% | 0.025% |
| 83 | 19.701 | 1620 | 1622 | 1625 | rBV | 407 | 1170 | 0.10% | 0.019% |
| 84 | 19.817 | 1630 | 1633 | 1637 | rVV | 305 | 989 | 0.08% | 0.016% |
| 85 | 19.880 | 1637 | 1639 | 1641 | rVV | 263 | 443 | 0.04% | 0.007% |
| 86 | 19.923 | 1641 | 1643 | 1646 | rVV | 311 | 569 | 0.05% | 0.009% |
| 87 | 19.975 | 1646 | 1648 | 1653 | rVB | 537 | 1429 | 0.12% | 0.024% |
| 88 | 20.070 | 1653 | 1657 | 1659 | rBB | 388 | 931 | 0.08% | 0.015% |
| 89 | 20.123 | 1659 | 1662 | 1663 | rBV | 391 | 866 | 0.07% | 0.014% |
| 90 | 20.218 | 1668 | 1671 | 1673 | rBV | 554 | 1282 | 0.11% | 0.021% |
| 91 | 20.608 | 1706 | 1708 | 1712 | rBB | 476 | 1336 | 0.11% | 0.022% |
| 92 | 20.714 | 1712 | 1718 | 1724 | rBB | 500 | 2826 | 0.24% | 0.047% |
| 93 | 20.798 | 1724 | 1726 | 1728 | rBV | 507 | 1011 | 0.09% | 0.017% |
| 94 | 21.896 | 1828 | 1830 | 1834 | rVB | 485 | 468 | 0.04% | 0.008% |
| 95 | 22.086 | 1845 | 1848 | 1851 | rVB | 517 | 1398 | 0.12% | 0.023% |
| 96 | 22.160 | 1851 | 1855 | 1856 | rBV | 418 | 1197 | 0.10% | 0.020% |
| 97 | 22.223 | 1857 | 1861 | 1864 | rVV | 595 | 1470 | 0.12% | 0.024% |
| 98 | 22.276 | 1864 | 1866 | 1870 | rVV | 595 | 1459 | 0.12% | 0.024% |
| 99 | 22.329 | 1870 | 1871 | 1873 | rVV | 545 | 584 | 0.05% | 0.010% |
| 100 | 22.371 | 1873 | 1875 | 1877 | rVV | 400 | 581 | 0.05% | 0.010% |

Sum of corrected areas: 6046845

File : C:\MSDCHEM\1\DATA\090617\9M982380.D
Operator : JDS
Acquired : 6 Sep 2017 19:45 using AcqMethod 8260C
Instrument : hpms9
Sample Name: L17081498-07 B 826-SPE
Misc Info : 1,1
Vial Number: 18
Quant File :8260C.RES (RTE Integrator)



Data File : C:\MSDCHEM\1\DATA\090617\9M982380.D Vial: 18
Acq On : 6 Sep 2017 19:45 Operator: JDS
Sample : L17081498-07 B 826-SPE Inst : hpms9
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

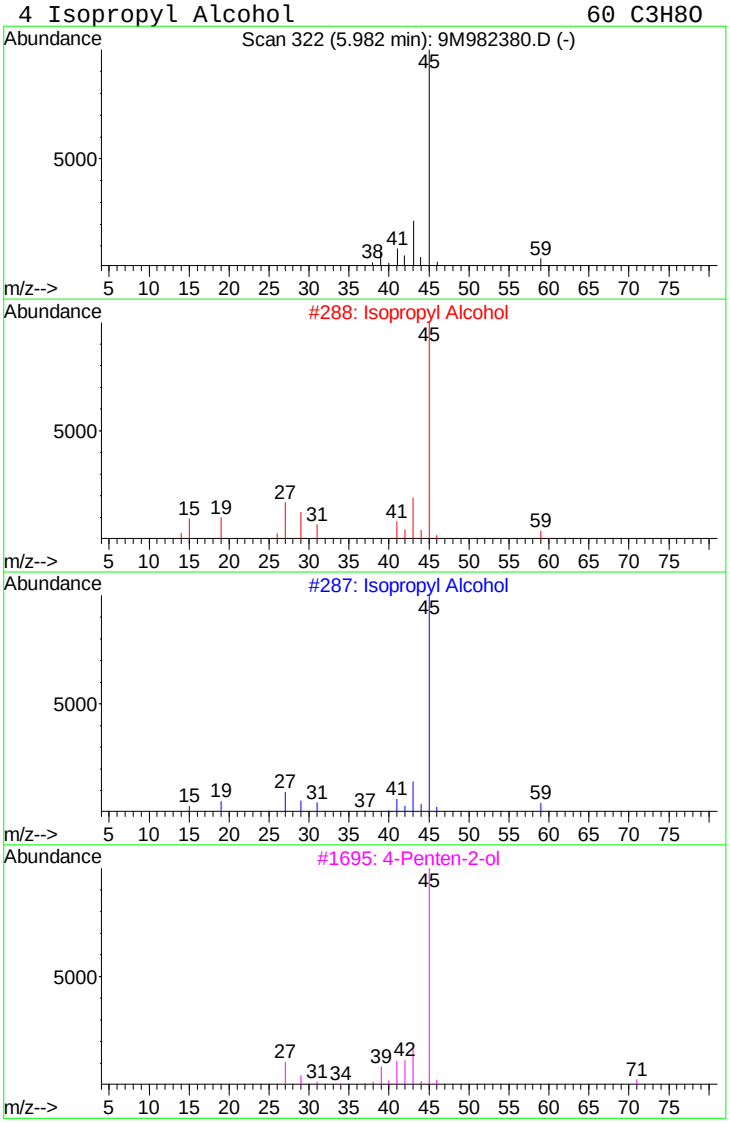
Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
Library : C:\DATABASE\NIST02.L

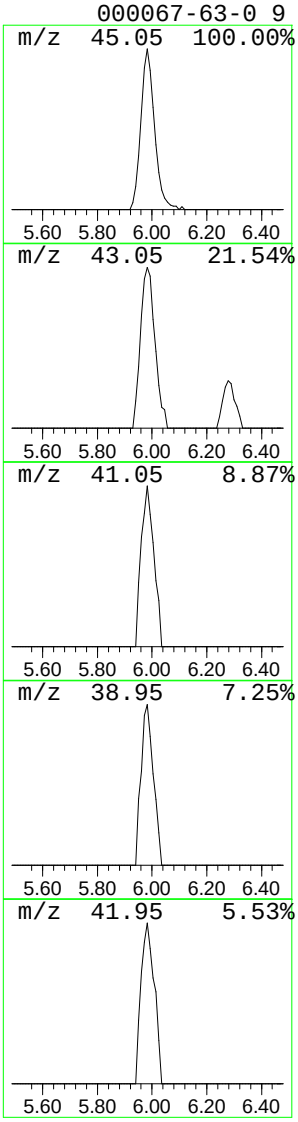
**********

Peak Number 1 Isopropyl Alcohol Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 5.98 | 7.15 ug/L | 142722 | 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 | 64 |
| 3 | 4-Penten-2-ol | 86 | C5H10O | 000625-31-0 | 9 |
| 4 | Isopropyl Alcohol | 60 | C3H8O | 000067-63-0 | 9 |



Tentatively Identified Compound (LSC) summary

Operator ID: JDS  Date Acquired:  6 Sep 2017  19:45
Data File: C:\MSDCHEM\1\DATA\090617\9M982380.D
Name: L17081498-07 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

| | | | | | Internal Standard | | | |
|---|---|---|---|---|---|---|---|---|
| TIC Top Hit name | RT | EstConc | Units | Response | # | RT | Resp | Conc |
| Isopropyl Alcohol | 5.98 | 7.1 | ug/L | 142722 | 1 | 10.70 | 998118 | 50.0 |

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\090617\9M982381.D Vial: 19
Acq On : 6 Sep 2017 20:14 Operator: JDS
Sample : L17081498-09 B 826-SPE Inst : hpms9
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 07 09:46:24 2017 Quant Results File: 8260C.RES

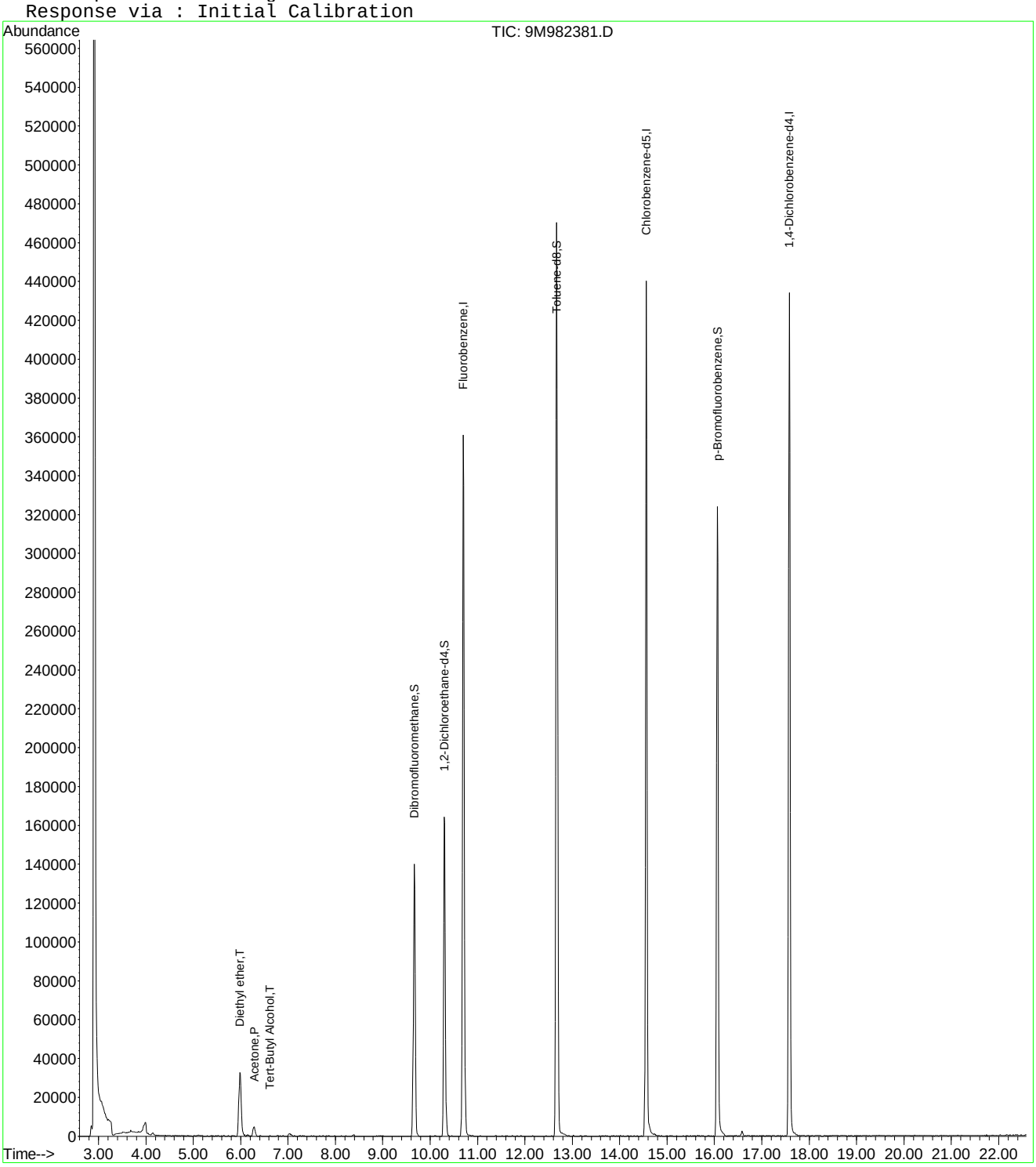
Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
Last Update : Mon Aug 14 14:47:27 2017
Response via : Initial Calibration
DataAcq Meth : 8260C

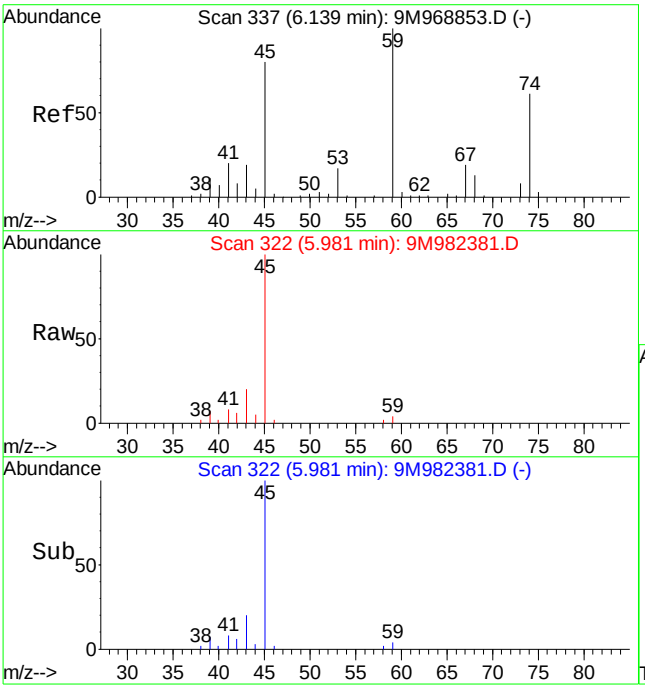
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene | 10.70 | 96 | 444988 | 50.00 | ug/L | 0.00 |
| 57) Chlorobenzene-d5 | 14.56 | 117 | 334089 | 50.00 | ug/L | 0.00 |
| 77) 1,4-Dichlorobenzene-d4 | 17.58 | 152 | 154130 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 37) Dibromofluoromethane | 9.66 | 111 | 124529 | 49.9803 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 86 - 118 | | Recovery = 99.96% | | | |
| 43) 1,2-Dichloroethane-d4 | 10.30 | 65 | 154959 | 53.2449 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 106.48% | | | |
| 58) Toluene-d8 | 12.67 | 98 | 426721 | 51.8821 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 88 - 110 | | Recovery = 103.76% | | | |
| 79) p-Bromofluorobenzene | 16.06 | 95 | 148381 | 54.2936 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 86 - 115 | | Recovery = 108.58% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 9) Diethyl ether | 5.98 | 59 | 2410 | 0.9512 | ug/L # | 1 |
| 13) Acetone | 6.29 | 43 | 10527 | 7.7850 | ug/L | 98 |
| 15) Tert-Butyl Alcohol | 6.61 | 59 | 441 | 0.9452 | ug/L # | 57 |

(#) = qualifier out of range (m) = manual integration
9M982381.D 8260C.M Thu Sep 07 09:46:24 2017 Page 1

Data File : C:\MSDCHEM\1\DATA\090617\9M982381.D Vial: 19
Acq On : 6 Sep 2017 20:14 Operator: JDS
Sample : L17081498-09 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

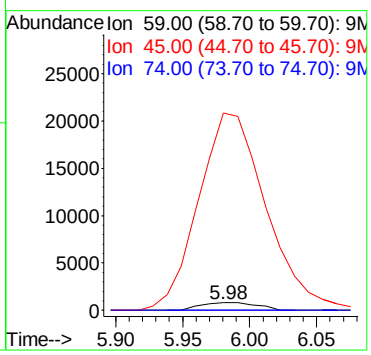


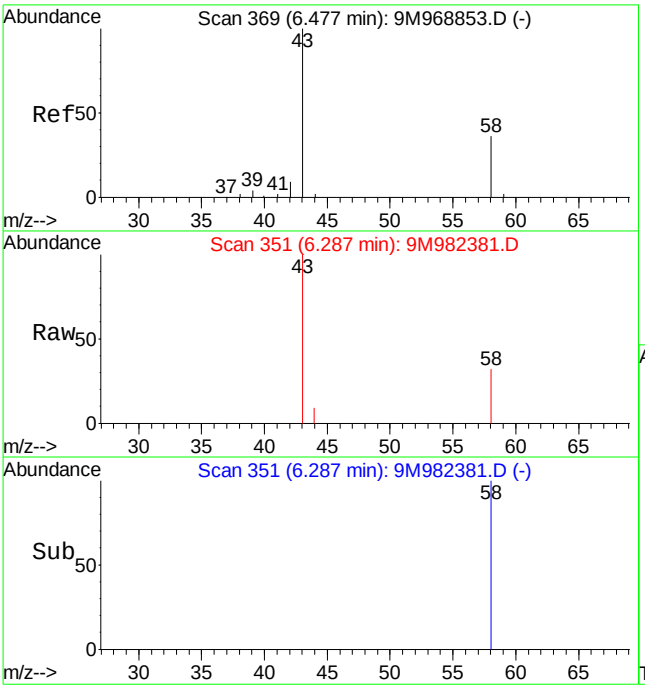



#9
Diethyl ether
Concen: 0.95 ug/L
RT: 5.98 min Scan# 322
Delta R.T. 0.04 min
Lab File: 9M982381.D
Acq: 6 Sep 2017 20:14

Tgt Ion: 59 Resp: 2410

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 59 | 100 | | |
| 45 | 3058.6 | 48.1 | 112.3# |
| 74 | 0.0 | 37.1 | 86.5# |

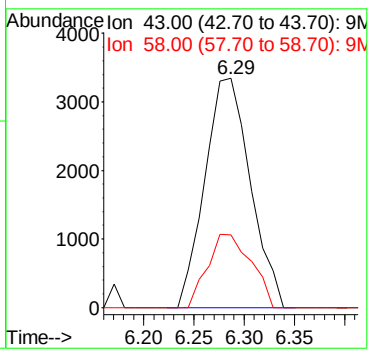


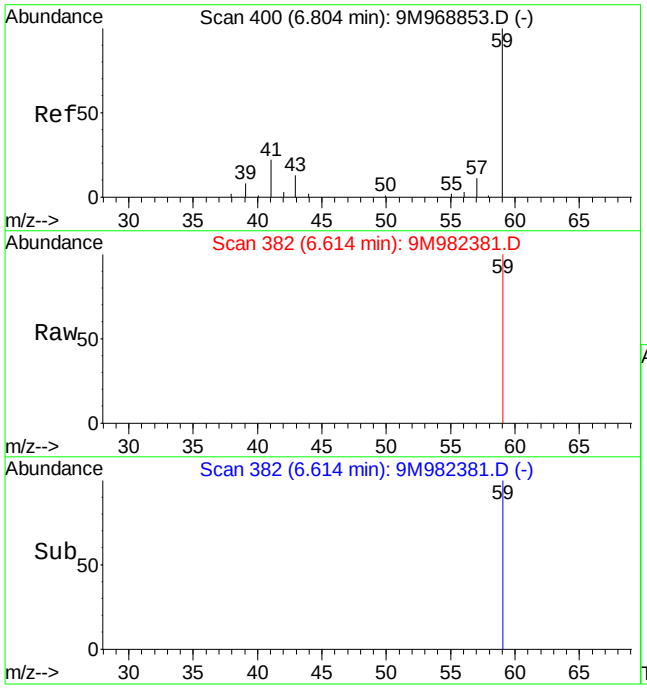




#13
Acetone
Concen: 7.78 ug/L
RT: 6.29 min Scan# 351
Delta R.T. 0.01 min
Lab File: 9M982381.D
Acq: 6 Sep 2017 20:14

Tgt Ion: 43 Resp: 10527

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 30.6 | 18.9 | 44.1 |

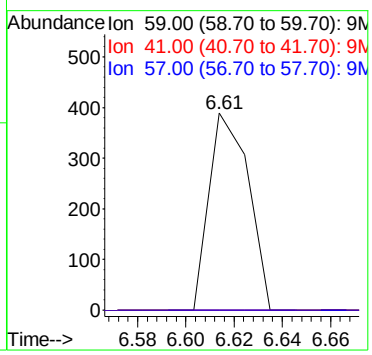





#15
Tert-Butyl Alcohol
Concen: 0.95 ug/L
RT: 6.61 min Scan# 382
Delta R.T. 0.01 min
Lab File: 9M982381.D
Acq: 6 Sep 2017 20:14

Tgt Ion: 59 Resp: 441

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 59 | 100 | | |
| 41 | 0.0 | 15.0 | 35.0# |
| 57 | 0.0 | 6.0 | 14.0# |



LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\090617\9M982381.D Vial: 19
Acq On : 6 Sep 2017 20:14 Operator: JDS
Sample : L17081498-09 B 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

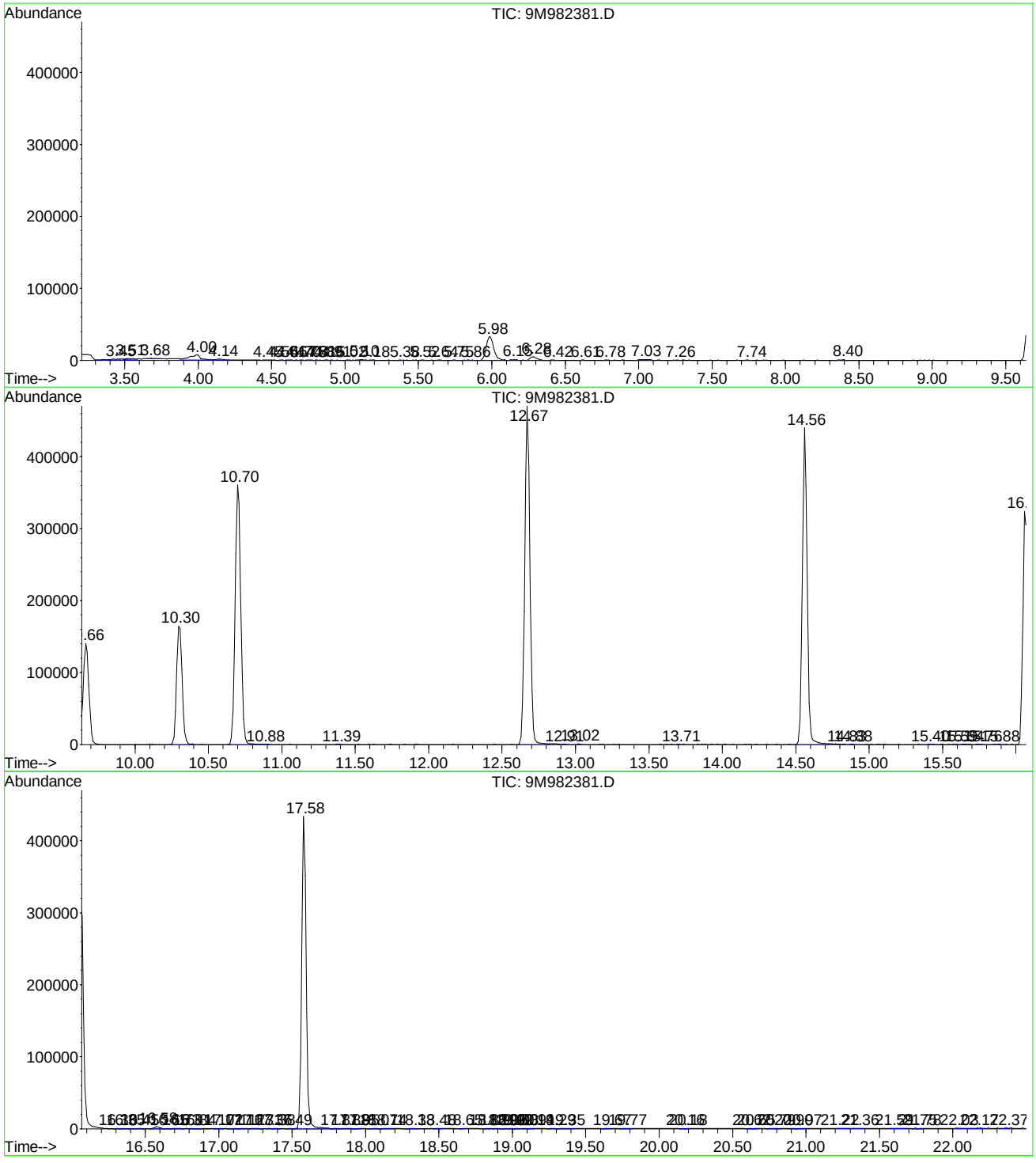
Signal : TIC

| peak # | R.T. min | first scan | max scan | last scan | PK TY | peak height | corr. area | corr. % max. | % of total |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 3.448 | 69 | 82 | 84 | rBV2 | 1112 | 6502 | 0.57% | 0.111% |
| 2 | 3.511 | 86 | 88 | 95 | rVV3 | 886 | 2910 | 0.25% | 0.050% |
| 3 | 3.680 | 101 | 104 | 110 | rBV2 | 1128 | 2127 | 0.19% | 0.036% |
| 4 | 3.997 | 123 | 134 | 144 | rVB4 | 6597 | 35624 | 3.11% | 0.610% |
| 5 | 4.144 | 144 | 148 | 154 | rVB | 1334 | 3170 | 0.28% | 0.054% |
| 6 | 4.450 | 175 | 177 | 180 | rBV | 475 | 1231 | 0.11% | 0.021% |
| 7 | 4.556 | 186 | 187 | 190 | rBB | 473 | 768 | 0.07% | 0.013% |
| 8 | 4.609 | 190 | 192 | 196 | rBB | 410 | 1206 | 0.11% | 0.021% |
| 9 | 4.672 | 196 | 198 | 199 | rBB | 402 | 500 | 0.04% | 0.009% |
| 10 | 4.704 | 199 | 201 | 203 | rBB | 354 | 627 | 0.05% | 0.011% |
| 11 | 4.746 | 203 | 205 | 209 | rBB | 376 | 1046 | 0.09% | 0.018% |
| 12 | 4.809 | 209 | 211 | 212 | rBB | 368 | 448 | 0.04% | 0.008% |
| 13 | 4.862 | 215 | 216 | 219 | rBB | 419 | 723 | 0.06% | 0.012% |
| 14 | 4.915 | 219 | 221 | 223 | rBB | 360 | 436 | 0.04% | 0.007% |
| 15 | 5.020 | 228 | 231 | 233 | rBB | 397 | 662 | 0.06% | 0.011% |
| 16 | 5.105 | 233 | 239 | 244 | rBB | 706 | 2370 | 0.21% | 0.041% |
| 17 | 5.179 | 244 | 246 | 250 | rBB | 347 | 812 | 0.07% | 0.014% |
| 18 | 5.379 | 262 | 265 | 266 | rBB | 383 | 452 | 0.04% | 0.008% |
| 19 | 5.516 | 277 | 278 | 282 | rBB | 345 | 603 | 0.05% | 0.010% |
| 20 | 5.643 | 288 | 290 | 293 | rBB | 373 | 629 | 0.05% | 0.011% |
| 21 | 5.748 | 297 | 300 | 302 | rBB | 366 | 431 | 0.04% | 0.007% |
| 22 | 5.864 | 304 | 311 | 313 | rBB | 338 | 843 | 0.07% | 0.014% |
| 23 | 5.981 | 315 | 322 | 334 | rBB | 32886 | 115390 | 10.08% | 1.976% |
| 24 | 6.149 | 335 | 338 | 342 | rBB | 744 | 1776 | 0.16% | 0.030% |
| 25 | 6.276 | 346 | 350 | 358 | rBB | 4710 | 15252 | 1.33% | 0.261% |
| 26 | 6.424 | 360 | 364 | 366 | rBB | 320 | 599 | 0.05% | 0.010% |
| 27 | 6.614 | 380 | 382 | 385 | rBB | 389 | 441 | 0.04% | 0.008% |
| 28 | 6.783 | 395 | 398 | 401 | rBB | 387 | 660 | 0.06% | 0.011% |
| 29 | 7.025 | 416 | 421 | 429 | rBB2 | 1270 | 5444 | 0.48% | 0.093% |
| 30 | 7.257 | 439 | 443 | 445 | rBB2 | 325 | 593 | 0.05% | 0.010% |
| 31 | 7.743 | 486 | 489 | 491 | rBB2 | 381 | 449 | 0.04% | 0.008% |
| 32 | 8.397 | 545 | 551 | 553 | rBB | 742 | 1716 | 0.15% | 0.029% |
| 33 | 9.663 | 664 | 671 | 681 | rBB | 140120 | 384940 | 33.63% | 6.590% |
| 34 | 10.297 | 725 | 731 | 742 | rBB | 164436 | 428365 | 37.43% | 7.334% |
| 35 | 10.698 | 762 | 769 | 785 | rBB | 360950 | 967389 | 84.53% | 16.562% |
| 36 | 10.877 | 785 | 786 | 791 | rBB | 355 | 837 | 0.07% | 0.014% |
| 37 | 11.394 | 831 | 835 | 837 | rBB | 338 | 614 | 0.05% | 0.011% |
| 38 | 12.671 | 949 | 956 | 970 | rBV | 470442 | 1144466 | 100.00% | 19.594% |
| 39 | 12.914 | 978 | 979 | 983 | rBB | 370 | 650 | 0.06% | 0.011% |
| 40 | 13.019 | 987 | 989 | 992 | rBB | 657 | 625 | 0.05% | 0.011% |
| 41 | 13.705 | 1052 | 1054 | 1056 | rBB | 399 | 460 | 0.04% | 0.008% |
| 42 | 14.560 | 1128 | 1135 | 1150 | rBV | 440350 | 1002795 | 87.62% | 17.168% |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 43 | 14.834 | 1159 | 1161 | 1163 | rBB | 387 | 450 | 0.04% | 0.008% |
| 44 | 14.877 | 1164 | 1165 | 1168 | rBB | 406 | 455 | 0.04% | 0.008% |
| 45 | 15.404 | 1213 | 1215 | 1220 | rBB | 318 | 591 | 0.05% | 0.010% |
| 46 | 15.594 | 1230 | 1233 | 1235 | rBB | 372 | 454 | 0.04% | 0.008% |
| 47 | 15.636 | 1236 | 1237 | 1240 | rBB | 392 | 684 | 0.06% | 0.012% |
| 48 | 15.763 | 1245 | 1249 | 1251 | rBB | 325 | 608 | 0.05% | 0.010% |
| 49 | 15.879 | 1256 | 1260 | 1263 | rBB | 351 | 647 | 0.06% | 0.011% |
| 50 | 16.058 | 1272 | 1277 | 1296 | rBB | 324116 | 727752 | 63.59% | 12.459% |
| 51 | 16.301 | 1299 | 1300 | 1302 | rBB | 356 | 429 | 0.04% | 0.007% |
| 52 | 16.354 | 1303 | 1305 | 1309 | rBB | 377 | 660 | 0.06% | 0.011% |
| 53 | 16.449 | 1311 | 1314 | 1318 | rBB | 360 | 833 | 0.07% | 0.014% |
| 54 | 16.576 | 1322 | 1326 | 1331 | rBB | 2702 | 6674 | 0.58% | 0.114% |
| 55 | 16.649 | 1332 | 1333 | 1335 | rBB | 349 | 438 | 0.04% | 0.007% |
| 56 | 16.734 | 1335 | 1341 | 1343 | rBB | 405 | 1558 | 0.14% | 0.027% |
| 57 | 16.808 | 1347 | 1348 | 1350 | rBB | 343 | 434 | 0.04% | 0.007% |
| 58 | 16.839 | 1350 | 1351 | 1354 | rBB | 345 | 426 | 0.04% | 0.007% |
| 59 | 17.019 | 1363 | 1368 | 1369 | rBB | 380 | 851 | 0.07% | 0.015% |
| 60 | 17.114 | 1373 | 1377 | 1378 | rBB | 347 | 625 | 0.05% | 0.011% |
| 61 | 17.156 | 1378 | 1381 | 1383 | rBB | 371 | 624 | 0.05% | 0.011% |
| 62 | 17.230 | 1386 | 1388 | 1394 | rBB | 421 | 1356 | 0.12% | 0.023% |
| 63 | 17.356 | 1397 | 1400 | 1401 | rBB | 333 | 603 | 0.05% | 0.010% |
| 64 | 17.378 | 1401 | 1402 | 1405 | rBB | 371 | 651 | 0.06% | 0.011% |
| 65 | 17.494 | 1411 | 1413 | 1414 | rBB | 441 | 486 | 0.04% | 0.008% |
| 66 | 17.578 | 1415 | 1421 | 1439 | rBB | 434161 | 922033 | 80.56% | 15.786% |
| 67 | 17.810 | 1439 | 1443 | 1444 | rBB | 375 | 862 | 0.08% | 0.015% |
| 68 | 17.884 | 1444 | 1450 | 1454 | rBB | 430 | 1787 | 0.16% | 0.031% |
| 69 | 17.947 | 1455 | 1456 | 1458 | rBV | 363 | 636 | 0.06% | 0.011% |
| 70 | 18.074 | 1463 | 1468 | 1470 | rBB | 399 | 1105 | 0.10% | 0.019% |
| 71 | 18.137 | 1471 | 1474 | 1480 | rBV | 417 | 2001 | 0.17% | 0.034% |
| 72 | 18.327 | 1488 | 1492 | 1494 | rBB | 389 | 879 | 0.08% | 0.015% |
| 73 | 18.475 | 1505 | 1506 | 1510 | rBV | 410 | 1168 | 0.10% | 0.020% |
| 74 | 18.654 | 1522 | 1523 | 1525 | rBV | 398 | 718 | 0.06% | 0.012% |
| 75 | 18.823 | 1538 | 1539 | 1541 | rBB | 385 | 473 | 0.04% | 0.008% |
| 76 | 18.897 | 1543 | 1546 | 1549 | rBB | 432 | 921 | 0.08% | 0.016% |
| 77 | 18.961 | 1550 | 1552 | 1553 | rBB | 442 | 499 | 0.04% | 0.009% |
| 78 | 19.003 | 1553 | 1556 | 1557 | rBB | 359 | 645 | 0.06% | 0.011% |
| 79 | 19.034 | 1557 | 1559 | 1560 | rBB | 446 | 550 | 0.05% | 0.009% |
| 80 | 19.087 | 1562 | 1564 | 1566 | rBB | 405 | 673 | 0.06% | 0.012% |
| 81 | 19.140 | 1566 | 1569 | 1570 | rBV | 369 | 862 | 0.08% | 0.015% |
| 82 | 19.288 | 1579 | 1583 | 1584 | rBB | 373 | 848 | 0.07% | 0.015% |
| 83 | 19.351 | 1585 | 1589 | 1596 | rBV | 403 | 2514 | 0.22% | 0.043% |
| 84 | 19.668 | 1614 | 1619 | 1620 | rBV | 412 | 1349 | 0.12% | 0.023% |
| 85 | 19.773 | 1625 | 1629 | 1633 | rBV | 453 | 1871 | 0.16% | 0.032% |
| 86 | 20.164 | 1664 | 1666 | 1667 | rBB | 409 | 458 | 0.04% | 0.008% |
| 87 | 20.185 | 1667 | 1668 | 1670 | rBV | 442 | 723 | 0.06% | 0.012% |
| 88 | 20.617 | 1707 | 1709 | 1711 | rBB | 412 | 686 | 0.06% | 0.012% |
| 89 | 20.649 | 1711 | 1712 | 1714 | rBV | 414 | 723 | 0.06% | 0.012% |
| 90 | 20.786 | 1720 | 1725 | 1729 | rBV | 517 | 2287 | 0.20% | 0.039% |
| 91 | 20.902 | 1734 | 1736 | 1739 | rVB | 449 | 1046 | 0.09% | 0.018% |
| 92 | 20.966 | 1739 | 1742 | 1744 | rBV | 462 | 1282 | 0.11% | 0.022% |
| 93 | 21.219 | 1765 | 1766 | 1773 | rVB | 187 | 507 | 0.04% | 0.009% |
| 94 | 21.356 | 1775 | 1779 | 1782 | rBV | 166 | 472 | 0.04% | 0.008% |
| 95 | 21.588 | 1800 | 1801 | 1810 | rBV | 134 | 448 | 0.04% | 0.008% |
| 96 | 21.746 | 1814 | 1816 | 1817 | rBB | 801 | 738 | 0.06% | 0.013% |
| 97 | 21.778 | 1817 | 1819 | 1821 | rBV | 463 | 998 | 0.09% | 0.017% |
| 98 | 22.031 | 1842 | 1843 | 1849 | rVB | 433 | 622 | 0.05% | 0.011% |
| 99 | 22.169 | 1850 | 1856 | 1861 | rBV | 491 | 1149 | 0.10% | 0.020% |
| 100 | 22.369 | 1871 | 1875 | 1876 | rBV | 433 | 593 | 0.05% | 0.010% |

Sum of corrected areas: 5840996

```
File       : C:\MSDCHEM\1\DATA\090617\9M982381.D
Operator   : JDS
Acquired   :  6 Sep 2017  20:14     using AcqMethod 8260C
Instrument :   hpms9
Sample Name: L17081498-09 B 826-SPE
Misc Info  : 1,1
Vial Number: 19
Quant File :8260C.RES (RTE Integrator)
```



Data File : C:\MSDCHEM\1\DATA\090617\9M982381.D Vial: 19
Acq On : 6 Sep 2017 20:14 Operator: JDS
Sample : L17081498-09 B 826-SPE Inst : hpms9
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

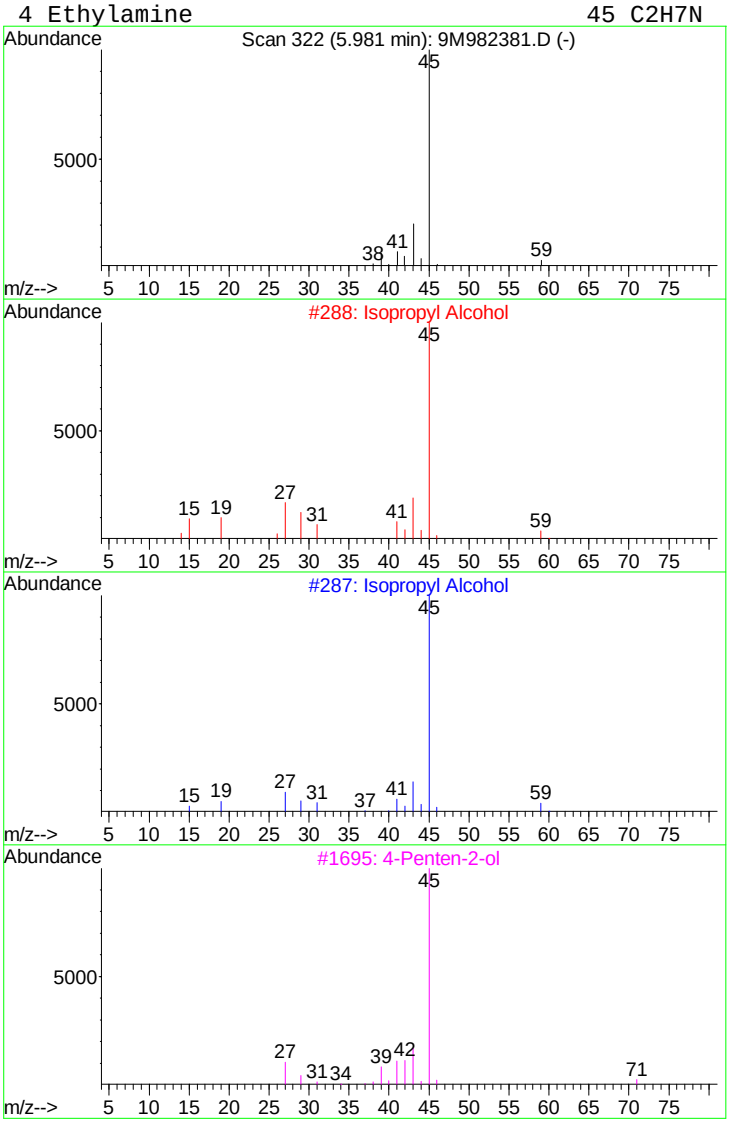
Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
Title : 8260C SOP: OVL MSV01-C WATER 081417 HPMS9
Library : C:\DATABASE\NIST02.L

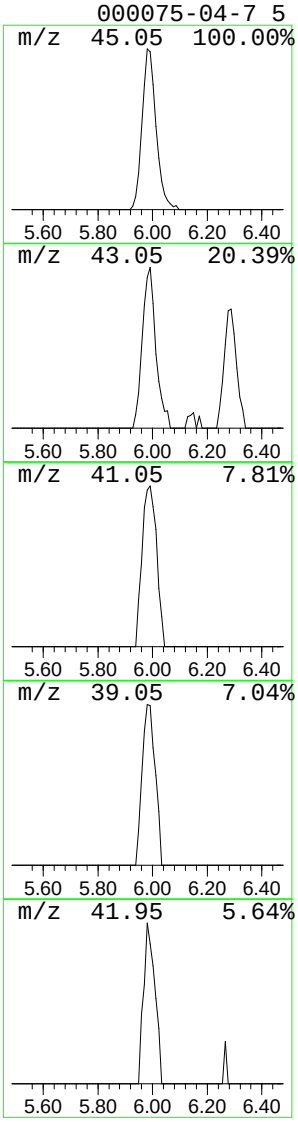
**********

Peak Number 1 Isopropyl Alcohol Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 5.98 | 5.96 ug/L | 115390 | 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 | 9 |
| 3 | 4-Penten-2-ol | 86 | C5H10O | 000625-31-0 | 9 |
| 4 | Ethylamine | 45 | C2H7N | 000075-04-7 | 5 |



Tentatively Identified Compound (LSC) summary

Operator ID: JDS  Date Acquired:  6 Sep 2017  20:14
Data File: C:\MSDCHEM\1\DATA\090617\9M982381.D
Name: L17081498-09 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

| | | | | | Internal Standard | | | |
|---|---|---|---|---|---|---|---|---|
| TIC Top Hit name | RT | EstConc | Units | Response | # | RT | Resp | Conc |
| Isopropyl Alcohol | 5.98 | 6.0 | ug/L | 115390 | 1 | 10.70 | 967389 | 50.0 |

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\090617\9M982374.D Vial: 12
Acq On : 6 Sep 2017 16:45 Operator: JDS
Sample : L17081498-11 B TB 826-SPE 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

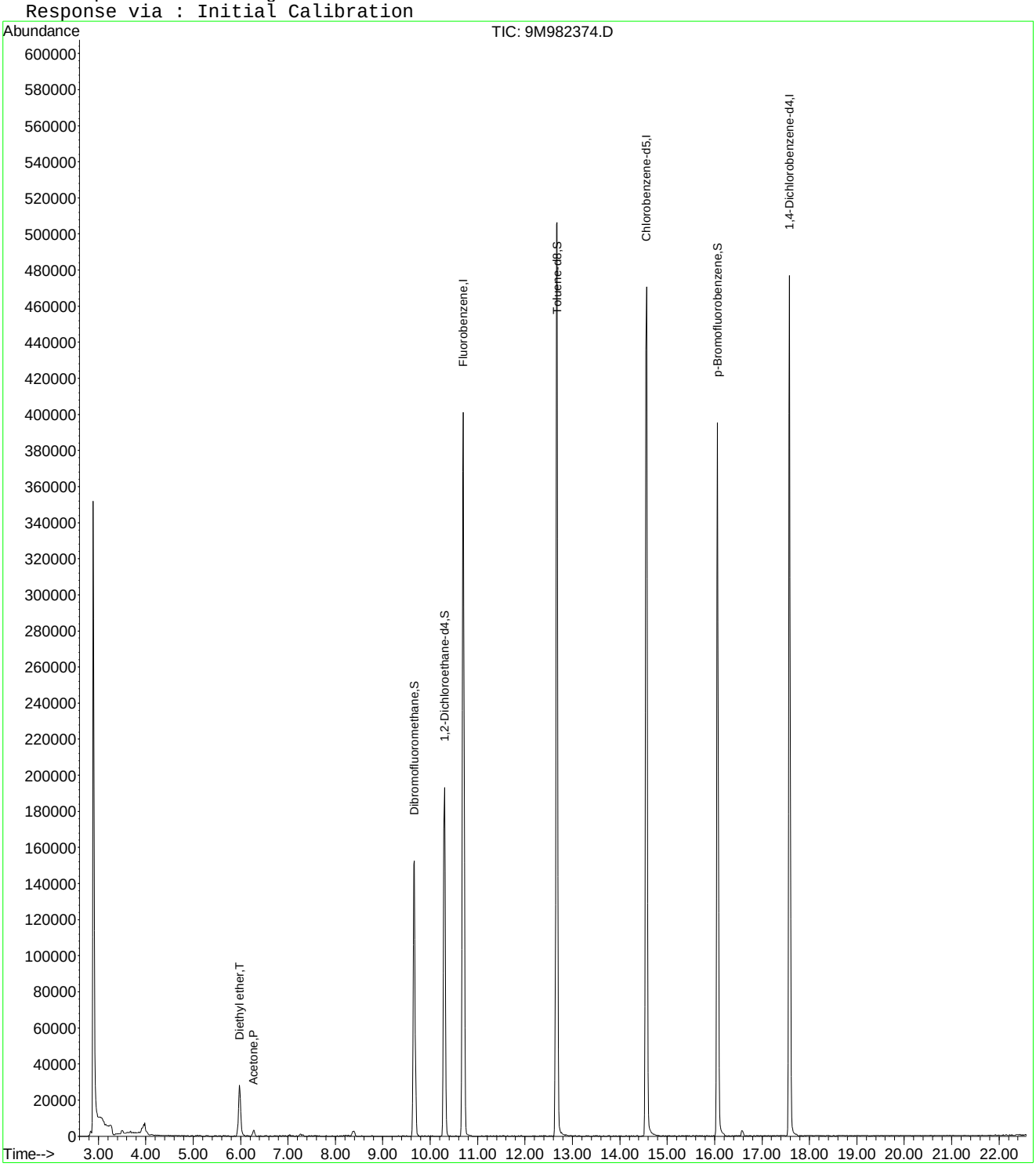
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene | 10.70 | 96 | 491548 | 50.00 | ug/L | 0.00 |
| 57) Chlorobenzene-d5 | 14.56 | 117 | 368435 | 50.00 | ug/L | 0.00 |
| 77) 1,4-Dichlorobenzene-d4 | 17.58 | 152 | 168784 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 37) Dibromofluoromethane | 9.67 | 111 | 139109 | 50.5436 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 86 - 118 | | Recovery = 101.08% | | | |
| 43) 1,2-Dichloroethane-d4 | 10.30 | 65 | 173305 | 53.9082 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 107.82% | | | |
| 58) Toluene-d8 | 12.67 | 98 | 484792 | 53.4478 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 88 - 110 | | Recovery = 106.90% | | | |
| 79) p-Bromofluorobenzene | 16.06 | 95 | 176380 | 58.9353 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 86 - 115 | | Recovery = 117.88%# | | | |
| **Target Compounds** | | | | | | Qvalue |
| 9) Diethyl ether | 5.97 | 59 | 1633 | 0.5835 | ug/L # | 1 |
| 13) Acetone | 6.27 | 43 | 7333 | 4.9093 | ug/L | 93 |

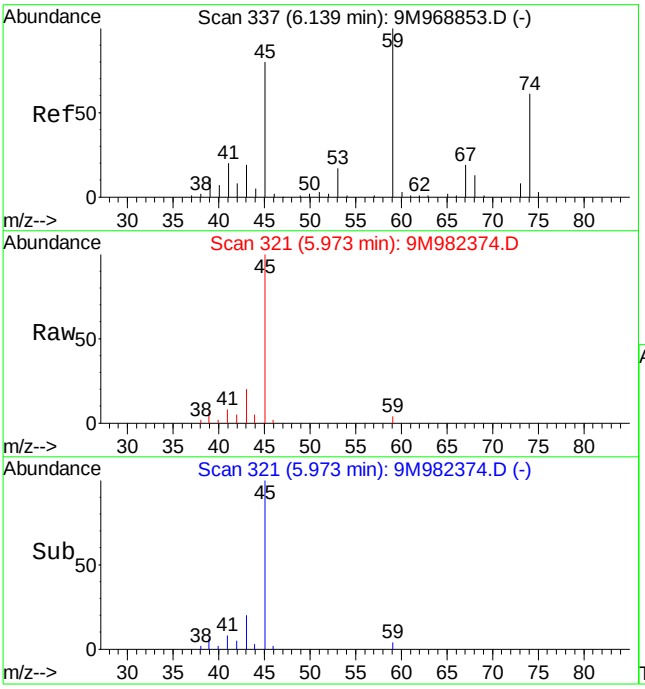
(#) = qualifier out of range (m) = manual integration
9M982374.D 8260C.M Thu Sep 07 09:46:18 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\090617\9M982374.D Vial: 12
Acq On : 6 Sep 2017 16:45 Operator: JDS
Sample : L17081498-11 B TB 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

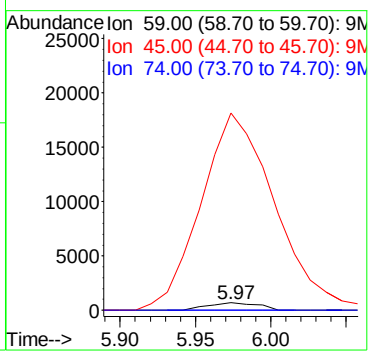


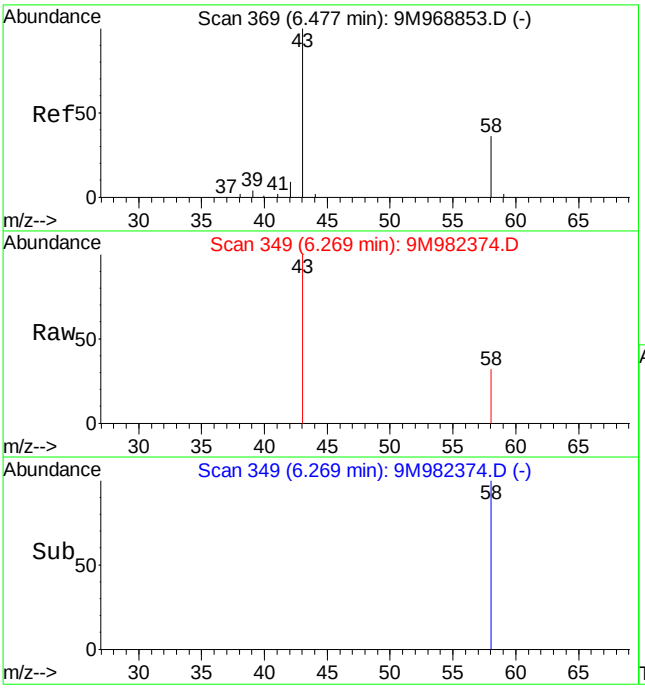



#9
Diethyl ether
Concen: 0.58 ug/L
RT: 5.97 min Scan# 321
Delta R.T. 0.03 min
Lab File: 9M982374.D
Acq: 6 Sep 2017 16:45

Tgt Ion: 59 Resp: 1633

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 59 | 100 | | |
| 45 | 3837.6 | 48.1 | 112.3# |
| 74 | 0.0 | 37.1 | 86.5# |

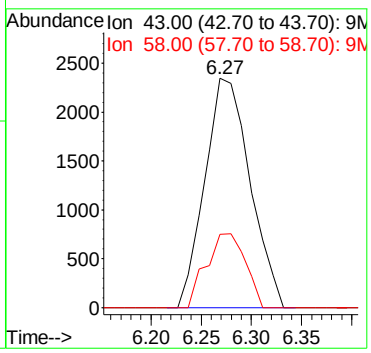



#13
Acetone
Concen: 4.91 ug/L
RT: 6.27 min Scan# 349
Delta R.T. -0.01 min
Lab File: 9M982374.D
Acq: 6 Sep 2017 16:45

Tgt Ion: 43 Resp: 7333

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 27.8 | 18.9 | 44.1 |



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\090617\9M982375.D Vial: 13
Acq On : 6 Sep 2017 17:15 Operator: JDS
Sample : L17081498-12 B FB 826-SPE Inst : hpms9
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 07 09:46:18 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

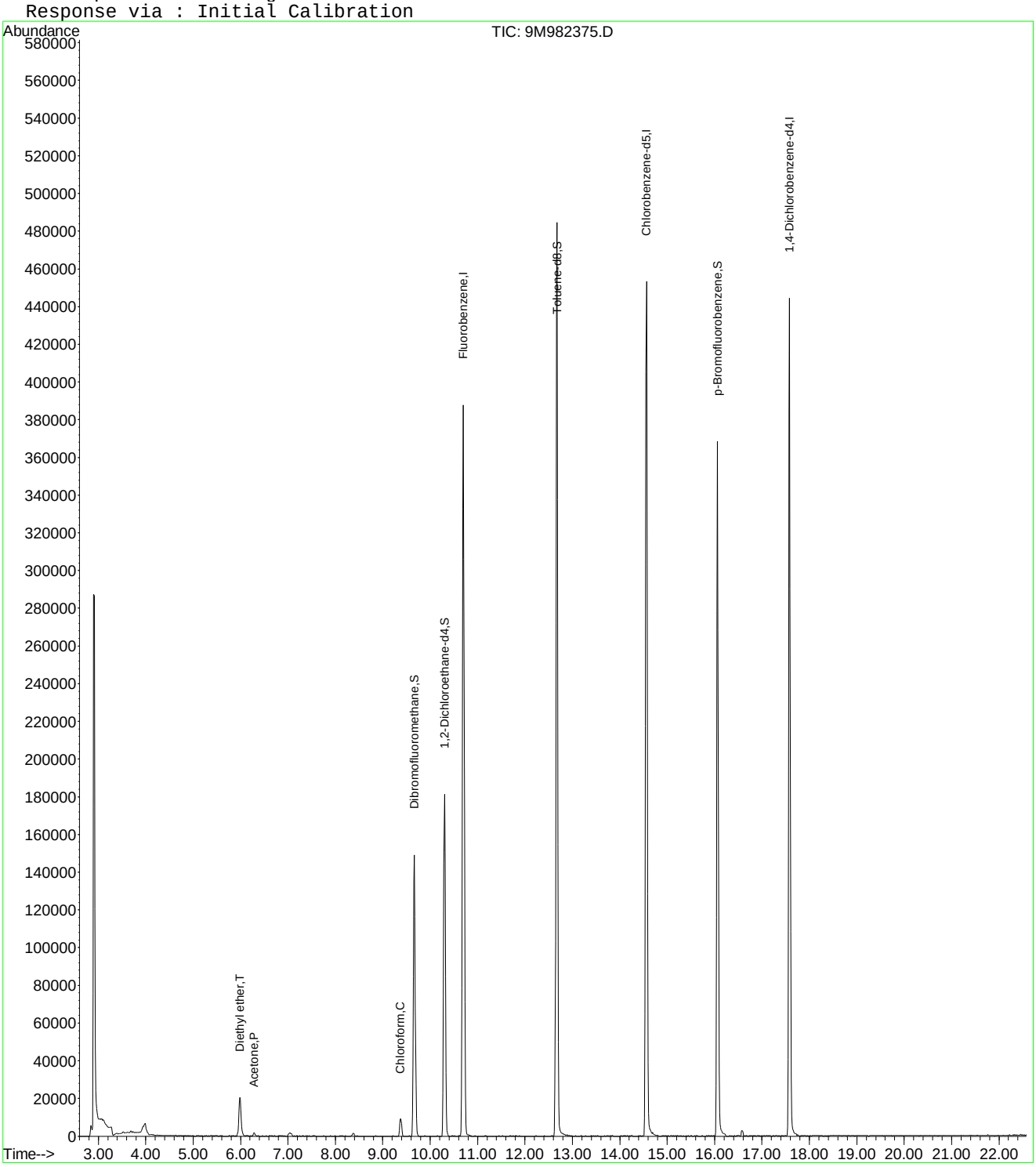
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene | 10.70 | 96 | 468103 | 50.00 | ug/L | 0.00 |
| 57) Chlorobenzene-d5 | 14.56 | 117 | 347899 | 50.00 | ug/L | 0.00 |
| 77) 1,4-Dichlorobenzene-d4 | 17.58 | 152 | 159920 | 50.00 | ug/L | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 37) Dibromofluoromethane | 9.67 | 111 | 132976 | 50.7351 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 86 - 118 | | Recovery = 101.48% | | | |
| 43) 1,2-Dichloroethane-d4 | 10.30 | 65 | 164626 | 53.7733 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 80 - 120 | | Recovery = 107.54% | | | |
| 58) Toluene-d8 | 12.67 | 98 | 456517 | 53.3015 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 88 - 110 | | Recovery = 106.60% | | | |
| 79) p-Bromofluorobenzene | 16.06 | 95 | 163023 | 57.4915 | ug/L | 0.00 |
| Spiked Amount 50.000 | Range 86 - 115 | | Recovery = 114.98% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 9) Diethyl ether | 5.98 | 59 | 1507 | 0.5654 | ug/L # | 1 |
| 13) Acetone | 6.28 | 43 | 4003 | 2.8141 | ug/L # | 68 |
| 33) Chloroform | 9.37 | 83 | 11499 | 2.5791 | ug/L | 100 |

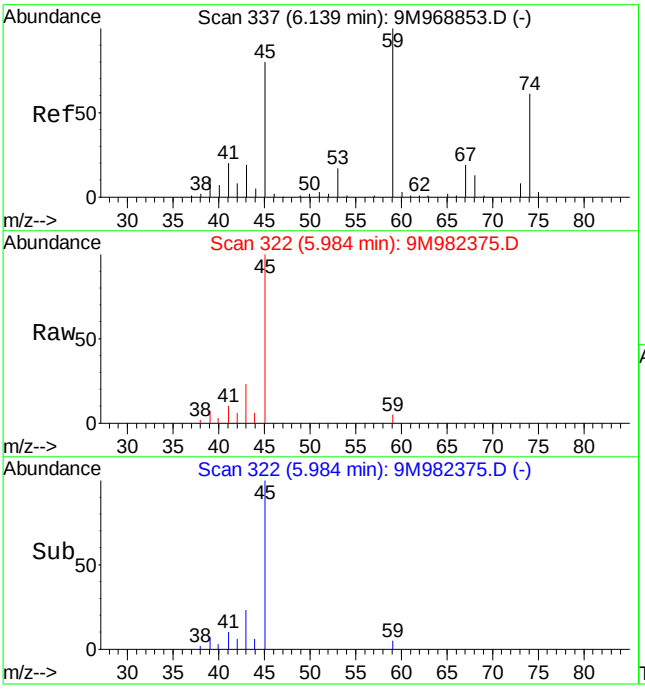
(#) = qualifier out of range (m) = manual integration
9M982375.D 8260C.M Thu Sep 07 09:46:19 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\090617\9M982375.D Vial: 13
Acq On : 6 Sep 2017 17:15 Operator: JDS
Sample : L17081498-12 B FB 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

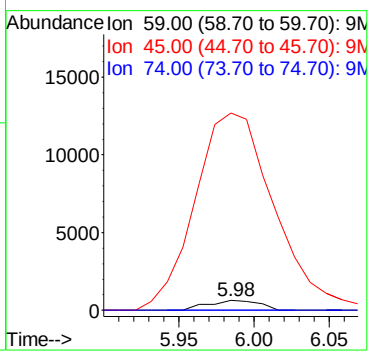


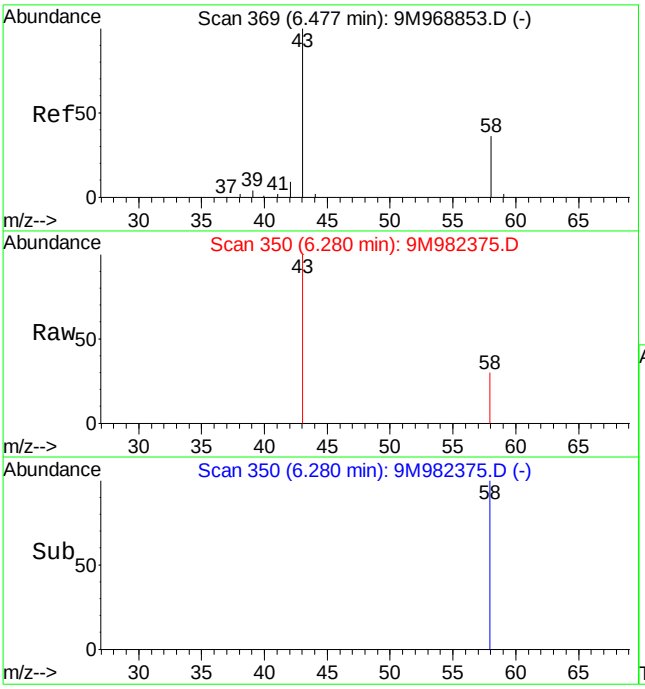



#9
Diethyl ether
Concen: 0.57 ug/L
RT: 5.98 min Scan# 322
Delta R.T. 0.05 min
Lab File: 9M982375.D
Acq: 6 Sep 2017 17:15

Tgt Ion: 59 Resp: 1507

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 59 | 100 | | |
| 45 | 3109.4 | 48.1 | 112.3# |
| 74 | 0.0 | 37.1 | 86.5# |

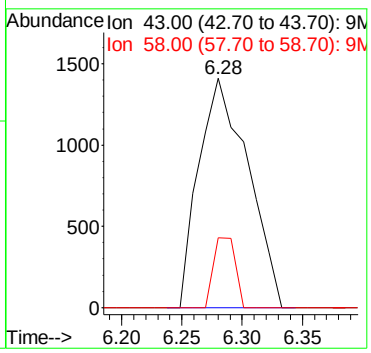


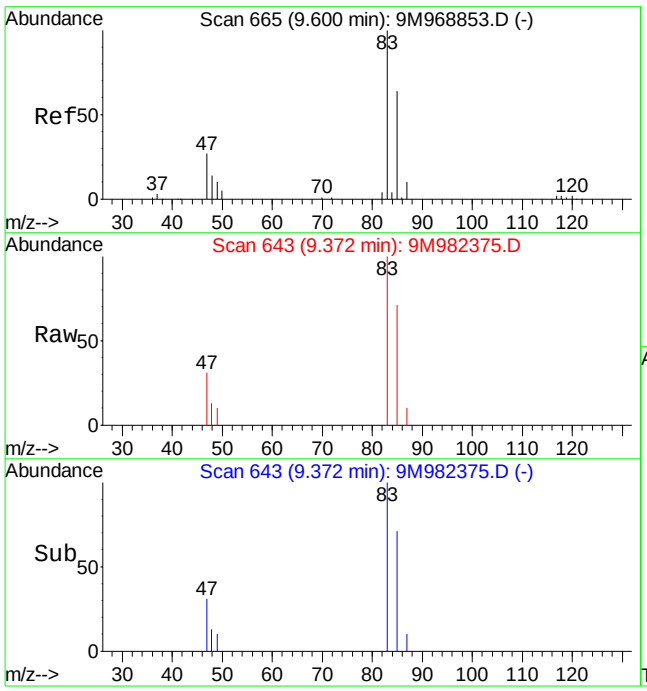




#13
Acetone
Concen: 2.81 ug/L
RT: 6.28 min Scan# 350
Delta R.T. 0.00 min
Lab File: 9M982375.D
Acq: 6 Sep 2017 17:15

Tgt Ion: 43 Resp: 4003

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 43 | 100 | | |
| 58 | 13.5 | 18.9 | 44.1# |

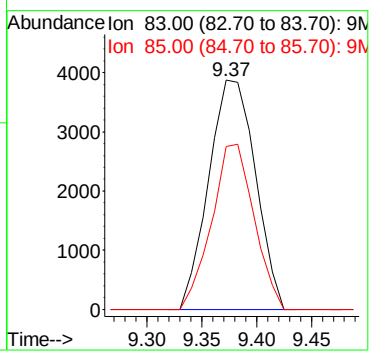





#33
Chloroform
Concen: 2.58 ug/L
RT: 9.37 min Scan# 643
Delta R.T. -0.01 min
Lab File: 9M982375.D
Acq: 6 Sep 2017 17:15

Tgt Ion: 83 Resp: 11499

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 83 | 100 | | |
| 85 | 65.3 | 39.1 | 91.1 |



LSC Area Percent Report

Data File : C:\MSDCHEM\1\DATA\090617\9M982375.D Vial: 13
Acq On : 6 Sep 2017 17:15 Operator: JDS
Sample : L17081498-12 B FB 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

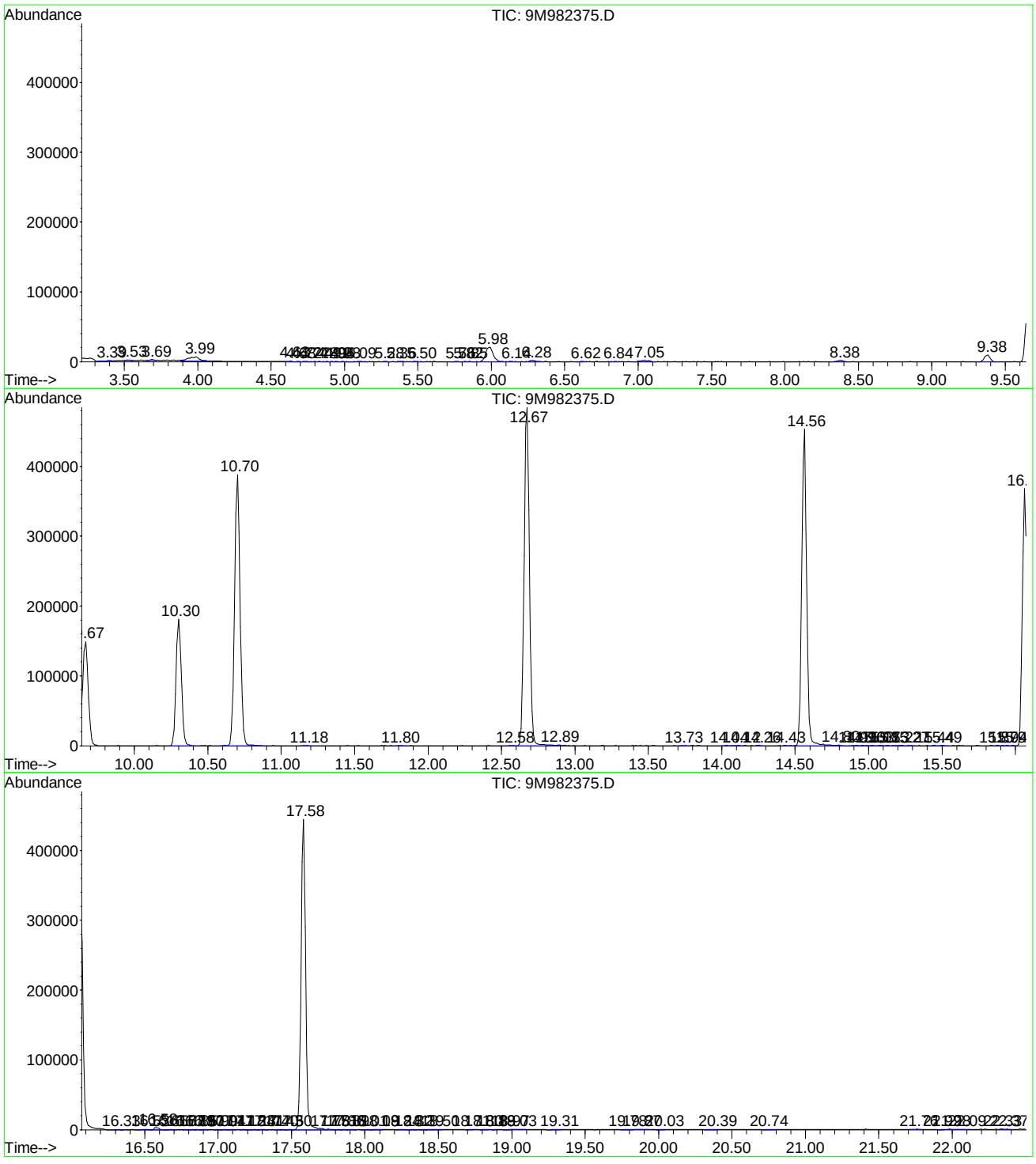
Signal : TIC

| 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 | 974 | 4385 | 0.36% | 0.072% |
| 2 | 3.526 | 87 | 89 | 92 | rBV2 | 743 | 1512 | 0.12% | 0.025% |
| 3 | 3.694 | 101 | 105 | 107 | rVB | 1020 | 1897 | 0.16% | 0.031% |
| 4 | 3.990 | 123 | 133 | 141 | rVB4 | 6153 | 33904 | 2.78% | 0.553% |
| 5 | 4.634 | 191 | 194 | 196 | rVB4 | 735 | 1240 | 0.10% | 0.020% |
| 6 | 4.676 | 197 | 198 | 201 | rBB4 | 488 | 701 | 0.06% | 0.011% |
| 7 | 4.718 | 201 | 202 | 206 | rBB | 405 | 898 | 0.07% | 0.015% |
| 8 | 4.771 | 206 | 207 | 211 | rBB | 319 | 598 | 0.05% | 0.010% |
| 9 | 4.887 | 214 | 218 | 219 | rBB | 365 | 655 | 0.05% | 0.011% |
| 10 | 4.908 | 219 | 220 | 222 | rBB | 439 | 478 | 0.04% | 0.008% |
| 11 | 4.940 | 222 | 223 | 225 | rBB | 347 | 439 | 0.04% | 0.007% |
| 12 | 4.982 | 226 | 227 | 232 | rBB | 345 | 627 | 0.05% | 0.010% |
| 13 | 5.087 | 233 | 237 | 244 | rBB | 389 | 1387 | 0.11% | 0.023% |
| 14 | 5.277 | 253 | 255 | 258 | rBB | 331 | 606 | 0.05% | 0.010% |
| 15 | 5.362 | 262 | 263 | 268 | rBB | 424 | 1156 | 0.09% | 0.019% |
| 16 | 5.499 | 272 | 276 | 280 | rBB | 405 | 1066 | 0.09% | 0.017% |
| 17 | 5.763 | 298 | 301 | 304 | rBB | 317 | 594 | 0.05% | 0.010% |
| 18 | 5.816 | 305 | 306 | 308 | rBB | 346 | 436 | 0.04% | 0.007% |
| 19 | 5.847 | 308 | 309 | 312 | rBB | 367 | 434 | 0.04% | 0.007% |
| 20 | 5.984 | 313 | 322 | 332 | rBB | 20532 | 73412 | 6.02% | 1.197% |
| 21 | 6.143 | 334 | 337 | 341 | rBB | 377 | 840 | 0.07% | 0.014% |
| 22 | 6.280 | 345 | 350 | 356 | rBB | 1841 | 5582 | 0.46% | 0.091% |
| 23 | 6.618 | 379 | 382 | 384 | rBB | 318 | 586 | 0.05% | 0.010% |
| 24 | 6.839 | 400 | 403 | 405 | rBB | 327 | 591 | 0.05% | 0.010% |
| 25 | 7.050 | 416 | 423 | 429 | rBB2 | 1853 | 7701 | 0.63% | 0.126% |
| 26 | 8.380 | 543 | 549 | 554 | rBB | 1498 | 4240 | 0.35% | 0.069% |
| 27 | 9.382 | 638 | 644 | 649 | rBB | 9204 | 25372 | 2.08% | 0.414% |
| 28 | 9.667 | 664 | 671 | 680 | rBB | 149223 | 408720 | 33.54% | 6.665% |
| 29 | 10.301 | 725 | 731 | 741 | rBB | 181440 | 452630 | 37.14% | 7.381% |
| 30 | 10.702 | 758 | 769 | 786 | rBB | 387855 | 1015773 | 83.36% | 16.565% |
| 31 | 11.176 | 810 | 814 | 816 | rBB | 362 | 443 | 0.04% | 0.007% |
| 32 | 11.799 | 871 | 873 | 877 | rBB | 364 | 424 | 0.03% | 0.007% |
| 33 | 12.580 | 943 | 947 | 948 | rBB | 350 | 437 | 0.04% | 0.007% |
| 34 | 12.675 | 949 | 956 | 975 | rBV | 484686 | 1218577 | 100.00% | 19.873% |
| 35 | 12.886 | 975 | 976 | 978 | rVB | 752 | 933 | 0.08% | 0.015% |
| 36 | 13.730 | 1054 | 1056 | 1060 | rBB | 393 | 443 | 0.04% | 0.007% |
| 37 | 14.036 | 1082 | 1085 | 1087 | rBB | 414 | 488 | 0.04% | 0.008% |
| 38 | 14.121 | 1089 | 1093 | 1094 | rBB | 355 | 641 | 0.05% | 0.010% |
| 39 | 14.258 | 1103 | 1106 | 1108 | rBB | 336 | 608 | 0.05% | 0.010% |
| 40 | 14.427 | 1121 | 1122 | 1125 | rBB | 354 | 434 | 0.04% | 0.007% |
| 41 | 14.564 | 1128 | 1135 | 1155 | rBV | 453438 | 1054608 | 86.54% | 17.199% |
| 42 | 14.796 | 1155 | 1157 | 1160 | rVB | 704 | 847 | 0.07% | 0.014% |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 43 | 14.912 | 1164 | 1168 | 1170 | rBB | 323 | 601 | 0.05% | 0.010% |
| 44 | 14.965 | 1171 | 1173 | 1176 | rBB | 349 | 636 | 0.05% | 0.010% |
| 45 | 15.028 | 1177 | 1179 | 1181 | rBB | 336 | 424 | 0.03% | 0.007% |
| 46 | 15.070 | 1182 | 1183 | 1186 | rBB | 352 | 622 | 0.05% | 0.010% |
| 47 | 15.134 | 1187 | 1189 | 1191 | rBB | 342 | 425 | 0.03% | 0.007% |
| 48 | 15.218 | 1193 | 1197 | 1200 | rBB | 329 | 812 | 0.07% | 0.013% |
| 49 | 15.271 | 1201 | 1202 | 1206 | rBB | 339 | 421 | 0.03% | 0.007% |
| 50 | 15.440 | 1217 | 1218 | 1221 | rBB | 399 | 467 | 0.04% | 0.008% |
| 51 | 15.493 | 1222 | 1223 | 1227 | rBB | 460 | 725 | 0.06% | 0.012% |
| 52 | 15.872 | 1258 | 1259 | 1262 | rBB | 376 | 449 | 0.04% | 0.007% |
| 53 | 15.936 | 1262 | 1265 | 1267 | rBB | 471 | 683 | 0.06% | 0.011% |
| 54 | 15.989 | 1268 | 1270 | 1271 | rBB | 354 | 425 | 0.03% | 0.007% |
| 55 | 16.062 | 1271 | 1277 | 1295 | rBB | 368647 | 794365 | 65.19% | 12.955% |
| 56 | 16.326 | 1299 | 1302 | 1304 | rBB | 420 | 485 | 0.04% | 0.008% |
| 57 | 16.527 | 1314 | 1321 | 1322 | rBB | 421 | 1317 | 0.11% | 0.021% |
| 58 | 16.579 | 1323 | 1326 | 1332 | rBB2 | 2951 | 6717 | 0.55% | 0.110% |
| 59 | 16.653 | 1332 | 1333 | 1338 | rBB2 | 332 | 603 | 0.05% | 0.010% |
| 60 | 16.769 | 1343 | 1344 | 1346 | rBB2 | 334 | 419 | 0.03% | 0.007% |
| 61 | 16.833 | 1346 | 1350 | 1351 | rBB2 | 354 | 634 | 0.05% | 0.010% |
| 62 | 16.854 | 1351 | 1352 | 1354 | rBB2 | 447 | 473 | 0.04% | 0.008% |
| 63 | 16.896 | 1355 | 1356 | 1359 | rBB2 | 361 | 656 | 0.05% | 0.011% |
| 64 | 16.991 | 1364 | 1365 | 1367 | rBB2 | 352 | 434 | 0.04% | 0.007% |
| 65 | 17.044 | 1368 | 1370 | 1372 | rBB | 354 | 621 | 0.05% | 0.010% |
| 66 | 17.107 | 1373 | 1376 | 1377 | rBB | 349 | 623 | 0.05% | 0.010% |
| 67 | 17.181 | 1380 | 1383 | 1385 | rBB | 347 | 634 | 0.05% | 0.010% |
| 68 | 17.244 | 1386 | 1389 | 1391 | rBB | 326 | 609 | 0.05% | 0.010% |
| 69 | 17.308 | 1392 | 1395 | 1398 | rBB | 380 | 825 | 0.07% | 0.013% |
| 70 | 17.403 | 1403 | 1404 | 1406 | rBB | 479 | 506 | 0.04% | 0.008% |
| 71 | 17.434 | 1406 | 1407 | 1409 | rBB | 389 | 452 | 0.04% | 0.007% |
| 72 | 17.498 | 1410 | 1413 | 1414 | rBB | 417 | 679 | 0.06% | 0.011% |
| 73 | 17.582 | 1414 | 1421 | 1436 | rBV | 444603 | 958818 | 78.68% | 15.636% |
| 74 | 17.751 | 1436 | 1437 | 1441 | rVB | 794 | 1122 | 0.09% | 0.018% |
| 75 | 17.814 | 1442 | 1443 | 1445 | rBB | 352 | 429 | 0.04% | 0.007% |
| 76 | 17.856 | 1445 | 1447 | 1449 | rBB | 410 | 685 | 0.06% | 0.011% |
| 77 | 17.888 | 1449 | 1450 | 1454 | rBB | 396 | 881 | 0.07% | 0.014% |
| 78 | 18.015 | 1459 | 1462 | 1464 | rBB | 341 | 630 | 0.05% | 0.010% |
| 79 | 18.089 | 1465 | 1469 | 1472 | rBV | 399 | 1534 | 0.13% | 0.025% |
| 80 | 18.236 | 1481 | 1483 | 1489 | rBB | 404 | 1437 | 0.12% | 0.023% |
| 81 | 18.321 | 1490 | 1491 | 1493 | rBB | 431 | 495 | 0.04% | 0.008% |
| 82 | 18.395 | 1497 | 1498 | 1500 | rBB | 495 | 567 | 0.05% | 0.009% |
| 83 | 18.500 | 1500 | 1508 | 1510 | rBV | 464 | 2325 | 0.19% | 0.038% |
| 84 | 18.711 | 1526 | 1528 | 1530 | rBV | 383 | 893 | 0.07% | 0.015% |
| 85 | 18.796 | 1535 | 1536 | 1540 | rBV | 395 | 1134 | 0.09% | 0.018% |
| 86 | 18.880 | 1543 | 1544 | 1546 | rBV | 413 | 703 | 0.06% | 0.011% |
| 87 | 18.975 | 1550 | 1553 | 1555 | rBV | 426 | 903 | 0.07% | 0.015% |
| 88 | 19.028 | 1555 | 1558 | 1564 | rVV | 181 | 612 | 0.05% | 0.010% |
| 89 | 19.313 | 1580 | 1585 | 1587 | rBV | 442 | 1759 | 0.14% | 0.029% |
| 90 | 19.777 | 1626 | 1629 | 1634 | rBV | 414 | 1937 | 0.16% | 0.032% |
| 91 | 19.872 | 1635 | 1638 | 1643 | rVB | 143 | 664 | 0.05% | 0.011% |
| 92 | 20.030 | 1649 | 1653 | 1654 | rBV | 405 | 1188 | 0.10% | 0.019% |
| 93 | 20.389 | 1680 | 1687 | 1688 | rBV | 472 | 2051 | 0.17% | 0.033% |
| 94 | 20.737 | 1718 | 1720 | 1726 | rBV | 417 | 1828 | 0.15% | 0.030% |
| 95 | 21.761 | 1812 | 1817 | 1819 | rVB | 441 | 623 | 0.05% | 0.010% |
| 96 | 21.919 | 1831 | 1832 | 1834 | rBV | 492 | 843 | 0.07% | 0.014% |
| 97 | 21.982 | 1836 | 1838 | 1842 | rVV | 582 | 1120 | 0.09% | 0.018% |
| 98 | 22.088 | 1843 | 1848 | 1850 | rVV | 310 | 664 | 0.05% | 0.011% |
| 99 | 22.331 | 1870 | 1871 | 1873 | rVV | 428 | 528 | 0.04% | 0.009% |
| 100 | 22.373 | 1873 | 1875 | 1877 | rVB | 587 | 494 | 0.04% | 0.008% |

Sum of corrected areas: 6131952

```
File       : C:\MSDCHEM\1\DATA\090617\9M982375.D
Operator   : JDS
Acquired   :  6 Sep 2017  17:15     using AcqMethod 8260C
Instrument :   hpms9
Sample Name: L17081498-12 B FB 826-SPE
Misc Info  : 1,1
Vial Number: 13
Quant File :8260C.RES (RTE Integrator)
```



Tentatively Identified Compound (LSC) summary

Operator ID: JDS  Date Acquired:  6 Sep 2017  17:15
Data File: C:\MSDCHEM\1\DATA\090617\9M982375.D
Name: L17081498-12 B FB 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

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

# 2.1.1.4 Standards Data

Quantitation Report (Not Reviewed)

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

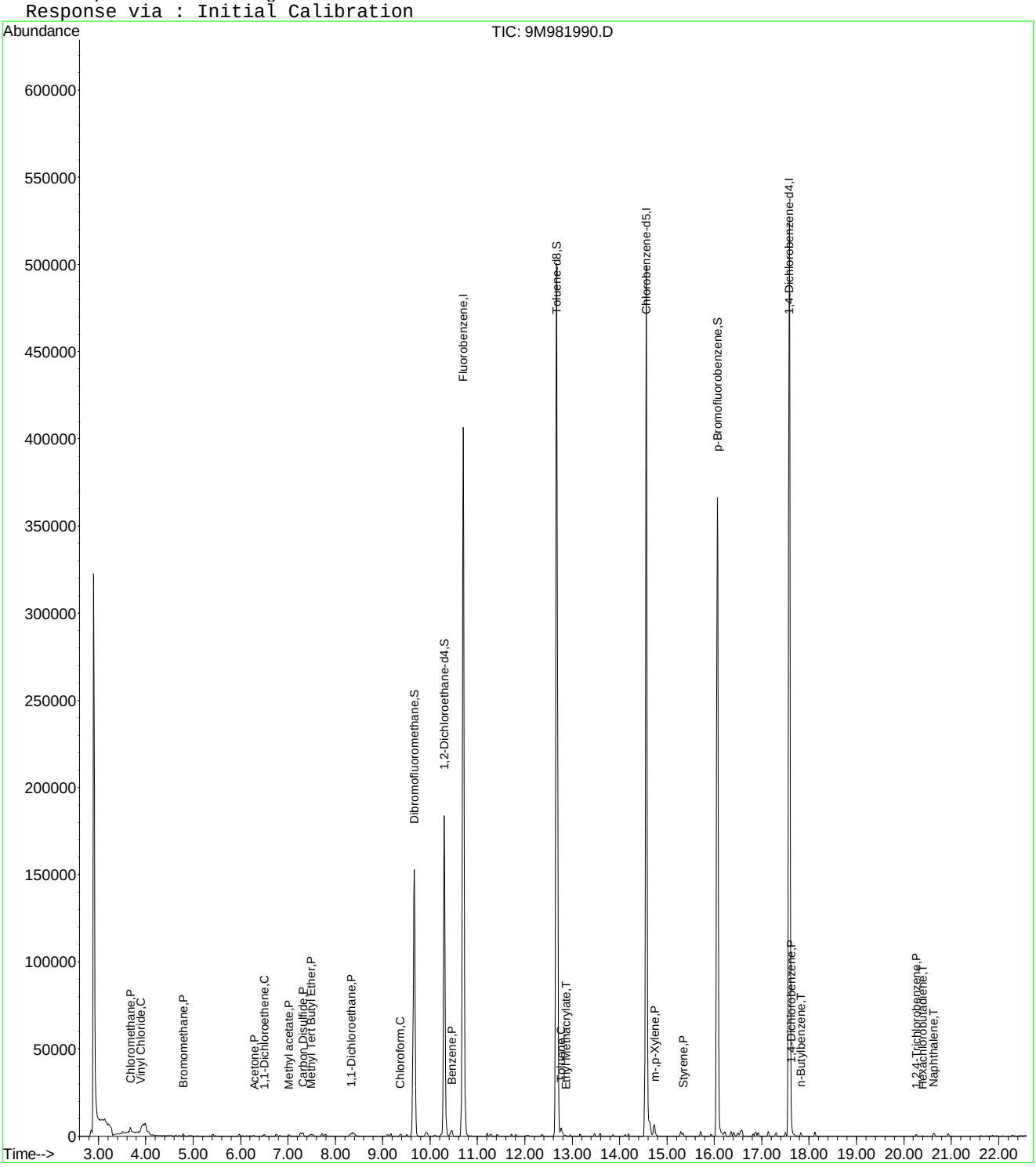
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene | 10.70 | 96 | 500615 | 50.00 | ug/L | 0.00 |
| 57) Chlorobenzene-d5 | 14.56 | 117 | 378912 | 50.00 | ug/L | 0.00 |
| 77) 1,4-Dichlorobenzene-d4 | 17.58 | 152 | 183432 | 50.00 |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

Quantitation Report (Not Reviewed)

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



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 SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

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

Quantitation Report (Not Reviewed)

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

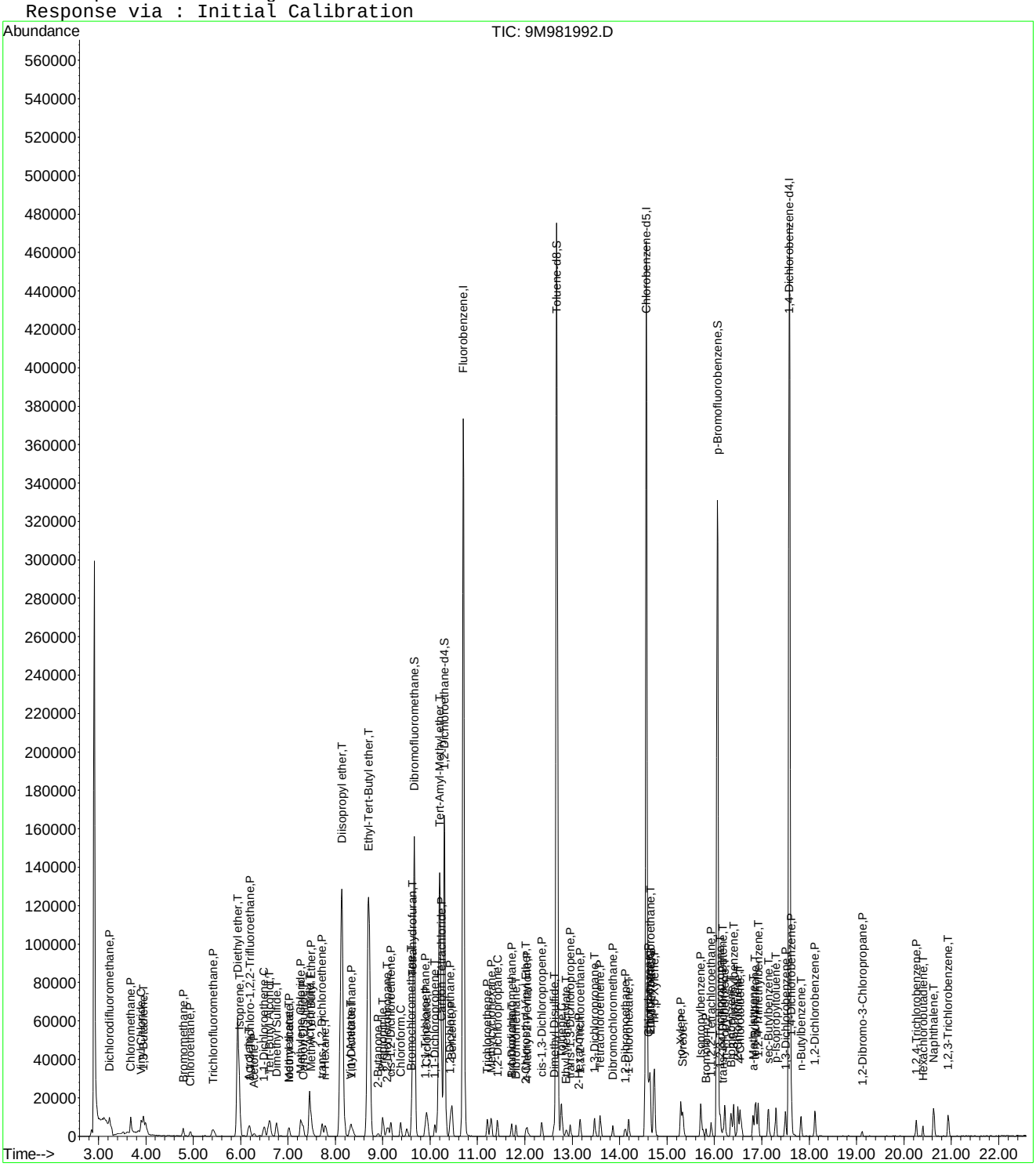
| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 46) | Benzene | 10.46 | 78 | 19765 | 1.9371 ug/L | | 97 |
| 47) | Trichloroethene | 11.21 | 130 | 4840 | 1.7856 ug/L | | 99 |
| 48) | Methylcyclohexane | 11.29 | 83 | 6790 | 1.6819 ug/L | | 97 |
| 49) | 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

Quantitation Report (Not Reviewed)

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 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



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 SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

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

Quantitation Report (Not Reviewed)

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

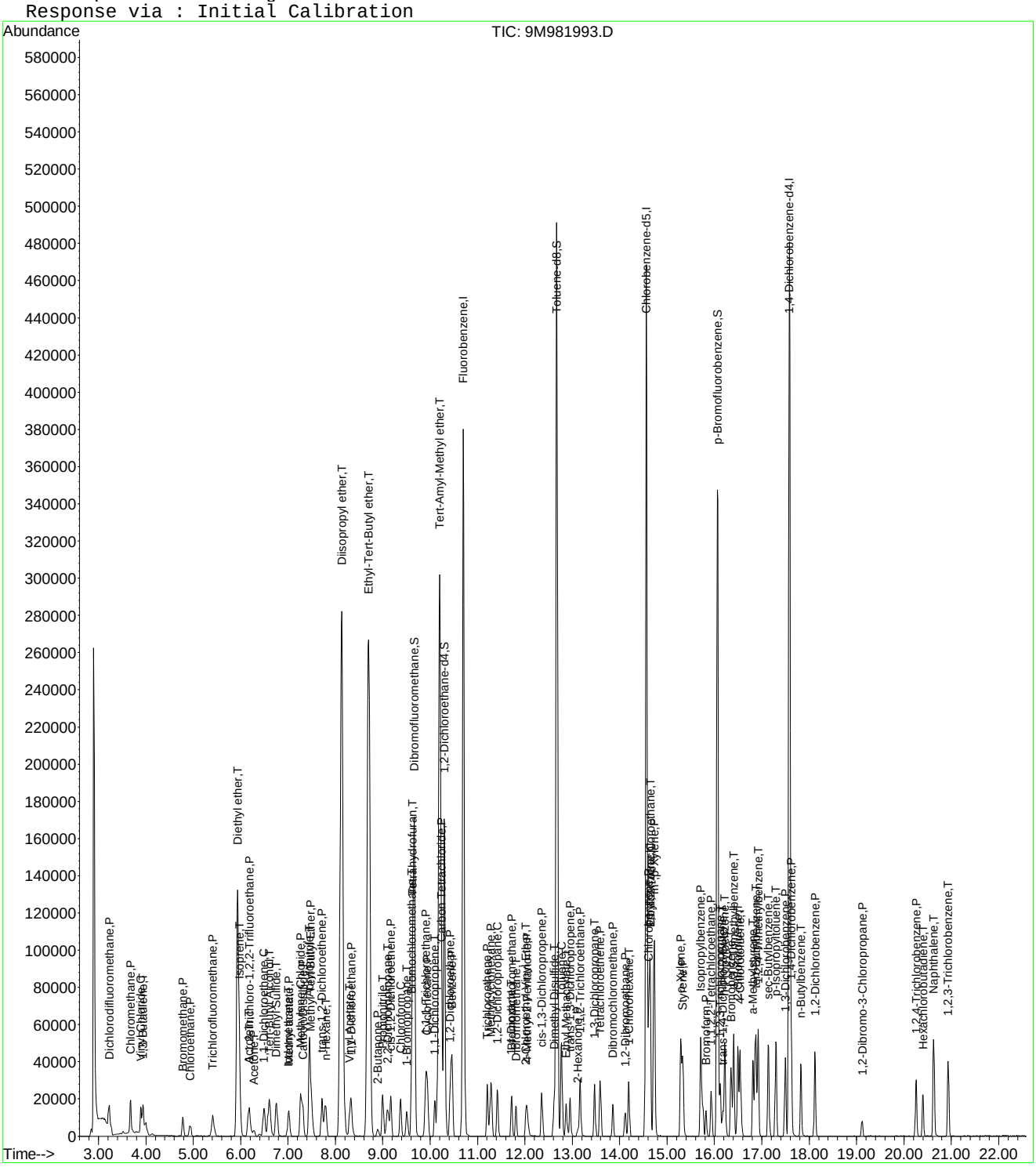
| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 45) | 1,2-Dichloroethane | 10.42 | 62 | 22344 | 5.1487 ug/L | | 97 |
| 46) | Benzene | 10.46 | 78 | 51478 | 4.9653 ug/L | | 99 |
| 47) | Trichloroethene | 11.20 | 130 | 13329 | 4.8396 ug/L | | 99 |
| 48) | 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-Buten | 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

Quantitation Report (Not Reviewed)

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 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\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 SPCC's out = 0 CCC's out = 0
9M981993.D 8260C.M Tue Aug 15 09:55:26 2017 Page 2

Quantitation Report (Not Reviewed)

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

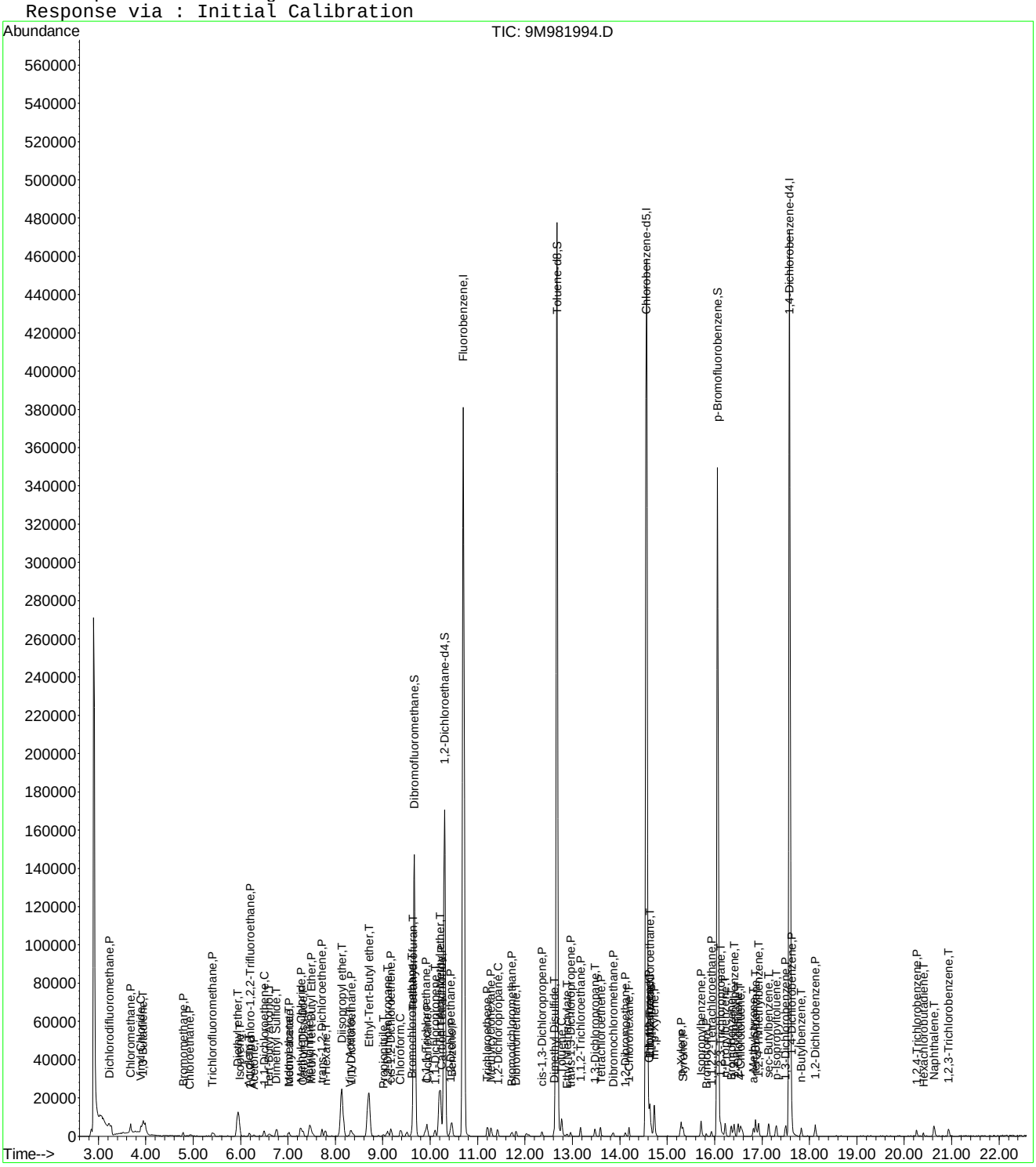
| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 47) | Trichloroethene | 11.21 | 130 | 2417 | 0.8828 ug/L | | 94 |
| 48) | Methylcyclohexane | 11.28 | 83 | 3254 | 0.7980 ug/L | | 96 |
| 49) | 1,2-Dichloropropane | 11.43 | 63 | 2549 | 0.8929 ug/L | # | 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

Quantitation Report (Not Reviewed)

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 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



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 |

Quantitation Report (Not Reviewed)

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

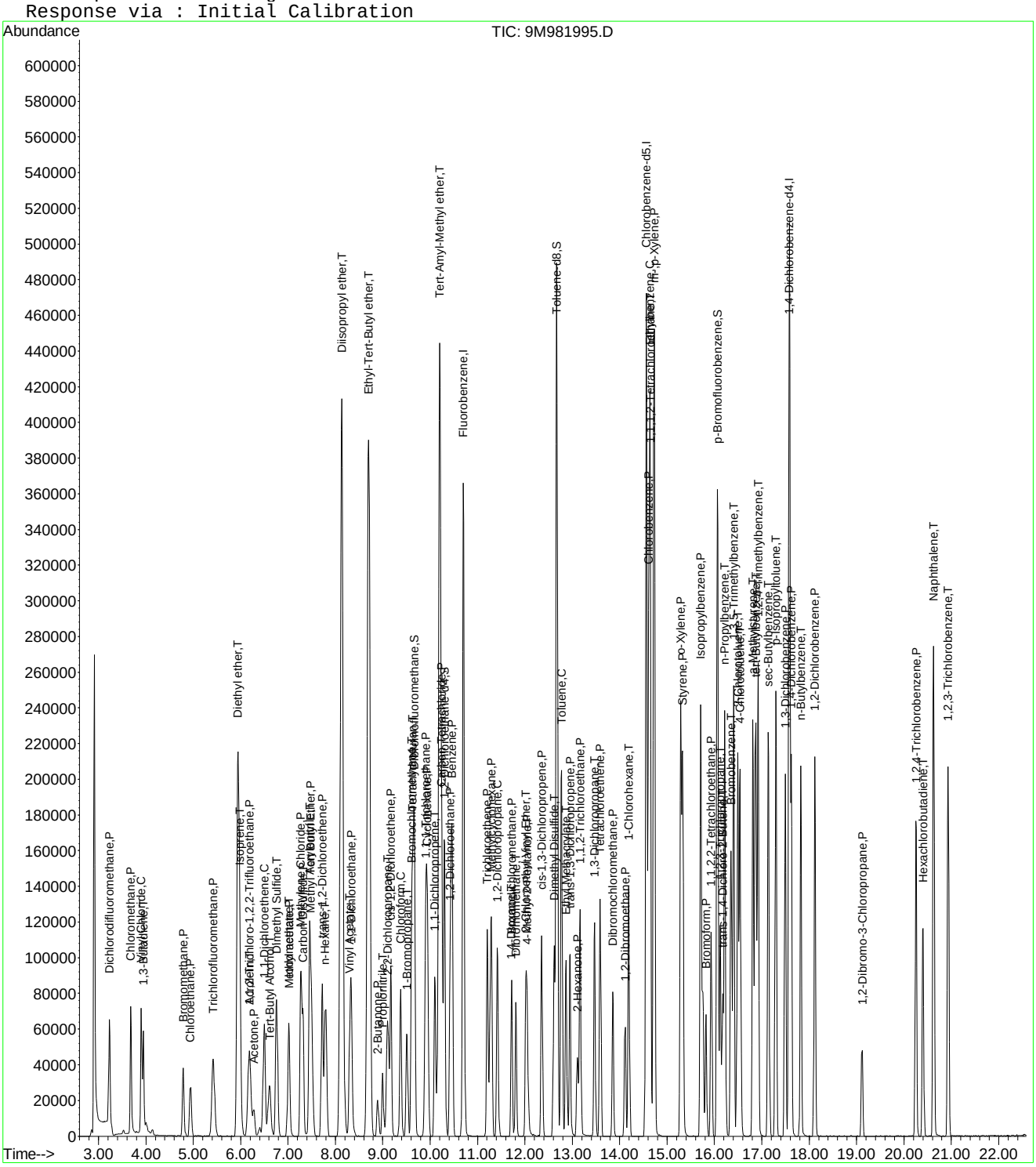
| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 45) | 1,2-Dichloroethane | 10.42 | 62 | 86287 | 20.2967 ug/L | 99 |
| 46) | Benzene | 10.46 | 78 | 204278 | 20.1134 ug/L | 99 |
| 47) | Trichloroethene | 11.20 | 130 | 54898 | 20.3473 ug/L | 97 |
| 48) | Methylcyclohexane | 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-Buten | 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

Quantitation Report (Not Reviewed)

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 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



Quantitation Report (Not Reviewed)

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 Page 1

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

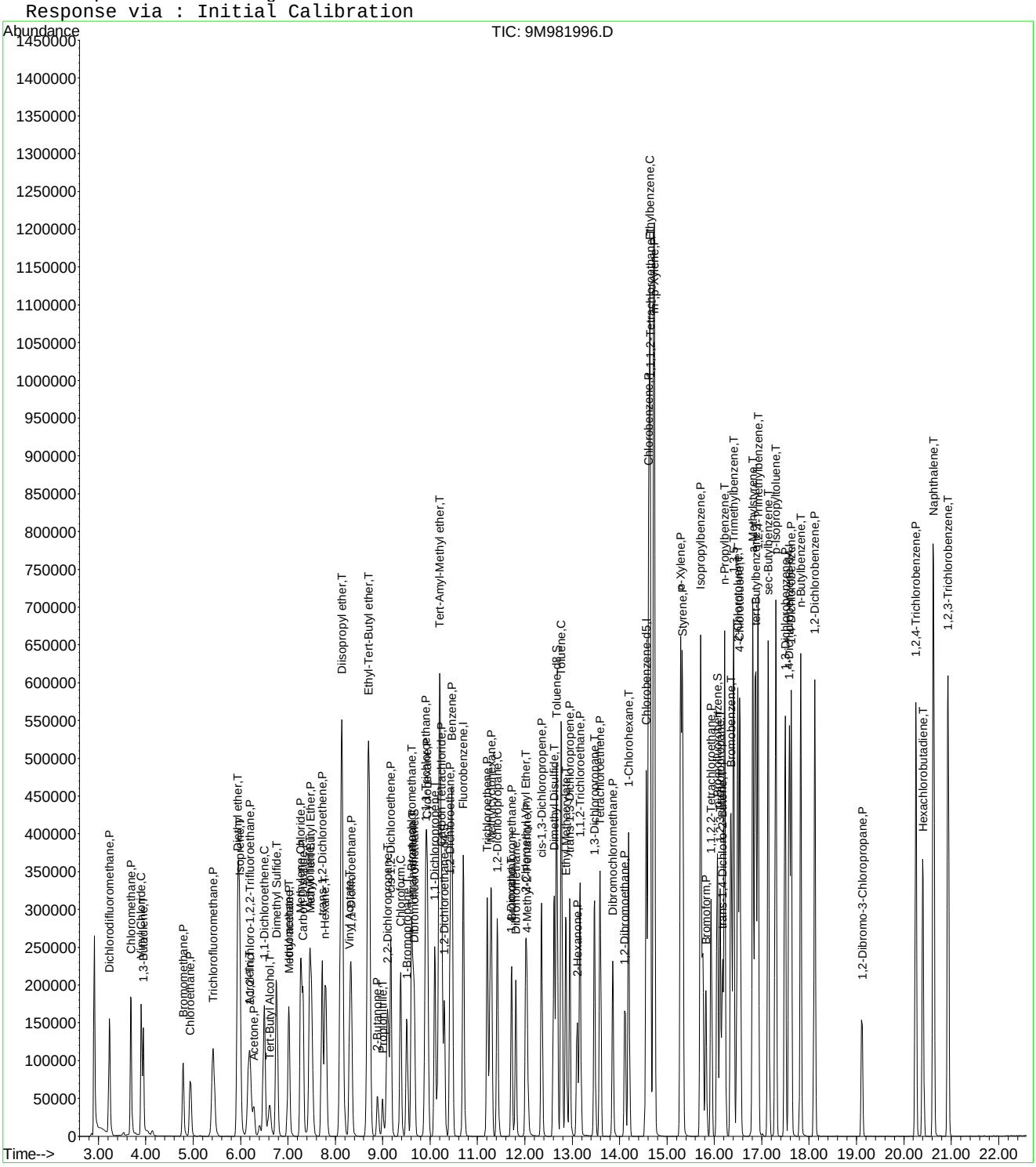
| | Compound | R.T. | QIon | Response | Conc | Unit | | Qvalue |
|---|---|---|---|---|---|---|---|---|
| 45) | 1,2-Dichloroethane | 10.43 | 62 | 223741 | 52.0278 | ug/L | | 100 |
| 46) | Benzene | 10.46 | 78 | 530801 | 51.6659 | ug/L | | 100 |
| 47) | Trichloroethene | 11.21 | 130 | 147386 | 54.0027 | 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-Buten | 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

Quantitation Report (Not Reviewed)

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 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



Quantitation Report (Not Reviewed)

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 Page 1

Quantitation Report (Not Reviewed)

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

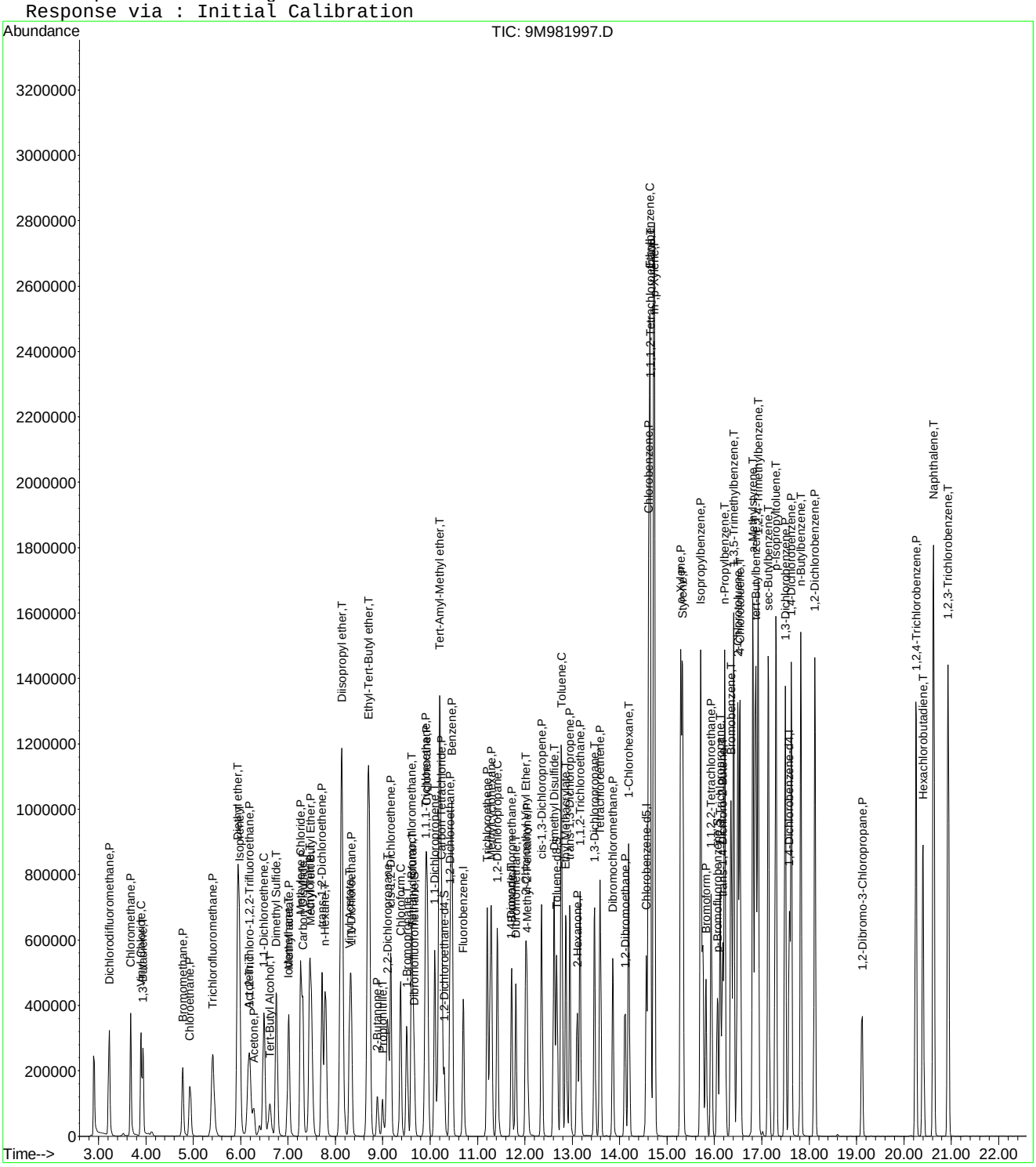
| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 45) | 1,2-Dichloroethane | 10.42 | 62 | 492358 | 102.1338 ug/L | 99 |
| 46) | Benzene | 10.45 | 78 | 1154551 | 100.2499 ug/L | 100 |
| 47) | Trichloroethene | 11.20 | 130 | 324026 | 105.9102 ug/L | 98 |
| 48) | 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-Buten | 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 Page 2

Quantitation Report (Not Reviewed)

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 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



Quantitation Report (Not Reviewed)

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

Quantitation Report (Not Reviewed)

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

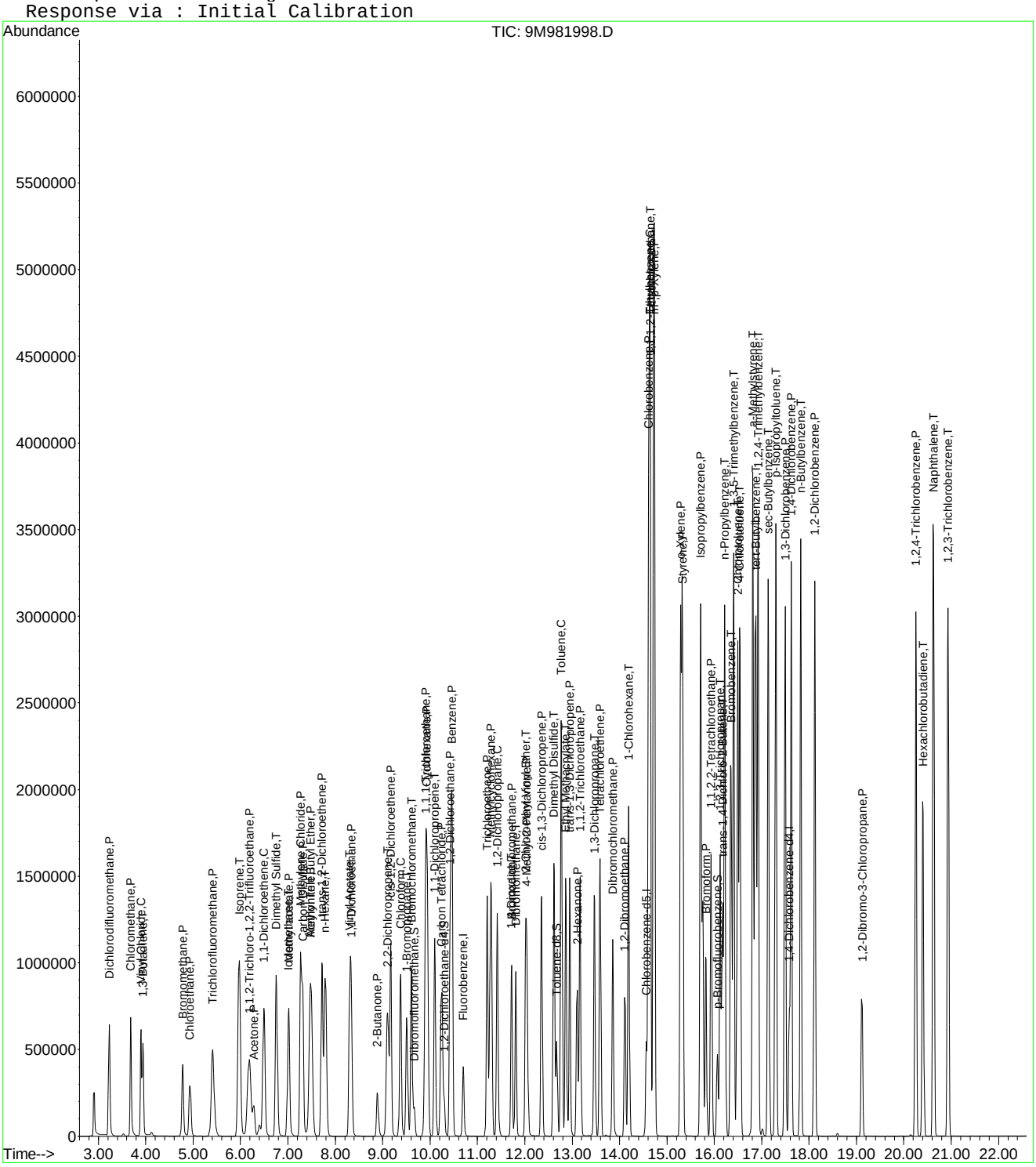
| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | 2-Chloroethyl Vinyl Ether | 12.02 | 63 | 543378 | 226.3952 ug/L | | 98 |
| 54) | 4-Methyl-2-Pentanone | 12.04 | 58 | 423184 | 233.5106 ug/L | | 99 |
| 55) | cis-1,3-Dichloropropene | 12.36 | 75 | 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-Buten | 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 Page 2

Quantitation Report (Not Reviewed)

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



Quantitation Report (Not Reviewed)

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** | | | | | 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 Page 1

Quantitation Report (Not Reviewed)

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

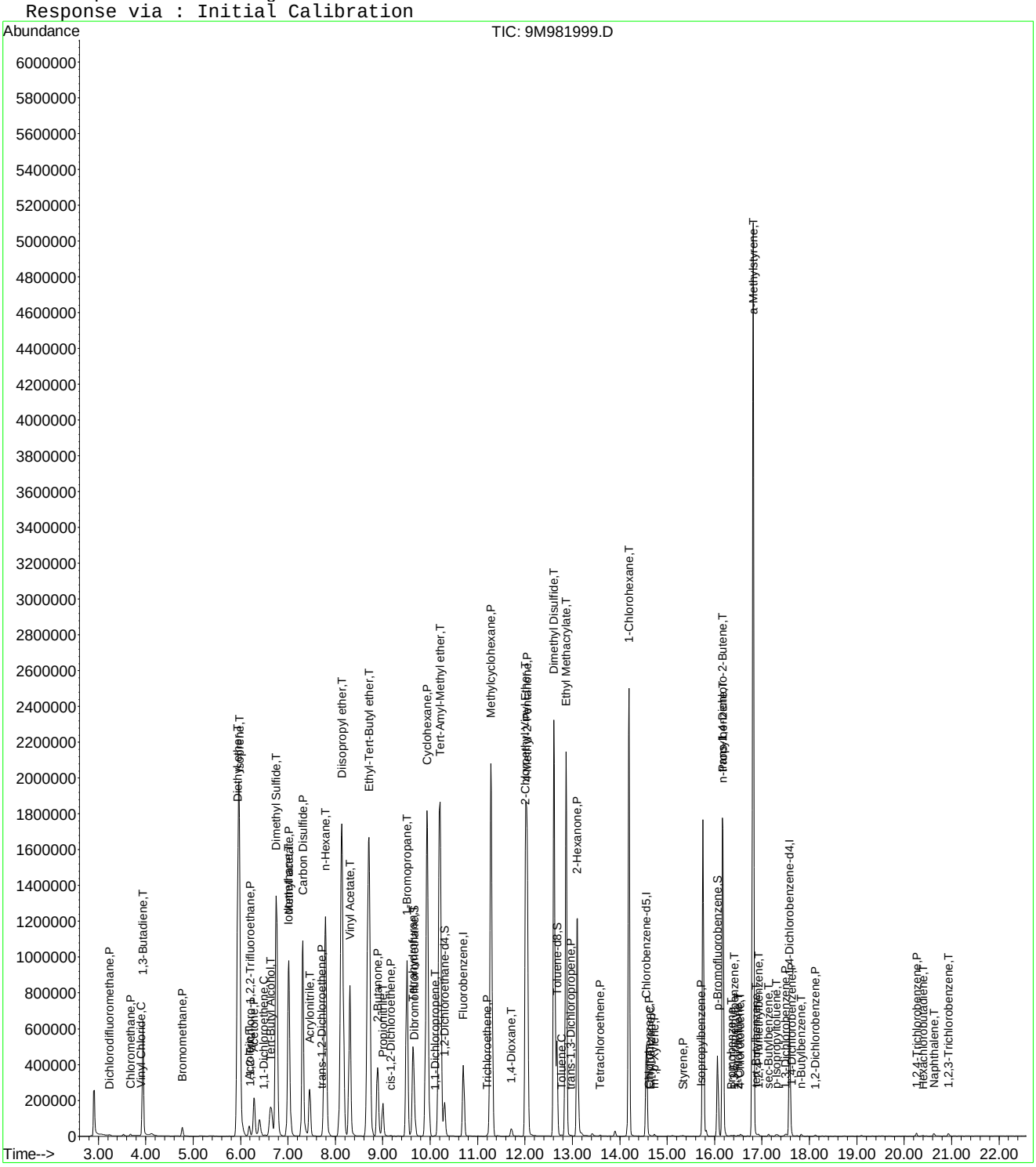
Quant Method : C:\MSDCHEM\1\METHODS\8260C.M (RTE Integrator)
Title : 8260C SOP: OVL MSV01-C WATER 081017 HPMS9
Last Update : Mon Aug 14 14:47:27 2017
Response via : Initial Calibration
DataAcq Meth : 8260C

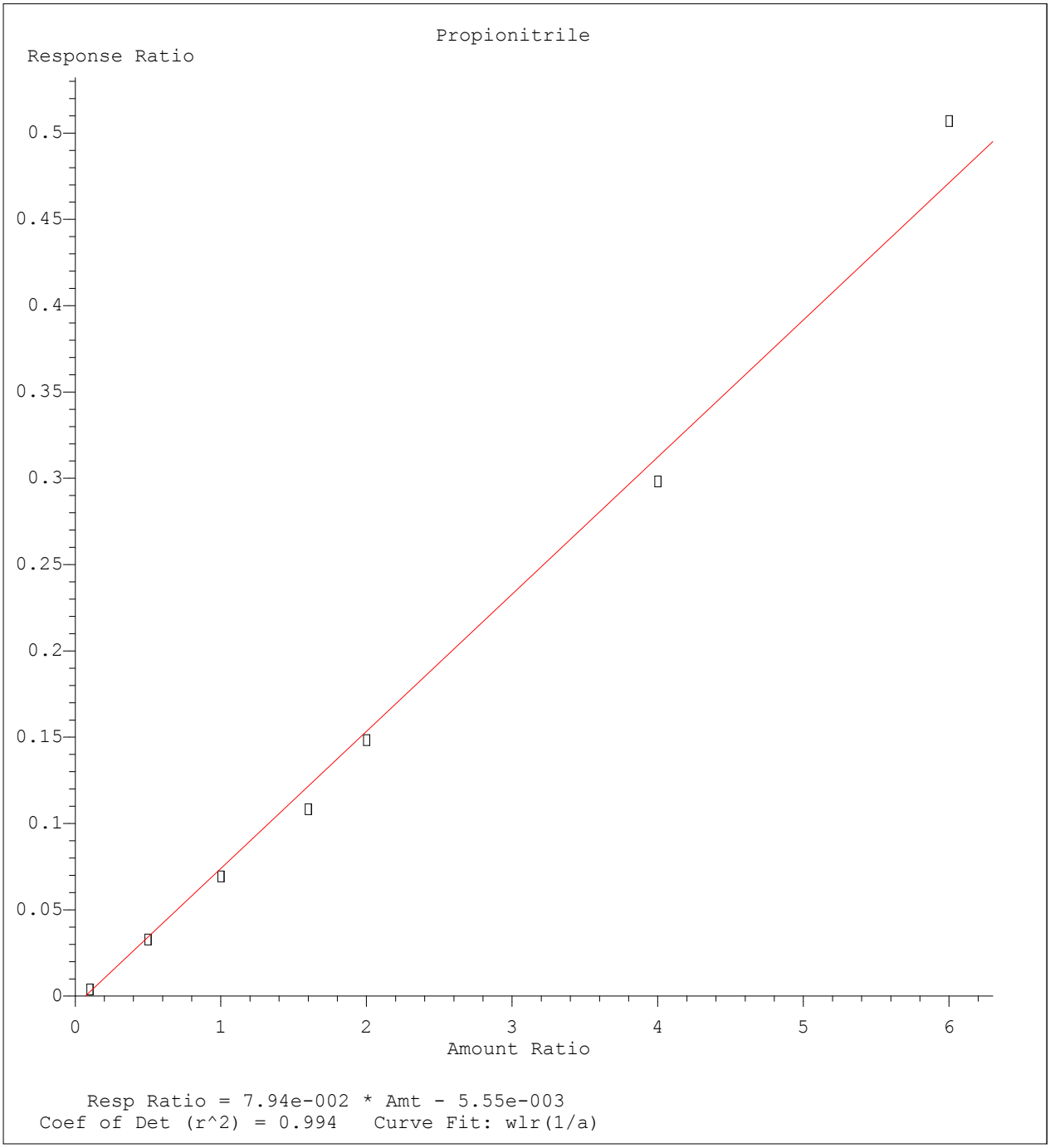
| | Compound | R.T. | QIon | Response | Conc | Unit | | Qvalue |
|---|---|---|---|---|---|---|---|---|
| 65) | Tetrachloroethene | 13.58 | 164 | 2126 | 0.9230 | ug/L | | 96 |
| 68) | 1-Chlorohexane | 14.19 | 91 | 1056428 | 339.3510 | ug/L | | 98 |
| 69) | Chlorobenzene | 14.62 | 112 | 4058 | 0.5145 | 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 Page 2

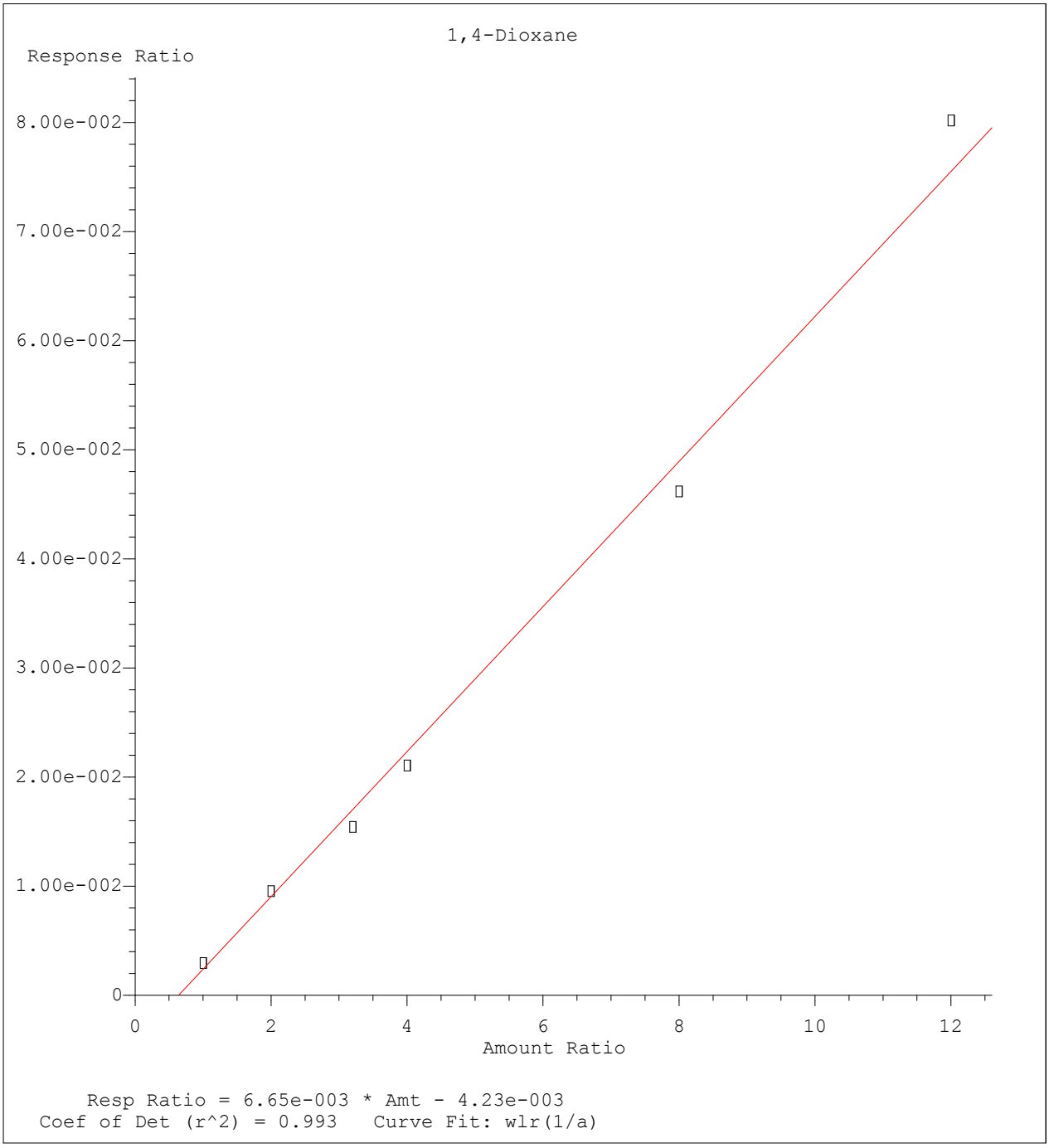
Data File : C:\MSDCHEM\1\DATA\081417\9M981999.D Vial: 11
Acq On : 14 Aug 2017 14:15 Operator: ADC
Sample : WG625140-10 300ug/L ICAL 8260C Inst : hpms9
Misc : 1,1 STD83326 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 15 10:01 2017 Quant Results File: 8260C.RES

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

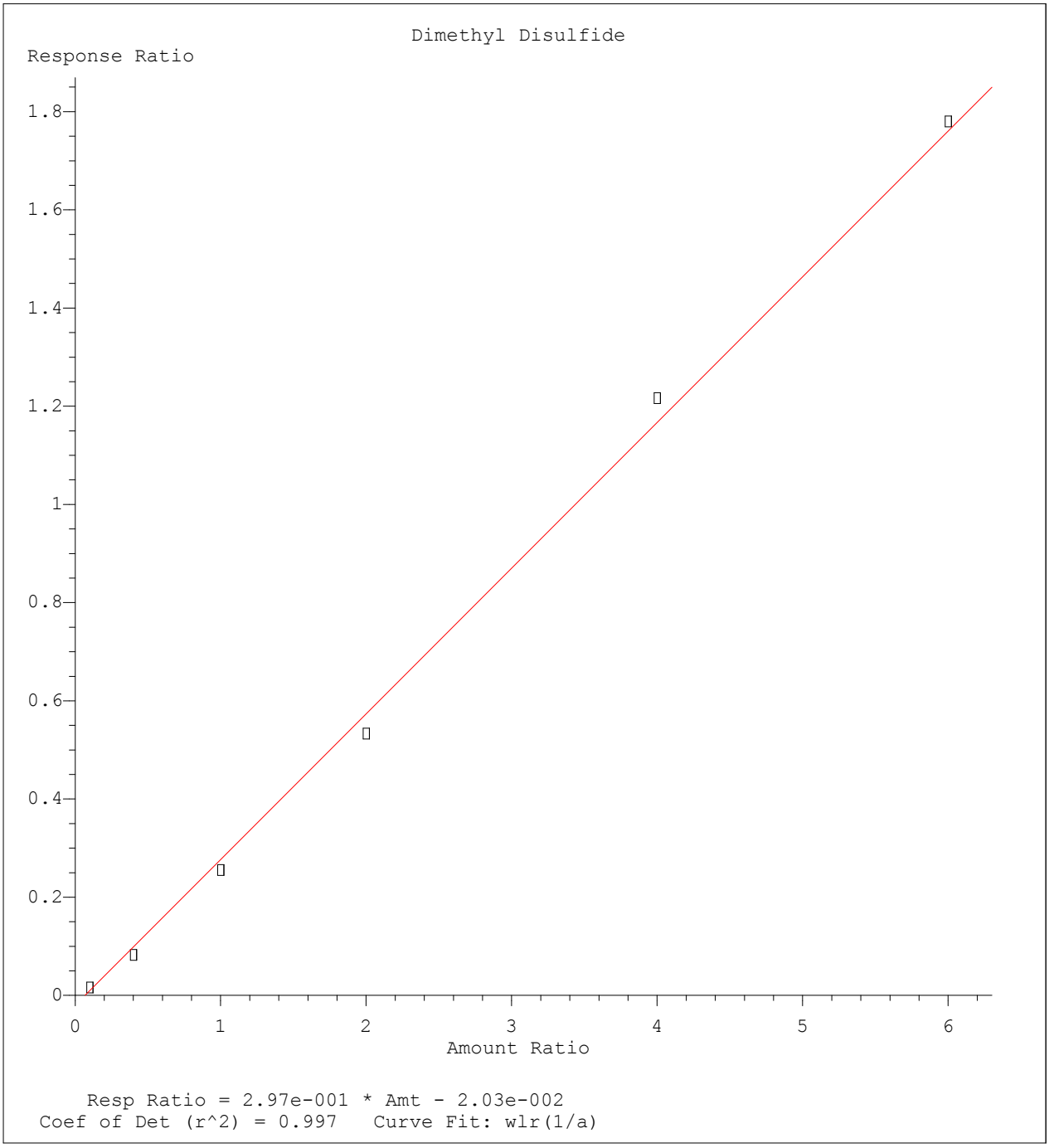




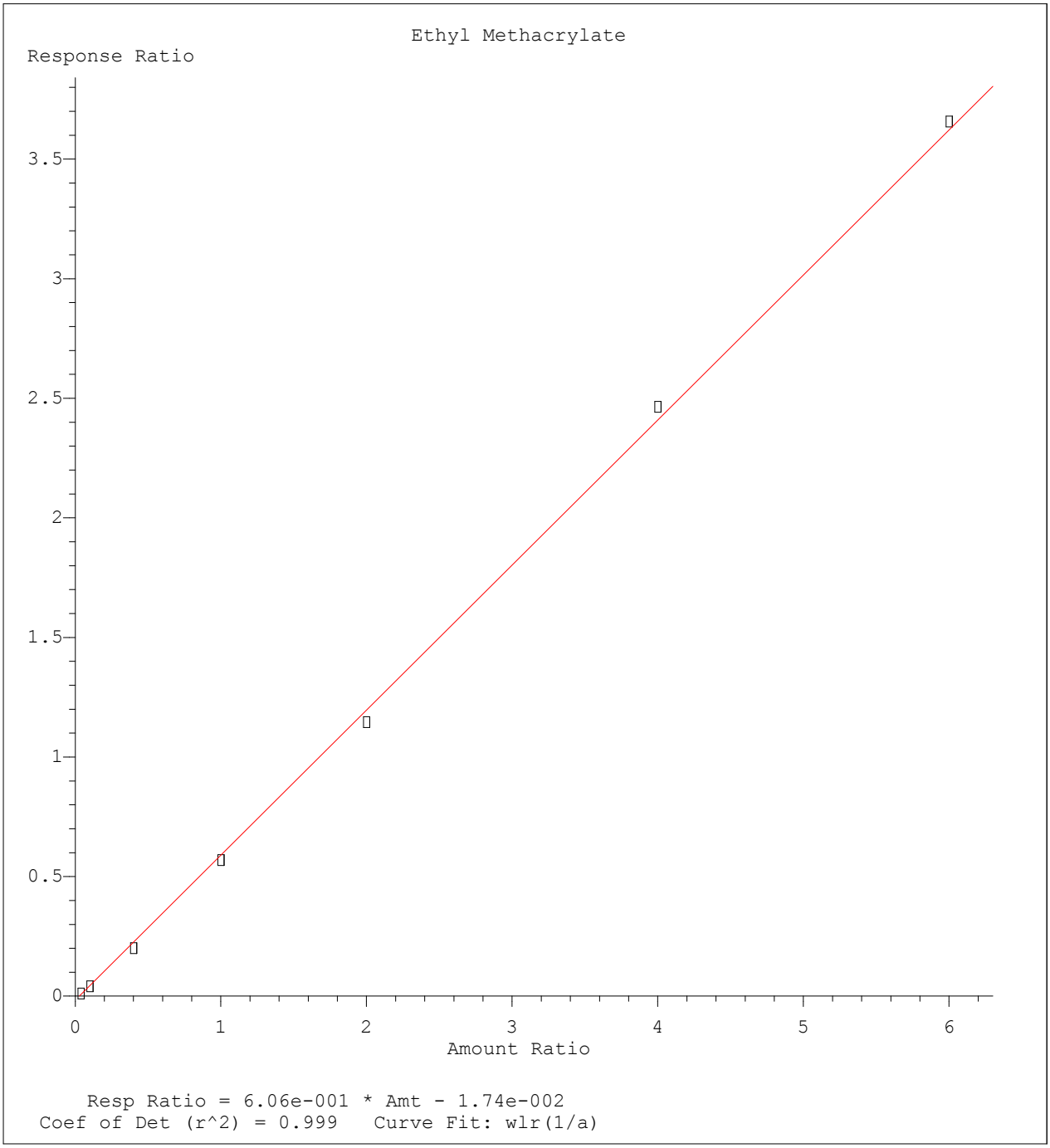

Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



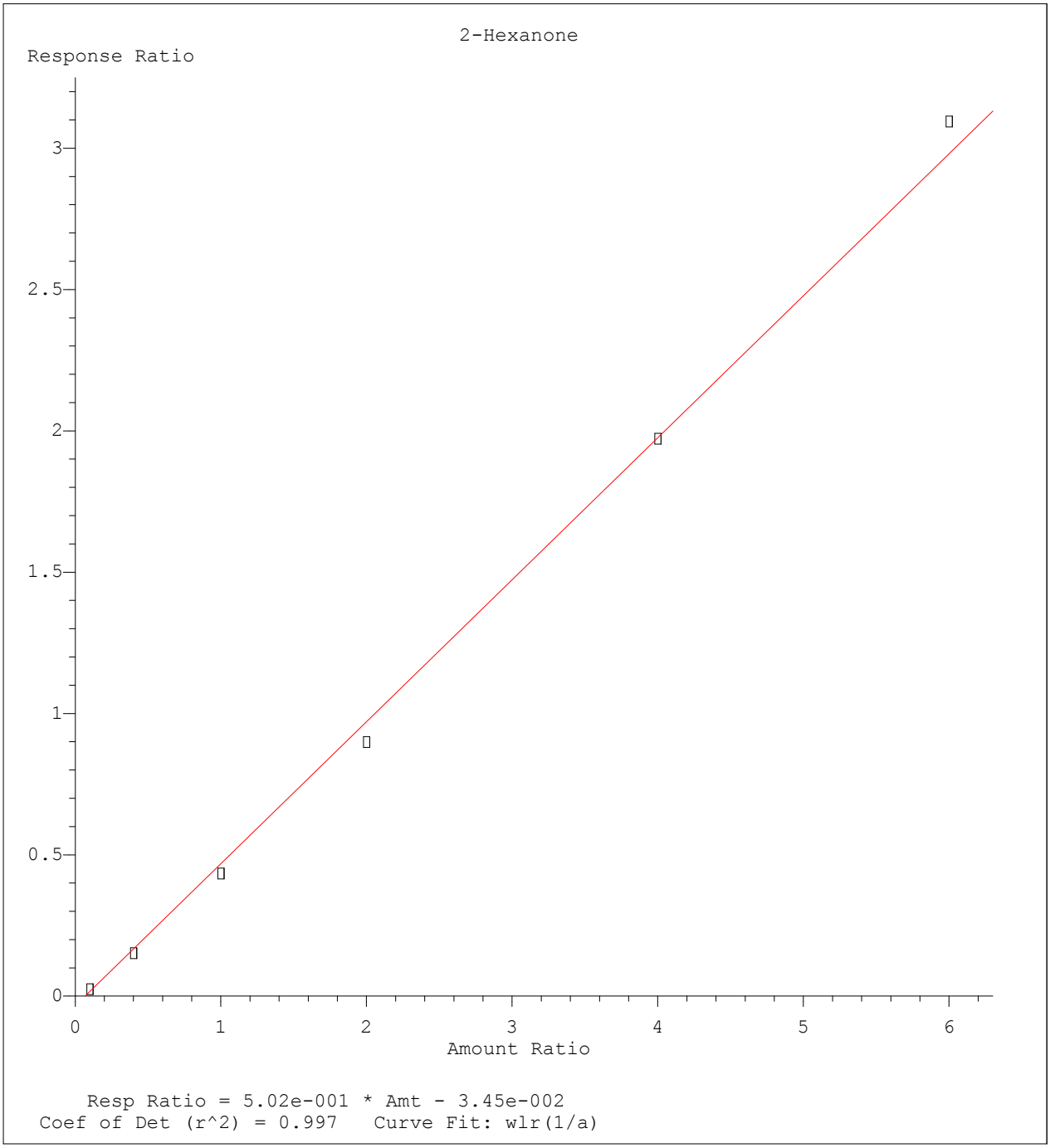

Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



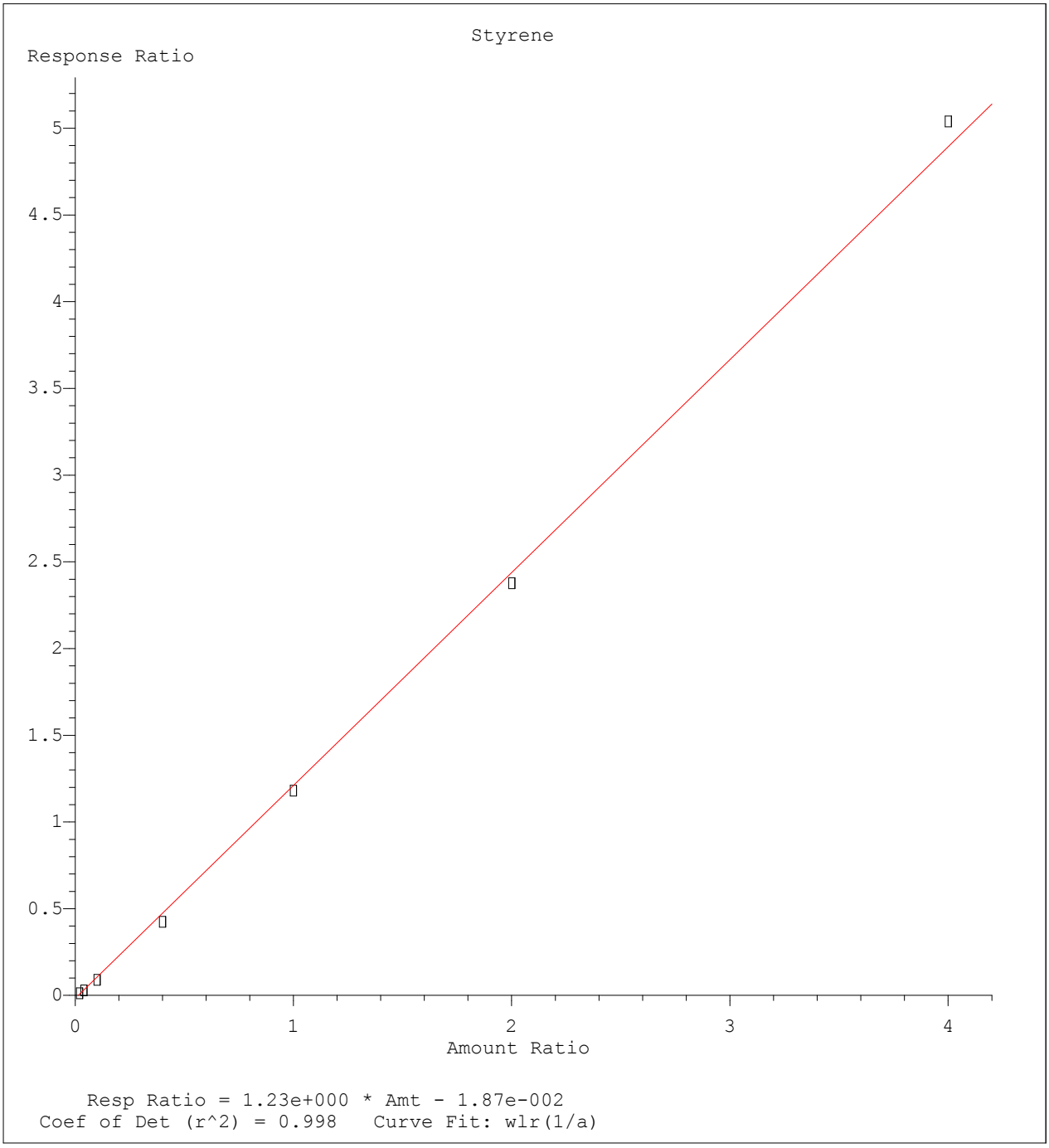

Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



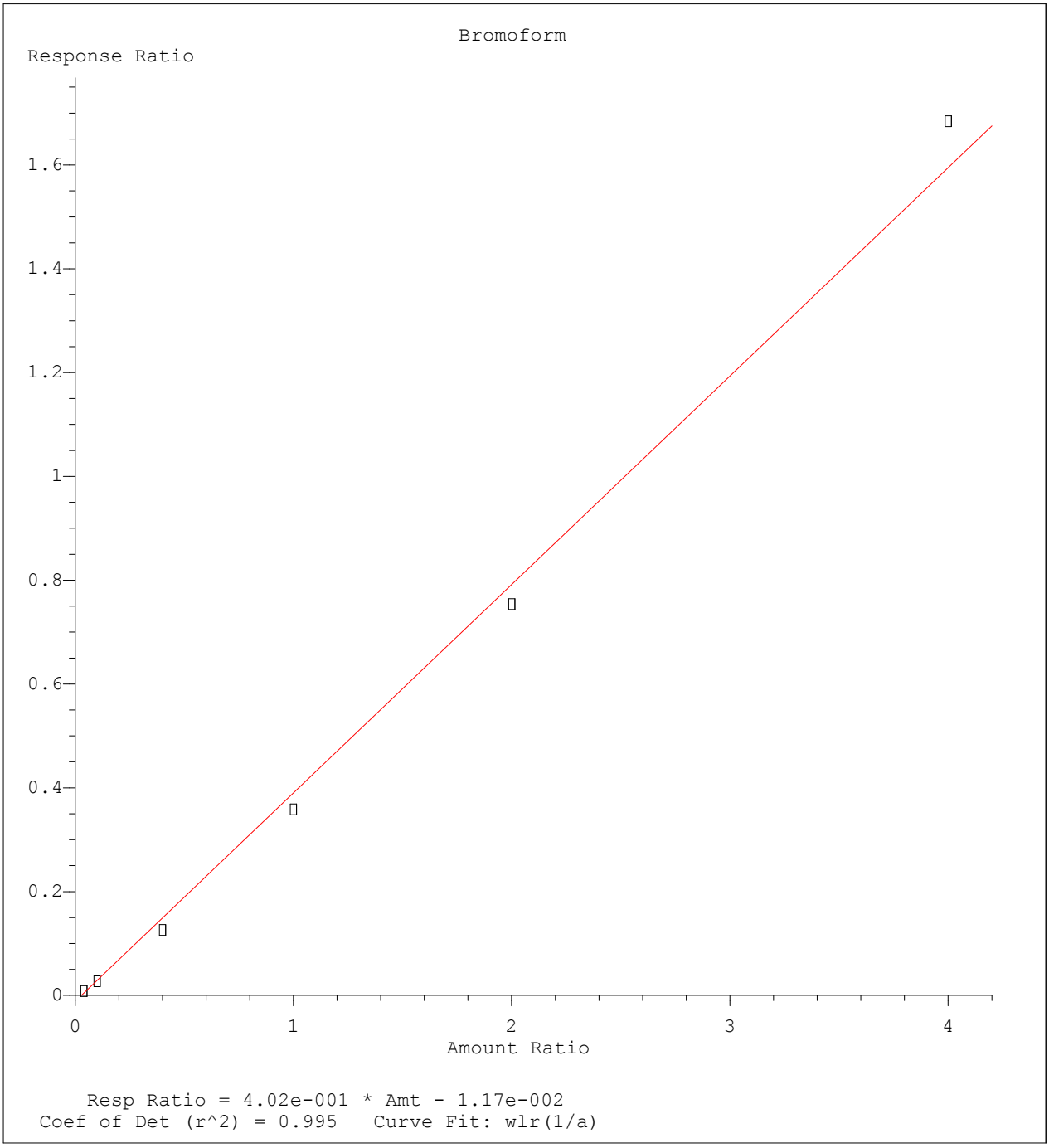

Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



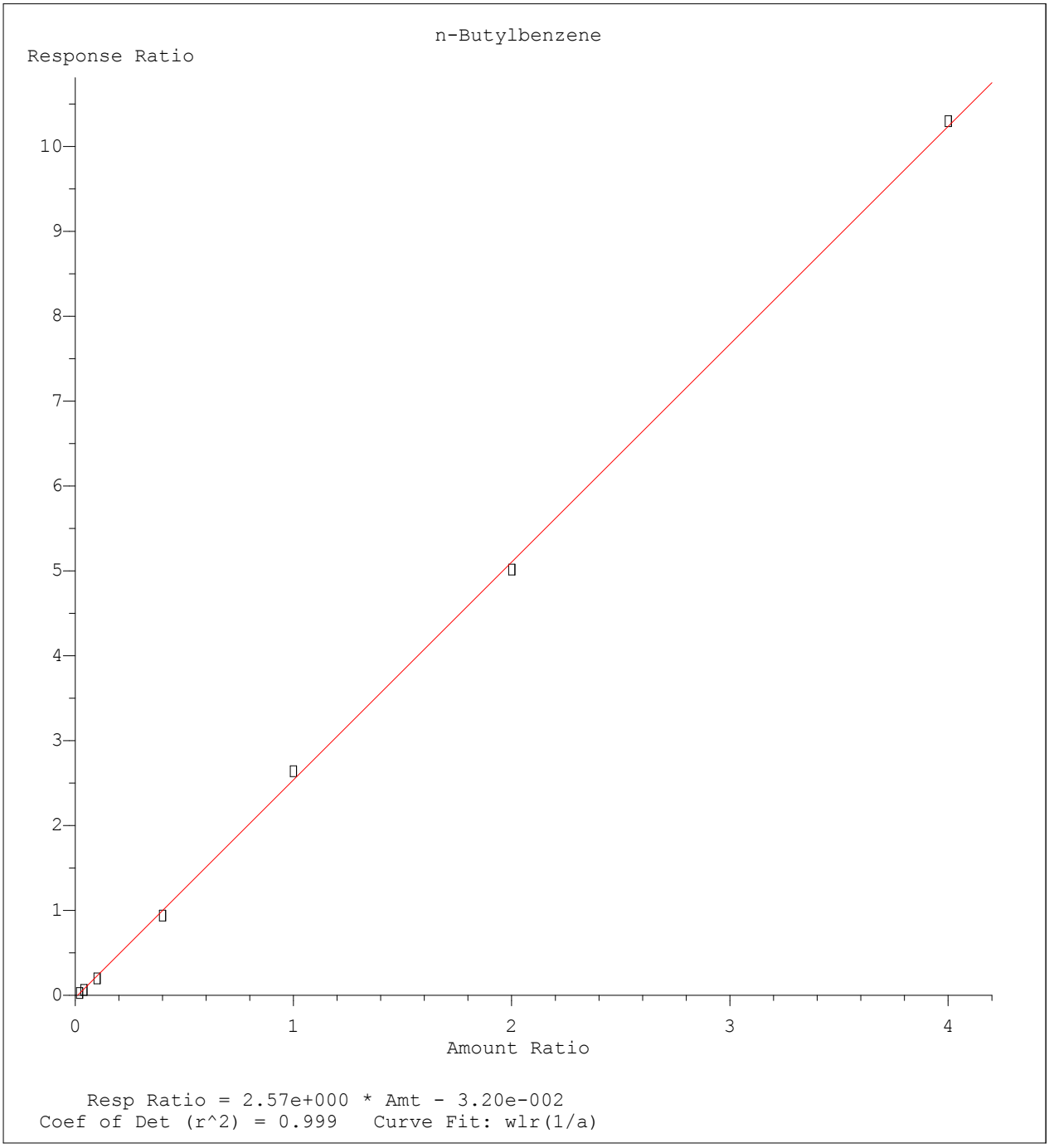

Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



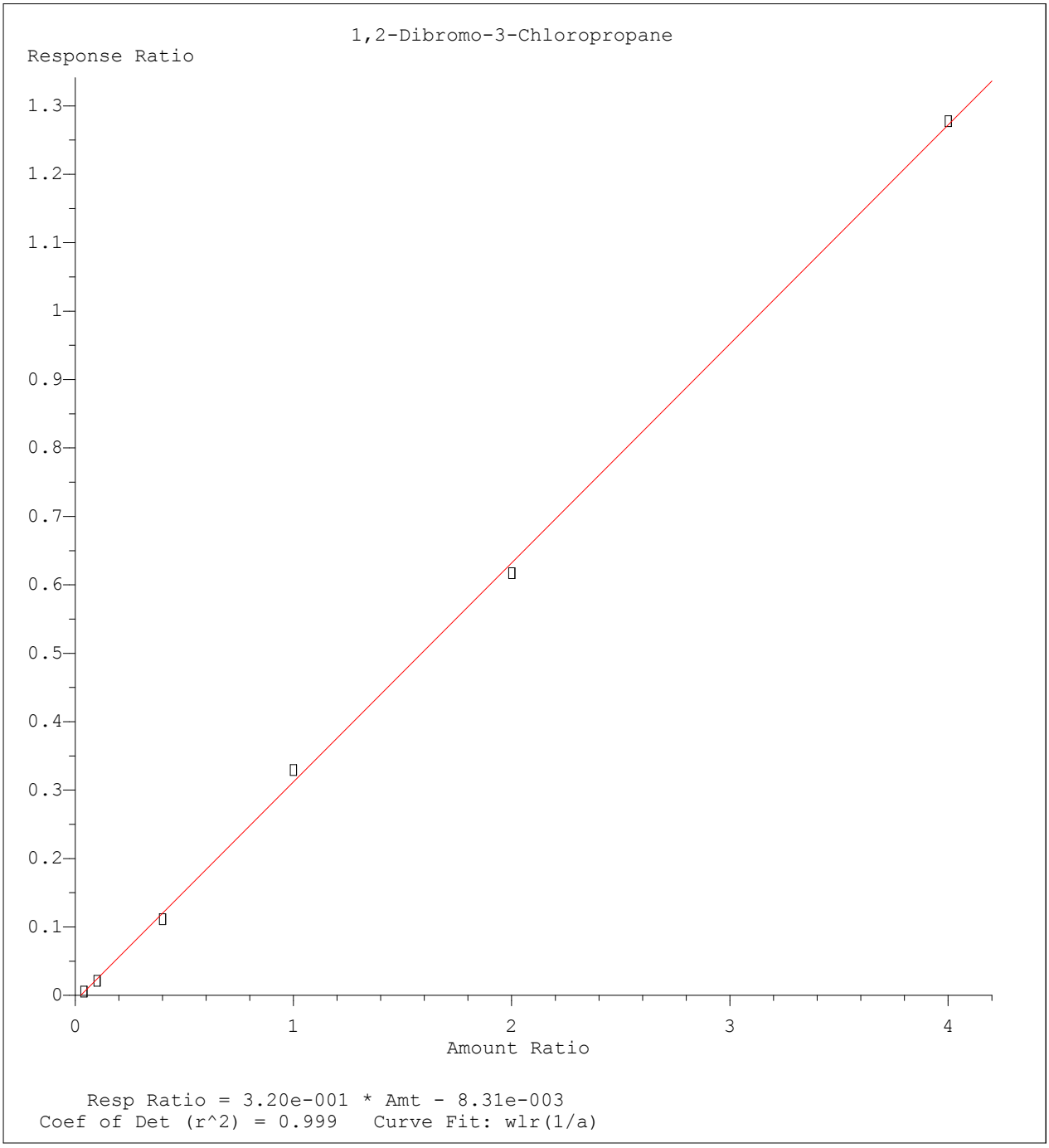

Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



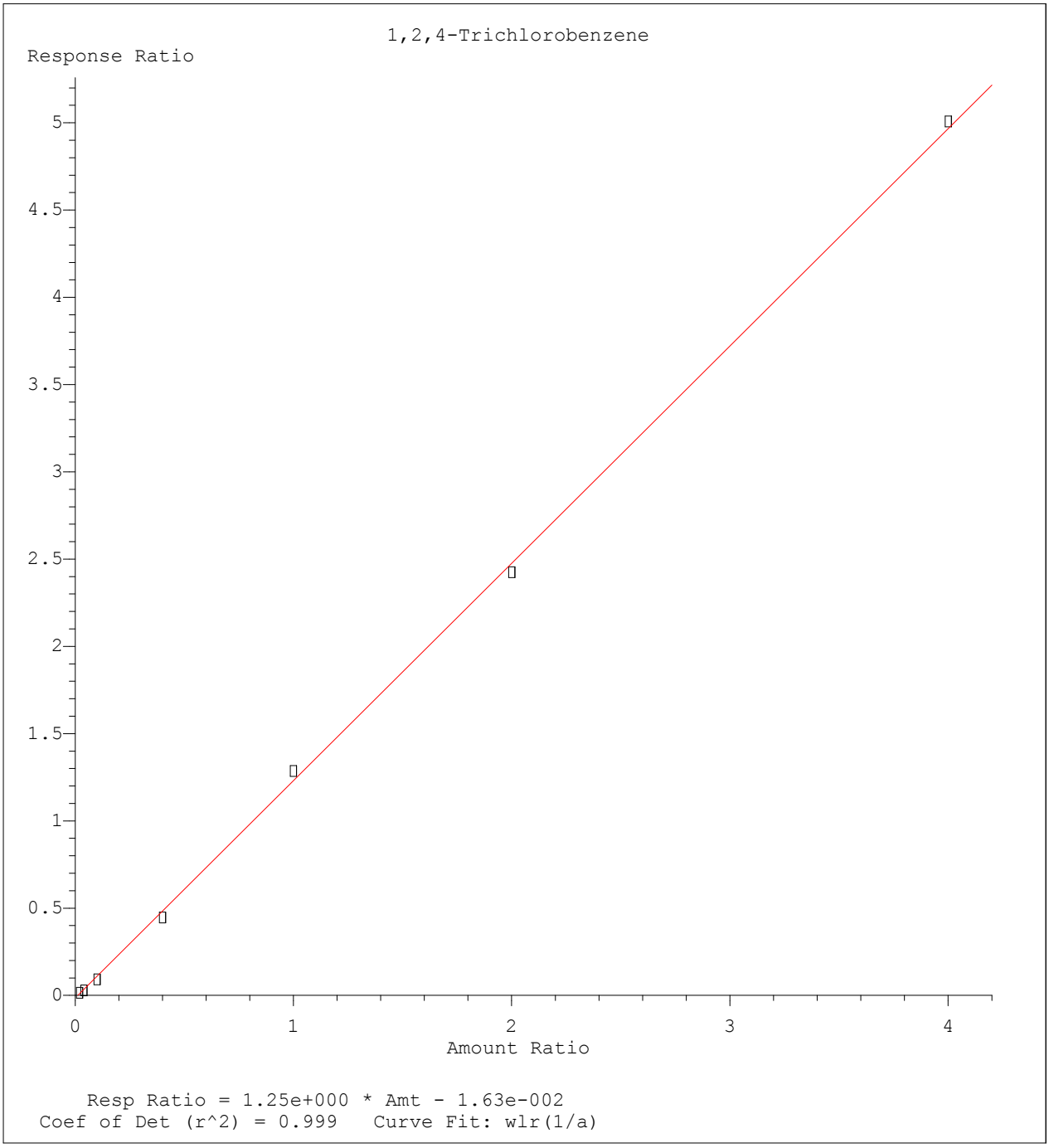

Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



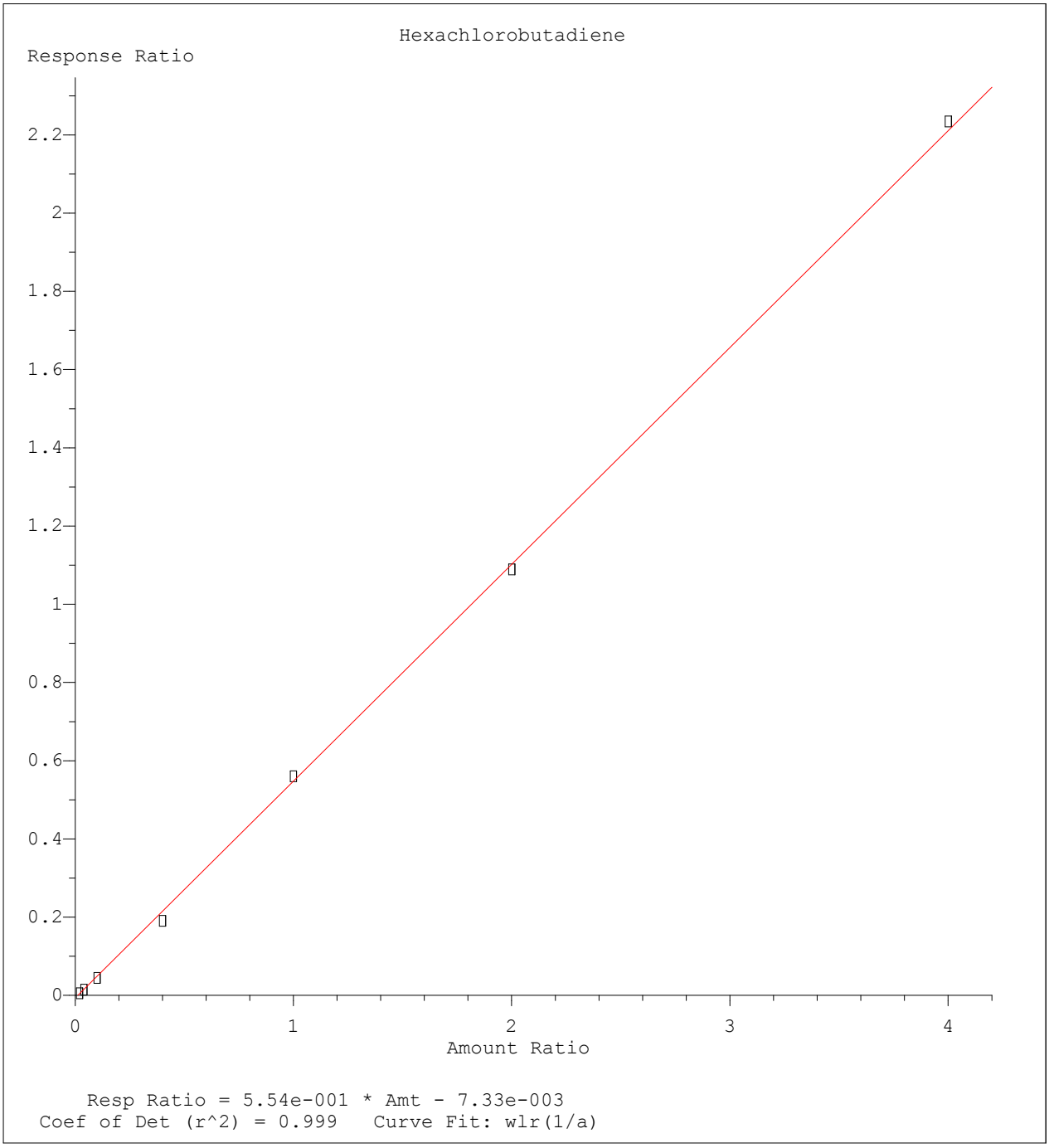

Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017



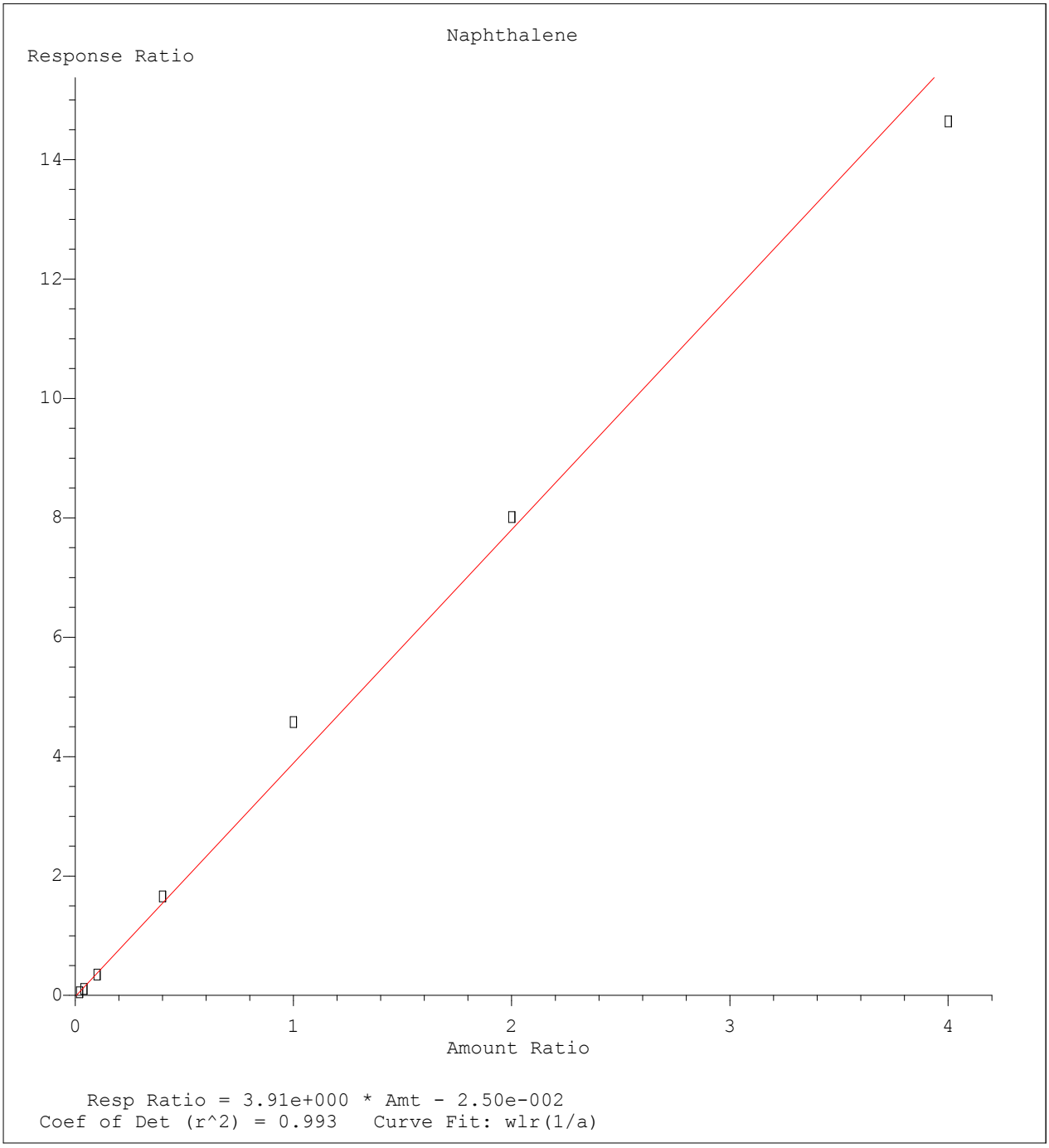

Method Name: C:\MSDCHEM\1\METHODS\8260C.M
Calibration Table Last Updated: Mon Aug 14 14:47:27 2017




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

Quantitation Report (Not Reviewed)

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

Quantitation Report (Not Reviewed)

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

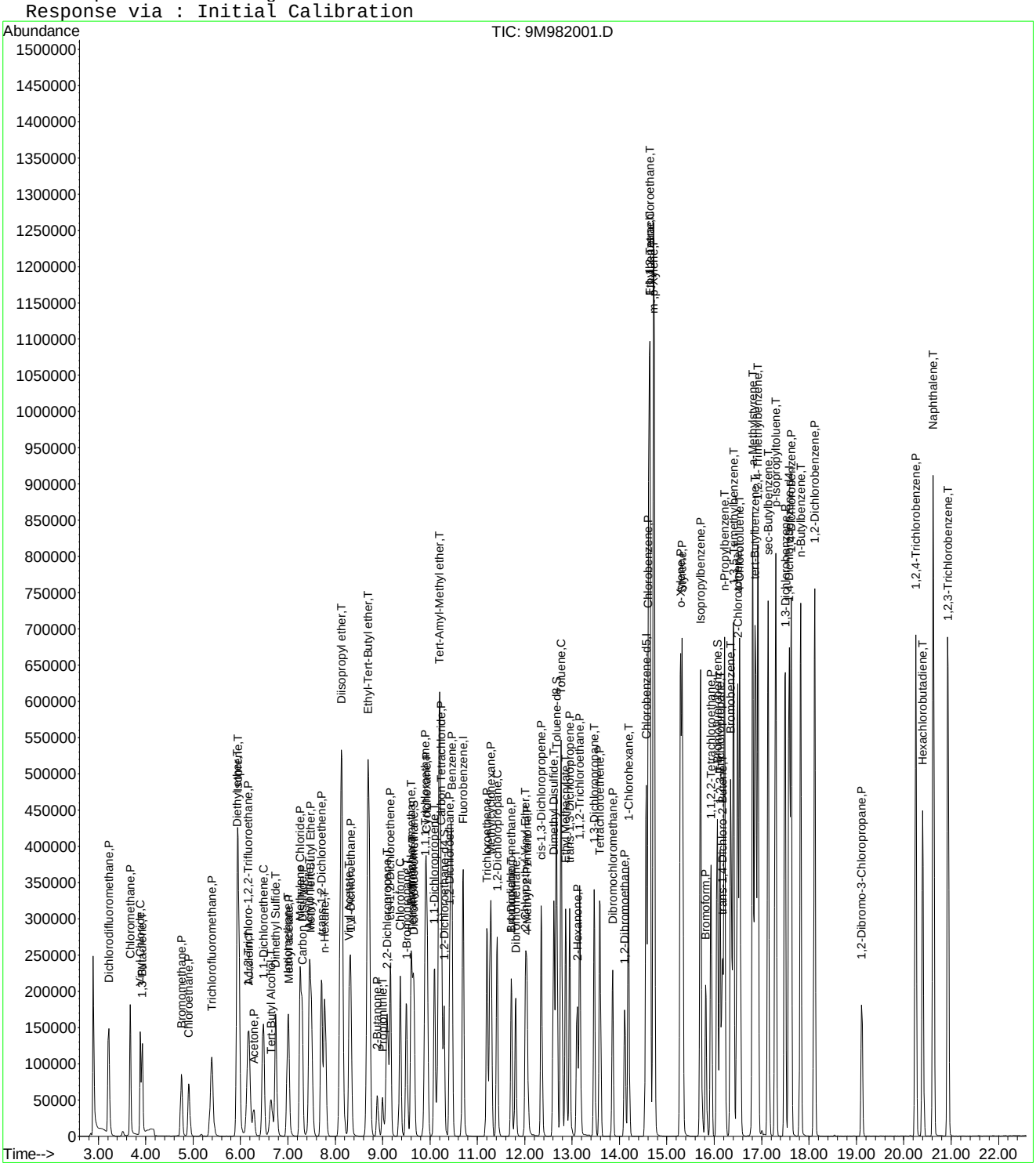
| | Compound | R.T. | QIon | Response | Conc | Unit | | Qvalue |
|---|---|---|---|---|---|---|---|---|
| 45) | 1,2-Dichloroethane | 10.42 | 62 | 215284 | 49.5453 | ug/L | | 100 |
| 46) | Benzene | 10.46 | 78 | 508127 | 48.9492 | ug/L | | 99 |
| 47) | Trichloroethene | 11.20 | 130 | 138193 | 50.1126 | 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-Buten | 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 Page 2

Quantitation Report (Not Reviewed)

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 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\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 SPCC's out = 0 CCC's out = 0
9M982001.D 8260C.M Tue Aug 15 10:03:53 2017 Page 2

Quantitation Report (Not Reviewed)

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

Quantitation Report (Not Reviewed)

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

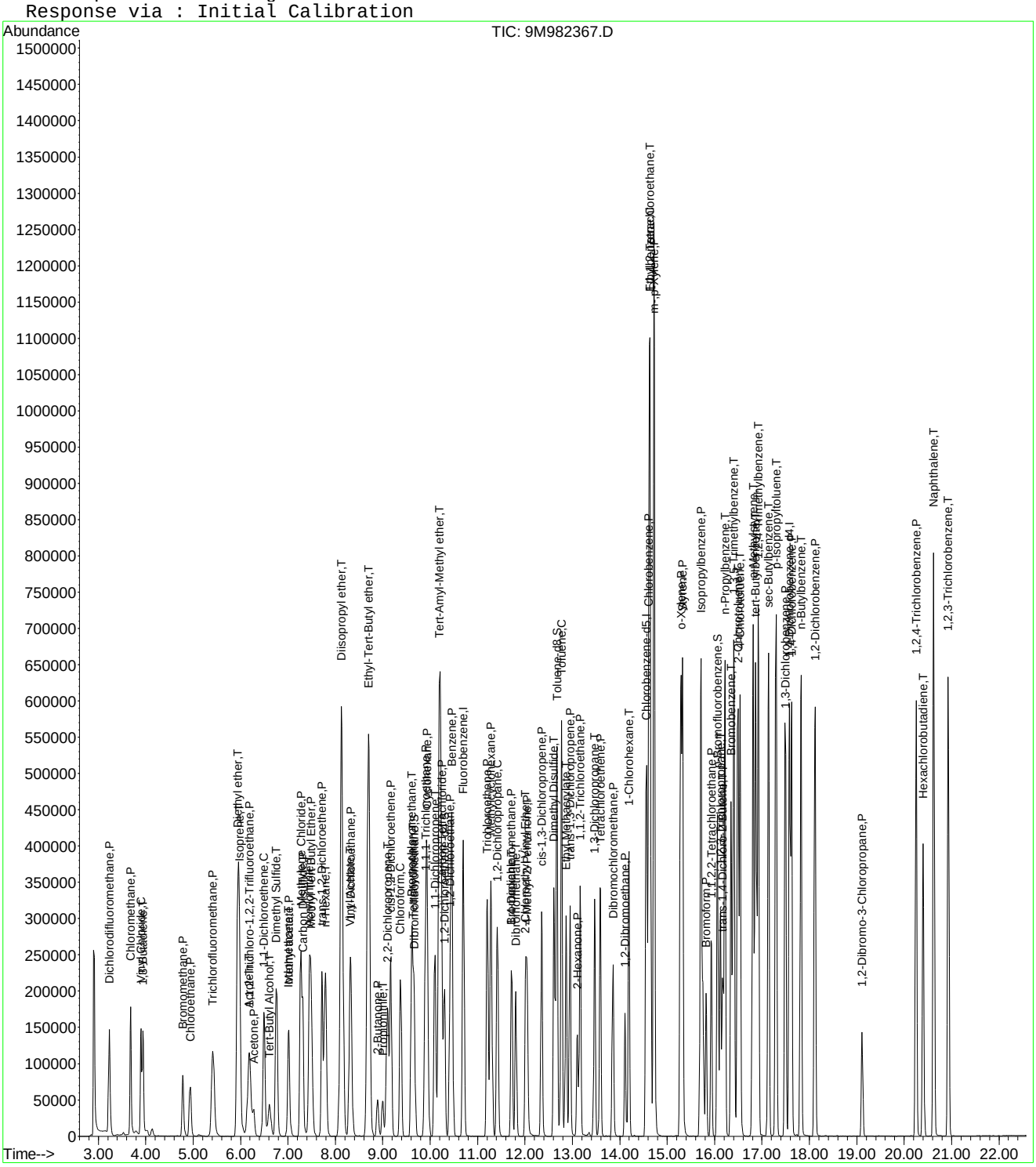
| | Compound | R.T. | QIon | Response | Conc | Unit | | Qvalue |
|---|---|---|---|---|---|---|---|---|
| 46) | Benzene | 10.46 | 78 | 514964 | 46.3059 | ug/L | | 99 |
| 47) | Trichloroethene | 11.21 | 130 | 154470 | 52.2866 | ug/L | | 100 |
| 48) | Methylcyclohexane | 11.28 | 83 | 214981 | 48.8601 | 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

Quantitation Report (Not Reviewed)

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



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 SPCC's out = 0 CCC's out = 0
9M982367.D 8260C.M 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

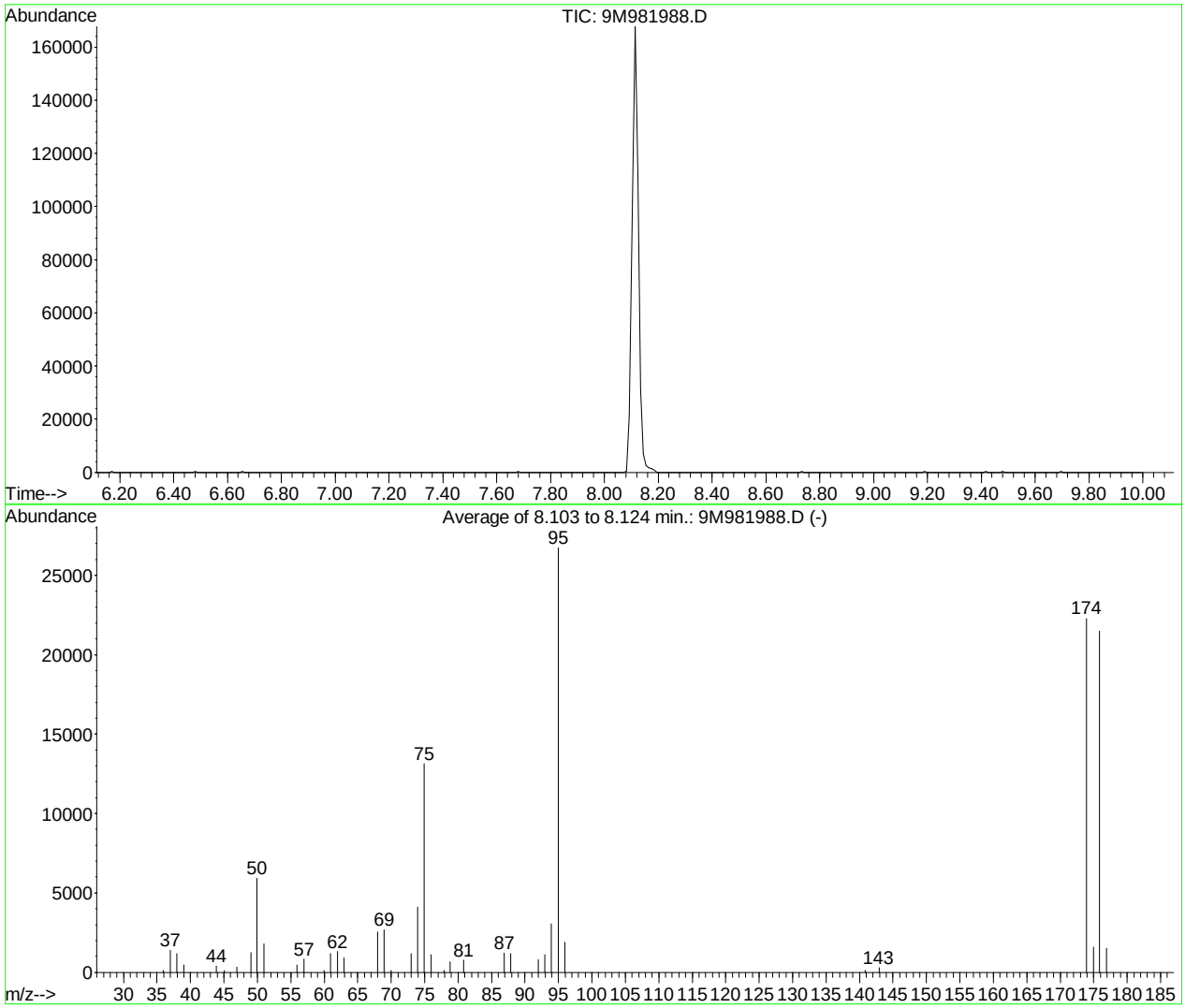
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

| | | 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 SPCC's out = 0 CCC's out = 0
9M982367.D 8260C.M 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

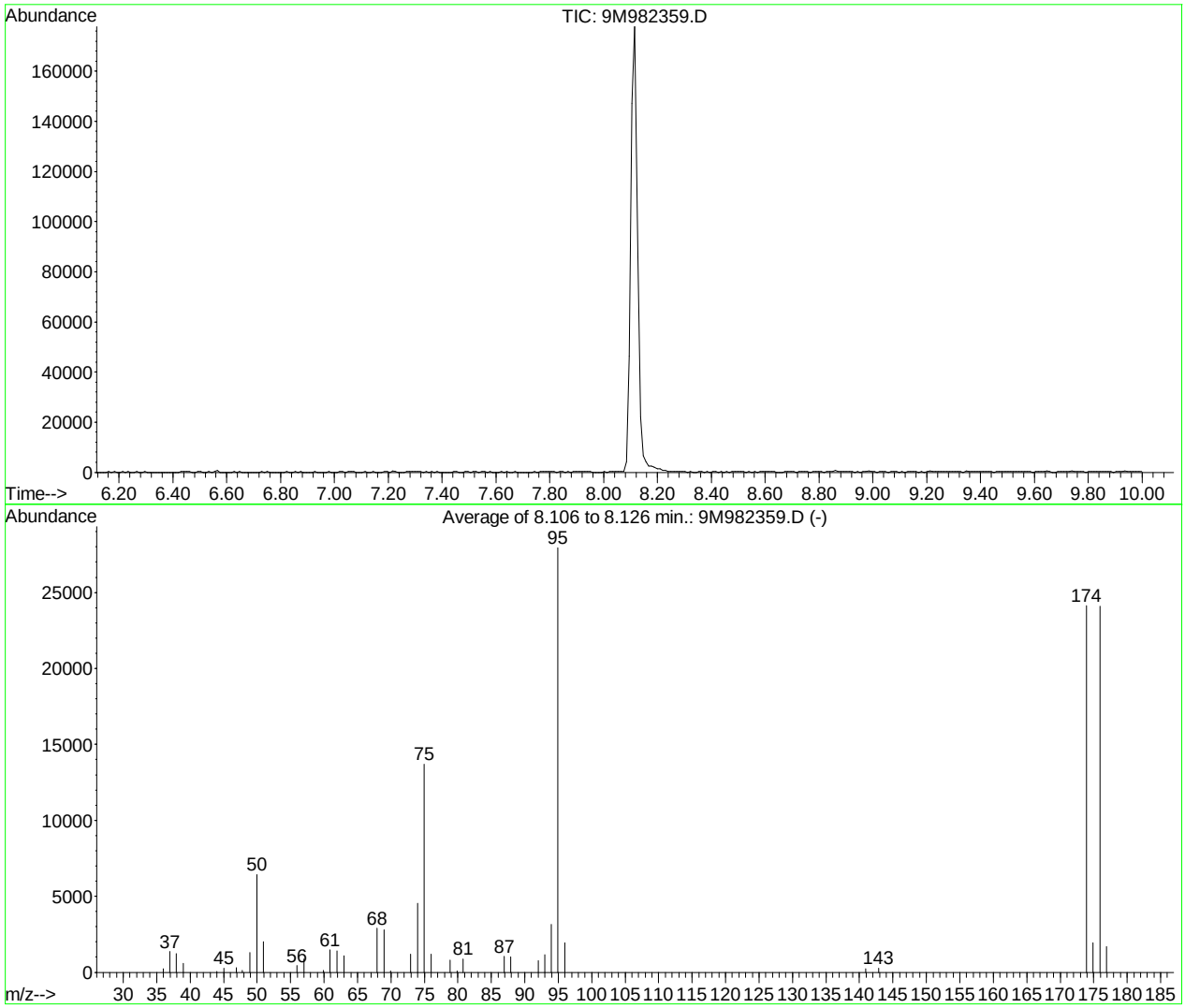



AutoFind: Scans 292, 293, 294; Background Corrected with Scan 287

| 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\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

Quantitation Report (Not Reviewed)

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

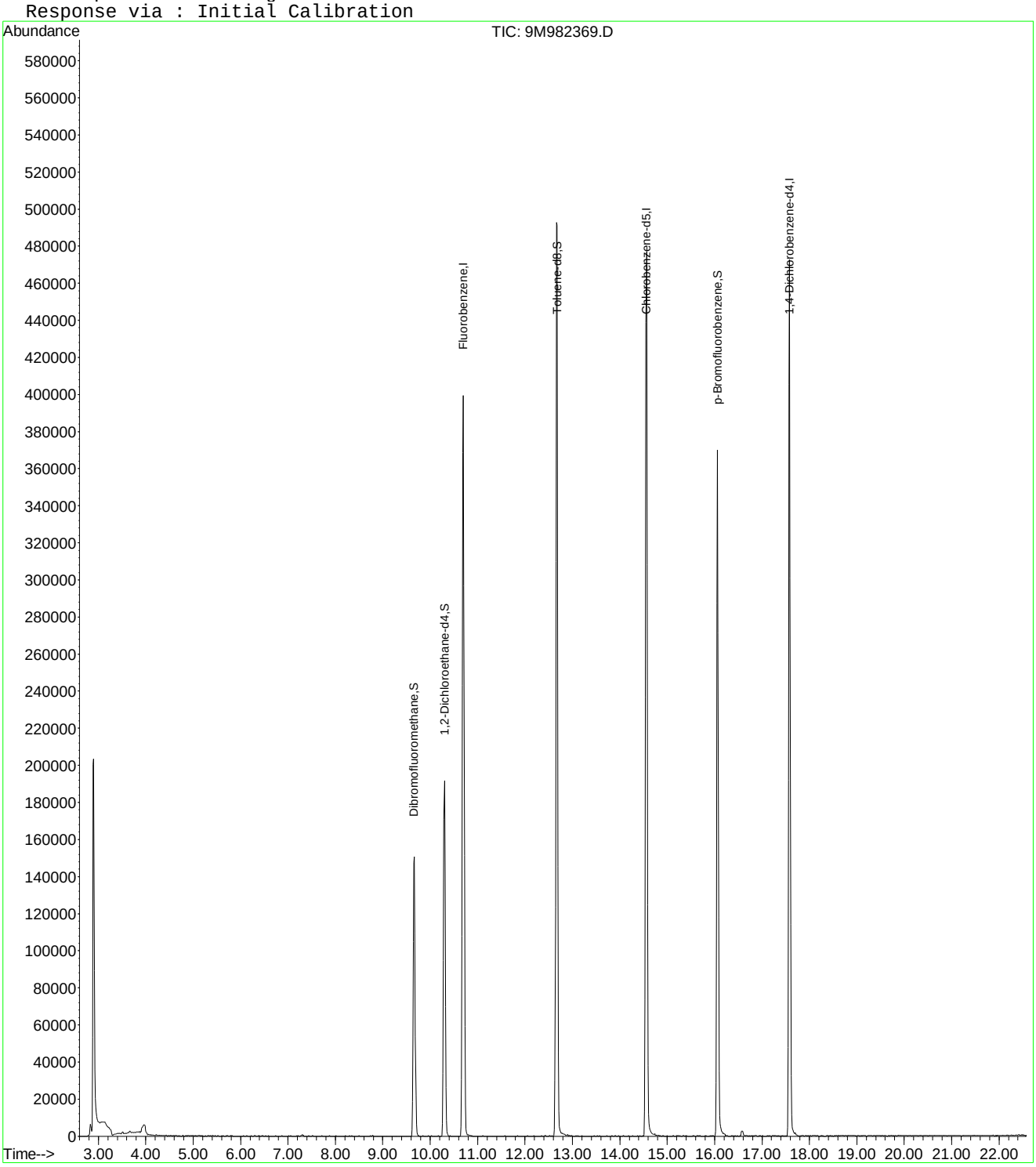
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Fluorobenzene | 10.70 | 96 | 493444 | 50.00 | ug/L | 0.00 |
| 57) Chlorobenzene-d5 | 14.56 | 117 | 371235 | 50.00 | ug/L | 0.00 |
| 77) 1,4-Dichlorobenzene-d4 | 17.58 | 152 | 169772 | 50.00 | 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

Quantitation Report (Not Reviewed)

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



LSC Area Percent Report

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

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

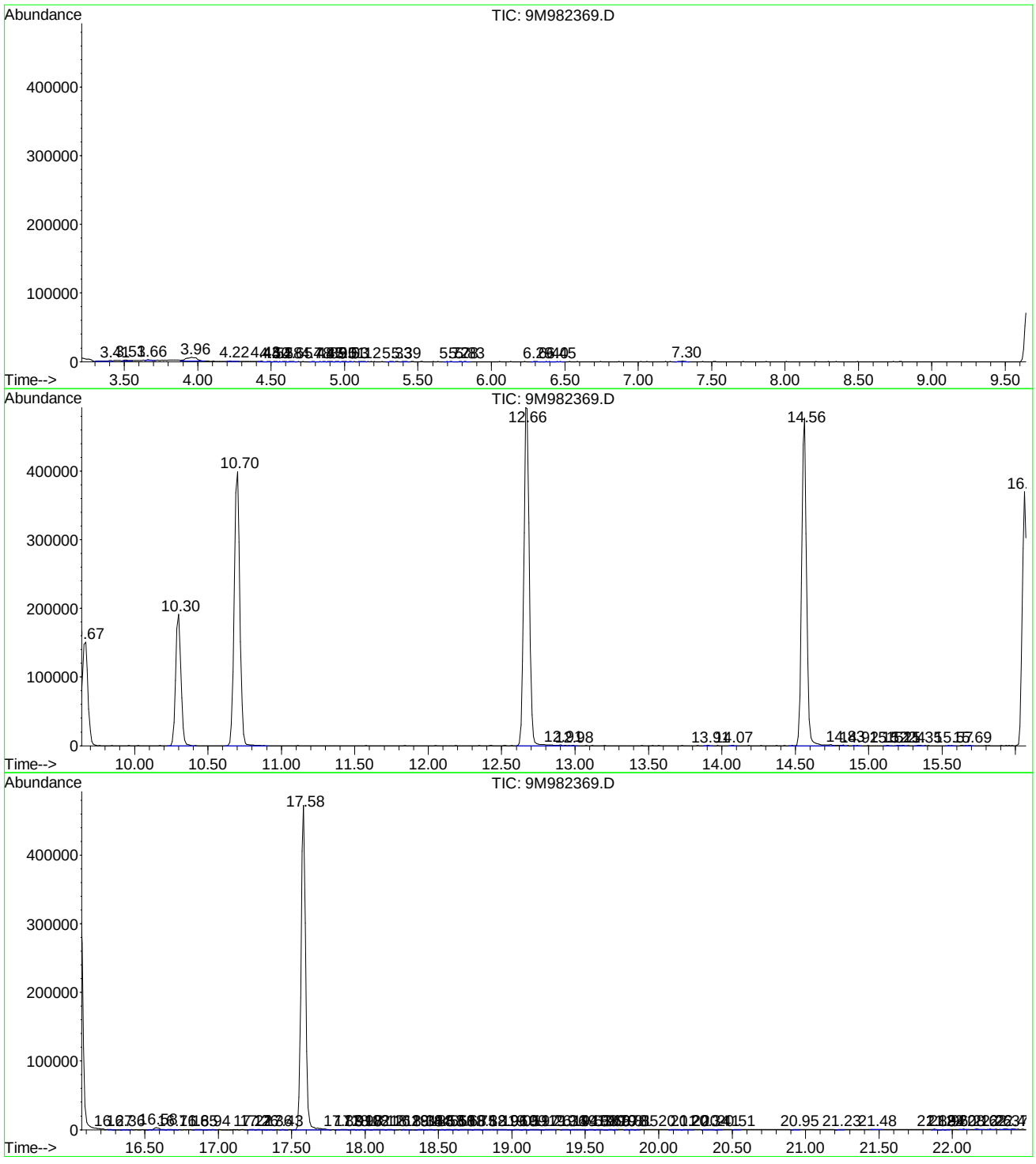
Signal : TIC

| 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

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

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

Quantitation Report (Not Reviewed)

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

Quantitation Report (Not Reviewed)

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

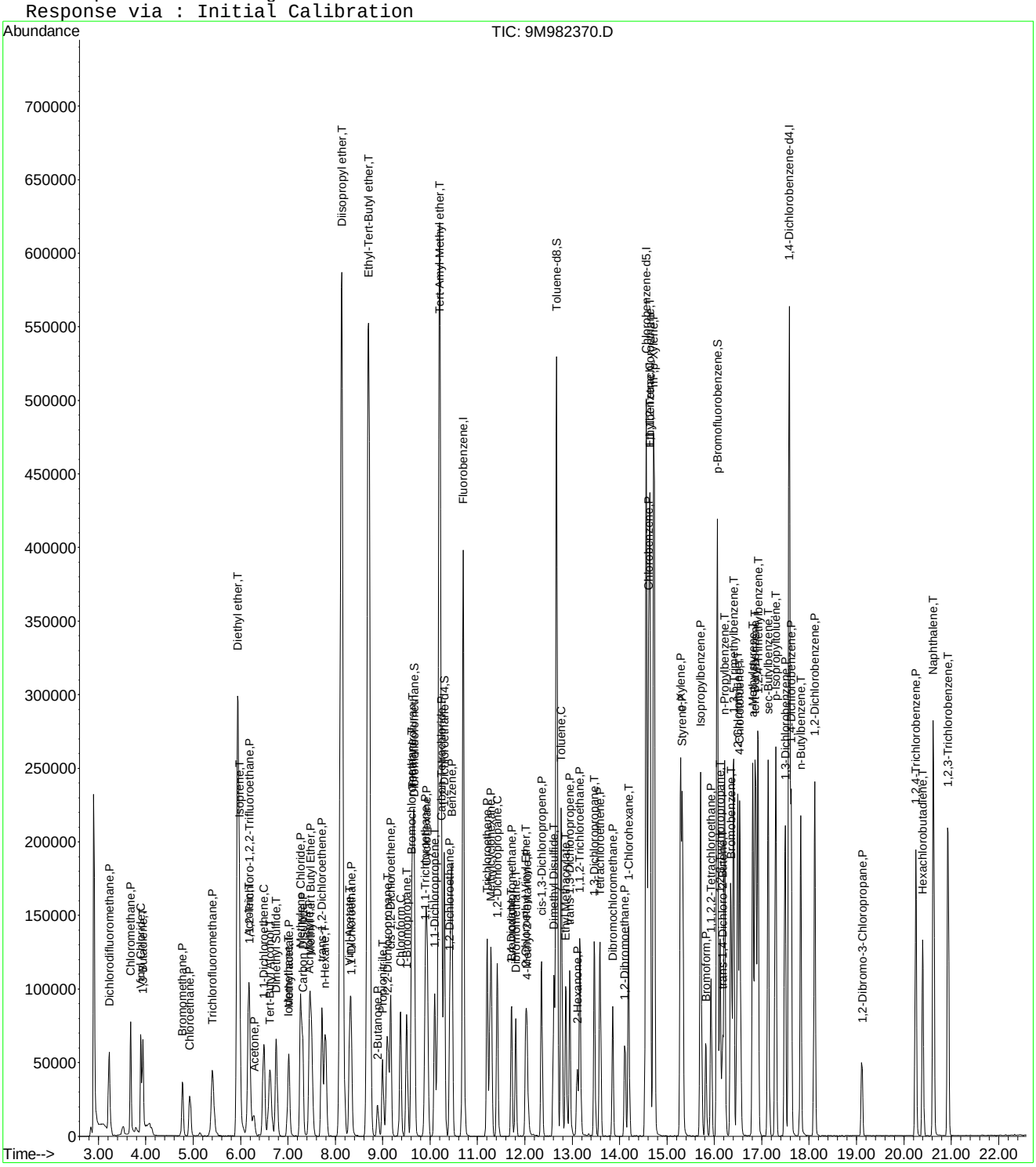
| | Compound | R.T. | QIon | Response | Conc Unit | | Qvalue |
|---|---|---|---|---|---|---|---|
| 45) | 1,2-Dichloroethane | 10.41 | 62 | 91292 | 20.1785 ug/L | | 99 |
| 46) | Benzene | 10.46 | 78 | 211245 | 19.5445 ug/L | | 99 |
| 47) | Trichloroethene | 11.21 | 130 | 62154 | 21.6468 ug/L | | 97 |
| 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-Buten | 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-Chloropropan | 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

Quantitation Report (Not Reviewed)

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:** L17081498
**Department**: Semivolatiles
**Analyst:** Mary Schilling

**METHOD**

**Preparation** 3510C/1311

**Analysis** SW-846 8270C

**HOLDING TIMES**

**Sample Preparation:** Samples 01, 03, 05-07 and 09 were re-extracted out of hold. All other 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 analytes: Benzoic Acid, 2,4-Dinitrophenol. Please see the applicable QC report for a detailed presentation of the failures.

**Continuing Calibration and Tune:** Recoveries out of range were observed for the following analytes: 4-Nitrophenol, Benzoic Acid. 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:** Recoveries out of range were observed for the following analytes: 1,4-Dioxane failed low in the LCS/LCSD, 2,4-Dinitrophenol exceeded % RPD criteria only. Please see the applicable QC report for a detailed presentation of the failures. Samples 01, 03, 05-07 and 09 were re-extracted due to the LCS not being spiked for 1,1-biphenyl. The re-extract LCS/LCSD yielded acceptable recoveries for 1,1-biphenyl; both extractions were reported.

| Sample # | Analyte | Date | Result | Lower | Upper | Type |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| WG627757-02 | 1,4-Dioxane | 2017-08-31 10:44:00 | 32.0 | 50 | 150 | Recovery |
| WG628510-02 | 1,4-Dioxane | 2017-09-12 17:21:00 | 27.0 | 50 | 150 | Recovery |
| WG628510-03 | 1,4-Dioxane | 2017-09-12 17:51:00 | 26.0 | 50 | 150 | Recovery |
| WG628510-03 | 2,4-Dinitrophenol | 2017-09-12 17:51:00 | 36.7 | | 30 | RPD |

**Matrix Spikes:** Recoveries out of range were observed for the following analyte: 1,4-Dioxane failed low in the MS/MSD. Please see the applicable QC report for a detailed presentation of the failures.

| Sample # | Analyte | Date | Result | Lower | Upper | Type |
|---|---|---|---|---|---|---|
| L17081498-05 | 1,4-Dioxane | 2017-08-31 13:27:00 | 36.1 | 50 | 150 | Recovery |
| L17081498-06 | 1,4-Dioxane | 2017-08-31 14:01:00 | 43.9 | 50 | 150 | Recovery |

**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 peakcompletely.

**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 andbenzo(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:** 129402
**Approved By:** Mary Schilling



Microbac

**Lab Report #:** L17081498
**Lab Project #:** 2736.061
**Project Name:** DOW WATERLOO GW
**Lab Contact:** Michelle Taylor

# Certificate of Analysis

# Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-01 | **PrePrep Method:** | N/A | **Instrument:** | HPMS19 |
| **Client ID:** | MW07-082517 | **Prep Method:** | 3510C | **Prep Date:** | 09/06/2017 15:00 |
| **Matrix:** | Water | **Analytical Method:** | 8270D | **Cal Date:** | 08/15/2017 20:30 |
| **Workgroup #:** | WG628781 | **Analyst:** | SCB | **Run Date:** | 09/13/2017 15:58 |
| **Collect Date:** | 08/25/2017 10:34 | **Dilution:** | 1 | **File ID:** | 19M000544 |
| **Sample Tag:** | RE | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 22.7 | 2.84 |
| 1,3,5-Trinitrobenzene | 99-35-4 | | U | 5.68 | 2.84 |
| 1,3-Dinitrobenzene | 99-65-0 | | U | 5.68 | 2.84 |
| 1,4-Dioxane | 123-91-1 | | U | 11.4 | 5.68 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 5.68 | 2.84 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 5.68 | 2.84 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 5.68 | 2.84 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 5.68 | 2.84 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 28.4 | 14.2 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 5.68 | 2.84 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 5.68 | 2.84 |
| 2-Chloronaphthalene | 91-58-7 | | U | 5.68 | 2.84 |
| 2-Chlorophenol | 95-57-8 | | U | 5.68 | 2.84 |
| 2-Methylnaphthalene | 91-57-6 | | U | 5.68 | 2.84 |
| 2-Methylphenol | 95-48-7 | | U | 5.68 | 2.84 |
| 2-Nitroaniline | 88-74-4 | | U | 28.4 | 14.2 |
| 2-Nitrophenol | 88-75-5 | | U | 5.68 | 2.84 |
| 3-Nitroaniline | 99-09-2 | | U | 28.4 | 14.2 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 5.68 | 2.84 |
| 3-,4-Methylphenol | 65794-96-9 | | U | 5.68 | 2.84 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 5.68 | 2.84 |
| 4-Chloroaniline | 106-47-8 | | U | 5.68 | 2.84 |
| 4-Nitrophenol | 100-02-7 | | U | 28.4 | 14.2 |
| Acenaphthene | 83-32-9 | | U | 5.68 | 2.84 |
| Acenaphthylene | 208-96-8 | | U | 5.68 | 2.84 |
| Anthracene | 120-12-7 | | U | 5.68 | 2.84 |
| Benzo(a)anthracene | 56-55-3 | | U | 5.68 | 2.84 |
| Benzo(a)pyrene | 50-32-8 | | U | 5.68 | 2.84 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 5.68 | 2.84 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 5.68 | 2.84 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 5.68 | 2.84 |
| Benzoic acid | 65-85-0 | | U | 22.7 | 11.4 |
| Benzyl alcohol | 100-51-6 | | U | 5.68 | 2.84 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 5.68 | 2.84 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 5.68 | 2.84 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 5.68 | 2.84 |
| Butylbenzylphthalate | 85-68-7 | | U | 5.68 | 2.84 |
| Carbazole | 86-74-8 | | U | 22.7 | 2.84 |
| Chrysene | 218-01-9 | | U | 5.68 | 2.84 |
| Di-N-Butylphthalate | 84-74-2 | | U | 5.68 | 2.84 |
| Di-n-octylphthalate | 117-84-0 | | U | 5.68 | 2.84 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 5.68 | 2.84 |
| Dibenzofuran | 132-64-9 | | U | 5.68 | 2.84 |
| Diethylphthalate | 84-66-2 | | U | 5.68 | 2.84 |
| Dimethylphthalate | 131-11-3 | | U | 5.68 | 2.84 |
| Fluoranthene | 206-44-0 | | U | 5.68 | 2.84 |
| Fluorene | 86-73-7 | | U | 5.68 | 2.84 |
| Hexachlorobenzene | 118-74-1 | | U | 5.68 | 2.84 |
| Hexachlorobutadiene | 87-68-3 | | U | 5.68 | 2.84 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 5.68 | 2.84 |
| Hexachloroethane | 67-72-1 | | U | 5.68 | 2.84 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 5.68 | 2.84 |
| Isophorone | 78-59-1 | | U | 5.68 | 2.84 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | | U | 5.68 | 2.84 |
| Naphthalene | 91-20-3 | | U | 5.68 | 2.84 |
| Nitrobenzene | 98-95-3 | | U | 5.68 | 2.84 |
| Pentachlorophenol | 87-86-5 | | U | 28.4 | 14.2 |
| Phenanthrene | 85-01-8 | | U | 5.68 | 2.84 |
| Phenol | 108-95-2 | | U | 5.68 | 2.84 |
| Pyrene | 129-00-0 | | U | 5.68 | 2.84 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 81.6 | 10 | 123 | |
| 2-Fluorobiphenyl | 57.4 | 43 | 116 | |
| 2-Fluorophenol | 33.2 | 21 | 100 | |
| Nitrobenzene-d5 | 58.7 | 35 | 114 | |
| p-Terphenyl-d14 | 91.7 | 33 | 141 | |
| Phenol-d5 | 23.5 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

Certificate of Analysis

**Sample #:** L17081498-01 **PrePrep Method:** N/A **Instrument:** HPMS12
**Client ID:** MW07-082517 **Prep Method:** 3510C **Prep Date:** 08/30/2017 12:10
**Matrix:** Water **Analytical Method:** 8270D **Cal Date:** 08/03/2017 13:41
**Workgroup #:** WG627873 **Analyst:** SCB **Run Date:** 08/31/2017 12:22
**Collect Date:** 08/25/2017 10:34 **Dilution:** 1 **File ID:** 12M64170
**Sample Tag:** 01 **Units:** ug/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| n-Hexadecanoic acid | | 8.66 | | 0.000 | 0.000 |
| Octadecanoic acid | | 12.8 | | 0.000 | 0.000 |
| Hentriacontane | | 7.15 | | 0.000 | 0.000 |
| Hexadecane, 2,6,10,14-tetramethyl- | | 12.3 | | 0.000 | 0.000 |
| UNKNOWN | | 4.46 | | 0.000 | 0.000 |
| Pentacosane | | 18.4 | | 0.000 | 0.000 |
| Tetratetracontane | | 22.2 | | 0.000 | 0.000 |
| Eicosane | | 20.6 | | 0.000 | 0.000 |
| Tetratetracontane | | 13.7 | | 0.000 | 0.000 |
| Tetratriacontane | | 7.50 | | 0.000 | 0.000 |
| Tetrapentacontane | | 6.54 | | 0.000 | 0.000 |

**Sample #:** L17081498-01 **PrePrep Method:** N/A **Instrument:** HPMS12
**Client ID:** MW07-082517 **Prep Method:** 3510C **Prep Date:** 08/30/2017 12:10
**Matrix:** Water **Analytical Method:** 8270D **Cal Date:** 08/03/2017 13:41
**Workgroup #:** WG627873 **Analyst:** SCB **Run Date:** 08/31/2017 12:22
**Collect Date:** 08/25/2017 10:34 **Dilution:** 1 **File ID:** 12M64170
**Sample Tag:** 01 **Units:** ug/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 21.3 | 2.66 |
| 1,3,5-Trinitrobenzene | 99-35-4 | | U | 5.32 | 2.66 |
| 1,3-Dinitrobenzene | 99-65-0 | | U | 5.32 | 2.66 |
| 1,4-Dioxane | 123-91-1 | | U | 10.6 | 5.32 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 5.32 | 2.66 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 5.32 | 2.66 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 5.32 | 2.66 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 5.32 | 2.66 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 26.6 | 13.3 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 5.32 | 2.66 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 5.32 | 2.66 |
| 2-Chloronaphthalene | 91-58-7 | | U | 5.32 | 2.66 |
| 2-Chlorophenol | 95-57-8 | | U | 5.32 | 2.66 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 2-Methylnaphthalene | 91-57-6 | | U | 5.32 | 2.66 |
| 2-Methylphenol | 95-48-7 | | U | 5.32 | 2.66 |
| 2-Nitroaniline | 88-74-4 | | U | 26.6 | 13.3 |
| 2-Nitrophenol | 88-75-5 | | U | 5.32 | 2.66 |
| 3-Nitroaniline | 99-09-2 | | U | 26.6 | 13.3 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 5.32 | 2.66 |
| 3-,4-Methylphenol | 65794-96-9 | | U | 5.32 | 2.66 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 5.32 | 2.66 |
| 4-Chloroaniline | 106-47-8 | | U | 5.32 | 2.66 |
| 4-Nitrophenol | 100-02-7 | | U | 26.6 | 13.3 |
| Acenaphthene | 83-32-9 | | U | 5.32 | 2.66 |
| Acenaphthylene | 208-96-8 | | U | 5.32 | 2.66 |
| Anthracene | 120-12-7 | | U | 5.32 | 2.66 |
| Benzo(a)anthracene | 56-55-3 | | U | 5.32 | 2.66 |
| Benzo(a)pyrene | 50-32-8 | | U | 5.32 | 2.66 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 5.32 | 2.66 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 5.32 | 2.66 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 5.32 | 2.66 |
| Benzoic acid | 65-85-0 | | U | 21.3 | 10.6 |
| Benzyl alcohol | 100-51-6 | | U | 5.32 | 2.66 |
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 5.32 | 2.66 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 5.32 | 2.66 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 5.32 | 2.66 |
| Butylbenzylphthalate | 85-68-7 | | U | 5.32 | 2.66 |
| Carbazole | 86-74-8 | | U | 21.3 | 2.66 |
| Chrysene | 218-01-9 | | U | 5.32 | 2.66 |
| Di-N-Butylphthalate | 84-74-2 | | U | 5.32 | 2.66 |
| Di-n-octylphthalate | 117-84-0 | | U | 5.32 | 2.66 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 5.32 | 2.66 |
| Dibenzofuran | 132-64-9 | | U | 5.32 | 2.66 |
| Diethylphthalate | 84-66-2 | | U | 5.32 | 2.66 |
| Dimethylphthalate | 131-11-3 | | U | 5.32 | 2.66 |
| Fluoranthene | 206-44-0 | | U | 5.32 | 2.66 |
| Fluorene | 86-73-7 | | U | 5.32 | 2.66 |
| Hexachlorobenzene | 118-74-1 | | U | 5.32 | 2.66 |
| Hexachlorobutadiene | 87-68-3 | | U | 5.32 | 2.66 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 5.32 | 2.66 |
| Hexachloroethane | 67-72-1 | | U | 5.32 | 2.66 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 5.32 | 2.66 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Isophorone | 78-59-1 | | U | 5.32 | 2.66 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | | U | 5.32 | 2.66 |
| Naphthalene | 91-20-3 | | U | 5.32 | 2.66 |
| Nitrobenzene | 98-95-3 | | U | 5.32 | 2.66 |
| Pentachlorophenol | 87-86-5 | | U | 26.6 | 13.3 |
| Phenanthrene | 85-01-8 | | U | 5.32 | 2.66 |
| Phenol | 108-95-2 | | U | 5.32 | 2.66 |
| Pyrene | 129-00-0 | | U | 5.32 | 2.66 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 114 | 10 | 123 | |
| 2-Fluorobiphenyl | 89.0 | 43 | 116 | |
| 2-Fluorophenol | 49.0 | 21 | 100 | |
| Nitrobenzene-d5 | 76.8 | 35 | 114 | |
| p-Terphenyl-d14 | 90.0 | 33 | 141 | |
| Phenol-d5 | 33.6 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-03
**Client ID:** MW06-082517
**Matrix:** Water
**Workgroup #:** WG627873
**Collect Date:** 08/25/2017 13:54
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D
**Analyst:** SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS12
**Prep Date:** 08/30/2017 12:10
**Cal Date:** 08/03/2017 13:41
**Run Date:** 08/31/2017 12:54
**File ID:** 12M64171

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 21.1 | 2.63 |
| 1,3,5-Trinitrobenzene | 99-35-4 | | U | 5.26 | 2.63 |
| 1,3-Dinitrobenzene | 99-65-0 | | U | 5.26 | 2.63 |
| 1,4-Dioxane | 123-91-1 | | U | 10.5 | 5.26 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 5.26 | 2.63 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 5.26 | 2.63 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 5.26 | 2.63 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 5.26 | 2.63 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 26.3 | 13.2 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 5.26 | 2.63 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 5.26 | 2.63 |
| 2-Chloronaphthalene | 91-58-7 | | U | 5.26 | 2.63 |
| 2-Chlorophenol | 95-57-8 | | U | 5.26 | 2.63 |
| 2-Methylnaphthalene | 91-57-6 | | U | 5.26 | 2.63 |
| 2-Methylphenol | 95-48-7 | | U | 5.26 | 2.63 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 2-Nitroaniline | 88-74-4 | | U | 26.3 | 13.2 |
| 2-Nitrophenol | 88-75-5 | | U | 5.26 | 2.63 |
| 3-Nitroaniline | 99-09-2 | | U | 26.3 | 13.2 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 5.26 | 2.63 |
| 3-,4-Methylphenol | 65794-96-9 | | U | 5.26 | 2.63 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 5.26 | 2.63 |
| 4-Chloroaniline | 106-47-8 | | U | 5.26 | 2.63 |
| 4-Nitrophenol | 100-02-7 | | U | 26.3 | 13.2 |
| Acenaphthene | 83-32-9 | | U | 5.26 | 2.63 |
| Acenaphthylene | 208-96-8 | | U | 5.26 | 2.63 |
| Anthracene | 120-12-7 | | U | 5.26 | 2.63 |
| Benzo(a)anthracene | 56-55-3 | | U | 5.26 | 2.63 |
| Benzo(a)pyrene | 50-32-8 | | U | 5.26 | 2.63 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 5.26 | 2.63 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 5.26 | 2.63 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 5.26 | 2.63 |
| Benzoic acid | 65-85-0 | | U | 21.1 | 10.5 |
| Benzyl alcohol | 100-51-6 | | U | 5.26 | 2.63 |
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 5.26 | 2.63 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 5.26 | 2.63 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 5.26 | 2.63 |
| Butylbenzylphthalate | 85-68-7 | | U | 5.26 | 2.63 |
| Carbazole | 86-74-8 | | U | 21.1 | 2.63 |
| Chrysene | 218-01-9 | | U | 5.26 | 2.63 |
| Di-N-Butylphthalate | 84-74-2 | | U | 5.26 | 2.63 |
| Di-n-octylphthalate | 117-84-0 | | U | 5.26 | 2.63 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 5.26 | 2.63 |
| Dibenzofuran | 132-64-9 | | U | 5.26 | 2.63 |
| Diethylphthalate | 84-66-2 | | U | 5.26 | 2.63 |
| Dimethylphthalate | 131-11-3 | | U | 5.26 | 2.63 |
| Fluoranthene | 206-44-0 | | U | 5.26 | 2.63 |
| Fluorene | 86-73-7 | | U | 5.26 | 2.63 |
| Hexachlorobenzene | 118-74-1 | | U | 5.26 | 2.63 |
| Hexachlorobutadiene | 87-68-3 | | U | 5.26 | 2.63 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 5.26 | 2.63 |
| Hexachloroethane | 67-72-1 | | U | 5.26 | 2.63 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 5.26 | 2.63 |
| Isophorone | 78-59-1 | | U | 5.26 | 2.63 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | | U | 5.26 | 2.63 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Naphthalene | 91-20-3 | | U | 5.26 | 2.63 |
| Nitrobenzene | 98-95-3 | | U | 5.26 | 2.63 |
| Pentachlorophenol | 87-86-5 | | U | 26.3 | 13.2 |
| Phenanthrene | 85-01-8 | | U | 5.26 | 2.63 |
| Phenol | 108-95-2 | | U | 5.26 | 2.63 |
| Pyrene | 129-00-0 | | U | 5.26 | 2.63 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 116 | 10 | 123 | |
| 2-Fluorobiphenyl | 93.1 | 43 | 116 | |
| 2-Fluorophenol | 49.1 | 21 | 100 | |
| Nitrobenzene-d5 | 91.6 | 35 | 114 | |
| p-Terphenyl-d14 | 97.7 | 33 | 141 | |
| Phenol-d5 | 34.7 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-03
**Client ID:** MW06-082517
**Matrix:** Water
**Workgroup #:** WG627873
**Collect Date:** 08/25/2017 13:54
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D
**Analyst:** SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS12
**Prep Date:** 08/30/2017 12:10
**Cal Date:** 08/03/2017 13:41
**Run Date:** 08/31/2017 12:54
**File ID:** 12M64171

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Benzenesulfonamide, N-butyl- | | 4.80 | | 0.000 | 0.000 |
| n-Hexadecanoic acid | | 6.72 | | 0.000 | 0.000 |
| UNKNOWN | | 10.1 | | 0.000 | 0.000 |
| UNKNOWN2 | | 5.35 | | 0.000 | 0.000 |
| Tetratriacontane | | 7.66 | | 0.000 | 0.000 |
| Octacosane | | 10.9 | | 0.000 | 0.000 |
| UNKNOWN3 | | 4.37 | | 0.000 | 0.000 |
| Octacosane | | 16.3 | | 0.000 | 0.000 |
| Eicosane | | 20.2 | | 0.000 | 0.000 |
| Octacosane | | 18.5 | | 0.000 | 0.000 |
| Tetratriacontane | | 12.5 | | 0.000 | 0.000 |
| Tetratetracontane | | 6.95 | | 0.000 | 0.000 |
| UNKNOWN4 | | 6.48 | | 0.000 | 0.000 |

## Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-03 | **PrePrep Method:** | N/A | **Instrument:** | HPMS19 |
| **Client ID:** | MW06-082517 | **Prep Method:** | 3510C | **Prep Date:** | 09/06/2017 15:00 |
| **Matrix:** | Water | **Analytical Method:** | 8270D | **Cal Date:** | 08/15/2017 20:30 |
| **Workgroup #:** | WG628781 | **Analyst:** | SCB | **Run Date:** | 09/13/2017 16:28 |
| **Collect Date:** | 08/25/2017 13:54 | **Dilution:** | 1 | **File ID:** | 19M000545 |
| **Sample Tag:** | RE | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 21.3 | 2.66 |
| 1,3,5-Trinitrobenzene | 99-35-4 | | U | 5.32 | 2.66 |
| 1,3-Dinitrobenzene | 99-65-0 | | U | 5.32 | 2.66 |
| 1,4-Dioxane | 123-91-1 | | U | 10.6 | 5.32 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 5.32 | 2.66 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 5.32 | 2.66 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 5.32 | 2.66 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 5.32 | 2.66 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 26.6 | 13.3 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 5.32 | 2.66 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 5.32 | 2.66 |
| 2-Chloronaphthalene | 91-58-7 | | U | 5.32 | 2.66 |
| 2-Chlorophenol | 95-57-8 | | U | 5.32 | 2.66 |
| 2-Methylnaphthalene | 91-57-6 | | U | 5.32 | 2.66 |
| 2-Methylphenol | 95-48-7 | | U | 5.32 | 2.66 |
| 2-Nitroaniline | 88-74-4 | | U | 26.6 | 13.3 |
| 2-Nitrophenol | 88-75-5 | | U | 5.32 | 2.66 |
| 3-Nitroaniline | 99-09-2 | | U | 26.6 | 13.3 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 5.32 | 2.66 |
| 3-,4-Methylphenol | 65794-96-9 | | U | 5.32 | 2.66 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 5.32 | 2.66 |
| 4-Chloroaniline | 106-47-8 | | U | 5.32 | 2.66 |
| 4-Nitrophenol | 100-02-7 | | U | 26.6 | 13.3 |
| Acenaphthene | 83-32-9 | | U | 5.32 | 2.66 |
| Acenaphthylene | 208-96-8 | | U | 5.32 | 2.66 |
| Anthracene | 120-12-7 | | U | 5.32 | 2.66 |
| Benzo(a)anthracene | 56-55-3 | | U | 5.32 | 2.66 |
| Benzo(a)pyrene | 50-32-8 | | U | 5.32 | 2.66 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 5.32 | 2.66 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 5.32 | 2.66 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 5.32 | 2.66 |
| Benzoic acid | 65-85-0 | | U | 21.3 | 10.6 |
| Benzyl alcohol | 100-51-6 | | U | 5.32 | 2.66 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 5.32 | 2.66 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 5.32 | 2.66 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 5.32 | 2.66 |
| Butylbenzylphthalate | 85-68-7 | | U | 5.32 | 2.66 |
| Carbazole | 86-74-8 | | U | 21.3 | 2.66 |
| Chrysene | 218-01-9 | | U | 5.32 | 2.66 |
| Di-N-Butylphthalate | 84-74-2 | | U | 5.32 | 2.66 |
| Di-n-octylphthalate | 117-84-0 | | U | 5.32 | 2.66 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 5.32 | 2.66 |
| Dibenzofuran | 132-64-9 | | U | 5.32 | 2.66 |
| Diethylphthalate | 84-66-2 | | U | 5.32 | 2.66 |
| Dimethylphthalate | 131-11-3 | | U | 5.32 | 2.66 |
| Fluoranthene | 206-44-0 | | U | 5.32 | 2.66 |
| Fluorene | 86-73-7 | | U | 5.32 | 2.66 |
| Hexachlorobenzene | 118-74-1 | | U | 5.32 | 2.66 |
| Hexachlorobutadiene | 87-68-3 | | U | 5.32 | 2.66 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 5.32 | 2.66 |
| Hexachloroethane | 67-72-1 | | U | 5.32 | 2.66 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 5.32 | 2.66 |
| Isophorone | 78-59-1 | | U | 5.32 | 2.66 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | | U | 5.32 | 2.66 |
| Naphthalene | 91-20-3 | | U | 5.32 | 2.66 |
| Nitrobenzene | 98-95-3 | | U | 5.32 | 2.66 |
| Pentachlorophenol | 87-86-5 | | U | 26.6 | 13.3 |
| Phenanthrene | 85-01-8 | | U | 5.32 | 2.66 |
| Phenol | 108-95-2 | | U | 5.32 | 2.66 |
| Pyrene | 129-00-0 | | U | 5.32 | 2.66 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 89.2 | 10 | 123 | |
| 2-Fluorobiphenyl | 67.0 | 43 | 116 | |
| 2-Fluorophenol | 37.1 | 21 | 100 | |
| Nitrobenzene-d5 | 70.6 | 35 | 114 | |
| p-Terphenyl-d14 | 93.5 | 33 | 141 | |
| Phenol-d5 | 25.5 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-05 | **PrePrep Method:** | N/A | **Instrument:** | HPMS19 |
| **Client ID:** | MW06-082517-MS | **Prep Method:** | 3510C | **Prep Date:** | 09/06/2017 15:00 |
| **Matrix:** | Water | **Analytical Method:** | 8270D | **Cal Date:** | 08/15/2017 20:30 |
| **Workgroup #:** | WG628781 | **Analyst:** | SCB | **Run Date:** | 09/13/2017 16:58 |
| **Collect Date:** | 08/25/2017 13:54 | **Dilution:** | 1 | **File ID:** | 19M000546 |
| **Sample Tag:** | RE | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | 36.7 | | 22.0 | 2.75 |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.1 | | 5.49 | 2.75 |
| 1,3-Dinitrobenzene | 99-65-0 | 50.8 | | 5.49 | 2.75 |
| 1,4-Dioxane | 123-91-1 | 14.1 | | 11.0 | 5.49 |
| 2,4,5-Trichlorophenol | 95-95-4 | 43.2 | | 5.49 | 2.75 |
| 2,4,6-Trichlorophenol | 88-06-2 | 39.6 | | 5.49 | 2.75 |
| 2,4-Dichlorophenol | 120-83-2 | 36.3 | | 5.49 | 2.75 |
| 2,4-Dimethylphenol | 105-67-9 | 36.8 | | 5.49 | 2.75 |
| 2,4-Dinitrophenol | 51-28-5 | 48.3 | | 27.5 | 13.7 |
| 2,4-Dinitrotoluene | 121-14-2 | 54.7 | | 5.49 | 2.75 |
| 2,6-Dinitrotoluene | 606-20-2 | 48.4 | | 5.49 | 2.75 |
| 2-Chloronaphthalene | 91-58-7 | 31.8 | | 5.49 | 2.75 |
| 2-Chlorophenol | 95-57-8 | 29.7 | | 5.49 | 2.75 |
| 2-Methylnaphthalene | 91-57-6 | 29.8 | | 5.49 | 2.75 |
| 2-Methylphenol | 95-48-7 | 29.3 | | 5.49 | 2.75 |
| 2-Nitroaniline | 88-74-4 | 46.5 | | 27.5 | 13.7 |
| 2-Nitrophenol | 88-75-5 | 34.6 | | 5.49 | 2.75 |
| 3-Nitroaniline | 99-09-2 | 48.6 | | 27.5 | 13.7 |
| 3,3'-Dichlorobenzidine | 91-94-1 | 57.7 | | 5.49 | 2.75 |
| 3-,4-Methylphenol | 65794-96-9 | 26.8 | | 5.49 | 2.75 |
| 4-Bromophenyl-phenylether | 101-55-3 | 43.0 | | 5.49 | 2.75 |
| 4-Chloroaniline | 106-47-8 | 32.7 | | 5.49 | 2.75 |
| 4-Nitrophenol | 100-02-7 | 25.4 | J | 27.5 | 13.7 |
| Acenaphthene | 83-32-9 | 40.5 | | 5.49 | 2.75 |
| Acenaphthylene | 208-96-8 | 38.1 | | 5.49 | 2.75 |
| Anthracene | 120-12-7 | 49.6 | | 5.49 | 2.75 |
| Benzo(a)anthracene | 56-55-3 | 54.7 | | 5.49 | 2.75 |
| Benzo(a)pyrene | 50-32-8 | 56.5 | | 5.49 | 2.75 |
| Benzo(b)fluoranthene | 205-99-2 | 57.9 | | 5.49 | 2.75 |
| Benzo(g,h,i)Perylene | 191-24-2 | 63.4 | | 5.49 | 2.75 |
| Benzo(k)fluoranthene | 207-08-9 | 53.6 | | 5.49 | 2.75 |
| Benzoic acid | 65-85-0 | 18.0 | J | 22.0 | 11.0 |
| Benzyl alcohol | 100-51-6 | 30.2 | | 5.49 | 2.75 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Bis(2-Chloroethyl)ether | 111-44-4 | 29.4 | | 5.49 | 2.75 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | 27.9 | | 5.49 | 2.75 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | 59.9 | | 5.49 | 2.75 |
| Butylbenzylphthalate | 85-68-7 | 60.7 | | 5.49 | 2.75 |
| Carbazole | 86-74-8 | 55.2 | | 22.0 | 2.75 |
| Chrysene | 218-01-9 | 57.2 | | 5.49 | 2.75 |
| Di-N-Butylphthalate | 84-74-2 | 53.7 | | 5.49 | 2.75 |
| Di-n-octylphthalate | 117-84-0 | 60.9 | | 5.49 | 2.75 |
| Dibenzo(a,h)Anthracene | 53-70-3 | 56.9 | | 5.49 | 2.75 |
| Dibenzofuran | 132-64-9 | 40.0 | | 5.49 | 2.75 |
| Diethylphthalate | 84-66-2 | 47.8 | | 5.49 | 2.75 |
| Dimethylphthalate | 131-11-3 | 44.6 | | 5.49 | 2.75 |
| Fluoranthene | 206-44-0 | 53.0 | | 5.49 | 2.75 |
| Fluorene | 86-73-7 | 44.1 | | 5.49 | 2.75 |
| Hexachlorobenzene | 118-74-1 | 46.1 | | 5.49 | 2.75 |
| Hexachlorobutadiene | 87-68-3 | 23.2 | | 5.49 | 2.75 |
| Hexachlorocyclopentadiene | 77-47-4 | 24.7 | | 5.49 | 2.75 |
| Hexachloroethane | 67-72-1 | 20.7 | | 5.49 | 2.75 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 59.0 | | 5.49 | 2.75 |
| Isophorone | 78-59-1 | 35.2 | | 5.49 | 2.75 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | 46.6 | | 5.49 | 2.75 |
| Naphthalene | 91-20-3 | 28.4 | | 5.49 | 2.75 |
| Nitrobenzene | 98-95-3 | 30.1 | | 5.49 | 2.75 |
| Pentachlorophenol | 87-86-5 | 60.3 | | 27.5 | 13.7 |
| Phenanthrene | 85-01-8 | 50.0 | | 5.49 | 2.75 |
| Phenol | 108-95-2 | 12.9 | | 5.49 | 2.75 |
| Pyrene | 129-00-0 | 54.5 | | 5.49 | 2.75 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 101 | 10 | 123 | |
| 2-Fluorobiphenyl | 67.7 | 43 | 116 | |
| 2-Fluorophenol | 33.5 | 21 | 100 | |
| Nitrobenzene-d5 | 62.5 | 35 | 114 | |
| p-Terphenyl-d14 | 95.4 | 33 | 141 | |
| Phenol-d5 | 23.8 | 10 | 94 | |

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

## Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-05 | **PrePrep Method:** | N/A | **Instrument:** | HPMS12 |
| **Client ID:** | MW06-082517-MS | **Prep Method:** | 3510C | **Prep Date:** | 08/30/2017 12:10 |
| **Matrix:** | Water | **Analytical Method:** | 8270D | **Cal Date:** | 08/03/2017 13:41 |
| **Workgroup #:** | WG627873 | **Analyst:** | SCB | **Run Date:** | 08/31/2017 13:27 |
| **Collect Date:** | 08/25/2017 13:54 | **Dilution:** | 1 | **File ID:** | 12M64172 |
| **Sample Tag:** | 01 | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 21.3 | 2.66 |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.5 | | 5.32 | 2.66 |
| 1,3-Dinitrobenzene | 99-65-0 | 49.8 | | 5.32 | 2.66 |
| 1,4-Dioxane | 123-91-1 | 19.2 | | 10.6 | 5.32 |
| 2,4,5-Trichlorophenol | 95-95-4 | 53.8 | | 5.32 | 2.66 |
| 2,4,6-Trichlorophenol | 88-06-2 | 52.6 | | 5.32 | 2.66 |
| 2,4-Dichlorophenol | 120-83-2 | 48.5 | | 5.32 | 2.66 |
| 2,4-Dimethylphenol | 105-67-9 | 49.6 | | 5.32 | 2.66 |
| 2,4-Dinitrophenol | 51-28-5 | 27.9 | | 26.6 | 13.3 |
| 2,4-Dinitrotoluene | 121-14-2 | 54.5 | | 5.32 | 2.66 |
| 2,6-Dinitrotoluene | 606-20-2 | 54.9 | | 5.32 | 2.66 |
| 2-Chloronaphthalene | 91-58-7 | 41.4 | | 5.32 | 2.66 |
| 2-Chlorophenol | 95-57-8 | 36.7 | | 5.32 | 2.66 |
| 2-Methylnaphthalene | 91-57-6 | 37.7 | | 5.32 | 2.66 |
| 2-Methylphenol | 95-48-7 | 40.7 | | 5.32 | 2.66 |
| 2-Nitroaniline | 88-74-4 | 59.9 | | 26.6 | 13.3 |
| 2-Nitrophenol | 88-75-5 | 43.0 | | 5.32 | 2.66 |
| 3-Nitroaniline | 99-09-2 | 51.0 | | 26.6 | 13.3 |
| 3,3'-Dichlorobenzidine | 91-94-1 | 60.8 | | 5.32 | 2.66 |
| 3-,4-Methylphenol | 65794-96-9 | 38.3 | | 5.32 | 2.66 |
| 4-Bromophenyl-phenylether | 101-55-3 | 50.9 | | 5.32 | 2.66 |
| 4-Chloroaniline | 106-47-8 | 50.0 | | 5.32 | 2.66 |
| 4-Nitrophenol | 100-02-7 | 28.1 | | 26.6 | 13.3 |
| Acenaphthene | 83-32-9 | 48.8 | | 5.32 | 2.66 |
| Acenaphthylene | 208-96-8 | 50.4 | | 5.32 | 2.66 |
| Anthracene | 120-12-7 | 52.1 | | 5.32 | 2.66 |
| Benzo(a)anthracene | 56-55-3 | 57.0 | | 5.32 | 2.66 |
| Benzo(a)pyrene | 50-32-8 | 56.2 | | 5.32 | 2.66 |
| Benzo(b)fluoranthene | 205-99-2 | 50.2 | | 5.32 | 2.66 |
| Benzo(g,h,i)Perylene | 191-24-2 | 59.0 | | 5.32 | 2.66 |
| Benzo(k)fluoranthene | 207-08-9 | 57.3 | | 5.32 | 2.66 |
| Benzoic acid | 65-85-0 | 24.3 | | 21.3 | 10.6 |
| Benzyl alcohol | 100-51-6 | 43.6 | | 5.32 | 2.66 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Bis(2-Chloroethyl)ether | 111-44-4 | 41.9 | | 5.32 | 2.66 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | 37.3 | | 5.32 | 2.66 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | 56.2 | | 5.32 | 2.66 |
| Butylbenzylphthalate | 85-68-7 | 53.4 | | 5.32 | 2.66 |
| Carbazole | 86-74-8 | 56.6 | | 21.3 | 2.66 |
| Chrysene | 218-01-9 | 60.7 | | 5.32 | 2.66 |
| Di-N-Butylphthalate | 84-74-2 | 53.5 | | 5.32 | 2.66 |
| Di-n-octylphthalate | 117-84-0 | 52.7 | | 5.32 | 2.66 |
| Dibenzo(a,h)Anthracene | 53-70-3 | 33.4 | | 5.32 | 2.66 |
| Dibenzofuran | 132-64-9 | 48.4 | | 5.32 | 2.66 |
| Diethylphthalate | 84-66-2 | 55.3 | | 5.32 | 2.66 |
| Dimethylphthalate | 131-11-3 | 53.4 | | 5.32 | 2.66 |
| Fluoranthene | 206-44-0 | 56.2 | | 5.32 | 2.66 |
| Fluorene | 86-73-7 | 52.0 | | 5.32 | 2.66 |
| Hexachlorobenzene | 118-74-1 | 61.3 | | 5.32 | 2.66 |
| Hexachlorobutadiene | 87-68-3 | 33.5 | | 5.32 | 2.66 |
| Hexachlorocyclopentadiene | 77-47-4 | 24.2 | | 5.32 | 2.66 |
| Hexachloroethane | 67-72-1 | 26.8 | | 5.32 | 2.66 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 53.2 | | 5.32 | 2.66 |
| Isophorone | 78-59-1 | 55.1 | | 5.32 | 2.66 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | 51.6 | | 5.32 | 2.66 |
| Naphthalene | 91-20-3 | 34.1 | | 5.32 | 2.66 |
| Nitrobenzene | 98-95-3 | 43.2 | | 5.32 | 2.66 |
| Pentachlorophenol | 87-86-5 | 61.5 | | 26.6 | 13.3 |
| Phenanthrene | 85-01-8 | 54.0 | | 5.32 | 2.66 |
| Phenol | 108-95-2 | 19.2 | | 5.32 | 2.66 |
| Pyrene | 129-00-0 | 53.0 | | 5.32 | 2.66 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 117 | 10 | 123 | |
| 2-Fluorobiphenyl | 94.9 | 43 | 116 | |
| 2-Fluorophenol | 48.6 | 21 | 100 | |
| Nitrobenzene-d5 | 90.9 | 35 | 114 | |
| p-Terphenyl-d14 | 92.1 | 33 | 141 | |
| Phenol-d5 | 34.7 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

## Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-06 | **PrePrep Method:** | N/A | **Instrument:** | HPMS12 |
| **Client ID:** | MW06-082517-MSD | **Prep Method:** | 3510C | **Prep Date:** | 08/30/2017 12:10 |
| **Matrix:** | Water | **Analytical Method:** | 8270D | **Cal Date:** | 08/03/2017 13:41 |
| **Workgroup #:** | WG627873 | **Analyst:** | SCB | **Run Date:** | 08/31/2017 14:01 |
| **Collect Date:** | 08/25/2017 13:54 | **Dilution:** | 1 | **File ID:** | 12M64173 |
| **Sample Tag:** | 01 | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 22.0 | 2.75 |
| 1,3,5-Trinitrobenzene | 99-35-4 | 11.2 | | 5.49 | 2.75 |
| 1,3-Dinitrobenzene | 99-65-0 | 53.2 | | 5.49 | 2.75 |
| 1,4-Dioxane | 123-91-1 | 24.1 | | 11.0 | 5.49 |
| 2,4,5-Trichlorophenol | 95-95-4 | 57.9 | | 5.49 | 2.75 |
| 2,4,6-Trichlorophenol | 88-06-2 | 57.1 | | 5.49 | 2.75 |
| 2,4-Dichlorophenol | 120-83-2 | 55.8 | | 5.49 | 2.75 |
| 2,4-Dimethylphenol | 105-67-9 | 53.7 | | 5.49 | 2.75 |
| 2,4-Dinitrophenol | 51-28-5 | 30.2 | | 27.5 | 13.7 |
| 2,4-Dinitrotoluene | 121-14-2 | 57.0 | | 5.49 | 2.75 |
| 2,6-Dinitrotoluene | 606-20-2 | 58.0 | | 5.49 | 2.75 |
| 2-Chloronaphthalene | 91-58-7 | 46.8 | | 5.49 | 2.75 |
| 2-Chlorophenol | 95-57-8 | 43.3 | | 5.49 | 2.75 |
| 2-Methylnaphthalene | 91-57-6 | 44.2 | | 5.49 | 2.75 |
| 2-Methylphenol | 95-48-7 | 42.7 | | 5.49 | 2.75 |
| 2-Nitroaniline | 88-74-4 | 51.5 | | 27.5 | 13.7 |
| 2-Nitrophenol | 88-75-5 | 51.4 | | 5.49 | 2.75 |
| 3-Nitroaniline | 99-09-2 | 54.2 | | 27.5 | 13.7 |
| 3,3'-Dichlorobenzidine | 91-94-1 | 67.0 | | 5.49 | 2.75 |
| 3-,4-Methylphenol | 65794-96-9 | 39.6 | | 5.49 | 2.75 |
| 4-Bromophenyl-phenylether | 101-55-3 | 53.6 | | 5.49 | 2.75 |
| 4-Chloroaniline | 106-47-8 | 47.7 | | 5.49 | 2.75 |
| 4-Nitrophenol | 100-02-7 | 23.7 | J | 27.5 | 13.7 |
| Acenaphthene | 83-32-9 | 51.7 | | 5.49 | 2.75 |
| Acenaphthylene | 208-96-8 | 53.1 | | 5.49 | 2.75 |
| Anthracene | 120-12-7 | 54.4 | | 5.49 | 2.75 |
| Benzo(a)anthracene | 56-55-3 | 60.5 | | 5.49 | 2.75 |
| Benzo(a)pyrene | 50-32-8 | 59.9 | | 5.49 | 2.75 |
| Benzo(b)fluoranthene | 205-99-2 | 54.2 | | 5.49 | 2.75 |
| Benzo(g,h,i)Perylene | 191-24-2 | 63.0 | | 5.49 | 2.75 |
| Benzo(k)fluoranthene | 207-08-9 | 59.9 | | 5.49 | 2.75 |
| Benzoic acid | 65-85-0 | 34.6 | | 22.0 | 11.0 |
| Benzyl alcohol | 100-51-6 | 45.8 | | 5.49 | 2.75 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Bis(2-Chloroethyl)ether | 111-44-4 | 40.6 | | 5.49 | 2.75 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | 37.4 | | 5.49 | 2.75 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | 59.3 | | 5.49 | 2.75 |
| Butylbenzylphthalate | 85-68-7 | 61.2 | | 5.49 | 2.75 |
| Carbazole | 86-74-8 | 58.9 | | 22.0 | 2.75 |
| Chrysene | 218-01-9 | 64.8 | | 5.49 | 2.75 |
| Di-N-Butylphthalate | 84-74-2 | 54.6 | | 5.49 | 2.75 |
| Di-n-octylphthalate | 117-84-0 | 56.8 | | 5.49 | 2.75 |
| Dibenzo(a,h)Anthracene | 53-70-3 | 35.9 | | 5.49 | 2.75 |
| Dibenzofuran | 132-64-9 | 52.0 | | 5.49 | 2.75 |
| Diethylphthalate | 84-66-2 | 54.1 | | 5.49 | 2.75 |
| Dimethylphthalate | 131-11-3 | 55.5 | | 5.49 | 2.75 |
| Fluoranthene | 206-44-0 | 54.6 | | 5.49 | 2.75 |
| Fluorene | 86-73-7 | 54.4 | | 5.49 | 2.75 |
| Hexachlorobenzene | 118-74-1 | 64.2 | | 5.49 | 2.75 |
| Hexachlorobutadiene | 87-68-3 | 41.7 | | 5.49 | 2.75 |
| Hexachlorocyclopentadiene | 77-47-4 | 29.1 | | 5.49 | 2.75 |
| Hexachloroethane | 67-72-1 | 30.4 | | 5.49 | 2.75 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 56.9 | | 5.49 | 2.75 |
| Isophorone | 78-59-1 | 51.8 | | 5.49 | 2.75 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | 58.7 | | 5.49 | 2.75 |
| Naphthalene | 91-20-3 | 41.2 | | 5.49 | 2.75 |
| Nitrobenzene | 98-95-3 | 43.5 | | 5.49 | 2.75 |
| Pentachlorophenol | 87-86-5 | 64.7 | | 27.5 | 13.7 |
| Phenanthrene | 85-01-8 | 56.8 | | 5.49 | 2.75 |
| Phenol | 108-95-2 | 20.3 | | 5.49 | 2.75 |
| Pyrene | 129-00-0 | 56.6 | | 5.49 | 2.75 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 123 | 10 | 123 | |
| 2-Fluorobiphenyl | 102 | 43 | 116 | |
| 2-Fluorophenol | 53.3 | 21 | 100 | |
| Nitrobenzene-d5 | 89.3 | 35 | 114 | |
| p-Terphenyl-d14 | 91.6 | 33 | 141 | |
| Phenol-d5 | 35.7 | 10 | 94 | |

| | |
|---|---|
| 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 #:** | L17081498-06 | **PrePrep Method:** | N/A | **Instrument:** | HPMS19 |
| **Client ID:** | MW06-082517-MSD | **Prep Method:** | 3510C | **Prep Date:** | 09/06/2017 15:00 |
| **Matrix:** | Water | **Analytical Method:** | 8270D | **Cal Date:** | 08/15/2017 20:30 |
| **Workgroup #:** | WG628781 | **Analyst:** | SCB | **Run Date:** | 09/13/2017 17:28 |
| **Collect Date:** | 08/25/2017 13:54 | **Dilution:** | 1 | **File ID:** | 19M000547 |
| **Sample Tag:** | RE | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | 36.6 | | 21.5 | 2.69 |
| 1,3,5-Trinitrobenzene | 99-35-4 | 10.4 | | 5.38 | 2.69 |
| 1,3-Dinitrobenzene | 99-65-0 | 52.2 | | 5.38 | 2.69 |
| 1,4-Dioxane | 123-91-1 | 15.0 | | 10.8 | 5.38 |
| 2,4,5-Trichlorophenol | 95-95-4 | 43.5 | | 5.38 | 2.69 |
| 2,4,6-Trichlorophenol | 88-06-2 | 39.1 | | 5.38 | 2.69 |
| 2,4-Dichlorophenol | 120-83-2 | 36.9 | | 5.38 | 2.69 |
| 2,4-Dimethylphenol | 105-67-9 | 39.9 | | 5.38 | 2.69 |
| 2,4-Dinitrophenol | 51-28-5 | 48.3 | | 26.9 | 13.4 |
| 2,4-Dinitrotoluene | 121-14-2 | 55.1 | | 5.38 | 2.69 |
| 2,6-Dinitrotoluene | 606-20-2 | 49.4 | | 5.38 | 2.69 |
| 2-Chloronaphthalene | 91-58-7 | 30.8 | | 5.38 | 2.69 |
| 2-Chlorophenol | 95-57-8 | 31.3 | | 5.38 | 2.69 |
| 2-Methylnaphthalene | 91-57-6 | 28.9 | | 5.38 | 2.69 |
| 2-Methylphenol | 95-48-7 | 30.5 | | 5.38 | 2.69 |
| 2-Nitroaniline | 88-74-4 | 47.4 | | 26.9 | 13.4 |
| 2-Nitrophenol | 88-75-5 | 35.3 | | 5.38 | 2.69 |
| 3-Nitroaniline | 99-09-2 | 51.2 | | 26.9 | 13.4 |
| 3,3'-Dichlorobenzidine | 91-94-1 | 59.4 | | 5.38 | 2.69 |
| 3-,4-Methylphenol | 65794-96-9 | 28.0 | | 5.38 | 2.69 |
| 4-Bromophenyl-phenylether | 101-55-3 | 44.6 | | 5.38 | 2.69 |
| 4-Chloroaniline | 106-47-8 | 33.8 | | 5.38 | 2.69 |
| 4-Nitrophenol | 100-02-7 | 26.4 | J | 26.9 | 13.4 |
| Acenaphthene | 83-32-9 | 39.5 | | 5.38 | 2.69 |
| Acenaphthylene | 208-96-8 | 37.2 | | 5.38 | 2.69 |
| Anthracene | 120-12-7 | 51.0 | | 5.38 | 2.69 |
| Benzo(a)anthracene | 56-55-3 | 53.9 | | 5.38 | 2.69 |
| Benzo(a)pyrene | 50-32-8 | 55.5 | | 5.38 | 2.69 |
| Benzo(b)fluoranthene | 205-99-2 | 53.6 | | 5.38 | 2.69 |
| Benzo(g,h,i)Perylene | 191-24-2 | 62.3 | | 5.38 | 2.69 |
| Benzo(k)fluoranthene | 207-08-9 | 51.0 | | 5.38 | 2.69 |
| Benzoic acid | 65-85-0 | 13.2 | J | 21.5 | 10.8 |
| Benzyl alcohol | 100-51-6 | 31.0 | | 5.38 | 2.69 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Bis(2-Chloroethyl)ether | 111-44-4 | 30.7 | | 5.38 | 2.69 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | 28.4 | | 5.38 | 2.69 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | 59.1 | | 5.38 | 2.69 |
| Butylbenzylphthalate | 85-68-7 | 60.1 | | 5.38 | 2.69 |
| Carbazole | 86-74-8 | 56.1 | | 21.5 | 2.69 |
| Chrysene | 218-01-9 | 56.0 | | 5.38 | 2.69 |
| Di-N-Butylphthalate | 84-74-2 | 53.9 | | 5.38 | 2.69 |
| Di-n-octylphthalate | 117-84-0 | 60.0 | | 5.38 | 2.69 |
| Dibenzo(a,h)Anthracene | 53-70-3 | 47.9 | | 5.38 | 2.69 |
| Dibenzofuran | 132-64-9 | 39.2 | | 5.38 | 2.69 |
| Diethylphthalate | 84-66-2 | 49.0 | | 5.38 | 2.69 |
| Dimethylphthalate | 131-11-3 | 45.4 | | 5.38 | 2.69 |
| Fluoranthene | 206-44-0 | 53.4 | | 5.38 | 2.69 |
| Fluorene | 86-73-7 | 44.2 | | 5.38 | 2.69 |
| Hexachlorobenzene | 118-74-1 | 47.5 | | 5.38 | 2.69 |
| Hexachlorobutadiene | 87-68-3 | 20.9 | | 5.38 | 2.69 |
| Hexachlorocyclopentadiene | 77-47-4 | 23.6 | | 5.38 | 2.69 |
| Hexachloroethane | 67-72-1 | 19.2 | | 5.38 | 2.69 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 56.5 | | 5.38 | 2.69 |
| Isophorone | 78-59-1 | 34.6 | | 5.38 | 2.69 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | 48.4 | | 5.38 | 2.69 |
| Naphthalene | 91-20-3 | 27.9 | | 5.38 | 2.69 |
| Nitrobenzene | 98-95-3 | 31.0 | | 5.38 | 2.69 |
| Pentachlorophenol | 87-86-5 | 63.0 | | 26.9 | 13.4 |
| Phenanthrene | 85-01-8 | 51.4 | | 5.38 | 2.69 |
| Phenol | 108-95-2 | 14.0 | | 5.38 | 2.69 |
| Pyrene | 129-00-0 | 53.7 | | 5.38 | 2.69 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 106 | 10 | 123 | |
| 2-Fluorobiphenyl | 69.0 | 43 | 116 | |
| 2-Fluorophenol | 37.1 | 21 | 100 | |
| Nitrobenzene-d5 | 65.7 | 35 | 114 | |
| p-Terphenyl-d14 | 90.9 | 33 | 141 | |
| Phenol-d5 | 26.1 | 10 | 94 | |

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

## Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-07 | **PrePrep Method:** | N/A | **Instrument:** | HPMS19 |
| **Client ID:** | MW10-082517 | **Prep Method:** | 3510C | **Prep Date:** | 09/06/2017 15:00 |
| **Matrix:** | Water | **Analytical Method:** | 8270D | **Cal Date:** | 08/15/2017 20:30 |
| **Workgroup #:** | WG628781 | **Analyst:** | SCB | **Run Date:** | 09/13/2017 17:59 |
| **Collect Date:** | 08/25/2017 10:20 | **Dilution:** | 1 | **File ID:** | 19M000548 |
| **Sample Tag:** | RE | **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 |
| 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 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 |
| 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 | 71.3 | 10 | 123 | |
| 2-Fluorobiphenyl | 57.8 | 43 | 116 | |
| 2-Fluorophenol | 33.0 | 21 | 100 | |
| Nitrobenzene-d5 | 59.3 | 35 | 114 | |
| p-Terphenyl-d14 | 83.0 | 33 | 141 | |
| Phenol-d5 | 21.7 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L17081498-07 | **PrePrep Method:** | N/A | **Instrument:** | HPMS12 |
| **Client ID:** | MW10-082517 | **Prep Method:** | 3510C | **Prep Date:** | 08/30/2017 12:10 |
| **Matrix:** | Water | **Analytical Method:** | 8270D | **Cal Date:** | 08/03/2017 13:41 |
| **Workgroup #:** | WG627873 | **Analyst:** | SCB | **Run Date:** | 08/31/2017 14:31 |
| **Collect Date:** | 08/25/2017 10:20 | **Dilution:** | 1 | **File ID:** | 12M64174 |
| **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 |
| 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 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 |
| 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 | 109 | 10 | 123 | |
| 2-Fluorobiphenyl | 85.8 | 43 | 116 | |
| 2-Fluorophenol | 46.1 | 21 | 100 | |
| Nitrobenzene-d5 | 73.3 | 35 | 114 | |
| p-Terphenyl-d14 | 90.6 | 33 | 141 | |
| Phenol-d5 | 30.5 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

Certificate of Analysis

**Sample #:** L17081498-07 **PrePrep Method:** N/A **Instrument:** HPMS12
**Client ID:** MW10-082517 **Prep Method:** 3510C **Prep Date:** 08/30/2017 12:10
**Matrix:** Water **Analytical Method:** 8270D **Cal Date:** 08/03/2017 13:41
**Workgroup #:** WG627873 **Analyst:** SCB **Run Date:** 08/31/2017 14:31
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** 12M64174
**Sample Tag:** 01 **Units:** ug/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| n-Hexadecanoic acid | | 6.22 | | 0.000 | 0.000 |
| UNKNOWN | | 5.24 | | 0.000 | 0.000 |
| UNKNOWN2 | | 5.51 | | 0.000 | 0.000 |
| UNKNOWN3 | | 5.82 | | 0.000 | 0.000 |
| UNKNOWN4 | | 4.52 | | 0.000 | 0.000 |
| UNKNOWN5 | | 7.13 | | 0.000 | 0.000 |
| Hexadecane | | 7.82 | | 0.000 | 0.000 |
| Eicosane | | 11.7 | | 0.000 | 0.000 |
| Eicosane | | 14.1 | | 0.000 | 0.000 |
| Tetratriacontane | | 13.6 | | 0.000 | 0.000 |
| Tetratriacontane | | 9.18 | | 0.000 | 0.000 |
| UNKNOWN6 | | 5.02 | | 0.000 | 0.000 |
| UNKNOWN7 | | 5.96 | | 0.000 | 0.000 |

**Sample #:** L17081498-09 **PrePrep Method:** N/A **Instrument:** HPMS19
**Client ID:** MW20-082517 **Prep Method:** 3510C **Prep Date:** 09/06/2017 15:00
**Matrix:** Water **Analytical Method:** 8270D **Cal Date:** 08/15/2017 20:30
**Workgroup #:** WG628781 **Analyst:** SCB **Run Date:** 09/13/2017 18:29
**Collect Date:** 08/25/2017 14:10 **Dilution:** 1 **File ID:** 19M000549
**Sample Tag:** RE **Units:** ug/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 21.1 | 2.63 |
| 1,3,5-Trinitrobenzene | 99-35-4 | | U | 5.26 | 2.63 |
| 1,3-Dinitrobenzene | 99-65-0 | | U | 5.26 | 2.63 |
| 1,4-Dioxane | 123-91-1 | | U | 10.5 | 5.26 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 5.26 | 2.63 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 5.26 | 2.63 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 5.26 | 2.63 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 5.26 | 2.63 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 26.3 | 13.2 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 5.26 | 2.63 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 5.26 | 2.63 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 2-Chloronaphthalene | 91-58-7 | | U | 5.26 | 2.63 |
| 2-Chlorophenol | 95-57-8 | | U | 5.26 | 2.63 |
| 2-Methylnaphthalene | 91-57-6 | | U | 5.26 | 2.63 |
| 2-Methylphenol | 95-48-7 | | U | 5.26 | 2.63 |
| 2-Nitroaniline | 88-74-4 | | U | 26.3 | 13.2 |
| 2-Nitrophenol | 88-75-5 | | U | 5.26 | 2.63 |
| 3-Nitroaniline | 99-09-2 | | U | 26.3 | 13.2 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 5.26 | 2.63 |
| 3-,4-Methylphenol | 65794-96-9 | | U | 5.26 | 2.63 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 5.26 | 2.63 |
| 4-Chloroaniline | 106-47-8 | | U | 5.26 | 2.63 |
| 4-Nitrophenol | 100-02-7 | | U | 26.3 | 13.2 |
| Acenaphthene | 83-32-9 | | U | 5.26 | 2.63 |
| Acenaphthylene | 208-96-8 | | U | 5.26 | 2.63 |
| Anthracene | 120-12-7 | | U | 5.26 | 2.63 |
| Benzo(a)anthracene | 56-55-3 | | U | 5.26 | 2.63 |
| Benzo(a)pyrene | 50-32-8 | | U | 5.26 | 2.63 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 5.26 | 2.63 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 5.26 | 2.63 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 5.26 | 2.63 |
| Benzoic acid | 65-85-0 | | U | 21.1 | 10.5 |
| Benzyl alcohol | 100-51-6 | | U | 5.26 | 2.63 |
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 5.26 | 2.63 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 5.26 | 2.63 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 5.26 | 2.63 |
| Butylbenzylphthalate | 85-68-7 | | U | 5.26 | 2.63 |
| Carbazole | 86-74-8 | | U | 21.1 | 2.63 |
| Chrysene | 218-01-9 | | U | 5.26 | 2.63 |
| Di-N-Butylphthalate | 84-74-2 | | U | 5.26 | 2.63 |
| Di-n-octylphthalate | 117-84-0 | | U | 5.26 | 2.63 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 5.26 | 2.63 |
| Dibenzofuran | 132-64-9 | | U | 5.26 | 2.63 |
| Diethylphthalate | 84-66-2 | | U | 5.26 | 2.63 |
| Dimethylphthalate | 131-11-3 | | U | 5.26 | 2.63 |
| Fluoranthene | 206-44-0 | | U | 5.26 | 2.63 |
| Fluorene | 86-73-7 | | U | 5.26 | 2.63 |
| Hexachlorobenzene | 118-74-1 | | U | 5.26 | 2.63 |
| Hexachlorobutadiene | 87-68-3 | | U | 5.26 | 2.63 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 5.26 | 2.63 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Hexachloroethane | 67-72-1 | | U | 5.26 | 2.63 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 5.26 | 2.63 |
| Isophorone | 78-59-1 | | U | 5.26 | 2.63 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | | U | 5.26 | 2.63 |
| Naphthalene | 91-20-3 | | U | 5.26 | 2.63 |
| Nitrobenzene | 98-95-3 | | U | 5.26 | 2.63 |
| Pentachlorophenol | 87-86-5 | | U | 26.3 | 13.2 |
| Phenanthrene | 85-01-8 | | U | 5.26 | 2.63 |
| Phenol | 108-95-2 | | U | 5.26 | 2.63 |
| Pyrene | 129-00-0 | | U | 5.26 | 2.63 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 67.7 | 10 | 123 | |
| 2-Fluorobiphenyl | 67.3 | 43 | 116 | |
| 2-Fluorophenol | 37.2 | 21 | 100 | |
| Nitrobenzene-d5 | 67.4 | 35 | 114 | |
| p-Terphenyl-d14 | 86.5 | 33 | 141 | |
| Phenol-d5 | 24.5 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-09
**Client ID:** MW20-082517
**Matrix:** Water
**Workgroup #:** WG627873
**Collect Date:** 08/25/2017 14:10
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D
**Analyst:** SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS12
**Prep Date:** 08/30/2017 12:10
**Cal Date:** 08/03/2017 13:41
**Run Date:** 08/31/2017 15:04
**File ID:** 12M64175

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 92-52-4 | | U | 20.2 | 2.53 |
| 1,3,5-Trinitrobenzene | 99-35-4 | | U | 5.05 | 2.53 |
| 1,3-Dinitrobenzene | 99-65-0 | | U | 5.05 | 2.53 |
| 1,4-Dioxane | 123-91-1 | | U | 10.1 | 5.05 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 5.05 | 2.53 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 5.05 | 2.53 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 5.05 | 2.53 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 5.05 | 2.53 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 25.3 | 12.6 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 5.05 | 2.53 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 5.05 | 2.53 |
| 2-Chloronaphthalene | 91-58-7 | | U | 5.05 | 2.53 |
| 2-Chlorophenol | 95-57-8 | | U | 5.05 | 2.53 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 2-Methylnaphthalene | 91-57-6 | | U | 5.05 | 2.53 |
| 2-Methylphenol | 95-48-7 | | U | 5.05 | 2.53 |
| 2-Nitroaniline | 88-74-4 | | U | 25.3 | 12.6 |
| 2-Nitrophenol | 88-75-5 | | U | 5.05 | 2.53 |
| 3-Nitroaniline | 99-09-2 | | U | 25.3 | 12.6 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 5.05 | 2.53 |
| 3-,4-Methylphenol | 65794-96-9 | | U | 5.05 | 2.53 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 5.05 | 2.53 |
| 4-Chloroaniline | 106-47-8 | | U | 5.05 | 2.53 |
| 4-Nitrophenol | 100-02-7 | | U | 25.3 | 12.6 |
| Acenaphthene | 83-32-9 | | U | 5.05 | 2.53 |
| Acenaphthylene | 208-96-8 | | U | 5.05 | 2.53 |
| Anthracene | 120-12-7 | | U | 5.05 | 2.53 |
| Benzo(a)anthracene | 56-55-3 | | U | 5.05 | 2.53 |
| Benzo(a)pyrene | 50-32-8 | | U | 5.05 | 2.53 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 5.05 | 2.53 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 5.05 | 2.53 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 5.05 | 2.53 |
| Benzoic acid | 65-85-0 | | U | 20.2 | 10.1 |
| Benzyl alcohol | 100-51-6 | | U | 5.05 | 2.53 |
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 5.05 | 2.53 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 5.05 | 2.53 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 5.05 | 2.53 |
| Butylbenzylphthalate | 85-68-7 | | U | 5.05 | 2.53 |
| Carbazole | 86-74-8 | | U | 20.2 | 2.53 |
| Chrysene | 218-01-9 | | U | 5.05 | 2.53 |
| Di-N-Butylphthalate | 84-74-2 | | U | 5.05 | 2.53 |
| Di-n-octylphthalate | 117-84-0 | | U | 5.05 | 2.53 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 5.05 | 2.53 |
| Dibenzofuran | 132-64-9 | | U | 5.05 | 2.53 |
| Diethylphthalate | 84-66-2 | | U | 5.05 | 2.53 |
| Dimethylphthalate | 131-11-3 | | U | 5.05 | 2.53 |
| Fluoranthene | 206-44-0 | | U | 5.05 | 2.53 |
| Fluorene | 86-73-7 | | U | 5.05 | 2.53 |
| Hexachlorobenzene | 118-74-1 | | U | 5.05 | 2.53 |
| Hexachlorobutadiene | 87-68-3 | | U | 5.05 | 2.53 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 5.05 | 2.53 |
| Hexachloroethane | 67-72-1 | | U | 5.05 | 2.53 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 5.05 | 2.53 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Isophorone | 78-59-1 | | U | 5.05 | 2.53 |
| Diphenylamine/n-Nitrosodiphenylamine | 86-30-6 | | U | 5.05 | 2.53 |
| Naphthalene | 91-20-3 | | U | 5.05 | 2.53 |
| Nitrobenzene | 98-95-3 | | U | 5.05 | 2.53 |
| Pentachlorophenol | 87-86-5 | | U | 25.3 | 12.6 |
| Phenanthrene | 85-01-8 | | U | 5.05 | 2.53 |
| Phenol | 108-95-2 | | U | 5.05 | 2.53 |
| Pyrene | 129-00-0 | | U | 5.05 | 2.53 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 114 | 10 | 123 | |
| 2-Fluorobiphenyl | 97.1 | 43 | 116 | |
| 2-Fluorophenol | 51.9 | 21 | 100 | |
| Nitrobenzene-d5 | 84.4 | 35 | 114 | |
| p-Terphenyl-d14 | 94.5 | 33 | 141 | |
| Phenol-d5 | 32.7 | 10 | 94 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-09
**Client ID:** MW20-082517
**Matrix:** Water
**Workgroup #:** WG627873
**Collect Date:** 08/25/2017 14:10
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D
**Analyst:** SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS12
**Prep Date:** 08/30/2017 12:10
**Cal Date:** 08/03/2017 13:41
**Run Date:** 08/31/2017 15:04
**File ID:** 12M64175

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| UNKNOWN | | 4.53 | | 0.000 | 0.000 |
| UNKNOWN2 | | 14.1 | | 0.000 | 0.000 |
| UNKNOWN3 | | 5.44 | | 0.000 | 0.000 |
| UNKNOWN4 | | 6.81 | | 0.000 | 0.000 |
| Tetratriacontane | | 5.64 | | 0.000 | 0.000 |
| UNKNOWN5 | | 8.10 | | 0.000 | 0.000 |
| Nonadecane, 2,3-dimethyl- | | 8.24 | | 0.000 | 0.000 |
| Heptadecane | | 11.5 | | 0.000 | 0.000 |
| Eicosane | | 10.3 | | 0.000 | 0.000 |
| UNKNOWN6 | | 5.82 | | 0.000 | 0.000 |
| Tetratriacontane | | 6.83 | | 0.000 | 0.000 |
| UNKNOWN7 | | 5.06 | | 0.000 | 0.000 |

# 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: | Example |
|---|---|
| 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** |

**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: | Example |
|---|---|
| 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** |

**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: | Example |
|---|---|
| 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** |

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 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

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

**Step 4: Solve for analyte concentration Cx**

Cx = ( Cis )( 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 quantiation 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:** WG627757
**Analyst:** JDH
**Spike Analyst:** JDH
**Method:** 3510C
**Run Date:** 08/30/2017 12:10
**SOP:** EXB08 Revision 16
**Spike Witness:** JLD
**Surr Solution:** STD82960

**METHYLENE CHLORIDE Lot #:** COA19844
**Na2SO4, Anhydrous, Granular Lot #:** COA19759
**10N NaOH Lot #:** RGT40456
**1:1 H2SO4 Lot #:** RGT40290

| | SAMPLE # | Type | Reference | pH | Prod | Init Amnt | Surr Amnt | Spike Amnt | Spike Sol | Final Vol | Color |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | L17081454-01 | SAMP | | | 827-TC | 100 mL | .5 mL | | | 1 mL | Transparent |
| 2 | L17081464-01 | SAMP | | | 827-SPE-DIO | 980 mL | .5 mL | | | 1 mL | Transparent |
| 3 | L17081466-01 | SAMP | | | 827-SPE-DIO | 1000 mL | .5 mL | | | 1 mL | Colored |
| 4 | L17081498-01 | SAMP | | | 827-SPE-DIO | 940 mL | .5 mL | | | 1 mL | Colored |
| 5 | L17081498-03 | RS01 | | | 827-SPE-DIO | 950 mL | .5 mL | | | 1 mL | Transparent |
| 6 | L17081498-05 | MS01 | L17081498-03 | | 827-SPE-DIO | 940 mL | .5 mL | .5 mL | STD82689 | 1 mL | Colored |
| 7 | L17081498-06 | SD01 | L17081498-03 | | 827-SPE-DIO | 910 mL | .5 mL | .5 mL | STD82689 | 1 mL | Colored |
| 8 | L17081498-07 | SAMP | | | 827-SPE-DIO | 1000 mL | .5 mL | | | 1 mL | Transparent |
| 9 | L17081498-09 | SAMP | | | 827-SPE-DIO | 990 mL | .5 mL | | | 1 mL | Transparent |
| 10 | WG627606-01 | FBLK2 | | | 827-TC | 100 mL | .5 mL | | | 1 mL | Transparent |
| 11 | WG627757-01 | BLANK | | | 827-TC | 100 mL | .5 mL | | | 1 mL | Transparent |
| 12 | WG627757-02 | LCS | | | 827-TC | 100 mL | .5 mL | .5 mL | STD82689 | 1 mL | Colored |
| 13 | WG627757-03 | REF | L17081498-03 | | 827-SPE-DIO | 950 mL | .5 mL | | | 1 mL | Transparent |
| 14 | WG627757-04 | MS | L17081498-03 | | 827-SPE-DIO | 940 mL | .5 mL | .5 mL | STD82689 | 1 mL | Colored |
| 15 | WG627757-05 | MSD | L17081498-03 | | 827-SPE-DIO | 910 mL | .5 mL | .5 mL | STD82689 | 1 mL | Colored |

Due to insufficient sample volume, this preparation batch failed to include the method prescribed MS and MSD.

pH lot # 230515/213515

**Analyst:** Justin Hesson

**Reviewer:** Jessica DeLong

EXTRACT - Modified 10/22/2008
PDF ID: 5455720
Report generated: 08/30/2017 15:25

# Microbac Laboratories Inc.
## Sample Extract Log

**Workgroup:** WG628510
**Analyst:** JLD
**Spike Analyst:** JLD
**Method:** 3510C
**Run Date:** 09/06/2017 15:00
**SOP:** EXB08 Revision 16
**Spike Witness:** JDH
**Surr Solution:** STD82960

**METHYLENE CHLORIDE Lot #:** COA19844
**Na2SO4, Anhydrous, Granular Lot #:** COA19759
**1:1 H2SO4 Lot #:** RGT40290
**10N NaOH Lot #:** RGT40951

| | SAMPLE # | Type | Reference | pH | Prod | Init Amnt | Surr Amnt | Spike Amnt | Spike Sol | Final Vol | Color |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | L17081464-01 | SAMP | | <2>12 | 827-SPE-DIO | 1000 mL | .5 mL | | | 1 mL | Colored |
| 2 | L17081466-01 | SAMP | | <2>12 | 827-SPE-DIO | 1000 mL | .5 mL | | | 1 mL | Colored |
| 3 | L17081498-01 | SAMP | | <2>12 | 827-SPE-DIO | 880 mL | .5 mL | | | 1 mL | Colored |
| 4 | L17081498-03 | RS01 | | <2>12 | 827-SPE-DIO | 940 mL | .5 mL | | | 1 mL | Transparent |
| 5 | L17081498-05 | MS01 | L17081498-03 | <2>12 | 827-SPE-DIO | 910 mL | .5 mL | .5 mL | STD82691 | 1 mL | Colored |
| 6 | L17081498-06 | SD01 | L17081498-03 | <2>12 | 827-SPE-DIO | 930 mL | .5 mL | .5 mL | STD82691 | 1 mL | Colored |
| 7 | L17081498-07 | SAMP | | <2>12 | 827-SPE-DIO | 1000 mL | .5 mL | | | 1 mL | Transparent |
| 8 | L17081498-09 | SAMP | | <2>12 | 827-SPE-DIO | 950 mL | .5 mL | | | 1 mL | Transparent |
| 9 | L17090208-01 | SAMP | | <2>12 | 827-TC | 100 mL | .5 mL | | | 1 mL | Colored |
| 10 | WG628510-01 | BLANK | | | 827-SPE-DIO | 1000 mL | .5 mL | | | 1 mL | Transparent |
| 11 | WG628510-02 | LCS | | | 827-SPE-DIO | 1000 mL | .5 mL | .5 mL | STD82691 | 1 mL | Transparent |
| 12 | WG628510-03 | LCS2 | | | 827-SPE-DIO | 1000 mL | .5 mL | .5 mL | STD82691 | 1 mL | Transparent |
| 13 | WG628510-04 | REF | L17081498-03 | <2>12 | 827-SPE-DIO | 940 mL | .5 mL | | | 1 mL | Transparent |
| 14 | WG628510-05 | MS | L17081498-03 | <2>12 | 827-SPE-DIO | 910 mL | .5 mL | .5 mL | STD82691 | 1 mL | Colored |
| 15 | WG628510-06 | MSD | L17081498-03 | <2>12 | 827-SPE-DIO | 930 mL | .5 mL | .5 mL | STD82691 | 1 mL | Colored |

TV1P5,6
pH 0-3 Lot#230515
pH 10-12 Lot#213515

| | |
|---|---|
| L17081464-01 | RE-EXT OUT OF HOLD |
| L17081466-01 | RE-EXT OUT OF HOLD |
| L17081498-01 | RE-EXT OUT OF HOLD |
| L17081498-03 | RE-EXT OUT OF HOLD |
| L17081498-05 | RE-EXT OUT OF HOLD |
| L17081498-06 | RE-EXT OUT OF HOLD |
| L17081498-07 | RE-EXT OUT OF HOLD |
| L17081498-09 | RE-EXT OUT OF HOLD |
| WG628510-04 | RE-EXT OUT OF HOLD |
| WG628510-05 | RE-EXT OUT OF HOLD |
| WG628510-06 | RE-EXT OUT OF HOLD |

**Analyst:** Jessica DeLong

**Reviewer:** Justin Hesson

EXTRACT - Modified 10/22/2008
PDF ID: 5464921
Report generated: 09/07/2017 09:06

# Microbac Laboratories Inc.

## Instrument Run Log

Instrument: HPMS12 Dataset: 071417
Analyst1: SCB Analyst2: NA
Method: 8270C/D SOP: MSS01 Rev: 28
Method: OVAP SOP: MSS01 Rev: 0

Maintenance Log ID: Syringe Filter Lot#:
Eluent ID#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG621882, WG621894

Internal STD: COA19796 Surrogate STD: NA Calibration STD
CCV STD: STD81744, 81291 LCS STD: MS/MSD STD:

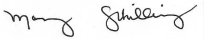
Comments: p-phenylenediamine for 625 only, not for 8270

| 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 |
|---|---|---|---|---|

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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#:

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: 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 | |

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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#: _____

Column 1 ID: RXI-5MS Column 2 ID: NA

Workgroups: WG624321

Internal STD: COA19796 Surrogate STD: NA

CCV STD: STD81744,STD81126 LCS STD: STD81294,STD81996,ST

**Comments**

| Seq. | Rerun | Dil. | Reason | Analytes |
|---|---|---|---|---|
| | | | | |

L17071382-61



Approved: 07-AUG-17



**Microbac Laboratories Inc.**

Instrument Run Log

Instrument: HPMS19 Dataset: 081517
Analyst1: SCB 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
WG625881
Internal STD: COA19796 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 | 19M000300 | RINSE W/IS | 1 | 1 | | 08/15/17 12:13 |
| 2 | 19M000301 | RINSE W/IS | 1 | 1 | | 08/15/17 13:45 |
| 3 | 19M000302 | RINSE W/IS | 1 | 1 | | 08/15/17 14:15 |
| 4 | 19M000303 | RINSE W/IS | 1 | 1 | | 08/15/17 14:49 |
| 5 | 19M000305 | RINSE W/IS | 1 | 1 | | 08/15/17 15:44 |
| 6 | 19M000306 | WG625881-01 50PPM DFTPP | 1 | 1 | STD83235 | 08/15/17 16:11 |
| 7 | 19M000307 | WG625881-02 50PPM 8270 STD | 1 | 1 | STD81744 | 08/15/17 16:29 |
| 8 | 19M000308 | WG625881-03 1PPM 8270 STD | 1 | 1 | STD81744 | 08/15/17 16:59 |
| 9 | 19M000309 | WG625881-04 3PPM 8270 STD | 1 | 1 | STD81744 | 08/15/17 17:30 |
| 10 | 19M000310 | WG625881-05 10PPM 8270 STD | 1 | 1 | STD81744 | 08/15/17 18:00 |
| 11 | 19M000311 | WG625881-06 15PPM 8270 STD | 1 | 1 | STD81744 | 08/15/17 18:30 |
| 12 | 19M000312 | WG625881-07 25PPM 8270 STD | 1 | 1 | STD81744 | 08/15/17 19:00 |
| 13 | 19M000313 | WG625881-08 80PPM 8270 STD | 1 | 1 | STD81744 | 08/15/17 19:30 |
| 14 | 19M000314 | WG625881-09 100PPM 8270 STD | 1 | 1 | STD81744 | 08/15/17 20:00 |
| 15 | 19M000315 | WG625881-10 120PPM 8270 STD | 1 | 1 | STD81744 | 08/15/17 20:30 |
| 16 | 19M000316 | WG625881-11 50PPM 8270 ALT SRC | 1 | 1 | STD81294 | 08/15/17 21:00 |
| 17 | 19M000317 | WG625881-12 50PPM 1,4-DIOX ALT SRC | 1 | 1 | STD81996 | 08/15/17 21:30 |
| 18 | 19M000318 | WG625881-13 50PPM MP,A9,BENZ ALT SRC | 1 | 1 | STD82728 | 08/15/17 22:01 |
| 19 | 19M000319 | BAKE OUT | 1 | 1 | | 08/15/17 22:31 |
| 20 | 19M000320 | BAKE OUT | 1 | 1 | | 08/15/17 23:01 |

**Comments**

| Seq. | Rerun | Dil. | Reason | Analytes |
|---|---|---|---|---|

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# Microbac Laboratories Inc.

## Instrument Run Log

Instrument: HPMS19 Dataset: 081617
Analyst1: SCB 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
WG626039, WG626047
Internal STD: COA19796 Surrogate STD: NA Calibration STD
CCV STD: STD81291, 82937 LCS STD: MS/MSD STD:

Comments:

| Seq. | File ID | Sample Information | Mat | Dil | Reference | Date/Time |
|---|---|---|---|---|---|---|
| 1 | 19M000321 | WG626039-01 50PPM DFTPP | 1 | 1 | STD83235 | 08/16/17 11:35 |
| 2 | 19M000322 | WG626039-01 50PPM DFTPP | 1 | 1 | STD83235 | 08/16/17 11:56 |
| 3 | 19M000323 | WG626039-02 50PPM TCL/A-TERP STD | 1 | 1 | STD81291 | 08/16/17 12:14 |
| 4 | 19M000324 | WG626039-03 3PPM TCL/A-TERP STD | 1 | 1 | STD81291 | 08/16/17 12:44 |
| 5 | 19M000325 | WG626039-04 10PPM TCL/A-TERP STD | 1 | 1 | STD81291 | 08/16/17 13:14 |
| 6 | 19M000326 | WG626039-05 25PPM TCL/A-TERP STD | 1 | 1 | STD81291 | 08/16/17 13:45 |
| 7 | 19M000327 | WG626039-06 80PPM TCL/A-TERP STD | 1 | 1 | STD81291 | 08/16/17 14:15 |
| 8 | 19M000328 | WG626039-07 100PPM TCL/A-TERP STD | 1 | 1 | STD81291 | 08/16/17 14:45 |
| 9 | 19M000329 | WG626039-08 120PPM TCL/A-TERP STD | 1 | 1 | STD81291 | 08/16/17 15:15 |
| 10 | 19M000330 | WG626039-09 50PPM TCL/A-TERP ALT SRC | 1 | 1 | STD81289 | 08/16/17 15:45 |
| 11 | 19M000331 | WG626047-01 50PPM PERYLENE STD | 1 | 1 | STD82937 | 08/16/17 16:15 |
| 12 | 19M000332 | WG626047-02 5PPM PERYLENE STD | 1 | 1 | STD82937 | 08/16/17 16:46 |
| 13 | 19M000333 | WG626047-03 10PPM PERYLENE STD | 1 | 1 | STD82937 | 08/16/17 17:16 |
| 14 | 19M000334 | WG626047-04 25PPM PERYLENE STD | 1 | 1 | STD82937 | 08/16/17 17:46 |
| 15 | 19M000335 | WG626047-05 80PPM PERYLENE STD | 1 | 1 | STD82937 | 08/16/17 18:16 |
| 16 | 19M000336 | WG626047-06 100PPM PERYLENE STD | 1 | 1 | STD82937 | 08/16/17 18:46 |
| 17 | 19M000337 | WG626047-07 120PPM PERYLENE STD | 1 | 1 | STD82937 | 08/16/17 19:16 |
| 18 | 19M000338 | WG626047-08 50PPM PERYLENE ALT SRC | 1 | 1 | STD82938 | 08/16/17 19:46 |
| 19 | 19M000339 | BAKE OUT | 1 | 1 | | 08/16/17 20:17 |
| 20 | 19M000340 | BAKE OUT | 1 | 1 | | 08/16/17 20:47 |

**Comments**

| Seq. | Rerun | Dil. | Reason | Analytes |
|---|---|---|---|---|
| 1 | | | | |
| | WG626039-01 50PPM DFTPP has an ion failure, DNR | | | |


Approved: 18-AUG-17

# Microbac Laboratories Inc.

## Instrument Run Log

Instrument: HPMS12 Dataset: 083117
Analyst1: SCB 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
WG627873
Internal STD: COA19896 Surrogate STD: NA Calibration STD
CCV STD: STD81744 LCS STD: MS/MSD STD:

Comments: The L17081498 samples need rerun for 1,1'biphenyl

| Seq. | File ID | Sample Information | Mat | Dil | Reference | Date/Time |
|---|---|---|---|---|---|---|
| 1 | 12M64164 | WG627960-01 50PPM DFTPP STD | 1 | 1 | STD83235 | 08/31/17 09:21 |
| 2 | 12M64165 | WG627960-02 50PPM 8270 STD | 1 | 1 | STD81744 | 08/31/17 09:39 |
| 3 | 12M64166 | WG627757-01 BLANK 8/30 | 1 | 1 | STD81744 | 08/31/17 10:11 |
| 4 | 12M64167 | WG627757-02 LCS 8/30 | 1 | 1 | | 08/31/17 10:44 |
| 5 | 12M64168 | L17081454-01 | 17 | 1 | | 08/31/17 11:16 |
| 6 | 12M64169 | L17081464-01 | 1 | 1 | | 08/31/17 11:49 |
| 7 | 12M64170 | L17081498-01 | 1 | 1 | | 08/31/17 12:22 |
| 8 | 12M64171 | L17081498-03 REF | 1 | 1 | | 08/31/17 12:54 |
| 9 | 12M64172 | L17081498-05 MS | 1 | 1 | | 08/31/17 13:27 |
| 10 | 12M64173 | L17081498-06 MSD | 1 | 1 | | 08/31/17 14:01 |
| 11 | 12M64174 | L17081498-07 | 1 | 1 | | 08/31/17 14:31 |
| 12 | 12M64175 | L17081498-09 | 1 | 1 | | 08/31/17 15:04 |
| 13 | 12M64176 | L17081466-01 2X | 1 | 2 | | 08/31/17 15:36 |
| 14 | 12M64177 | WG627606-01 FBLK2 | 17 | 1 | | 08/31/17 16:09 |
| 15 | 12M64178 | BAKE OUT | 1 | 1 | | 08/31/17 16:41 |
| 16 | 12M64179 | BAKE OUT | 1 | 1 | | 08/31/17 17:13 |
| 17 | 12M64180 | BAKE OUT | 1 | 1 | | 08/31/17 17:46 |

**Comments**

| Seq. | Rerun | Dil. | Reason | Analytes |
|---|---|---|---|---|
| 4 | X | | | |
| | WG627757-02 LCS 8/30 remixing and rerunning for the high %REC, 1,4-dioxane has a low %REC for the L17081498 samples. Report. | | | |
| 5 | | | | |
| | L17081454-01 has one high acid surrogate recovery | | | |
| 6 | | | | |
| | L17081464-01 has one low base surrogate recovery, the LCS has two low and three high %REC, the high outliers are non-detect. No need to re-extract for LCS outliers, per client. | | | |
| 9 | | | | |
| | L17081498-05 MS 1,4-dioxane has a low %REC | | | |
| 10 | | | | |
| | L17081498-06 MSD 1,4-dioxane has a low %REC | | | |
| 13 | | | | |
| | L17081466-01 2X ran at a dilution due to a cloudy, amber sample matrix, the LCS has two low and three high %REC. No need to re-extract for LCS outliers, per client. | | | |

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# Microbac Laboratories Inc.

## Instrument Run Log

Instrument: HPMS19 Dataset: 091217
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
WG628837,WG629333,WG628781,WG628842
Internal STD: COA19896 Surrogate STD: NA Calibration STD
CCV STD: STD81744 LCS STD: MS/MSD STD:

Comments: For L17090293-02,337-01, and 377-01 pyridine is non-detect in the LCSDUP. Pyridine recovery is acceptable in the LCS.

| Seq. | File ID | Sample Information | Mat | Dil | Reference | Date/Time |
|---|---|---|---|---|---|---|
| 1 | 19M000495 | WG629380-01 50PPM DFTPP | 1 | 1 | STD83235 | 09/12/17 13:26 |
| 2 | 19M000496 | WG629380-01 50PPM DFTPP | 1 | 1 | STD83235 | 09/12/17 13:42 |
| 3 | 19M000497 | WG629380-01 50PPM DFTPP | 1 | 1 | STD83235 | 09/12/17 14:04 |
| 4 | 19M000498 | WG629380-02 50PPM 8270 STD | 1 | 1 | STD81744 | 09/12/17 14:21 |
| 5 | 19M000499 | WG629382-01 50PPM TCL STD | 1 | 1 | STD81291 | 09/12/17 14:52 |
| 6 | 19M000500 | WG628559-01 BLANK 9/7 | 2 | 1 | | 09/12/17 15:20 |
| 7 | 19M000501 | WG628559-02 LCS 9/7 | 2 | 1 | | 09/12/17 15:50 |
| 8 | 19M000502 | WG628559-03 LCSDUP 9/7 | 2 | 1 | | 09/12/17 16:20 |
| 9 | 19M000503 | WG628510-01 BLANK 9/6 | 1 | 1 | | 09/12/17 16:50 |
| 10 | 19M000504 | WG628510-02 LCS 9/6 | 1 | 1 | | 09/12/17 17:21 |
| 11 | 19M000505 | WG628510-03 LCSDUP 9/6 | 1 | 1 | | 09/12/17 17:51 |
| 12 | 19M000506 | WG629016-01 BLANK 9/11 | 2 | 1 | | 09/12/17 18:21 |
| 13 | 19M000507 | WG629016-02 LCS 9/11 | 2 | 1 | | 09/12/17 18:51 |
| 14 | 19M000508 | WG629016-03 LCSDUP 9/11 | 2 | 1 | | 09/12/17 19:21 |
| 15 | 19M000509 | L17090130-01 | 17 | 1 | | 09/12/17 19:51 |
| 16 | 19M000510 | L17090208-01 | 17 | 1 | | 09/12/17 20:21 |
| 17 | 19M000511 | L17090089-02 40X | 10 | 40 | SOIL | 09/12/17 20:51 |
| 18 | 19M000512 | L17090146-01 | 17 | 1 | | 09/12/17 21:21 |
| 19 | 19M000513 | L17090146-02 | 17 | 1 | | 09/12/17 21:51 |
| 20 | 19M000514 | L17090146-03 | 17 | 1 | | 09/12/17 22:22 |
| 21 | 19M000515 | L17090146-04 | 17 | 1 | | 09/12/17 22:52 |
| 22 | 19M000516 | L17090146-05 | 17 | 1 | | 09/12/17 23:22 |
| 23 | 19M000517 | L17090146-06 | 17 | 1 | | 09/12/17 23:52 |
| 24 | 19M000518 | L17090187-01 | 17 | 1 | | 09/13/17 00:22 |
| 43 | 19M000519 | L17090089-03 5X | 17 | 5 | | 09/13/17 00:52 |
| 26 | 19M000520 | WG628559-05 MS L17090089-03 5X | 17 | 5 | | 09/13/17 01:22 |
| 27 | 19M000521 | WG628329-01 FBLK | 17 | 1 | | 09/13/17 01:52 |
| 28 | 19M000522 | WG628531-01 FBLK | 17 | 1 | | 09/13/17 02:22 |
| 29 | 19M000523 | L17090192-01 | 2 | 1 | | 09/13/17 02:52 |
| 30 | 19M000524 | L17090236-01 | 2 | 1 | | 09/13/17 03:22 |
| 31 | 19M000525 | L17090244-04 | 2 | 1 | | 09/13/17 03:52 |
| 32 | 19M000526 | L17090293-02 | 2 | 1 | | 09/13/17 04:22 |
| 33 | 19M000527 | L17090306-03 | 2 | 1 | | 09/13/17 04:52 |

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**Microbac Laboratories Inc.**

Instrument Run Log

Instrument: HPMS19 Dataset: 091217
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#:

Column 1 ID: RXI-5MS Column 2 ID: NA
Workgroups: WG628837,WG629333,WG628781,WG628842
Internal STD: COA19896 Surrogate STD: NA
CCV STD: STD81744 LCS STD:

| Seq. | File ID | Sample Information | Mat | Dil | Reference | Date/Time |
|---|---|---|---|---|---|---|
| 34 | 19M000528 | L17090337-01 | 2 | 1 | | 09/13/17 05:22 |
| 35 | 19M000529 | L17090377-01 | 2 | 1 | | 09/13/17 05:52 |
| 36 | 19M000530 | L17090378-01 | 2 | 1 | | 09/13/17 06:21 |
| 37 | 19M000531 | L17090419-01 5X | 2 | 5 | | 09/13/17 06:51 |
| 38 | 19M000532 | L17090436-01 10X | 2 | 10 | | 09/13/17 07:22 |
| 39 | 19M000533 | L17090440-01 2X | 2 | 2 | | 09/13/17 07:52 |
| 40 | 19M000534 | L17090438-01 10X | 2 | 10 | | 09/13/17 08:22 |
| 41 | 19M000535 | L17090419-01 2X | 2 | 2 | | 09/13/17 08:52 |
| 42 | 19M000536 | L17090440-01 | 2 | 1 | | 09/13/17 09:22 |

**Comments**

| Seq. | Rerun | Dil. | Reason | Analytes |
|---|---|---|---|---|
| 1 | | | | |
| | RR DFTPP, ion ratio failed. | | | |
| 2 | | | | |
| | RR DFTPP, ion ratio failed. Performed a quicktune. | | | |
| 14 | | | | |
| | WG629016-03 LCSDUP 9/11 pyridine is non-detect; recovery is acceptable in the LCS. | | | |
| 43 | | | | |
| | L17090089-03 5X analyzed at a dilution due to amber,viscous matrix | | | |
| 37 | X | 2 | Analyzed too dilute | |
| | L17090419-01 5X DNR | | | |
| 38 | | | | |
| | L17090436-01 10X analyzed at a dilution due to dark,viscous sample matrix. | | | |
| 39 | X | 1 | Analyzed too dilute | |
| | L17090440-01 2X dnr | | | |
| 40 | | | | |
| | L17090438-01 10X analyzed at a dilution due to dark,viscous sample matrix. | | | |
| 41 | | | | |
| | L17090419-01 2X analyzed at a dilution due to amber, foamy sample matirx. | | | |

Page: 2 Approved: 13-SEP-17

# Microbac Laboratories Inc.

## Instrument Run Log

Instrument: HPMS19 Dataset: 091317
Analyst1: SCB 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
WG628781, WG629334
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 | 19M000539 | WG629552-01 50PPM DFTPP | 1 | 1 | STD83235 | 09/13/17 13:36 |
| 2 | 19M000540 | WG629552-02 50PPM 8270 STD | 1 | 1 | STD81744 | 09/13/17 13:54 |
| 3 | 19M000541 | WG629570-01 50PPM TCL/A-TERP STD | 1 | 1 | STD81291 | 09/13/17 14:25 |
| 4 | 19M000542 | WG629032-01 BLANK 9/11 | 7 | 1 | SOIL | 09/13/17 14:57 |
| 5 | 19M000543 | WG629032-02 LCS 9/11 | 7 | 1 | SOIL | 09/13/17 15:27 |
| 6 | 19M000544 | L17081498-01 RE 827-SPE-DIOX | 1 | 1 | | 09/13/17 15:58 |
| 19 | 19M000545 | L17081498-03 REF RE 827-SPE-DIOX | 1 | 1 | | 09/13/17 16:28 |
| 20 | 19M000546 | L17081498-05 MS RE | 1 | 1 | | 09/13/17 16:58 |
| 21 | 19M000547 | L17081498-06 MSD RE | 1 | 1 | | 09/13/17 17:28 |
| 10 | 19M000548 | L17081498-07 RE 827-SPE-DIOX | 1 | 1 | | 09/13/17 17:59 |
| 11 | 19M000549 | L17081498-09 RE 827-SPE-DIOX | 1 | 1 | | 09/13/17 18:29 |
| 22 | 19M000550 | L17090356-01 REF 5X | 7 | 5 | SOIL | 09/13/17 18:59 |
| 13 | 19M000551 | WG629032-04 MS 5X | 7 | 5 | SOIL | 09/13/17 19:29 |
| 14 | 19M000552 | WG629032-05 MSD 5X | 7 | 5 | SOIL | 09/13/17 19:59 |
| 15 | 19M000553 | L17090350-01 10X | 7 | 10 | SOIL | 09/13/17 20:29 |
| 16 | 19M000554 | BAKE OUT | 1 | 1 | | 09/13/17 20:59 |
| 17 | 19M000555 | BAKE OUT | 1 | 1 | | 09/13/17 21:29 |
| 18 | 19M000556 | BAKE OUT | 1 | 1 | | 09/13/17 22:00 |

**Comments**

| Seq. | Rerun | Dil. | Reason | Analytes |
|---|---|---|---|---|
| 22 | | | | |
| | L17090356-01 REF 5X ran at a dilution due to a dark, viscous sample matrix | | | |
| 13 | | | | |
| | WG629032-04 MS 5X ran at a dilution due to a dark, viscous sample matrix, 17 analytes fail %REC | | | |
| 14 | | | | |
| | WG629032-05 MSD 5X ran at a dilution due to a dark, viscous sample matrix, ten analytes fail %REC | | | |
| 15 | | | | |
| | L17090350-01 10X ran at a dilution due to a dark, viscous sample matrix, has one low acid surrogate recovery | | | |

Page: 1 Approved: 14-SEP-17

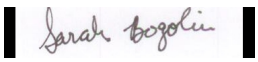
Microbac Laboratories Inc.

Data Checklist

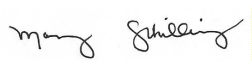
Date: 14-JUL-2017
Analyst: SCB
Analyst: NA
Method: 8270
Instrument: HPMS12
Curve Workgroup: NA
Runlog ID: 83397
Analytical Workgroups: WG621882, WG621894

| | |
|---|---|
| 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

Secondary Reviewer:
07-AUG-2017

CHECKLIST1 - Modified 03/05/2008
Generated: AUG-07-2017 16:36:24

# Microbac Laboratories Inc.

## Data Checklist

Date: 15-AUG-2017
Analyst: SCB
Analyst: NA
Method: 8270/625
Instrument: HPMS19
Curve Workgroup: NA
Runlog ID: 84031
Analytical Workgroups: WG625881

| | |
|---|---|
| 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 | 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 | 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:
18-AUG-2017

Secondary Reviewer:
18-AUG-2017

CHECKLIST1 - Modified 03/05/2008
Generated: AUG-18-2017 16:01:21

# Microbac Laboratories Inc.

## Data Checklist

Date: 16-AUG-2017
Analyst: SCB
Analyst: NA
Method: 8270/625
Instrument: HPMS19
Curve Workgroup: NA
Runlog ID: 84047
Analytical Workgroups: WG626039, WG626047

| | |
|---|---|
| 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:
18-AUG-2017

Secondary Reviewer:
18-AUG-2017

CHECKLIST1 - Modified 03/05/2008
Generated: AUG-18-2017 16:11:53

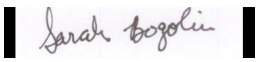
# Microbac Laboratories Inc.

## Data Checklist

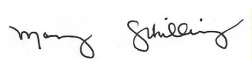
Date: 31-AUG-2017
Analyst: SCB
Analyst: NA
Method: 8270
Instrument: HPMS12
Curve Workgroup: NA
Runlog ID: 84348
Analytical Workgroups: L17081454, L17081464, L17081498, L17081466

| | |
|---|---|
| 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) | 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:
05-SEP-2017



Secondary Reviewer:
05-SEP-2017



CHECKLIST1 - Modified 03/05/2008
Generated: SEP-05-2017 10:37:19

# Microbac Laboratories Inc.

## Data Checklist

Date: 12-SEP-2017
Analyst: MES
Analyst: NA
Method: 8270/625
Instrument: HPMS19
Curve Workgroup: NA
Runlog ID: 84562
Analytical Workgroups: 0208,0089,0293,0306,0337,0377,0378,0419,0436,0438,0440,0130,014

| | |
|---|---|
| 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 | 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 | X |
| 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:
13-SEP-2017



Secondary Reviewer:
13-SEP-2017



CHECKLIST1 - Modified 03/05/2008
Generated: SEP-13-2017 12:34:39

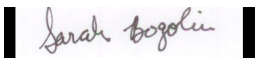
# Microbac Laboratories Inc.

## Data Checklist

Date: 13-SEP-2017
Analyst: SCB
Analyst: NA
Method: 8270/625
Instrument: HPMS19
Curve Workgroup: NA
Runlog ID: 84598
Analytical Workgroups: L17081498, L17090356, L1709350

| | |
|---|---|
| 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 | 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 | 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:
14-SEP-2017



Secondary Reviewer:
14-SEP-2017



CHECKLIST1 - Modified 03/05/2008
Generated: SEP-14-2017 16:26:59

Microbac Laboratories Inc.

# HOLDING TIMES
# EQUIVALENT TO AFCEE FORM 9

**Analytical Method:** 8270D **AAB#:** WG627873

**Login Number:** L17081498

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW07-082517 | 01 | 08/25/17 | | | | | 08/30/2017 | 5.1 | 7 | | 08/31/17 | 1 | 40 | |
| MW06-082517 | 03 | 08/25/17 | | | | | 08/30/2017 | 4.9 | 7 | | 08/31/17 | 1 | 40 | |
| MW06-082517-MS | 05 | 08/25/17 | | | | | 08/30/2017 | 4.9 | 7 | | 08/31/17 | 1.1 | 40 | |
| MW06-082517-MSD | 06 | 08/25/17 | | | | | 08/30/2017 | 4.9 | 7 | | 08/31/17 | 1.1 | 40 | |
| MW10-082517 | 07 | 08/25/17 | | | | | 08/30/2017 | 5.1 | 7 | | 08/31/17 | 1.1 | 40 | |
| MW20-082517 | 09 | 08/25/17 | | | | | 08/30/2017 | 4.9 | 7 | | 08/31/17 | 1.1 | 40 | |

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5460098
Report generated 09/18/2017 08:41

Microbac Laboratories Inc.

# HOLDING TIMES
# EQUIVALENT TO AFCEE FORM 9

**Analytical Method:** 8270D **AAB#:** WG628781

**Login Number:** L17081498

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW07-082517 | 01 | 08/25/17 | | | | | 09/06/2017 | 12.2 | 7 | * | 09/13/17 | 7 | 40 | |
| MW06-082517 | 03 | 08/25/17 | | | | | 09/06/2017 | 12 | 7 | * | 09/13/17 | 7.1 | 40 | |
| MW06-082517-MS | 05 | 08/25/17 | | | | | 09/06/2017 | 12 | 7 | * | 09/13/17 | 7.1 | 40 | |
| MW06-082517-MSD | 06 | 08/25/17 | | | | | 09/06/2017 | 12 | 7 | * | 09/13/17 | 7.1 | 40 | |
| MW10-082517 | 07 | 08/25/17 | | | | | 09/06/2017 | 12.2 | 7 | * | 09/13/17 | 7.1 | 40 | |
| MW20-082517 | 09 | 08/25/17 | | | | | 09/06/2017 | 12 | 7 | * | 09/13/17 | 7.1 | 40 | |

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5460098
Report generated 09/18/2017 08:41

Login Number: L17081498
Instrument Id: HPMS12
Workgroup (AAB#): WG627873

Method: 8270
CAL ID: HPMS12-03-AUG-17
Matrix: Water

| Sample Number | Dilution | Tag | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|
| L17081498-01 | 1.00 | 01 | 114 | 89.0 | 49.0 | 76.8 | 90.0 | 33.6 |
| L17081498-03 | 1.00 | 01 | 116 | 93.1 | 49.1 | 91.6 | 97.7 | 34.7 |
| L17081498-05 | 1.00 | 01 | 117 | 94.9 | 48.6 | 90.9 | 92.1 | 34.7 |
| L17081498-06 | 1.00 | 01 | 123 | 102 | 53.3 | 89.3 | 91.6 | 35.7 |
| L17081498-07 | 1.00 | 01 | 109 | 85.8 | 46.1 | 73.3 | 90.6 | 30.5 |
| L17081498-09 | 1.00 | 01 | 114 | 97.1 | 51.9 | 84.4 | 94.5 | 32.7 |
| WG627757-01 | 1.00 | 01 | 109 | 77.9 | 43.6 | 79.0 | 115 | 31.7 |
| WG627757-02 | 1.00 | 01 | 123 | 94.9 | 42.8 | 87.0 | 115 | 32.8 |

| 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: 5460108
Report generated: 09/18/2017 08:44

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L17081498
Instrument Id: HPMS19
Workgroup (AAB#): WG628781

Method: 8270
CAL ID: HPMS19-15-AUG-17
Matrix: Water

| Sample Number | Dilution | Tag | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|
| L17081498-01 | 1.00 | RE | 81.6 | 57.4 | 33.2 | 58.7 | 91.7 | 23.5 |
| L17081498-03 | 1.00 | RE | 89.2 | 67.0 | 37.1 | 70.6 | 93.5 | 25.5 |
| L17081498-05 | 1.00 | RE | 101 | 67.7 | 33.5 | 62.5 | 95.4 | 23.8 |
| L17081498-06 | 1.00 | RE | 106 | 69.0 | 37.1 | 65.7 | 90.9 | 26.1 |
| L17081498-07 | 1.00 | RE | 71.3 | 57.8 | 33.0 | 59.3 | 83.0 | 21.7 |
| L17081498-09 | 1.00 | RE | 67.7 | 67.3 | 37.2 | 67.4 | 86.5 | 24.5 |
| WG628510-01 | 1.00 | 01 | 69.1 | 57.2 | 35.4 | 60.3 | 101 | 24.6 |
| WG628510-02 | 1.00 | 01 | 93.8 | 63.0 | 34.1 | 60.9 | 105 | 23.9 |
| WG628510-03 | 1.00 | 01 | 103 | 62.5 | 33.5 | 60.6 | 109 | 23.8 |

| 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: 5460108
Report generated: 09/18/2017 08:44

Microbac Laboratories Inc.

## METHOD BLANK SUMMARY

Login Number: L17081498
Work Group: WG627873
Blank File ID: 12M64166
Blank Sample ID: WG627757-01
Prep Date: 08/30/17 12:10
Instrument ID: HPMS12
Analyzed Date: 08/31/17 10:11
Method: 8270D
Analyst: SCB

This Method Blank Applies To The Following Samples:

| Client ID | Lab Sample ID | Lab File ID | Time Analyzed | TAG |
|---|---|---|---|---|
| LCS | WG627757-02 | 12M64167 | 08/31/17 10:44 | 01 |
| MW07-082517 | L17081498-01 | 12M64170 | 08/31/17 12:22 | 01 |
| MW06-082517 | L17081498-03 | 12M64171 | 08/31/17 12:54 | 01 |
| MW06-082517-MS | L17081498-05 | 12M64172 | 08/31/17 13:27 | 01 |
| MW06-082517-MSD | L17081498-06 | 12M64173 | 08/31/17 14:01 | 01 |
| MW10-082517 | L17081498-07 | 12M64174 | 08/31/17 14:31 | 01 |
| MW20-082517 | L17081498-09 | 12M64175 | 08/31/17 15:04 | 01 |

Report Name: BLANK_SUMMARY
PDF File ID: 5460099
Report generated 09/18/2017 08:41

Microbac Laboratories Inc.

## METHOD BLANK SUMMARY

Login Number: L17081498
Blank File ID: 19M000503
Prep Date: 09/06/17 15:00
Analyzed Date: 09/12/17 16:50
Analyst: MES

Work Group: WG628781
Blank Sample ID: WG628510-01
Instrument ID: HPMS19
Method: 8270D

This Method Blank Applies To The Following Samples:

| Client ID | Lab Sample ID | Lab File ID | Time Analyzed | TAG |
|---|---|---|---|---|
| LCS | WG628510-02 | 19M000504 | 09/12/17 17:21 | 01 |
| LCS2 | WG628510-03 | 19M000505 | 09/12/17 17:51 | 01 |
| MW07-082517 | L17081498-01 | 19M000544 | 09/13/17 15:58 | RE |
| MW06-082517 | L17081498-03 | 19M000545 | 09/13/17 16:28 | RE |
| MW06-082517-MS | L17081498-05 | 19M000546 | 09/13/17 16:58 | RE |
| MW06-082517-MSD | L17081498-06 | 19M000547 | 09/13/17 17:28 | RE |
| MW10-082517 | L17081498-07 | 19M000548 | 09/13/17 17:59 | RE |
| MW20-082517 | L17081498-09 | 19M000549 | 09/13/17 18:29 | RE |

Report Name: BLANK_SUMMARY
PDF File ID: 5460099
Report generated 09/18/2017 08:41

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L17081498 Prep Date:08/30/17 12:10 Sample ID:WG627757-01
Instrument ID:HPMS12 Run Date:08/31/17 10:11 Prep Method:3510C
File ID:12M64166 Analyst:SCB Method:8270D
Workgroup (AAB#):WG627873 Matrix:Water Units:ug/L
Contract #: Cal ID:HPMS12-03-AUG-17

| Analytes | MDL | RL | Concentration | Dilution | Qualifier |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | 25.0 | 200 | 25.0 | 1 | U |
| 1,3,5-Trinitrobenzene | 25.0 | 50.0 | 25.0 | 1 | U |
| 1,3-Dinitrobenzene | 25.0 | 50.0 | 25.0 | 1 | U |
| 1,4-Dioxane | 50.0 | 100 | 50.0 | 1 | U |
| 2,4,5-Trichlorophenol | 25.0 | 50.0 | 25.0 | 1 | U |
| 2,4,6-Trichlorophenol | 25.0 | 50.0 | 25.0 | 1 | U |
| 2,4-Dichlorophenol | 25.0 | 50.0 | 25.0 | 1 | U |
| 2,4-Dimethylphenol | 25.0 | 50.0 | 25.0 | 1 | U |
| 2,4-Dinitrophenol | 125 | 250 | 125 | 1 | U |
| 2,4-Dinitrotoluene | 25.0 | 50.0 | 25.0 | 1 | U |
| 2,6-Dinitrotoluene | 25.0 | 50.0 | 25.0 | 1 | U |
| 2-Chloronaphthalene | 25.0 | 50.0 | 25.0 | 1 | U |
| 2-Chlorophenol | 25.0 | 50.0 | 25.0 | 1 | U |
| 2-Methylnaphthalene | 25.0 | 50.0 | 25.0 | 1 | U |
| 2-Methylphenol | 25.0 | 50.0 | 25.0 | 1 | U |
| 2-Nitroaniline | 125 | 250 | 125 | 1 | U |
| 2-Nitrophenol | 25.0 | 50.0 | 25.0 | 1 | U |
| 3-Nitroaniline | 125 | 250 | 125 | 1 | U |
| 3,3'-Dichlorobenzidine | 25.0 | 50.0 | 25.0 | 1 | U |
| 3-,4-Methylphenol | 25.0 | 50.0 | 25.0 | 1 | U |
| 4-Bromophenyl-phenylether | 25.0 | 50.0 | 25.0 | 1 | U |
| 4-Chloroaniline | 25.0 | 50.0 | 25.0 | 1 | U |
| 4-Nitrophenol | 125 | 250 | 125 | 1 | U |
| Acenaphthene | 25.0 | 50.0 | 25.0 | 1 | U |
| Acenaphthylene | 25.0 | 50.0 | 25.0 | 1 | U |
| Anthracene | 25.0 | 50.0 | 25.0 | 1 | U |
| Benzo(a)anthracene | 25.0 | 50.0 | 25.0 | 1 | U |
| Benzo(a)pyrene | 25.0 | 50.0 | 25.0 | 1 | U |
| Benzo(b)fluoranthene | 25.0 | 50.0 | 25.0 | 1 | U |
| Benzo(g,h,i)Perylene | 25.0 | 50.0 | 25.0 | 1 | U |
| Benzo(k)fluoranthene | 25.0 | 50.0 | 25.0 | 1 | U |
| Benzoic acid | 100 | 200 | 100 | 1 | U |
| Benzyl alcohol | 25.0 | 50.0 | 25.0 | 1 | U |
| Bis(2-Chloroethyl)ether | 25.0 | 50.0 | 25.0 | 1 | U |
| Bis(2-Chloroethoxy)Methane | 25.0 | 50.0 | 25.0 | 1 | U |
| bis(2-Ethylhexyl)phthalate | 25.0 | 50.0 | 25.0 | 1 | U |
| Butylbenzylphthalate | 25.0 | 50.0 | 25.0 | 1 | U |
| Carbazole | 25.0 | 200 | 25.0 | 1 | U |
| Chrysene | 25.0 | 50.0 | 25.0 | 1 | U |
| Di-N-Butylphthalate | 25.0 | 50.0 | 25.0 | 1 | U |
| Di-n-octylphthalate | 25.0 | 50.0 | 25.0 | 1 | U |
| Dibenzo(a,h)Anthracene | 25.0 | 50.0 | 25.0 | 1 | U |

Report Name:BLANK
PDF ID: 5460100
18-SEP-2017 08:41

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L17081498 Prep Date: 08/30/17 12:10 Sample ID: WG627757-01
Instrument ID: HPMS12 Run Date: 08/31/17 10:11 Prep Method: 3510C
File ID: 12M64166 Analyst: SCB Method: 8270D
Workgroup (AAB#): WG627873 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS12-03-AUG-17

| Analytes | MDL | RL | Concentration | Dilution | Qualifier |
|---|---|---|---|---|---|
| Dibenzofuran | 25.0 | 50.0 | 25.0 | 1 | U |
| Diethylphthalate | 25.0 | 50.0 | 25.0 | 1 | U |
| Dimethylphthalate | 25.0 | 50.0 | 25.0 | 1 | U |
| Fluoranthene | 25.0 | 50.0 | 25.0 | 1 | U |
| Fluorene | 25.0 | 50.0 | 25.0 | 1 | U |
| Hexachlorobenzene | 25.0 | 50.0 | 25.0 | 1 | U |
| Hexachlorobutadiene | 25.0 | 50.0 | 25.0 | 1 | U |
| Hexachlorocyclopentadiene | 25.0 | 50.0 | 25.0 | 1 | U |
| Hexachloroethane | 25.0 | 50.0 | 25.0 | 1 | U |
| Indeno(1,2,3-cd)pyrene | 25.0 | 50.0 | 25.0 | 1 | U |
| Isophorone | 25.0 | 50.0 | 25.0 | 1 | U |
| Diphenylamine/n-Nitrosodiphenylamine | 25.0 | 50.0 | 25.0 | 1 | U |
| Naphthalene | 25.0 | 50.0 | 25.0 | 1 | U |
| Nitrobenzene | 25.0 | 50.0 | 25.0 | 1 | U |
| Pentachlorophenol | 125 | 250 | 125 | 1 | U |
| Phenanthrene | 25.0 | 50.0 | 25.0 | 1 | U |
| Phenol | 25.0 | 50.0 | 25.0 | 1 | U |
| Pyrene | 25.0 | 50.0 | 25.0 | 1 | U |

| Surrogates | % Recovery | Surrogate Limits | | | Qualifier |
|---|---|---|---|---|---|
| 2,4,6-Tribromophenol | 109 | 10 | - | 123 | PASS |
| 2-Fluorobiphenyl | 77.9 | 43 | - | 116 | PASS |
| 2-Fluorophenol | 43.6 | 21 | - | 100 | PASS |
| Nitrobenzene-d5 | 79.0 | 35 | - | 114 | PASS |
| p-Terphenyl-d14 | 115 | 33 | - | 141 | PASS |
| Phenol-d5 | 31.7 | 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: 5460100
18-SEP-2017 08:41

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L17081498 Prep Date:09/06/17 15:00 Sample ID:WG628510-01
Instrument ID:HPMS19 Run Date:09/12/17 16:50 Prep Method:3510C
File ID:19M000503 Analyst:MES Method:8270D
Workgroup (AAB#):WG628781 Matrix:Water Units:ug/L
Contract #: Cal ID:HPMS19-15-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: 5460100
18-SEP-2017 08:41

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L17081498 Prep Date: 09/06/17 15:00 Sample ID: WG628510-01
Instrument ID: HPMS19 Run Date: 09/12/17 16:50 Prep Method: 3510C
File ID: 19M000503 Analyst: MES Method: 8270D
Workgroup (AAB#): WG628781 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS19-15-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 | 69.1 | 10 - 123 | PASS |
| 2-Fluorobiphenyl | 57.2 | 43 - 116 | PASS |
| 2-Fluorophenol | 35.4 | 21 - 100 | PASS |
| Nitrobenzene-d5 | 60.3 | 35 - 114 | PASS |
| p-Terphenyl-d14 | 101 | 33 - 141 | PASS |
| Phenol-d5 | 24.6 | 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: 5460100
18-SEP-2017 08:41

Login Number: L17081498 Run Date: 08/31/2017 Sample ID: WG627757-02
Instrument ID: HPMS12 Run Time: 10:44 Prep Method: 3510C
File ID: 12M64167 Analyst: SCB Method: 8270D
Workgroup (AAB#): WG627873 Matrix: Water Units: ug/L
QC Key: WATERLOO Lot#: STD82689 Cal ID: HPMS12-03-AUG-17

| Analytes | Expected | Found | % Rec | LCS Limits | Q |
|---|---|---|---|---|---|
| 1,4-Dioxane | 500 | 159 | 31.7 | 50 - 150 | * |
| 2,4,5-Trichlorophenol | 500 | 512 | 102 | 35 - 120 | |
| 2,4,6-Trichlorophenol | 500 | 504 | 101 | 30 - 120 | |
| 2,4-Dichlorophenol | 500 | 438 | 87.7 | 20 - 110 | |
| 2,4-Dimethylphenol | 500 | 441 | 88.2 | 20 - 120 | |
| 2,4-Dinitrophenol | 500 | 455 | 91.0 | 20 - 140 | |
| 2,4-Dinitrotoluene | 500 | 513 | 103 | 50 - 139 | |
| 2,6-Dinitrotoluene | 500 | 519 | 104 | 50 - 120 | |
| 2-Chloronaphthalene | 500 | 375 | 75.0 | 25 - 120 | |
| 2-Chlorophenol | 500 | 316 | 63.1 | 25 - 110 | |
| 2-Methylnaphthalene | 500 | 326 | 65.1 | 25 - 120 | |
| 2-Methylphenol | 500 | 364 | 72.9 | 20 - 110 | |
| 2-Nitroaniline | 500 | 554 | 111 | 45 - 115 | |
| 2-Nitrophenol | 500 | 384 | 76.9 | 20 - 115 | |
| 3-Nitroaniline | 500 | 477 | 95.4 | 40 - 120 | |
| 3,3'-Dichlorobenzidine | 500 | 609 | 122 | 30 - 140 | |
| 3-,4-Methylphenol | 500 | 346 | 69.2 | 20 - 110 | |
| 4-Bromophenyl-phenylether | 500 | 459 | 91.7 | 40 - 115 | |
| 4-Chloroaniline | 500 | 444 | 88.7 | 25 - 120 | |
| 4-Nitrophenol | 500 | 261 | 52.3 | 10 - 132 | |
| Acenaphthene | 500 | 472 | 94.4 | 30 - 120 | |
| Acenaphthylene | 500 | 466 | 93.2 | 30 - 120 | |
| Anthracene | 500 | 487 | 97.5 | 55 - 130 | |
| Benzo(a)anthracene | 500 | 544 | 109 | 60 - 130 | |
| Benzo(a)pyrene | 500 | 531 | 106 | 55 - 135 | |
| Benzo(b)fluoranthene | 500 | 475 | 95.0 | 45 - 125 | |
| Benzo(g,h,i)Perylene | 500 | 595 | 119 | 45 - 140 | |
| Benzo(k)fluoranthene | 500 | 533 | 107 | 55 - 140 | |
| Benzoic acid | 500 | 272 | 54.5 | 10 - 100 | |
| Benzyl alcohol | 500 | 400 | 80.0 | 20 - 110 | |
| Bis(2-Chloroethyl)ether | 500 | 366 | 73.2 | 25 - 110 | |
| Bis(2-Chloroethoxy)Methane | 500 | 334 | 66.9 | 20 - 105 | |
| bis(2-Ethylhexyl)phthalate | 500 | 544 | 109 | 50 - 150 | |
| Butylbenzylphthalate | 500 | 512 | 102 | 55 - 150 | |
| Carbazole | 500 | 532 | 106 | 50 - 130 | |
| Chrysene | 500 | 580 | 116 | 55 - 130 | |
| Di-N-Butylphthalate | 500 | 480 | 95.9 | 55 - 118 | |
| Di-n-octylphthalate | 500 | 499 | 99.9 | 40 - 146 | |
| Dibenzo(a,h)Anthracene | 500 | 329 | 65.7 | 45 - 125 | |
| Dibenzofuran | 500 | 441 | 88.3 | 35 - 115 | |
| Diethylphthalate | 500 | 514 | 103 | 45 - 120 | |

LCS - Modified 03/06/2008
PDF File ID: 5460101
Report generated: 09/18/2017 08:41

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17081498 Run Date: 08/31/2017 Sample ID: WG627757-02
Instrument ID: HPMS12 Run Time: 10:44 Prep Method: 3510C
File ID: 12M64167 Analyst: SCB Method: 8270D
Workgroup (AAB#): WG627873 Matrix: Water Units: ug/L
QC Key: WATERLOO Lot#: STD82689 Cal ID: HPMS12-03-AUG-17

| Analytes | Expected | Found | % Rec | LCS Limits | Q |
|---|---|---|---|---|---|
| Dimethylphthalate | 500 | 516 | 103 | 25 - 112 | |
| Fluoranthene | 500 | 512 | 102 | 50 - 137 | |
| Fluorene | 500 | 484 | 96.9 | 40 - 120 | |
| Hexachlorobenzene | 500 | 574 | 115 | 50 - 130 | |
| Hexachlorobutadiene | 500 | 275 | 55.0 | 24 - 105 | |
| Hexachlorocyclopentadiene | 500 | 247 | 49.4 | 20 - 143 | |
| Hexachloroethane | 500 | 203 | 40.7 | 25 - 95 | |
| Indeno(1,2,3-cd)pyrene | 500 | 522 | 104 | 50 - 135 | |
| Isophorone | 500 | 488 | 97.5 | 30 - 110 | |
| Diphenylamine/n-Nitrosodiphenylamine | 500 | 507 | 101 | 40 - 110 | |
| Naphthalene | 500 | 305 | 61.1 | 25 - 110 | |
| Nitrobenzene | 500 | 384 | 76.8 | 30 - 110 | |
| Pentachlorophenol | 500 | 618 | 124 | 40 - 140 | |
| Phenanthrene | 500 | 501 | 100 | 55 - 120 | |
| Phenol | 500 | 167 | 33.3 | 10 - 120 | |
| Pyrene | 500 | 514 | 103 | 55 - 130 | |

| Surrogates | % Recovery | Surrogate Limits | Qualifier |
|---|---|---|---|
| 2,4,6-Tribromophenol | 123 | 10 - 123 | PASS |
| 2-Fluorobiphenyl | 94.9 | 43 - 116 | PASS |
| 2-Fluorophenol | 42.8 | 21 - 100 | PASS |
| Nitrobenzene-d5 | 87.0 | 35 - 114 | PASS |
| p-Terphenyl-d14 | 115 | 33 - 141 | PASS |
| Phenol-d5 | 32.8 | 10 - 94 | PASS |

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 5460101
Report generated: 09/18/2017 08:41

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17081498 Analyst: MES Prep Method: 3510C
Instrument ID: HPMS19 Matrix: Water Method: 8270D
Workgroup (AAB#): WG628781 Units: ug/L
QC Key: WATERLOO Lot #: STD82691

Sample ID: WG628510-02 LCS File ID: 19M000504 Run Date: 09/12/2017 17:21
Sample ID: WG628510-03 LCS2 File ID: 19M000505 Run Date: 09/12/2017 17:51

| Analytes | LCS | | | LCS2 | | | %RPD | %Rec Limits | RPD Lmt | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| | Known | Found | % REC | Known | Found | % REC | | | | |
| 1,1'-Biphenyl | 50.0 | 31.0 | 62.1 | 50.0 | 31.2 | 62.4 | 0.578 | 40 - 140 | 30 | |
| 1,4-Dioxane | 50.0 | 13.4 | 26.9 | 50.0 | 12.9 | 25.8 | 4.02 | 50 - 150 | 30 | * |
| 2,4,5-Trichlorophenol | 50.0 | 34.8 | 69.5 | 50.0 | 36.7 | 73.3 | 5.32 | 35 - 120 | 30 | |
| 2,4,6-Trichlorophenol | 50.0 | 32.3 | 64.5 | 50.0 | 32.6 | 65.3 | 1.20 | 30 - 120 | 30 | |
| 2,4-Dichlorophenol | 50.0 | 31.7 | 63.4 | 50.0 | 31.6 | 63.2 | 0.347 | 20 - 110 | 30 | |
| 2,4-Dimethylphenol | 50.0 | 35.0 | 70.1 | 50.0 | 32.9 | 65.8 | 6.33 | 20 - 120 | 30 | |
| 2,4-Dinitrophenol | 50.0 | 35.3 | 70.7 | 50.0 | 24.4 | 48.8 | 36.7 | 20 - 140 | 30 | # |
| 2,4-Dinitrotoluene | 50.0 | 46.2 | 92.3 | 50.0 | 50.1 | 100 | 8.25 | 50 - 139 | 30 | |
| 2,6-Dinitrotoluene | 50.0 | 38.5 | 77.0 | 50.0 | 43.6 | 87.1 | 12.4 | 50 - 120 | 30 | |
| 2-Chloronaphthalene | 50.0 | 26.4 | 52.8 | 50.0 | 27.3 | 54.7 | 3.54 | 25 - 120 | 30 | |
| 2-Chlorophenol | 50.0 | 26.4 | 52.9 | 50.0 | 26.5 | 52.9 | 0.0756 | 25 - 110 | 30 | |
| 2-Methylnaphthalene | 50.0 | 25.7 | 51.5 | 50.0 | 26.9 | 53.8 | 4.44 | 25 - 120 | 30 | |
| 2-Methylphenol | 50.0 | 26.2 | 52.4 | 50.0 | 26.2 | 52.3 | 0.191 | 20 - 110 | 30 | |
| 2-Nitroaniline | 50.0 | 36.7 | 73.3 | 50.0 | 41.0 | 81.9 | 11.1 | 45 - 115 | 30 | |
| 2-Nitrophenol | 50.0 | 30.0 | 60.0 | 50.0 | 30.0 | 59.9 | 0.100 | 20 - 115 | 30 | |
| 3,3'-Dichlorobenzidine | 50.0 | 51.4 | 103 | 50.0 | 55.4 | 111 | 7.58 | 30 - 140 | 30 | |
| 3-,4-Methylphenol | 50.0 | 23.9 | 47.8 | 50.0 | 24.1 | 48.3 | 1.00 | 20 - 110 | 30 | |
| 3-Nitroaniline | 50.0 | 40.3 | 80.6 | 50.0 | 44.5 | 89.1 | 9.97 | 40 - 120 | 30 | |
| 4-Bromophenyl-phenylether | 50.0 | 35.1 | 70.1 | 50.0 | 40.3 | 80.5 | 13.8 | 40 - 115 | 30 | |
| 4-Chloroaniline | 50.0 | 28.9 | 57.7 | 50.0 | 28.5 | 57.0 | 1.25 | 25 - 120 | 30 | |
| 4-Nitrophenol | 50.0 | 21.5 | 43.1 | 50.0 | 22.7 | 45.4 | 5.16 | 10 - 132 | 30 | |
| Acenaphthene | 50.0 | 33.0 | 66.0 | 50.0 | 33.7 | 67.4 | 2.01 | 30 - 120 | 30 | |
| Acenaphthylene | 50.0 | 31.5 | 63.1 | 50.0 | 32.4 | 64.8 | 2.72 | 30 - 120 | 30 | |
| Anthracene | 50.0 | 42.3 | 84.6 | 50.0 | 46.5 | 93.0 | 9.44 | 55 - 130 | 30 | |
| Benzoic acid | 50.0 | 11.7 | 23.4 | 50.0 | 10.7 | 21.4 | 9.01 | 10 - 100 | 30 | |
| Benzo(a)anthracene | 50.0 | 47.8 | 95.5 | 50.0 | 50.2 | 100 | 5.06 | 60 - 130 | 30 | |
| Benzo(a)pyrene | 50.0 | 49.4 | 98.8 | 50.0 | 51.3 | 103 | 3.85 | 55 - 135 | 30 | |
| Benzo(b)fluoranthene | 50.0 | 51.0 | 102 | 50.0 | 49.7 | 99.4 | 2.68 | 45 - 125 | 30 | |
| Benzo(g,h,i)Perylene | 50.0 | 52.7 | 105 | 50.0 | 54.7 | 109 | 3.78 | 45 - 140 | 30 | |
| Benzo(k)fluoranthene | 50.0 | 47.7 | 95.3 | 50.0 | 48.5 | 96.9 | 1.66 | 55 - 140 | 30 | |
| Benzyl alcohol | 50.0 | 26.8 | 53.5 | 50.0 | 26.4 | 52.9 | 1.20 | 20 - 110 | 30 | |
| Bis(2-Chloroethoxy)Methane | 50.0 | 24.5 | 49.1 | 50.0 | 24.6 | 49.2 | 0.244 | 20 - 105 | 30 | |
| Bis(2-Chloroethyl)ether | 50.0 | 26.1 | 52.3 | 50.0 | 26.7 | 53.3 | 1.97 | 25 - 110 | 30 | |
| bis(2-Ethylhexyl)phthalate | 50.0 | 51.8 | 104 | 50.0 | 54.3 | 109 | 4.86 | 50 - 150 | 30 | |
| Butylbenzylphthalate | 50.0 | 53.0 | 106 | 50.0 | 55.5 | 111 | 4.63 | 55 - 150 | 30 | |
| Carbazole | 50.0 | 49.7 | 99.4 | 50.0 | 51.9 | 104 | 4.25 | 50 - 130 | 30 | |
| Chrysene | 50.0 | 49.8 | 99.5 | 50.0 | 51.7 | 103 | 3.75 | 55 - 130 | 30 | |
| Di-N-Butylphthalate | 50.0 | 47.3 | 94.6 | 50.0 | 49.5 | 99.0 | 4.63 | 55 - 118 | 30 | |
| Di-n-octylphthalate | 50.0 | 53.6 | 107 | 50.0 | 55.6 | 111 | 3.61 | 40 - 146 | 30 | |
| Dibenzofuran | 50.0 | 31.7 | 63.5 | 50.0 | 34.2 | 68.4 | 7.49 | 35 - 115 | 30 | |

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5478106
Report generated: 09/18/2017 08:41

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17081498 Analyst: MES Prep Method: 3510C
Instrument ID: HPMS19 Matrix: Water Method: 8270D
Workgroup (AAB#): WG628781 Units: ug/L
QC Key: WATERLOO Lot #: STD82691

Sample ID: WG628510-02 LCS File ID: 19M000504 Run Date: 09/12/2017 17:21
Sample ID: WG628510-03 LCS2 File ID: 19M000505 Run Date: 09/12/2017 17:51

| Analytes | LCS | | | LCS2 | | | %RPD | %Rec Limits | RPD Lmt | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| | Known | Found | % REC | Known | Found | % REC | | | | |
| Dibenzo(a,h)Anthracene | 50.0 | 40.9 | 81.7 | 50.0 | 42.4 | 84.7 | 3.65 | 45 - 125 | 30 | |
| Diethylphthalate | 50.0 | 39.0 | 78.0 | 50.0 | 43.5 | 87.0 | 11.0 | 45 - 120 | 30 | |
| Dimethylphthalate | 50.0 | 35.1 | 70.3 | 50.0 | 40.4 | 80.7 | 13.9 | 25 - 112 | 30 | |
| Fluoranthene | 50.0 | 47.4 | 94.8 | 50.0 | 49.3 | 98.5 | 3.83 | 50 - 137 | 30 | |
| Fluorene | 50.0 | 34.8 | 69.6 | 50.0 | 38.8 | 77.7 | 11.0 | 40 - 120 | 30 | |
| Hexachlorobenzene | 50.0 | 39.3 | 78.5 | 50.0 | 43.7 | 87.4 | 10.7 | 50 - 130 | 30 | |
| Hexachlorobutadiene | 50.0 | 19.8 | 39.7 | 50.0 | 22.2 | 44.3 | 11.1 | 24 - 105 | 30 | |
| Hexachlorocyclopentadiene | 50.0 | 18.6 | 37.2 | 50.0 | 20.4 | 40.8 | 9.27 | 20 - 143 | 30 | |
| Hexachloroethane | 50.0 | 16.7 | 33.4 | 50.0 | 19.0 | 38.0 | 13.0 | 25 - 95 | 30 | |
| Indeno(1,2,3-cd)pyrene | 50.0 | 48.2 | 96.4 | 50.0 | 50.1 | 100 | 3.89 | 50 - 135 | 30 | |
| Isophorone | 50.0 | 30.4 | 60.8 | 50.0 | 30.1 | 60.3 | 0.892 | 30 - 110 | 30 | |
| Diphenylamine/n-Nitrosodiphenylamine | 50.0 | 38.6 | 77.1 | 50.0 | 43.5 | 87.0 | 12.1 | 40 - 110 | 30 | |
| Naphthalene | 50.0 | 25.1 | 50.2 | 50.0 | 26.2 | 52.4 | 4.29 | 25 - 110 | 30 | |
| Nitrobenzene | 50.0 | 26.5 | 53.0 | 50.0 | 26.3 | 52.5 | 0.910 | 30 - 110 | 30 | |
| Pentachlorophenol | 50.0 | 55.8 | 112 | 50.0 | 46.8 | 93.6 | 17.5 | 40 - 140 | 30 | |
| Phenanthrene | 50.0 | 42.9 | 85.8 | 50.0 | 46.8 | 93.6 | 8.72 | 55 - 120 | 30 | |
| Phenol | 50.0 | 11.8 | 23.6 | 50.0 | 12.0 | 23.9 | 1.43 | 10 - 120 | 30 | |
| Pyrene | 50.0 | 47.7 | 95.5 | 50.0 | 50.5 | 101 | 5.72 | 55 - 130 | 30 | |

| Surogates | LCS | LCS2 | Surrogate Limits | Qualifier |
|---|---|---|---|---|
| | % Recovery | % Recovery | | |
| 2,4,6-Tribromophenol | 93.8 | 103 | 10 - 123 | PASS |
| 2-Fluorobiphenyl | 63.0 | 62.5 | 43 - 116 | PASS |
| 2-Fluorophenol | 34.1 | 33.5 | 21 - 100 | PASS |
| Nitrobenzene-d5 | 60.9 | 60.6 | 35 - 114 | PASS |
| p-Terphenyl-d14 | 105 | 109 | 33 - 141 | PASS |
| Phenol-d5 | 23.9 | 23.8 | 10 - 94 | PASS |

* EXCEEDS %REC LIMIT

# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5478106
Report generated: 09/18/2017 08:41

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum:L17081498 Cal ID:HPMS12- 03-AUG-17 Worknum:WG627873

Instrument ID:HPMS12 Contract #: Prep Method:3510C

Parent ID:L17081498-03 File ID:12M64171 Dil:1 Method:8270D

Sample ID:L17081498-05 MS File ID:12M64172 Dil:1 Matrix:Water

Sample ID:L17081498-06 MSD File ID:12M64173 Dil:1 Units:ug/L

| Analyte | Parent | MS Spiked | MS Found | MS %Rec | MSD Spiked | MSD Found | MSD %Rec | %RPD | %Rec Limits | RPD Limit | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dioxane | U | 53.2 | 19.2 | 36.1 | 54.9 | 24.1 | 43.9 | 22.7 | 50 - 150 | 30 | * |
| 2,4,5-Trichlorophenol | U | 53.2 | 53.8 | 101 | 54.9 | 57.9 | 105 | 7.30 | 35 - 120 | 30 | |
| 2,4,6-Trichlorophenol | U | 53.2 | 52.6 | 98.8 | 54.9 | 57.1 | 104 | 8.36 | 30 - 120 | 30 | |
| 2,4-Dichlorophenol | U | 53.2 | 48.5 | 91.1 | 54.9 | 55.8 | 102 | 14.1 | 20 - 110 | 30 | |
| 2,4-Dimethylphenol | U | 53.2 | 49.6 | 93.3 | 54.9 | 53.7 | 97.8 | 7.99 | 20 - 120 | 30 | |
| 2,4-Dinitrophenol | U | 53.2 | 27.9 | 52.5 | 54.9 | 30.2 | 54.9 | 7.63 | 20 - 140 | 30 | |
| 2,4-Dinitrotoluene | U | 53.2 | 54.5 | 102 | 54.9 | 57.0 | 104 | 4.56 | 50 - 139 | 30 | |
| 2,6-Dinitrotoluene | U | 53.2 | 54.9 | 103 | 54.9 | 58.0 | 106 | 5.58 | 50 - 120 | 30 | |
| 2-Chloronaphthalene | U | 53.2 | 41.4 | 77.9 | 54.9 | 46.8 | 85.2 | 12.3 | 25 - 120 | 30 | |
| 2-Chlorophenol | U | 53.2 | 36.7 | 69.1 | 54.9 | 43.3 | 78.9 | 16.5 | 25 - 110 | 30 | |
| 2-Methylnaphthalene | U | 53.2 | 37.7 | 70.8 | 54.9 | 44.2 | 80.4 | 15.9 | 25 - 120 | 30 | |
| 2-Methylphenol | U | 53.2 | 40.7 | 76.5 | 54.9 | 42.7 | 77.7 | 4.90 | 20 - 110 | 30 | |
| 2-Nitroaniline | U | 53.2 | 59.9 | 113 | 54.9 | 51.5 | 93.7 | 15.2 | 45 - 115 | 30 | |
| 2-Nitrophenol | U | 53.2 | 43.0 | 80.9 | 54.9 | 51.4 | 93.6 | 17.8 | 20 - 115 | 30 | |
| 3-Nitroaniline | U | 53.2 | 51.0 | 95.9 | 54.9 | 54.2 | 98.6 | 6.03 | 40 - 120 | 30 | |
| 3,3'-Dichlorobenzidine | U | 53.2 | 60.8 | 114 | 54.9 | 67.0 | 122 | 9.63 | 30 - 140 | 30 | |
| 3-,4-Methylphenol | U | 53.2 | 38.3 | 72 | 54.9 | 39.6 | 72 | 3.28 | 20 - 110 | 30 | |
| 4-Bromophenyl-phenylether | U | 53.2 | 50.9 | 95.6 | 54.9 | 53.6 | 97.6 | 5.33 | 40 - 115 | 30 | |
| 4-Chloroaniline | U | 53.2 | 50.0 | 94.1 | 54.9 | 47.7 | 86.9 | 4.72 | 25 - 120 | 30 | |
| 4-Nitrophenol | U | 53.2 | 28.1 | 52.9 | 54.9 | 23.7 | 43.1 | 17.0 | 10 - 132 | 30 | |
| Acenaphthene | U | 53.2 | 48.8 | 91.8 | 54.9 | 51.7 | 94.2 | 5.85 | 30 - 120 | 30 | |
| Acenaphthylene | U | 53.2 | 50.4 | 94.7 | 54.9 | 53.1 | 96.6 | 5.19 | 30 - 120 | 30 | |
| Anthracene | U | 53.2 | 52.1 | 97.9 | 54.9 | 54.4 | 99.1 | 4.43 | 55 - 130 | 30 | |
| Benzo(a)anthracene | U | 53.2 | 57.0 | 107 | 54.9 | 60.5 | 110 | 5.96 | 60 - 130 | 30 | |
| Benzo(a)pyrene | U | 53.2 | 56.2 | 106 | 54.9 | 59.9 | 109 | 6.43 | 55 - 135 | 30 | |
| Benzo(b)fluoranthene | U | 53.2 | 50.2 | 94.4 | 54.9 | 54.2 | 98.7 | 7.73 | 45 - 125 | 30 | |
| Benzo(g,h,i)Perylene | U | 53.2 | 59.0 | 111 | 54.9 | 63.0 | 115 | 6.65 | 45 - 140 | 30 | |
| Benzo(k)fluoranthene | U | 53.2 | 57.3 | 108 | 54.9 | 59.9 | 109 | 4.44 | 55 - 140 | 30 | |
| Benzoic acid | U | 53.2 | 24.3 | 45.6 | 54.9 | 34.6 | 62.9 | 35.0 | 10 - 100 | 30 | # |
| Benzyl alcohol | U | 53.2 | 43.6 | 81.9 | 54.9 | 45.8 | 83.4 | 5.02 | 20 - 110 | 30 | |
| Bis(2-Chloroethyl)ether | U | 53.2 | 41.9 | 78.7 | 54.9 | 40.6 | 74 | 2.99 | 25 - 110 | 30 | |
| Bis(2-Chloroethoxy)Methane | U | 53.2 | 37.3 | 70.1 | 54.9 | 37.4 | 68.1 | 0.374 | 20 - 105 | 30 | |
| bis(2-Ethylhexyl)phthalate | U | 53.2 | 56.2 | 106 | 54.9 | 59.3 | 108 | 5.28 | 50 - 150 | 30 | |
| Butylbenzylphthalate | U | 53.2 | 53.4 | 100 | 54.9 | 61.2 | 111 | 13.6 | 55 - 150 | 30 | |
| Carbazole | U | 53.2 | 56.6 | 106 | 54.9 | 58.9 | 107 | 3.89 | 50 - 130 | 30 | |
| Chrysene | U | 53.2 | 60.7 | 114 | 54.9 | 64.8 | 118 | 6.56 | 55 - 130 | 30 | |
| Di-N-Butylphthalate | U | 53.2 | 53.5 | 101 | 54.9 | 54.6 | 99.3 | 2.03 | 55 - 118 | 30 | |
| Di-n-octylphthalate | U | 53.2 | 52.7 | 99.2 | 54.9 | 56.8 | 103 | 7.36 | 40 - 146 | 30 | |
| Dibenzo(a,h)Anthracene | U | 53.2 | 33.4 | 62.7 | 54.9 | 35.9 | 65.3 | 7.32 | 45 - 125 | 30 | |
| Dibenzofuran | U | 53.2 | 48.4 | 91 | 54.9 | 52.0 | 94.6 | 7.15 | 35 - 115 | 30 | |
| Diethylphthalate | U | 53.2 | 55.3 | 104 | 54.9 | 54.1 | 98.5 | 2.22 | 45 - 120 | 30 | |

MS_MSD - Modified 03/06/2008

PDF File ID: 5460102

Report generated 09/18/2017 08:41

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum:L17081498 Cal ID: HPMS12 03-AUG-17 Worknum:WG627873

Instrument ID:HPMS12 Contract #: Prep Method:3510C

Parent ID:L17081498-03 File ID:12M64171 Dil:1 Method:8270D

Sample ID:L17081498-05 MS File ID:12M64172 Dil:1 Matrix:Water

Sample ID:L17081498-06 MSD File ID:12M64173 Dil:1 Units:ug/L

| Analyte | Parent | MS Spiked | MS Found | MS %Rec | MSD Spiked | MSD Found | MSD %Rec | %RPD | %Rec Limits | RPD Limit | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dimethylphthalate | U | 53.2 | 53.4 | 100 | 54.9 | 55.5 | 101 | 3.81 | 25 - 112 | 30 | |
| Fluoranthene | U | 53.2 | 56.2 | 106 | 54.9 | 54.6 | 99.4 | 2.97 | 50 - 137 | 30 | |
| Fluorene | U | 53.2 | 52.0 | 97.9 | 54.9 | 54.4 | 99.1 | 4.48 | 40 - 120 | 30 | |
| Hexachlorobenzene | U | 53.2 | 61.3 | 115 | 54.9 | 64.2 | 117 | 4.60 | 50 - 130 | 30 | |
| Hexachlorobutadiene | U | 53.2 | 33.5 | 63 | 54.9 | 41.7 | 75.9 | 21.8 | 24 - 105 | 30 | |
| Hexachlorocyclopentadiene | U | 53.2 | 24.2 | 45.6 | 54.9 | 29.1 | 53 | 18.4 | 20 - 143 | 30 | |
| Hexachloroethane | U | 53.2 | 26.8 | 50.3 | 54.9 | 30.4 | 55.2 | 12.5 | 25 - 95 | 30 | |
| Indeno(1,2,3-cd)pyrene | U | 53.2 | 53.2 | 100 | 54.9 | 56.9 | 104 | 6.74 | 50 - 135 | 30 | |
| Isophorone | U | 53.2 | 55.1 | 104 | 54.9 | 51.8 | 94.3 | 6.26 | 30 - 110 | 30 | |
| Diphenylamine/n-Nitrosodiphenylamine | U | 53.2 | 51.6 | 97 | 54.9 | 58.7 | 107 | 13.0 | 40 - 110 | 30 | |
| Naphthalene | U | 53.2 | 34.1 | 64.2 | 54.9 | 41.2 | 75 | 18.8 | 25 - 110 | 30 | |
| Nitrobenzene | U | 53.2 | 43.2 | 81.2 | 54.9 | 43.5 | 79.2 | 0.742 | 30 - 110 | 30 | |
| Pentachlorophenol | U | 53.2 | 61.5 | 116 | 54.9 | 64.7 | 118 | 5.15 | 40 - 140 | 30 | |
| Phenanthrene | U | 53.2 | 54.0 | 101 | 54.9 | 56.8 | 103 | 5.03 | 55 - 120 | 30 | |
| Phenol | U | 53.2 | 19.2 | 36.2 | 54.9 | 20.3 | 36.9 | 5.12 | 10 - 120 | 30 | |
| Pyrene | U | 53.2 | 53.0 | 99.6 | 54.9 | 56.6 | 103 | 6.64 | 55 - 130 | 30 | |

* FAILS %REC LIMIT

# FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 5460102

Report generated 09/18/2017 08:41

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum:L17081498 Cal ID:HPMS19- 15-AUG-17 Worknum:WG628781

Instrument ID:HPMS19 Contract #: Prep Method:3510C

Parent ID:L17081498-03 File ID:19M000545 Dil:1 Method:8270D

Sample ID:L17081498-05 MS File ID:19M000546 Dil:1 Matrix:Water

Sample ID:L17081498-06 MSD File ID:19M000547 Dil:1 Units:ug/L

| Analyte | Parent | MS Spiked | MS Found | MS %Rec | MSD Spiked | MSD Found | MSD %Rec | %RPD | %Rec Limits | RPD Limit | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1'-Biphenyl | U | 54.9 | 36.7 | 66.8 | 53.8 | 36.6 | 68.1 | 0.187 | 40 - 140 | 30 | |

* FAILS %REC LIMIT

# FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 5460102

Report generated 09/18/2017 08:41

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081498
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: 5460105
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081498
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: 5460105
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081498
Instrument: HPMS12
Analyst: SCB
Workgroup: WG627960

Tune ID: WG627960-01
Run Date: 08/31/2017
Run Time: 09:21
File ID: 12M64164
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 | 44.4 | 36496 | PASS |
| 68.0 | 69.0 | 0 | 2.00 | 0 | 0 | PASS |
| 69.0 | 198 | 0 | 100 | 52.8 | 43341 | PASS |
| 70.0 | 69.0 | 0 | 2.00 | 0.888 | 385 | PASS |
| 127 | 198 | 40.0 | 60.0 | 55.5 | 45554 | PASS |
| 197 | 198 | 0 | 1.00 | 0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100 | 82136 | PASS |
| 199 | 198 | 5.00 | 9.00 | 6.82 | 5599 | PASS |
| 275 | 198 | 10.0 | 30.0 | 25.9 | 21299 | PASS |
| 365 | 198 | 1.00 | 100 | 2.89 | 2373 | PASS |
| 441 | 443 | 0.0100 | 100 | 79.4 | 6767 | PASS |
| 442 | 198 | 40.0 | 100 | 53.3 | 43746 | PASS |
| 443 | 442 | 17.0 | 23.0 | 19.5 | 8528 | PASS |

This check relates to the following samples:

| Lab ID | Client ID | Tag | Date Analyzed | Q |
|---|---|---|---|---|
| WG627960-02 | CCV | 01 | 08/31/2017 09:39 | |
| WG627757-01 | BLANK | 01 | 08/31/2017 10:11 | |
| WG627757-01 | BLANK | 01 | 08/31/2017 10:11 | |
| WG627757-02 | LCS | 01 | 08/31/2017 10:44 | |
| L17081498-01 | MW07-082517 | 01 | 08/31/2017 12:22 | |
| L17081498-03 | MW06-082517 | 01 | 08/31/2017 12:54 | |
| L17081498-05 | MW06-082517-MS | 01 | 08/31/2017 13:27 | |
| L17081498-06 | MW06-082517-MSD | 01 | 08/31/2017 14:01 | |
| L17081498-07 | MW10-082517 | 01 | 08/31/2017 14:31 | |
| L17081498-09 | MW20-082517 | 01 | 08/31/2017 15:04 | |
| WG627606-01 | FBLK2 | 01 | 08/31/2017 16:09 | |

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5460105
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081498
Instrument: HPMS19
Analyst: SCB
Workgroup: WG625881

Tune ID: WG625881-01
Run Date: 08/15/2017
Run Time: 16:11
File ID: 19M000306
Cal ID: HPMS19 - 15-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 | 36.6 | 20581 | PASS |
| 68.0 | 69.0 | 0 | 2.00 | 0.769 | 167 | PASS |
| 69.0 | 198 | 0 | 100 | 38.6 | 21704 | PASS |
| 70.0 | 69.0 | 0 | 2.00 | 0 | 0 | PASS |
| 127 | 198 | 40.0 | 60.0 | 51.8 | 29157 | PASS |
| 197 | 198 | 0 | 1.00 | 0.299 | 168 | PASS |
| 198 | 198 | 100 | 100 | 100 | 56240 | PASS |
| 199 | 198 | 5.00 | 9.00 | 6.87 | 3861 | PASS |
| 275 | 198 | 10.0 | 30.0 | 24.3 | 13643 | PASS |
| 365 | 198 | 1.00 | 100 | 3.01 | 1692 | PASS |
| 441 | 443 | 0.0100 | 100 | 76.2 | 7930 | PASS |
| 442 | 198 | 40.0 | 100 | 96.0 | 53973 | PASS |
| 443 | 442 | 17.0 | 23.0 | 19.3 | 10413 | PASS |

This check relates to the following samples:

| Lab ID | Client ID | Tag | Date Analyzed | Q |
|---|---|---|---|---|
| WG625881-02 | STD-CCV | 01 | 08/15/2017 16:29 | |
| WG625881-03 | STD | 01 | 08/15/2017 16:59 | |
| WG625881-04 | STD | 01 | 08/15/2017 17:30 | |
| WG625881-05 | STD | 01 | 08/15/2017 18:00 | |
| WG625881-06 | STD | 01 | 08/15/2017 18:30 | |
| WG625881-07 | STD | 01 | 08/15/2017 19:00 | |
| WG625881-08 | STD | 01 | 08/15/2017 19:30 | |
| WG625881-09 | STD | 01 | 08/15/2017 20:00 | |
| WG625881-10 | STD | 01 | 08/15/2017 20:30 | |
| WG625881-11 | SSCV | 01 | 08/15/2017 21:00 | |
| WG625881-12 | SSCV | 01 | 08/15/2017 21:30 | |
| WG625881-13 | SSCV | 01 | 08/15/2017 22:01 | |

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5460105
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081498
Instrument: HPMS19
Analyst: SCB
Workgroup: WG626039

Tune ID: WG626039-01
Run Date: 08/16/2017
Run Time: 11:56
File ID: 19M000322
Cal ID: HPMS19 - 16-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 | 36.7 | 21190 | PASS |
| 68.0 | 69.0 | 0 | 2.00 | 0 | 0 | PASS |
| 69.0 | 198 | 0 | 100 | 37.5 | 21660 | PASS |
| 70.0 | 69.0 | 0 | 2.00 | 0 | 0 | PASS |
| 127 | 198 | 40.0 | 60.0 | 51.7 | 29875 | PASS |
| 197 | 198 | 0 | 1.00 | 0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100 | 57789 | PASS |
| 199 | 198 | 5.00 | 9.00 | 6.60 | 3812 | PASS |
| 275 | 198 | 10.0 | 30.0 | 23.8 | 13771 | PASS |
| 365 | 198 | 1.00 | 100 | 3.20 | 1849 | PASS |
| 441 | 443 | 0.0100 | 100 | 76.1 | 8190 | PASS |
| 442 | 198 | 40.0 | 100 | 97.0 | 56045 | PASS |
| 443 | 442 | 17.0 | 23.0 | 19.2 | 10759 | PASS |

This check relates to the following samples:

| Lab ID | Client ID | Tag | Date Analyzed | Q |
|---|---|---|---|---|
| WG626039-02 | STD-CCV | 01 | 08/16/2017 12:14 | |
| WG626039-03 | STD | 01 | 08/16/2017 12:44 | |
| WG626039-04 | STD | 01 | 08/16/2017 13:14 | |
| WG626039-05 | STD | 01 | 08/16/2017 13:45 | |
| WG626039-06 | STD | 01 | 08/16/2017 14:15 | |
| WG626039-07 | STD | 01 | 08/16/2017 14:45 | |
| WG626039-08 | STD | 01 | 08/16/2017 15:15 | |
| WG626039-09 | SSCV | 01 | 08/16/2017 15:45 | |

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5460105
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081498
Instrument: HPMS19
Analyst: MES
Workgroup: WG629380

Tune ID: WG629380-01
Run Date: 09/12/2017
Run Time: 14:04
File ID: 19M000497
Cal ID: HPMS19 - 15-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 | 35.2 | 18386 | PASS |
| 68.0 | 69.0 | 0 | 2.00 | 0 | 0 | PASS |
| 69.0 | 198 | 0 | 100 | 35.2 | 18404 | PASS |
| 70.0 | 69.0 | 0 | 2.00 | 0 | 0 | PASS |
| 127 | 198 | 40.0 | 60.0 | 50.0 | 26140 | PASS |
| 197 | 198 | 0 | 1.00 | 0.331 | 173 | PASS |
| 198 | 198 | 100 | 100 | 100 | 52261 | PASS |
| 199 | 198 | 5.00 | 9.00 | 6.52 | 3406 | PASS |
| 275 | 198 | 10.0 | 30.0 | 24.1 | 12605 | PASS |
| 365 | 198 | 1.00 | 100 | 3.16 | 1649 | PASS |
| 441 | 443 | 0.0100 | 100 | 74.5 | 7412 | PASS |
| 442 | 198 | 40.0 | 100 | 96.3 | 50349 | PASS |
| 443 | 442 | 17.0 | 23.0 | 19.8 | 9954 | PASS |

This check relates to the following samples:

| Lab ID | Client ID | Tag | Date Analyzed | Q |
|---|---|---|---|---|
| WG629380-02 | CCV | 01 | 09/12/2017 14:21 | |
| WG629382-01 | CCV | 01 | 09/12/2017 14:52 | |
| WG628510-01 | BLANK | 01 | 09/12/2017 16:50 | |
| WG628510-02 | LCS | 01 | 09/12/2017 17:21 | |
| WG628510-03 | LCS2 | 01 | 09/12/2017 17:51 | |

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5460105
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081498
Instrument: HPMS19
Analyst: SCB
Workgroup: WG629552

Tune ID: WG629552-01
Run Date: 09/13/2017
Run Time: 13:36
File ID: 19M000539
Cal ID: HPMS19 - 15-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 | 41.1 | 23197 | PASS |
| 68.0 | 69.0 | 0 | 2.00 | 0 | 0 | PASS |
| 69.0 | 198 | 0 | 100 | 40.4 | 22795 | PASS |
| 70.0 | 69.0 | 0 | 2.00 | 0 | 0 | PASS |
| 127 | 198 | 40.0 | 60.0 | 53.2 | 30000 | PASS |
| 197 | 198 | 0 | 1.00 | 0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100 | 56403 | PASS |
| 199 | 198 | 5.00 | 9.00 | 6.62 | 3732 | PASS |
| 275 | 198 | 10.0 | 30.0 | 22.7 | 12776 | PASS |
| 365 | 198 | 1.00 | 100 | 2.83 | 1598 | PASS |
| 441 | 443 | 0.0100 | 100 | 76.5 | 6584 | PASS |
| 442 | 198 | 40.0 | 100 | 79.1 | 44592 | PASS |
| 443 | 442 | 17.0 | 23.0 | 19.3 | 8612 | PASS |

This check relates to the following samples:

| Lab ID | Client ID | Tag | Date Analyzed | Q |
|---|---|---|---|---|
| WG629552-02 | CCV | 01 | 09/13/2017 13:54 | |
| WG629570-01 | CCV | 01 | 09/13/2017 14:25 | |
| L17081498-01 | MW07-082517 | RE | 09/13/2017 15:58 | |
| L17081498-03 | MW06-082517 | RE | 09/13/2017 16:28 | |
| L17081498-05 | MW06-082517-MS | RE | 09/13/2017 16:58 | |
| L17081498-06 | MW06-082517-MSD | RE | 09/13/2017 17:28 | |
| L17081498-07 | MW10-082517 | RE | 09/13/2017 17:59 | |
| L17081498-09 | MW20-082517 | RE | 09/13/2017 18:29 | |

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5460105
Report generated 09/18/2017 08:43

**Microbac Laboratories Inc.**

**INITIAL CALIBRATION SUMMARY**

**Login Number:** L17081498 **Instrument ID:** HPMS12

**Analytical Method:** 8270D **Initial Calibration Date:** 15-JUL-17 02:23

**ICAL Workgroup:** WG621894 **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**
**$R^2$ = Coefficient of determination; 0.99 minimum**

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5460103**
**Report generated 09/18/2017 08:41**

# INITIAL CALIBRATION SUMMARY

**Login Number:** L17081498 **Instrument ID:** HPMS12
**Analytical Method:** 8270D **Initial Calibration Date:** 03-AUG-17 13:41
**ICAL Workgroup:** WG624321 **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: 5460103**
**Report generated 09/18/2017 08:41**

**Microbac Laboratories Inc.**
**INITIAL CALIBRATION SUMMARY**

**Login Number:** L17081498
**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**
**$R^2$ = Coefficient of determination; 0.99 minimum**

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5460103**
**Report generated 09/18/2017 08:41**

**Microbac Laboratories Inc.**
**INITIAL CALIBRATION SUMMARY**

**Login Number:** L17081498 **Instrument ID:** HPMS19
**Analytical Method:** 8270D **Initial Calibration Date:** 15-AUG-17 20:30
**ICAL Workgroup:** WG625881 **Column ID:** F

| Analyte | | AVG RF | % RSD | LINEAR (R) | QUAD ($R^2$) |
|---|---|---|---|---|---|
| 2,4,6-Trichlorophenol | CCC | 0.3832 | 6.99 | | |
| 2,4-Dichlorophenol | CCC | 0.2621 | 4.82 | | |
| 2-Nitrophenol | CCC | 0.1812 | 7.91 | | |
| Acenaphthene | CCC | 1.216 | 11.4 | | |
| Benzo[a]pyrene | CCC | 1.066 | 7.39 | | |
| Di-n-Octyl Phthalate | CCC | 1.443 | 10.3 | | |
| Fluoranthene | CCC | 1.233 | 4.99 | | |
| Hexachlorobutadiene | CCC | 0.1496 | 7.11 | | |
| Pentachlorophenol | CCC | 0.1147 | 16.4 | | 1.00000 |
| Phenol | CCC | 1.633 | 4.98 | | |
| 2,4-Dinitrophenol | SPCC | 0.1295 | 34.9 | | 0.99900 |
| 4-Nitrophenol | SPCC | 0.2496 | 6.65 | | |
| Hexachlorocyclopentadiene | SPCC | 0.2232 | 12.9 | | |
| n-Nitrosodipropylamine | SPCC | 0.8597 | 14.1 | | |
| 1,3-Dinitrobenzene | | 0.2498 | 12.3 | | |
| 1,4-Dioxane | | 0.5810 | 4.43 | | |
| 2,4,5-Trichlorophenol | | 0.3945 | 6.64 | | |
| 2,4-Dimethylphenol | | 0.3079 | 3.80 | | |
| 2,4-Dinitrotoluene | | 0.4362 | 9.18 | | |
| 2,6-Dinitrotoluene | | 0.3385 | 5.51 | | |
| 2-Chloronaphthalene | | 1.288 | 9.04 | | |
| 2-Chlorophenol | | 1.406 | 3.38 | | |
| 2-Methylnaphthalene | | 0.7021 | 8.87 | | |
| 2-Methylphenol | | 1.001 | 8.26 | | |
| 2-Nitroaniline | | 0.3709 | 3.32 | | |
| 3,3'-Dichlorobenzidine | | 0.3776 | 9.62 | | |
| 3-Nitroaniline | | 0.3995 | 3.38 | | |
| 4-Bromophenyl Phenyl Ether | | 0.2056 | 6.93 | | |
| 4-Chloroaniline | | 0.1235 | 5.22 | | |
| Acenaphthylene | | 1.986 | 9.78 | | |
| Anthracene | | 1.165 | 7.07 | | |
| Benzo[a]anthracene | | 1.167 | 4.63 | | |
| Benzo[b]fluoranthene | | 1.153 | 6.35 | | |
| Benzo[ghi]perylene | | 0.9196 | 10.4 | | |
| Benzo[k]fluoranthene | | 1.112 | 2.85 | | |
| Benzoic Acid | | 0.1509 | 48.8 | | 0.99700 |
| Benzyl Alcohol | | 0.9023 | 4.07 | | |
| Butyl Benzyl Phthalate | | 0.5858 | 10.9 | | |
| Carbazole | | 1.070 | 5.47 | | |
| Chrysene | | 1.094 | 6.27 | | |
| Di-n-Butyl Phthalate | | 1.331 | 6.28 | | |
| Dibenz[ah]anthracene | | 0.9290 | 10.5 | | |
| Dibenzofuran | | 1.798 | 10.3 | | |
| Diethylphthalate | | 1.490 | 6.69 | | |
| Dimethylphthalate | | 1.451 | 6.59 | | |

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5460103**
**Report generated 09/18/2017 08:41**

**Microbac Laboratories Inc.**
**INITIAL CALIBRATION SUMMARY**

**Login Number:** L17081498
**Analytical Method:** 8270D
**ICAL Workgroup:** WG625881
**Instrument ID:** HPMS19
**Initial Calibration Date:** 15-AUG-17 20:30
**Column ID:** F

| Analyte | | AVG RF | % RSD | LINEAR (R) | QUAD ($R^2$) |
|---|---|---|---|---|---|
| Fluorene | | 1.371 | 13.5 | | |
| Hexachlorobenzene | | 0.2144 | 6.51 | | |
| Hexachloroethane | | 0.5807 | 3.42 | | |
| Indeno[1,2,3-cd]pyrene | | 1.101 | 10.1 | | |
| Isophorone | | 0.6277 | 4.10 | | |
| Naphthalene | | 1.053 | 7.69 | | |
| Nitrobenzene | | 0.3455 | 4.03 | | |
| Phenanthrene | | 1.134 | 8.65 | | |
| Pyrene | | 1.323 | 4.65 | | |
| Sym-Trinitrobenzene | | 0.1672 | 30.3 | 0.99500 | |
| bis(2-Chloroethoxy)methane | | 0.4813 | 13.6 | | |
| bis(2-Chloroethyl)ether | | 1.037 | 9.04 | | |
| bis(2-Ethylhexyl)phthalate | | 0.7367 | 22.9 | 0.99600 | |

**R = Correlation coefficient; 0.995 minimum**
**$R^2$ = Coefficient of determination; 0.99 minimum**

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5460103**
**Report generated 09/18/2017 08:41**

**Microbac Laboratories Inc.**

**INITIAL CALIBRATION SUMMARY**

**Login Number:** L17081498 **Instrument ID:** HPMS19

**Analytical Method:** 8270D **Initial Calibration Date:** 16-AUG-17 15:15

**ICAL Workgroup:** WG626039 **Column ID:** F

| Analyte | | AVG RF | % RSD | LINEAR (R) | QUAD ($R^2$) |
|---|---|---|---|---|---|
| 1,1'-Biphenyl | | 1.609 | 8.40 | | |

**R = Correlation coefficient; 0.995 minimum**
**$R^2$ = Coefficient of determination; 0.99 minimum**

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5460103**
**Report generated 09/18/2017 08:41**

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L17081498
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 |

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PDF File ID: 5460103
Report generated 09/18/2017 08:41

**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**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 |

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**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**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 |

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**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**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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**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**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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**INITIAL CALIBRATION DATA**

**Login Number:** L17081498 **Instrument ID:** HPMS12

**Analytical Method:** 8270D **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 |
| 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:** L17081498
**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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**Login Number:** L17081498
**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 |

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5460103**
**Report generated 09/18/2017 08:41**

**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**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 |
| 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**
**PDF File ID: 5460103**
**Report generated 09/18/2017 08:41**

# INITIAL CALIBRATION DATA

**Login Number:** L17081498
**Analytical Method:** 8270D
**Instrument ID:** HPMS19
**Initial Calibration Date:** 15-AUG-17 20:30
**Column ID:** F

| Analyte | WG625881-02 | | | WG625881-03 | | | WG625881-04 | | |
|---|---|---|---|---|---|---|---|---|---|
| | CONC | RESP | RF | CONC | RESP | RF | CONC | RESP | RF |
| 2,4,6-Trichlorophenol | 50.0 | 118127.000 | 0.4024 | NA | NA | NA | 3.00 | 5947.00000 | 0.3306 |
| 2,4-Dichlorophenol | 50.0 | 161539.000 | 0.2662 | NA | NA | NA | 3.00 | 8873.00000 | 0.2477 |
| 2-Nitrophenol | 50.0 | 115041.000 | 0.1896 | NA | NA | NA | 3.00 | 5375.00000 | 0.1500 |
| Acenaphthene | 50.0 | 358371.000 | 1.221 | NA | NA | NA | 3.00 | 24151.0000 | 1.343 |
| Benzo[a]pyrene | 50.0 | 650040.000 | 1.140 | NA | NA | NA | 3.00 | 28426.0000 | 0.8911 |
| Di-n-Octyl Phthalate | 50.0 | 869473.000 | 1.525 | NA | NA | NA | 3.00 | 43518.0000 | 1.364 |
| Fluoranthene | 50.0 | 695741.000 | 1.251 | NA | NA | NA | 3.00 | 41077.0000 | 1.249 |
| Hexachlorobutadiene | 50.0 | 90961.0000 | 0.1499 | NA | NA | NA | 3.00 | 5786.00000 | 0.1615 |
| Pentachlorophenol | 50.0 | 70894.0000 | 0.1275 | NA | NA | NA | NA | NA | NA |
| Phenol | 50.0 | 243434.000 | 1.649 | NA | NA | NA | 3.00 | 15783.0000 | 1.687 |
| 2,4-Dinitrophenol | 50.0 | 42427.0000 | 0.1445 | NA | NA | NA | NA | NA | NA |
| 4-Nitrophenol | 50.0 | 78549.0000 | 0.2676 | NA | NA | NA | NA | NA | NA |
| Hexachlorocyclopentadiene | 50.0 | 73140.0000 | 0.2492 | NA | NA | NA | 3.00 | 2915.00000 | 0.1621 |
| n-Nitrosodipropylamine | 50.0 | 127824.000 | 0.8656 | NA | NA | NA | 3.00 | 8842.00000 | 0.9450 |
| 1,3-Dinitrobenzene | 50.0 | 78248.0000 | 0.2666 | NA | NA | NA | 3.00 | 3225.00000 | 0.1793 |
| 1,4-Dioxane | 50.0 | 86076.0000 | 0.5829 | NA | NA | NA | 3.00 | 5585.00000 | 0.5969 |
| 2,4,5-Trichlorophenol | 50.0 | 122894.000 | 0.4187 | NA | NA | NA | 3.00 | 6215.00000 | 0.3455 |
| 2,4-Dimethylphenol | 50.0 | 191562.000 | 0.3157 | NA | NA | NA | 3.00 | 10829.0000 | 0.3022 |
| 2,4-Dinitrotoluene | 50.0 | 135994.000 | 0.4633 | NA | NA | NA | 3.00 | 6188.00000 | 0.3440 |
| 2,6-Dinitrotoluene | 50.0 | 101957.000 | 0.3474 | NA | NA | NA | 3.00 | 5391.00000 | 0.2997 |
| 2-Chloronaphthalene | 50.0 | 374509.000 | 1.276 | NA | NA | NA | 3.00 | 25715.0000 | 1.430 |
| 2-Chlorophenol | 50.0 | 212760.000 | 1.441 | NA | NA | NA | 3.00 | 12531.0000 | 1.339 |
| 2-Methylnaphthalene | 50.0 | 420981.000 | 0.6937 | NA | NA | NA | 3.00 | 28431.0000 | 0.7935 |
| 2-Methylphenol | 50.0 | 149301.000 | 1.011 | NA | NA | NA | 3.00 | 9636.00000 | 1.030 |
| 2-Nitroaniline | 50.0 | 111402.000 | 0.3795 | NA | NA | NA | NA | NA | NA |
| 3,3'-Dichlorobenzidine | 50.0 | 216683.000 | 0.3968 | NA | NA | NA | 3.00 | 9684.00000 | 0.3061 |
| 3-Nitroaniline | 50.0 | 120595.000 | 0.4109 | NA | NA | NA | NA | NA | NA |
| 4-Bromophenyl Phenyl Ether | 50.0 | 114289.000 | 0.2055 | NA | NA | NA | 3.00 | 7241.00000 | 0.2202 |
| 4-Chloroaniline | 50.0 | 77976.0000 | 0.1285 | NA | NA | NA | 3.00 | 4228.00000 | 0.1180 |
| Acenaphthylene | 50.0 | 585835.000 | 1.996 | NA | NA | NA | 3.00 | 38681.0000 | 2.151 |
| Anthracene | 50.0 | 657464.000 | 1.182 | NA | NA | NA | 3.00 | 40131.0000 | 1.221 |
| Benzo[a]anthracene | 50.0 | 645088.000 | 1.181 | NA | NA | NA | 3.00 | 37369.0000 | 1.181 |
| Benzo[b]fluoranthene | 50.0 | 666796.000 | 1.170 | NA | NA | NA | 3.00 | 38662.0000 | 1.212 |
| Benzo[ghi]perylene | 50.0 | 592378.000 | 1.039 | NA | NA | NA | 3.00 | 23491.0000 | 0.7364 |
| Benzo[k]fluoranthene | 50.0 | 658547.000 | 1.155 | NA | NA | NA | 3.00 | 34909.0000 | 1.094 |
| Benzoic Acid | 50.0 | 90098.0000 | 0.1485 | NA | NA | NA | NA | NA | NA |
| Benzyl Alcohol | 50.0 | 137299.000 | 0.9298 | NA | NA | NA | 3.00 | 7856.00000 | 0.8396 |
| Butyl Benzyl Phthalate | 50.0 | 329213.000 | 0.6029 | NA | NA | NA | 3.00 | 17643.0000 | 0.5577 |
| Carbazole | 50.0 | 609038.000 | 1.095 | NA | NA | NA | 3.00 | 35676.0000 | 1.085 |
| Chrysene | 50.0 | 596956.000 | 1.093 | NA | NA | NA | 3.00 | 36914.0000 | 1.167 |
| Di-n-Butyl Phthalate | 50.0 | 783963.000 | 1.410 | NA | NA | NA | 3.00 | 39750.0000 | 1.209 |
| Dibenz[ah]anthracene | 50.0 | 590228.000 | 1.035 | NA | NA | NA | 3.00 | 23403.0000 | 0.7337 |

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5460103**
**Report generated 09/18/2017 08:41**

**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**Analytical Method:** 8270D
**Instrument ID:** HPMS19
**Initial Calibration Date:** 15-AUG-17 20:30
**Column ID:** F

| Analyte | WG625881-02 | | | WG625881-03 | | | WG625881-04 | | |
|---|---|---|---|---|---|---|---|---|---|
| | CONC | RESP | RF | CONC | RESP | RF | CONC | RESP | RF |
| Dibenzofuran | 50.0 | 525331.000 | 1.790 | NA | NA | NA | 3.00 | 36300.0000 | 2.018 |
| Diethylphthalate | 50.0 | 441506.000 | 1.504 | NA | NA | NA | 3.00 | 27174.0000 | 1.511 |
| Dimethylphthalate | 50.0 | 428108.000 | 1.459 | NA | NA | NA | 3.00 | 27739.0000 | 1.542 |
| Fluorene | 50.0 | 395361.000 | 1.347 | NA | NA | NA | 3.00 | 28022.0000 | 1.558 |
| Hexachlorobenzene | 50.0 | 118995.000 | 0.2140 | NA | NA | NA | 3.00 | 7550.00000 | 0.2296 |
| Hexachloroethane | 50.0 | 89952.0000 | 0.6091 | NA | NA | NA | 3.00 | 5373.00000 | 0.5743 |
| Indeno[1,2,3-cd]pyrene | 50.0 | 696835.000 | 1.222 | NA | NA | NA | 3.00 | 28295.0000 | 0.8870 |
| Isophorone | 50.0 | 390325.000 | 0.6432 | NA | NA | NA | 3.00 | 22617.0000 | 0.6313 |
| Naphthalene | 50.0 | 635125.000 | 1.047 | NA | NA | NA | 3.00 | 41231.0000 | 1.151 |
| Nitrobenzene | 50.0 | 212927.000 | 0.3509 | NA | NA | NA | 3.00 | 12832.0000 | 0.3582 |
| Phenanthrene | 50.0 | 627565.000 | 1.129 | NA | NA | NA | 3.00 | 41420.0000 | 1.260 |
| Pyrene | 50.0 | 722814.000 | 1.324 | NA | NA | NA | 3.00 | 42599.0000 | 1.347 |
| Sym-Trinitrobenzene | 50.0 | 104956.000 | 0.1887 | NA | NA | NA | 3.00 | 2204.00000 | 0.06700 |
| bis(2-Chloroethoxy)methane | 50.0 | 291615.000 | 0.4805 | NA | NA | NA | 3.00 | 19987.0000 | 0.5579 |
| bis(2-Chloroethyl)ether | 50.0 | 153297.000 | 1.038 | NA | NA | NA | 3.00 | 10700.0000 | 1.144 |
| bis(2-Ethylhexyl)phthalate | 50.0 | 467962.000 | 0.8570 | 1.00 | 3442.00000 | 0.3472 | 3.00 | 18812.0000 | 0.5947 |

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5460103**
**Report generated 09/18/2017 08:41**

**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**Analytical Method:** 8270D
**Instrument ID:** HPMS19
**Initial Calibration Date:** 15-AUG-17 20:30
**Column ID:** F

| Analyte | WG625881-05 | | | WG625881-06 | | | WG625881-07 | | |
|---|---|---|---|---|---|---|---|---|---|
| | CONC | RESP | RF | CONC | RESP | RF | CONC | RESP | RF |
| 2,4,6-Trichlorophenol | 10.0 | 22916.0000 | 0.3720 | 15.0 | 36276.0000 | 0.4073 | 25.0 | 65769.0000 | 0.4144 |
| 2,4-Dichlorophenol | 10.0 | 33753.0000 | 0.2653 | 15.0 | 51947.0000 | 0.2749 | 25.0 | 91431.0000 | 0.2832 |
| 2-Nitrophenol | 10.0 | 21875.0000 | 0.1719 | 15.0 | 34256.0000 | 0.1813 | 25.0 | 62827.0000 | 0.1946 |
| Acenaphthene | 10.0 | 82085.0000 | 1.333 | 15.0 | 119698.000 | 1.344 | 25.0 | 207188.000 | 1.306 |
| Benzo[a]pyrene | 10.0 | 113675.000 | 1.021 | 15.0 | 176975.000 | 1.092 | 25.0 | 326083.000 | 1.123 |
| Di-n-Octyl Phthalate | 10.0 | 127108.000 | 1.142 | 15.0 | 218357.000 | 1.348 | 25.0 | 439639.000 | 1.513 |
| Fluoranthene | 10.0 | 146526.000 | 1.280 | 15.0 | 218768.000 | 1.302 | 25.0 | 377135.000 | 1.293 |
| Hexachlorobutadiene | 10.0 | 20298.0000 | 0.1596 | 15.0 | 29486.0000 | 0.1560 | 25.0 | 50512.0000 | 0.1564 |
| Pentachlorophenol | 10.0 | 9291.00000 | 0.08120 | 15.0 | 16253.0000 | 0.09670 | 25.0 | 33400.0000 | 0.1145 |
| Phenol | 10.0 | 52196.0000 | 1.647 | 15.0 | 83112.0000 | 1.744 | 25.0 | 139713.000 | 1.710 |
| 2,4-Dinitrophenol | 10.0 | 3566.00000 | 0.05790 | 15.0 | 7316.00000 | 0.08220 | 25.0 | 18719.0000 | 0.1180 |
| 4-Nitrophenol | 10.0 | 14495.0000 | 0.2353 | 15.0 | 23202.0000 | 0.2605 | 25.0 | 42619.0000 | 0.2685 |
| Hexachlorocyclopentadiene | 10.0 | 12555.0000 | 0.2038 | 15.0 | 20948.0000 | 0.2352 | 25.0 | 39304.0000 | 0.2477 |
| n-Nitrosodipropylamine | 10.0 | 31053.0000 | 0.9800 | 15.0 | 46767.0000 | 0.9814 | 25.0 | 76932.0000 | 0.9414 |
| 1,3-Dinitrobenzene | 10.0 | 14400.0000 | 0.2338 | 15.0 | 22724.0000 | 0.2552 | 25.0 | 42689.0000 | 0.2690 |
| 1,4-Dioxane | 10.0 | 17912.0000 | 0.5653 | 15.0 | 30285.0000 | 0.6355 | 25.0 | 46240.0000 | 0.5658 |
| 2,4,5-Trichlorophenol | 10.0 | 23511.0000 | 0.3817 | 15.0 | 36905.0000 | 0.4144 | 25.0 | 67517.0000 | 0.4254 |
| 2,4-Dimethylphenol | 10.0 | 39442.0000 | 0.3100 | 15.0 | 59733.0000 | 0.3161 | 25.0 | 105582.000 | 0.3270 |
| 2,4-Dinitrotoluene | 10.0 | 26949.0000 | 0.4375 | 15.0 | 40454.0000 | 0.4543 | 25.0 | 75172.0000 | 0.4737 |
| 2,6-Dinitrotoluene | 10.0 | 20418.0000 | 0.3314 | 15.0 | 31486.0000 | 0.3536 | 25.0 | 57433.0000 | 0.3619 |
| 2-Chloronaphthalene | 10.0 | 83444.0000 | 1.355 | 15.0 | 124239.000 | 1.395 | 25.0 | 217415.000 | 1.370 |
| 2-Chlorophenol | 10.0 | 44163.0000 | 1.394 | 15.0 | 69697.0000 | 1.463 | 25.0 | 119874.000 | 1.467 |
| 2-Methylnaphthalene | 10.0 | 92087.0000 | 0.7239 | 15.0 | 141704.000 | 0.7499 | 25.0 | 240481.000 | 0.7448 |
| 2-Methylphenol | 10.0 | 34273.0000 | 1.082 | 15.0 | 52397.0000 | 1.100 | 25.0 | 87173.0000 | 1.067 |
| 2-Nitroaniline | 10.0 | 21650.0000 | 0.3514 | 15.0 | 33644.0000 | 0.3778 | 25.0 | 61593.0000 | 0.3881 |
| 3,3'-Dichlorobenzidine | 10.0 | 42785.0000 | 0.3824 | 15.0 | 67918.0000 | 0.4104 | 25.0 | 121174.000 | 0.4248 |
| 3-Nitroaniline | 10.0 | 23231.0000 | 0.3771 | 15.0 | 36636.0000 | 0.4114 | 25.0 | 65577.0000 | 0.4132 |
| 4-Bromophenyl Phenyl Ether | 10.0 | 24077.0000 | 0.2104 | 15.0 | 37342.0000 | 0.2222 | 25.0 | 63146.0000 | 0.2165 |
| 4-Chloroaniline | 10.0 | 16312.0000 | 0.1282 | 15.0 | 24654.0000 | 0.1305 | 25.0 | 41975.0000 | 0.1300 |
| Acenaphthylene | 10.0 | 129772.000 | 2.107 | 15.0 | 195625.000 | 2.197 | 25.0 | 339271.000 | 2.138 |
| Anthracene | 10.0 | 139607.000 | 1.220 | 15.0 | 209698.000 | 1.248 | 25.0 | 362095.000 | 1.242 |
| Benzo[a]anthracene | 10.0 | 135384.000 | 1.210 | 15.0 | 204349.000 | 1.235 | 25.0 | 346044.000 | 1.213 |
| Benzo[b]fluoranthene | 10.0 | 130926.000 | 1.176 | 15.0 | 194178.000 | 1.198 | 25.0 | 364263.000 | 1.254 |
| Benzo[ghi]perylene | 10.0 | 99708.0000 | 0.8958 | 15.0 | 158805.000 | 0.9800 | 25.0 | 290870.000 | 1.001 |
| Benzo[k]fluoranthene | 10.0 | 121756.000 | 1.094 | 15.0 | 183966.000 | 1.135 | 25.0 | 327986.000 | 1.129 |
| Benzoic Acid | 10.0 | 5556.00000 | 0.04370 | 15.0 | 14390.0000 | 0.07610 | 25.0 | 41396.0000 | 0.1282 |
| Benzyl Alcohol | 10.0 | 27507.0000 | 0.8681 | 15.0 | 44488.0000 | 0.9336 | 25.0 | 77520.0000 | 0.9486 |
| Butyl Benzyl Phthalate | 10.0 | 72885.0000 | 0.6514 | 15.0 | 109754.000 | 0.6632 | 25.0 | 184748.000 | 0.6476 |
| Carbazole | 10.0 | 126051.000 | 1.101 | 15.0 | 190084.000 | 1.131 | 25.0 | 330797.000 | 1.134 |
| Chrysene | 10.0 | 127322.000 | 1.138 | 15.0 | 191109.000 | 1.155 | 25.0 | 328248.000 | 1.151 |
| Di-n-Butyl Phthalate | 10.0 | 154633.000 | 1.351 | 15.0 | 238276.000 | 1.418 | 25.0 | 416737.000 | 1.429 |
| Dibenz[ah]anthracene | 10.0 | 101289.000 | 0.9100 | 15.0 | 160352.000 | 0.9896 | 25.0 | 296414.000 | 1.020 |

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5460103**
**Report generated 09/18/2017 08:41**

**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**Analytical Method:** 8270D
**Instrument ID:** HPMS19
**Initial Calibration Date:** 15-AUG-17 20:30
**Column ID:** F

| Analyte | WG625881-05 | | | WG625881-06 | | | WG625881-07 | | |
|---|---|---|---|---|---|---|---|---|---|
| | CONC | RESP | RF | CONC | RESP | RF | CONC | RESP | RF |
| Dibenzofuran | 10.0 | 119186.000 | 1.935 | 15.0 | 174239.000 | 1.957 | 25.0 | 302517.000 | 1.906 |
| Diethylphthalate | 10.0 | 95968.0000 | 1.558 | 15.0 | 145072.000 | 1.629 | 25.0 | 249700.000 | 1.573 |
| Dimethylphthalate | 10.0 | 91708.0000 | 1.489 | 15.0 | 137955.000 | 1.549 | 25.0 | 244487.000 | 1.541 |
| Fluorene | 10.0 | 92932.0000 | 1.509 | 15.0 | 140949.000 | 1.583 | 25.0 | 233387.000 | 1.471 |
| Hexachlorobenzene | 10.0 | 25908.0000 | 0.2264 | 15.0 | 37936.0000 | 0.2257 | 25.0 | 65197.0000 | 0.2236 |
| Hexachloroethane | 10.0 | 18311.0000 | 0.5779 | 15.0 | 28494.0000 | 0.5979 | 25.0 | 49193.0000 | 0.6019 |
| Indeno[1,2,3-cd]pyrene | 10.0 | 121010.000 | 1.087 | 15.0 | 191637.000 | 1.183 | 25.0 | 351203.000 | 1.209 |
| Isophorone | 10.0 | 80863.0000 | 0.6356 | 15.0 | 122301.000 | 0.6472 | 25.0 | 214400.000 | 0.6640 |
| Naphthalene | 10.0 | 141926.000 | 1.116 | 15.0 | 211995.000 | 1.122 | 25.0 | 354206.000 | 1.097 |
| Nitrobenzene | 10.0 | 44194.0000 | 0.3474 | 15.0 | 67381.0000 | 0.3566 | 25.0 | 116411.000 | 0.3605 |
| Phenanthrene | 10.0 | 138049.000 | 1.206 | 15.0 | 202889.000 | 1.207 | 25.0 | 348397.000 | 1.195 |
| Pyrene | 10.0 | 152959.000 | 1.367 | 15.0 | 231929.000 | 1.401 | 25.0 | 393698.000 | 1.380 |
| Sym-Trinitrobenzene | 10.0 | 14025.0000 | 0.1225 | 15.0 | 25862.0000 | 0.1539 | 20.0 | 51656.0000 | 0.2214 |
| bis(2-Chloroethoxy)methane | 10.0 | 67806.0000 | 0.5330 | 15.0 | 99680.0000 | 0.5275 | 25.0 | 170426.000 | 0.5278 |
| bis(2-Chloroethyl)ether | 10.0 | 34332.0000 | 1.084 | 15.0 | 54185.0000 | 1.137 | 25.0 | 89514.0000 | 1.095 |
| bis(2-Ethylhexyl)phthalate | 10.0 | 88740.0000 | 0.7931 | 15.0 | 141763.000 | 0.8566 | 25.0 | 250175.000 | 0.8770 |

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5460103**
**Report generated 09/18/2017 08:41**

**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**Analytical Method:** 8270D

**Instrument ID:** HPMS19
**Initial Calibration Date:** 15-AUG-17 20:30
**Column ID:** F

| Analyte | WG625881-08 | | | WG625881-09 | | | WG625881-10 | | |
|---|---|---|---|---|---|---|---|---|---|
| | CONC | RESP | RF | CONC | RESP | RF | CONC | RESP | RF |
| 2,4,6-Trichlorophenol | 80.0 | 187757.000 | 0.3851 | 100 | 232920.000 | 0.3852 | 120 | 261885.000 | 0.3689 |
| 2,4-Dichlorophenol | 80.0 | 252020.000 | 0.2564 | 100 | 313872.000 | 0.2546 | 120 | 355414.000 | 0.2485 |
| 2-Nitrophenol | 80.0 | 184928.000 | 0.1882 | 100 | 233949.000 | 0.1898 | 120 | 263268.000 | 0.1840 |
| Acenaphthene | 80.0 | 541485.000 | 1.111 | 100 | 644779.000 | 1.066 | 120 | 711670.000 | 1.003 |
| Benzo[a]pyrene | 80.0 | 974666.000 | 1.088 | 100 | 1203576.00 | 1.097 | 120 | 1359129.00 | 1.074 |
| Di-n-Octyl Phthalate | 80.0 | 1387156.00 | 1.548 | 100 | 1735983.00 | 1.582 | 120 | 1929750.00 | 1.525 |
| Fluoranthene | 80.0 | 1083917.00 | 1.175 | 100 | 1333062.00 | 1.166 | 120 | 1511346.00 | 1.147 |
| Hexachlorobutadiene | 80.0 | 138819.000 | 0.1412 | 100 | 171078.000 | 0.1388 | 120 | 190284.000 | 0.1330 |
| Pentachlorophenol | 80.0 | 117930.000 | 0.1278 | 100 | 146591.000 | 0.1283 | 120 | 167155.000 | 0.1268 |
| Phenol | 80.0 | 385846.000 | 1.547 | 100 | 477107.000 | 1.561 | 120 | 525810.000 | 1.523 |
| 2,4-Dinitrophenol | 80.0 | 78859.0000 | 0.1617 | 100 | 104518.000 | 0.1729 | 120 | 120317.000 | 0.1695 |
| 4-Nitrophenol | 80.0 | 121150.000 | 0.2485 | 100 | 145498.000 | 0.2406 | 120 | 160371.000 | 0.2259 |
| Hexachlorocyclopentadiene | 80.0 | 114169.000 | 0.2342 | 100 | 141283.000 | 0.2337 | 120 | 155880.000 | 0.2196 |
| n-Nitrosodipropylamine | 80.0 | 186718.000 | 0.7487 | 100 | 221976.000 | 0.7261 | 120 | 237956.000 | 0.6891 |
| 1,3-Dinitrobenzene | 80.0 | 129619.000 | 0.2658 | 100 | 160724.000 | 0.2658 | 120 | 186430.000 | 0.2626 |
| 1,4-Dioxane | 80.0 | 137803.000 | 0.5525 | 100 | 174344.000 | 0.5703 | 120 | 199910.000 | 0.5789 |
| 2,4,5-Trichlorophenol | 80.0 | 194329.000 | 0.3986 | 100 | 238126.000 | 0.3938 | 120 | 268203.000 | 0.3778 |
| 2,4-Dimethylphenol | 80.0 | 294695.000 | 0.2998 | 100 | 372952.000 | 0.3025 | 120 | 414221.000 | 0.2896 |
| 2,4-Dinitrotoluene | 80.0 | 217015.000 | 0.4451 | 100 | 268988.000 | 0.4449 | 120 | 302736.000 | 0.4264 |
| 2,6-Dinitrotoluene | 80.0 | 165497.000 | 0.3394 | 100 | 205833.000 | 0.3404 | 120 | 237016.000 | 0.3339 |
| 2-Chloronaphthalene | 80.0 | 580981.000 | 1.192 | 100 | 699812.000 | 1.157 | 120 | 800442.000 | 1.128 |
| 2-Chlorophenol | 80.0 | 343312.000 | 1.377 | 100 | 429598.000 | 1.405 | 120 | 469284.000 | 1.359 |
| 2-Methylnaphthalene | 80.0 | 646258.000 | 0.6575 | 100 | 795878.000 | 0.6456 | 120 | 868964.000 | 0.6075 |
| 2-Methylphenol | 80.0 | 227674.000 | 0.9129 | 100 | 279589.000 | 0.9146 | 120 | 309119.000 | 0.8952 |
| 2-Nitroaniline | 80.0 | 180549.000 | 0.3703 | 100 | 222968.000 | 0.3688 | 120 | 255997.000 | 0.3606 |
| 3,3'-Dichlorobenzidine | 80.0 | 331513.000 | 0.3722 | 100 | 401964.000 | 0.3672 | 120 | 452680.000 | 0.3605 |
| 3-Nitroaniline | 80.0 | 194547.000 | 0.3990 | 100 | 239750.000 | 0.3965 | 120 | 275623.000 | 0.3883 |
| 4-Bromophenyl Phenyl Ether | 80.0 | 177824.000 | 0.1928 | 100 | 220152.000 | 0.1926 | 120 | 242853.000 | 0.1842 |
| 4-Chloroaniline | 80.0 | 117810.000 | 0.1199 | 100 | 146582.000 | 0.1189 | 120 | 163203.000 | 0.1141 |
| Acenaphthylene | 80.0 | 892257.000 | 1.830 | 100 | 1074983.00 | 1.778 | 120 | 1200314.00 | 1.691 |
| Anthracene | 80.0 | 1007768.00 | 1.093 | 100 | 1231984.00 | 1.078 | 120 | 1371262.00 | 1.040 |
| Benzo[a]anthracene | 80.0 | 991993.000 | 1.114 | 100 | 1217408.00 | 1.112 | 120 | 1371083.00 | 1.092 |
| Benzo[b]fluoranthene | 80.0 | 938726.000 | 1.047 | 100 | 1204861.00 | 1.098 | 120 | 1354184.00 | 1.070 |
| Benzo[ghi]perylene | 80.0 | 852389.000 | 0.9511 | 100 | 972324.000 | 0.8862 | 120 | 1096717.00 | 0.8667 |
| Benzo[k]fluoranthene | 80.0 | 945314.000 | 1.055 | 100 | 1240451.00 | 1.131 | 120 | 1395598.00 | 1.103 |
| Benzoic Acid | 80.0 | 201828.000 | 0.2054 | 100 | 279489.000 | 0.2267 | 120 | 325594.000 | 0.2276 |
| Benzyl Alcohol | 80.0 | 222510.000 | 0.8922 | 100 | 280234.000 | 0.9167 | 120 | 307277.000 | 0.8899 |
| Butyl Benzyl Phthalate | 80.0 | 479098.000 | 0.5378 | 100 | 572058.000 | 0.5226 | 120 | 631515.000 | 0.5030 |
| Carbazole | 80.0 | 947101.000 | 1.027 | 100 | 1153777.00 | 1.010 | 120 | 1287389.00 | 0.9767 |
| Chrysene | 80.0 | 918001.000 | 1.031 | 100 | 1109002.00 | 1.013 | 120 | 1260047.00 | 1.004 |
| Di-n-Butyl Phthalate | 80.0 | 1202279.00 | 1.303 | 100 | 1464832.00 | 1.282 | 120 | 1643869.00 | 1.247 |
| Dibenz[ah]anthracene | 80.0 | 859895.000 | 0.9594 | 100 | 994710.000 | 0.9066 | 120 | 1109966.00 | 0.8772 |

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**Report generated 09/18/2017 08:41**

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L17081498
Analytical Method: 8270D

Instrument ID: HPMS19
Initial Calibration Date: 15-AUG-17 20:30
Column ID: F

| Analyte | WG625881-08 | | | WG625881-09 | | | WG625881-10 | | |
|---|---|---|---|---|---|---|---|---|---|
| | CONC | RESP | RF | CONC | RESP | RF | CONC | RESP | RF |
| Dibenzofuran | 80.0 | 799726.000 | 1.640 | 100 | 972318.000 | 1.608 | 120 | 1084902.00 | 1.528 |
| Diethylphthalate | 80.0 | 683944.000 | 1.403 | 100 | 852755.000 | 1.410 | 120 | 947356.000 | 1.335 |
| Dimethylphthalate | 80.0 | 666398.000 | 1.367 | 100 | 816092.000 | 1.350 | 120 | 931470.000 | 1.312 |
| Fluorene | 80.0 | 587154.000 | 1.204 | 100 | 713082.000 | 1.179 | 120 | 792761.000 | 1.117 |
| Hexachlorobenzene | 80.0 | 186209.000 | 0.2019 | 100 | 227244.000 | 0.1988 | 120 | 256988.000 | 0.1950 |
| Hexachloroethane | 80.0 | 138910.000 | 0.5570 | 100 | 173015.000 | 0.5660 | 120 | 193785.000 | 0.5612 |
| Indeno[1,2,3-cd]pyrene | 80.0 | 1009928.00 | 1.127 | 100 | 1167043.00 | 1.064 | 120 | 1306679.00 | 1.033 |
| Isophorone | 80.0 | 599486.000 | 0.6100 | 100 | 744913.000 | 0.6043 | 120 | 837783.000 | 0.5857 |
| Naphthalene | 80.0 | 965916.000 | 0.9828 | 100 | 1202362.00 | 0.9753 | 120 | 1332777.00 | 0.9317 |
| Nitrobenzene | 80.0 | 328758.000 | 0.3345 | 100 | 411123.000 | 0.3335 | 120 | 460650.000 | 0.3220 |
| Phenanthrene | 80.0 | 967468.000 | 1.049 | 100 | 1174987.00 | 1.028 | 120 | 1313881.00 | 0.9968 |
| Pyrene | 80.0 | 1119332.00 | 1.257 | 100 | 1381650.00 | 1.262 | 120 | 1560652.00 | 1.243 |
| Sym-Trinitrobenzene | 80.0 | 176517.000 | 0.1914 | 100 | 227395.000 | 0.1990 | 120 | 255558.000 | 0.1939 |
| bis(2-Chloroethoxy)methane | 80.0 | 422661.000 | 0.4300 | 100 | 502632.000 | 0.4077 | 120 | 551856.000 | 0.3858 |
| bis(2-Chloroethyl)ether | 80.0 | 238068.000 | 0.9545 | 100 | 287172.000 | 0.9394 | 120 | 311494.000 | 0.9021 |
| bis(2-Ethylhexyl)phthalate | 80.0 | 701137.000 | 0.7871 | 100 | 845441.000 | 0.7723 | 120 | 935703.000 | 0.7452 |

INT_CAL - Modified 03/06/2008
PDF File ID: 5460103
Report generated 09/18/2017 08:41

**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**Analytical Method:** 8270D
**Instrument ID:** HPMS19
**Initial Calibration Date:** 16-AUG-17 15:15
**Column ID:** F

| Analyte | WG626039-02 | | | WG626039-03 | | | WG626039-04 | | |
|---|---|---|---|---|---|---|---|---|---|
| | CONC | RESP | RF | CONC | RESP | RF | CONC | RESP | RF |
| 1,1'-Biphenyl | 50.0 | 565831.000 | 1.610 | 3.00 | 30046.0000 | 1.697 | 10.0 | 105578.000 | 1.819 |

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**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**Analytical Method:** 8270D
**Instrument ID:** HPMS19
**Initial Calibration Date:** 16-AUG-17 15:15
**Column ID:** F

| Analyte | WG626039-05 | | | WG626039-06 | | | WG626039-07 | | |
|---|---|---|---|---|---|---|---|---|---|
| | CONC | RESP | RF | CONC | RESP | RF | CONC | RESP | RF |
| 1,1'-Biphenyl | 25.0 | 255889.000 | 1.691 | 80.0 | 756779.000 | 1.512 | 100 | 913418.000 | 1.447 |

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**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**Analytical Method:** 8270D
**Instrument ID:** HPMS19
**Initial Calibration Date:** 16-AUG-17 15:15
**Column ID:** F

| Analyte | WG626039-08 | | |
|---|---|---|---|
| | CONC | RESP | RF |
| 1,1'-Biphenyl | 120 | 1017858.00 | 1.485 |

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5460103**
**Report generated 09/18/2017 08:41**

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

| Compound | 3<br>12M63397.D | 10<br>12M63398.D | 25<br>12M63399.D | 50<br>12M63396.D | 80<br>12M63400.D | 100<br>12M63401.D | 120<br>12M63402.D | 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

| Compound | 3<br>12M63787.D | 10<br>12M63788.D | 15<br>12M63789.D | 25<br>12M63790.D | 50<br>12M63785.D | 80<br>12M63791.D | 100<br>12M63792.D | 120<br>12M63793.D | 1<br>12M63786.D | 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 | 3.856 | | |
| 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 | 51.869 | | 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 | | |
| Safrole | 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 | 0.883 | 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 | | | | | | | | | | | | |
| Benzidine | | 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 | 0.68 | 0.80575 | 8.93068 | | |
| 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

Calibration Table Report
Method: MEGAMIX.M
Title: OVD MSS01 8270/625 ICAL 08/15/17
Last Calibration: Fri Aug 18 14:13:48 2017
Curve: WG625881
Calibration Files

| Compound | 3<br>19M000309.D | 10<br>19M000310.D | 15<br>19M000311.D | 25<br>19M000312.D | 50<br>19M000307.D | 80<br>19M000313.D | 100<br>19M000314.D | 120<br>19M000315.D | 1<br>19M000308.D | Avg | %RSD | Linear | Quadratic |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | ISTD | | | | | | | | | | | | |
| 1,4-Dioxane | 0.597 | 0.565 | 0.636 | 0.566 | 0.583 | 0.553 | 0.570 | 0.579 | | 0.581 | 4.430 | | |
| n-Nitrosodimethylamine | 0.766 | 0.809 | 0.840 | 0.834 | 0.845 | 0.807 | 0.835 | 0.838 | | 0.822 | 3.252 | | |
| Pyridine | 1.432 | 1.471 | 1.470 | 1.462 | 1.493 | 1.409 | 1.457 | 1.464 | | 1.457 | 1.773 | | |
| 2-Picoline | 1.533 | 1.523 | 1.545 | 1.536 | 1.570 | 1.483 | 1.528 | 1.521 | | 1.530 | 1.600 | | |
| n-Nitrosomethylethylamine | 0.584 | 0.618 | 0.669 | 0.656 | 0.670 | 0.655 | 0.691 | 0.686 | | 0.654 | 5.524 | | |
| Methyl Methanesulfonate | 0.799 | 0.791 | 0.789 | 0.798 | 0.808 | 0.761 | 0.785 | 0.787 | | 0.790 | 1.752 | | |
| 2-Fluorophenol | 1.239 | 1.290 | 1.313 | 1.327 | 1.321 | 1.275 | 1.319 | 1.312 | | 1.300 | 2.301 | | |
| n-Nitrosodiethylamine | 0.602 | 0.646 | 0.665 | 0.680 | 0.670 | 0.655 | 0.678 | 0.677 | | 0.659 | 3.917 | | |
| Ethyl Methanesulfonate | 0.985 | 1.012 | 1.042 | 1.032 | 1.020 | 0.984 | 1.013 | 1.014 | | 1.013 | 1.993 | | |
| Aniline | 0.763 | 0.766 | 0.828 | 0.816 | 0.792 | 0.763 | 0.774 | 0.752 | | 0.782 | 3.502 | | |
| Phenol-d5 | 1.452 | 1.514 | 1.618 | 1.612 | 1.556 | 1.482 | 1.508 | 1.473 | | 1.527 | 4.102 | | |
| Phenol | 1.687 | 1.647 | 1.744 | 1.710 | 1.648 | 1.547 | 1.561 | 1.523 | | 1.633 | 4.980 | | |
| bis(2-Chloroethyl)ether | 1.144 | 1.083 | 1.137 | 1.095 | 1.038 | 0.955 | 0.939 | 0.902 | | 1.037 | 9.039 | | |
| Pentachloroethane | 0.496 | 0.493 | 0.516 | 0.506 | 0.495 | 0.459 | 0.463 | 0.448 | | 0.485 | 5.035 | | |
| 2-Chlorophenol | 1.339 | 1.394 | 1.463 | 1.467 | 1.441 | 1.377 | 1.405 | 1.359 | | 1.406 | 3.378 | | |
| 1,3-Dichlorobenzene | 1.605 | 1.538 | 1.614 | 1.572 | 1.526 | 1.433 | 1.453 | 1.403 | | 1.518 | 5.260 | | |
| 1,4-Dichlorobenzene | 1.644 | 1.543 | 1.603 | 1.557 | 1.524 | 1.423 | 1.442 | 1.393 | | 1.516 | 5.890 | | |
| Benzyl Alcohol | 0.840 | 0.868 | 0.934 | 0.949 | 0.930 | 0.892 | 0.917 | 0.890 | | 0.902 | 4.068 | | |
| 1,2-Dichlorobenzene | 1.509 | 1.499 | 1.495 | 1.439 | 1.358 | 1.219 | 1.214 | 1.190 | | 1.365 | 10.201 | | |
| 2-Methylphenol | 1.030 | 1.082 | 1.100 | 1.067 | 1.011 | 0.913 | 0.915 | 0.895 | | 1.001 | 8.258 | | |
| bis(2-Chloroisopropyl)ether | 1.792 | 1.782 | 1.790 | 1.748 | 1.629 | 1.537 | 1.552 | 1.525 | | 1.669 | 7.242 | | |
| 3-,4-Methylphenol | 1.320 | 1.400 | 1.441 | 1.450 | 1.418 | 1.340 | 1.367 | 1.362 | | 1.387 | 3.430 | | |
| n-Nitrosopyrrolidine | 0.598 | 0.631 | 0.657 | 0.660 | 0.617 | 0.567 | 0.562 | 0.545 | | 0.605 | 7.253 | | |
| n-Nitrosodipropylamine | 0.945 | 0.980 | 0.981 | 0.941 | 0.866 | 0.749 | 0.726 | 0.689 | | 0.860 | 14.078 | | |
| Acetophenone | 1.944 | 1.871 | 1.908 | 1.833 | 1.714 | 1.473 | 1.439 | 1.394 | | 1.697 | 13.422 | | |
| n-Nitrosomorpholine | 0.856 | 0.833 | 0.831 | 0.800 | 0.730 | 0.631 | 0.613 | 0.586 | | 0.735 | 15.033 | | 0.999 |
| o-Toluidine | 2.065 | 2.161 | 2.209 | 2.193 | 2.195 | 1.984 | 2.014 | 1.987 | | 2.101 | 4.702 | | |
| Hexachloroethane | 0.574 | 0.578 | 0.598 | 0.602 | 0.609 | 0.557 | 0.566 | 0.561 | | 0.581 | 3.424 | | |
| Naphthalene-d8 | ISTD | | | | | | | | | | | | |
| Nitrobenzene-d5 | 0.313 | 0.322 | 0.340 | 0.349 | 0.340 | 0.330 | 0.333 | 0.321 | | 0.331 | 3.564 | | |
| Nitrobenzene | 0.358 | 0.347 | 0.357 | 0.361 | 0.351 | 0.335 | 0.333 | 0.322 | | 0.345 | 4.029 | | |
| n-Nitrosopiperidine | 0.168 | 0.172 | 0.177 | 0.186 | 0.182 | 0.175 | 0.175 | 0.170 | | 0.176 | 3.349 | | |
| Isophorone | 0.631 | 0.636 | 0.647 | 0.664 | 0.643 | 0.610 | 0.604 | 0.586 | | 0.628 | 4.102 | | |
| 2-Nitrophenol | 0.150 | 0.172 | 0.181 | 0.195 | 0.190 | 0.188 | 0.190 | 0.184 | | 0.181 | 7.907 | | |
| 2,4-Dimethylphenol | 0.302 | 0.310 | 0.316 | 0.327 | 0.316 | 0.300 | 0.303 | 0.290 | | 0.308 | 3.798 | | |
| 0,0,0-Triethyl Phosphorothioate | 0.169 | 0.166 | 0.167 | 0.167 | 0.153 | 0.142 | 0.137 | 0.132 | | 0.154 | 9.898 | | |
| bis(2-Chloroethoxy)methane | 0.558 | 0.533 | 0.527 | 0.528 | 0.481 | 0.430 | 0.408 | 0.386 | | 0.481 | 13.600 | | |
| Benzoic Acid | | 0.044 | 0.076 | 0.128 | 0.148 | 0.205 | 0.227 | 0.228 | | 0.151 | 48.557 | | 0.997 |
| 2,4-Dichlorophenol | 0.248 | 0.265 | 0.275 | 0.283 | 0.266 | 0.256 | 0.255 | 0.248 | | 0.262 | 4.820 | | |
| a,a-Dimethylphenethylamine | 0.493 | 0.796 | 0.841 | 0.901 | 0.863 | 0.852 | 0.882 | 0.875 | | 0.813 | 16.371 | 1.000 | |
| 1,2,4-Trichlorobenzene | 0.325 | 0.313 | 0.31 | 0.311 | 0.296 | 0.281 | 0.277 | 0.266 | | 0.29739 | 6.95845 | | |
| Naphthalene | 1.151 | 1.116 | 1.122 | 1.097 | 1.047 | 0.983 | 0.975 | 0.932 | | 1.0527 | 7.68927 | | |
| 4-Chloroaniline | 0.118 | 0.128 | 0.13 | 0.13 | 0.128 | 0.12 | 0.119 | 0.114 | | 0.12351 | 5.21849 | | |
| 2,6-Dichlorophenol | 0.248 | 0.265 | 0.275 | 0.283 | 0.266 | 0.256 | 0.255 | 0.248 | | 0.26209 | 4.8195 | | |
| Hexachloropropene | 0.154 | 0.174 | 0.178 | 0.187 | 0.184 | 0.18 | 0.18 | 0.171 | | 0.17576 | 5.83209 | | |
| Hexachlorobutadiene | 0.161 | 0.16 | 0.156 | 0.156 | 0.15 | 0.141 | 0.139 | 0.133 | | 0.14956 | 7.10512 | | |
| n-Nitrosodi-n-Butylamine | 0.278 | 0.286 | 0.301 | 0.306 | 0.288 | 0.265 | 0.261 | 0.25 | | 0.27951 | 7.04444 | | |
| p-Phenylenediamine | | 0.279 | 0.315 | 0.32 | 0.299 | 0.272 | 0.252 | 0.229 | | 0.2809 | 11.8677 | | |
| 4-Chloro-3-Methylphenol | 0.273 | 0.279 | 0.299 | 0.307 | 0.302 | 0.286 | 0.285 | 0.272 | | 0.28783 | 4.62548 | | |
| Safrole | 0.278 | 0.272 | 0.282 | 0.284 | 0.272 | 0.258 | 0.255 | 0.242 | | 0.26771 | 5.51687 | | |
| 2-Methylnaphthalene | 0.794 | 0.724 | 0.75 | 0.745 | 0.694 | 0.658 | 0.646 | 0.607 | | 0.70204 | 8.86869 | | |
| 1-Methylnaphthalene | 0.716 | 0.67 | 0.69 | 0.69 | 0.638 | 0.612 | 0.593 | 0.562 | | 0.64633 | 8.38669 | | |
| Acenaphthene-d10 | ISTD | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | 0.627 | 0.593 | 0.628 | 0.594 | 0.556 | 0.511 | 0.513 | 0.476 | | 0.5623 | 10.1741 | | |
| Hexachlorocyclopentadiene | 0.162 | 0.204 | 0.235 | 0.248 | 0.249 | 0.234 | 0.234 | 0.22 | | 0.22317 | 12.8705 | | |
| 2,4,6-Trichlorophenol | 0.331 | 0.372 | 0.407 | 0.414 | 0.402 | 0.385 | 0.385 | 0.369 | | 0.38326 | 6.9944 | | |
| 2,4,5-Trichlorophenol | 0.346 | 0.382 | 0.414 | 0.425 | 0.419 | 0.399 | 0.394 | 0.378 | | 0.39449 | 6.6365 | | |
| 2-Fluorobiphenyl | 1.548 | 1.446 | 1.504 | 1.467 | 1.389 | 1.286 | 1.265 | 1.194 | | 1.38745 | 9.1078 | | |
| Isosafrole | 0.551 | 0.554 | 0.586 | 0.586 | 0.56 | 0.532 | 0.522 | 0.503 | | 0.54906 | 5.31393 | | |
| 2-Chloronaphthalene | 1.43 | 1.355 | 1.395 | 1.37 | 1.276 | 1.192 | 1.157 | 1.128 | | 1.28771 | 9.04286 | | |
| 1-Chloronaphthalene | 1.331 | 1.24 | 1.282 | 1.247 | 1.159 | 1.067 | 1.039 | 0.99 | | 1.16912 | 10.6903 | | |
| 2-Nitroaniline | | 0.351 | 0.378 | 0.388 | 0.38 | 0.37 | 0.369 | 0.361 | | 0.37094 | 3.3152 | | |
| 1,4-Naphthoquinone | 0.329 | 0.412 | 0.464 | 0.474 | 0.44 | 0.38 | 0.341 | | | 0.4058 | 14.2339 | | |
| Dimethylphthalate | 1.542 | 1.489 | 1.549 | 1.541 | 1.459 | 1.367 | 1.35 | 1.312 | | 1.45095 | 6.59378 | | |
| 1,3-Dinitrobenzene | 0.179 | 0.234 | 0.255 | 0.269 | 0.267 | 0.266 | 0.266 | 0.263 | | 0.24976 | 12.2808 | | |
| 2,6-Dinitrotoluene | 0.3 | 0.331 | 0.354 | 0.362 | 0.347 | 0.339 | 0.34 | 0.334 | | 0.33846 | 5.50793 | | |
| Acenaphthylene | 2.15 | 2.107 | 2.197 | 2.138 | 1.996 | 1.83 | 1.778 | 1.691 | | 1.98576 | 9.77783 | | |
| 3-Nitroaniline | | 0.377 | 0.411 | 0.413 | 0.411 | 0.399 | 0.397 | 0.388 | | 0.39948 | 3.38184 | | |
| 2,4-Dinitrophenol | | 0.058 | 0.082 | 0.118 | 0.145 | 0.162 | 0.173 | 0.169 | | 0.12952 | 34.8845 | | 0.999 |
| Acenaphthene | 1.343 | 1.332 | 1.344 | 1.306 | 1.221 | 1.111 | 1.066 | 1.002 | | 1.21564 | 11.3452 | | |
| 4-Nitrophenol | | 0.235 | 0.261 | 0.269 | 0.268 | 0.248 | 0.241 | 0.226 | | 0.24957 | 6.64547 | | |
| 2,4-Dinitrotoluene | 0.344 | 0.437 | 0.454 | 0.474 | 0.463 | 0.445 | 0.445 | 0.426 | | 0.43614 | 9.17681 | | |
| Pentachlorobenzene | 0.535 | 0.499 | 0.509 | 0.5 | 0.476 | 0.442 | 0.445 | 0.425 | | 0.47887 | 8.02342 | | |
| Dibenzofuran | 2.018 | 1.935 | 1.957 | 1.906 | 1.79 | 1.64 | 1.608 | 1.528 | | 1.79773 | 10.2521 | | |
| 2,3,4,6-Tetrachlorophenol | 0.245 | 0.304 | 0.323 | 0.316 | 0.307 | 0.285 | 0.285 | 0.269 | | 0.29168 | 8.92305 | | |
| 1-Naphthylamine | 1.299 | 1.437 | 1.498 | 1.455 | 1.395 | 1.297 | 1.281 | 1.222 | | 1.36043 | 7.26045 | | |
| 2-Naphthylamine | 1.404 | 1.505 | 1.521 | 1.429 | 1.31 | 1.209 | 1.18 | 1.106 | | 1.33296 | 11.6912 | | |
| Diethylphthalate | 1.511 | 1.558 | 1.629 | 1.573 | 1.504 | 1.403 | 1.41 | 1.334 | | 1.49034 | 6.69347 | | |
| Thionazin | 0.205 | 0.238 | 0.26 | 0.252 | 0.243 | 0.228 | 0.227 | 0.215 | | 0.23349 | 7.96478 | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fluorene | 1.558 | 1.509 | 1.583 | 1.471 | 1.347 | 1.204 | 1.179 | 1.117 | 1.37088 | 13.4612 | | | |
| 4-Chlorophenyl Phenyl Ether | 0.764 | 0.746 | 0.769 | 0.745 | 0.702 | 0.649 | 0.641 | 0.611 | 0.70329 | 8.82355 | | | |
| 4-Nitroaniline | | 0.383 | 0.417 | 0.399 | 0.377 | 0.35 | 0.349 | 0.335 | 0.37277 | 7.92514 | | | |
| 5-Nitro-o-Toluidine | 0.372 | 0.417 | 0.453 | 0.435 | 0.403 | 0.368 | 0.361 | 0.345 | 0.3943 | 9.80306 | | | |
| 1,2-Diphenylhydrazine | 1.508 | 1.527 | 1.641 | 1.534 | 1.495 | 1.384 | 1.386 | 1.309 | 1.47289 | 7.20721 | | | |
| 2,4,6-Tribromophenol | 0.117 | 0.16 | 0.174 | 0.172 | 0.172 | 0.17 | 0.176 | 0.17 | 0.1638 | 11.8701 | | | |
| Phenanthrene-d10 | ISTD | | | | | | | | | | | | |
| 4,6-Dinitro-2-Methylphenol | | 0.071 | 0.096 | 0.117 | 0.13 | 0.136 | 0.142 | 0.142 | 0.11931 | 22.4178 | 1 | | |
| Diphenylamine/n-Nitrosodiphenylar | 0.735 | 0.738 | 0.756 | 0.731 | 0.683 | 0.635 | 0.629 | 0.602 | 0.68852 | 8.66497 | | | |
| Sulfotepp | 0.105 | 0.118 | 0.122 | 0.12 | 0.117 | 0.111 | 0.115 | 0.112 | 0.11519 | 4.79521 | | | |
| Sym-Trinitrobenzene | 0.067 | 0.123 | 0.154 | 0.221 | 0.189 | 0.191 | 0.199 | 0.194 | 0.16722 | 30.2511 | 0.995 | | |
| Diallate | 0.322 | 0.321 | 0.351 | 0.327 | 0.305 | 0.275 | 0.268 | 0.251 | 0.30243 | 11.3589 | | | |
| Phenacetin | 0.269 | 0.366 | 0.404 | 0.407 | 0.4 | 0.37 | 0.364 | 0.345 | 0.36574 | 12.2976 | | | |
| Phorate | 0.464 | 0.499 | 0.524 | 0.506 | 0.468 | 0.433 | 0.427 | 0.403 | 0.46558 | 9.14098 | | | |
| 4-Bromophenyl Phenyl Ether | 0.22 | 0.21 | 0.222 | 0.217 | 0.206 | 0.193 | 0.193 | 0.184 | 0.20556 | 6.92933 | | | |
| Hexachlorobenzene | 0.23 | 0.226 | 0.226 | 0.224 | 0.214 | 0.202 | 0.199 | 0.195 | 0.21436 | 6.51308 | | | |
| Dimethoate | 0.262 | 0.308 | 0.319 | 0.31 | 0.27 | 0.231 | 0.215 | 0.197 | 0.26397 | 17.6999 | | 0.999 | |
| 4-Aminobiphenyl | 0.777 | 0.867 | 0.907 | 0.917 | 0.889 | 0.836 | 0.811 | 0.801 | 0.85056 | 6.12089 | | | |
| Pentachlorophenol | | 0.081 | 0.097 | 0.115 | 0.127 | 0.128 | 0.128 | 0.127 | 0.11469 | 16.3679 | | | 1 |
| Pronamide | 0.28 | 0.328 | 0.344 | 0.351 | 0.344 | 0.322 | 0.317 | 0.309 | 0.3245 | 7.16685 | | | |
| Pentachloronitrobenzene | 0.067 | 0.076 | 0.081 | 0.083 | 0.083 | 0.079 | 0.078 | 0.076 | 0.0777 | 6.87485 | | | |
| Disulfoton | 0.363 | 0.408 | 0.424 | 0.433 | 0.409 | 0.382 | 0.376 | 0.362 | 0.39464 | 6.9327 | | | |
| Phenanthrene | 1.26 | 1.206 | 1.207 | 1.195 | 1.129 | 1.049 | 1.028 | 0.997 | 1.13373 | 8.65445 | | | |
| Anthracene | 1.22 | 1.22 | 1.248 | 1.242 | 1.182 | 1.092 | 1.078 | 1.04 | 1.16532 | 7.06777 | | | |
| Carbazole | 1.085 | 1.101 | 1.131 | 1.134 | 1.095 | 1.027 | 1.009 | 0.977 | 1.06997 | 5.46651 | | | |
| Parathion Methyl | 0.143 | 0.226 | 0.249 | 0.266 | 0.256 | 0.236 | 0.224 | 0.216 | 0.22686 | 16.7827 | 0.992 | | |
| Di-n-Butyl Phthalate | 1.209 | 1.351 | 1.418 | 1.429 | 1.41 | 1.303 | 1.282 | 1.247 | 1.33107 | 6.27861 | | | |
| Parathion Ethyl | 0.071 | 0.124 | 0.141 | 0.155 | 0.162 | 0.155 | 0.155 | 0.152 | 0.1394 | 21.6567 | 0.999 | | |
| 4-Nitroquinoline 1-Oxide | | 0.027 | 0.04 | 0.063 | 0.075 | 0.089 | 0.091 | 0.09 | 0.06781 | 38.162 | | 0.999 | |
| Methapyrilene | | 0.532 | 0.563 | 0.55 | 0.46 | 0.386 | 0.341 | 0.322 | 0.45042 | 22.507 | | 0.997 | |
| Isodrin | 0.128 | 0.129 | 0.131 | 0.132 | 0.129 | 0.121 | 0.122 | 0.119 | 0.12642 | 3.99485 | | | |
| Fluoranthene | 1.249 | 1.28 | 1.302 | 1.293 | 1.251 | 1.175 | 1.166 | 1.147 | 1.23293 | 4.98457 | | | |
| Chrysene-d12 | ISTD | | | | | | | | | | | | |
| Benzidine | | 0.473 | 0.557 | 0.617 | 0.644 | 0.643 | 0.64 | 0.62 | 0.59928 | 10.5407 | | | |
| Pyrene | 1.347 | 1.367 | 1.401 | 1.38 | 1.324 | 1.257 | 1.262 | 1.243 | 1.32256 | 4.64607 | | | |
| Aramite | 0.029 | 0.062 | 0.069 | 0.076 | 0.08 | 0.081 | 0.081 | 0.081 | 0.06984 | 25.8224 | 1 | | |
| p-Terphenyl-d14 | 0.871 | 0.85 | 0.854 | 0.844 | 0.8 | 0.751 | 0.758 | 0.745 | 0.80908 | 6.41542 | | | |
| p-(Dimethylamino)azobenzene | 0.168 | 0.228 | 0.249 | 0.266 | 0.261 | 0.254 | 0.259 | 0.257 | 0.24285 | 13.313 | | | |
| Chlorobenzilate | 0.24 | 0.302 | 0.322 | 0.339 | 0.335 | 0.325 | 0.337 | 0.331 | 0.31642 | 10.4991 | | | |
| Famphur | | | | | 0.154 | | | | 0.15433 | 0 | | | |
| Butyl Benzyl Phthalate | 0.558 | 0.651 | 0.663 | 0.648 | 0.603 | 0.538 | 0.523 | 0.503 | 0.58577 | 10.8655 | | | |
| 3,3'-Dimethylbenzidine | 0.75 | 0.928 | 1.068 | 1.119 | 1.009 | 0.917 | 0.889 | 0.849 | 0.94116 | 12.7697 | | | |
| 2-Acetylaminofluorene | 0.159 | 0.336 | 0.41 | 0.486 | 0.522 | 0.525 | 0.526 | 0.523 | 0.43607 | 30.1401 | 0.999 | | |
| bis(2-Ethylhexyl)phthalate | 0.595 | 0.793 | 0.857 | 0.877 | 0.857 | 0.787 | 0.772 | 0.745 | 0.347 | 0.73668 | 22.8898 | 0.996 | |
| 3,3'-Dichlorobenzidine | 0.306 | 0.382 | 0.41 | 0.425 | 0.397 | 0.372 | 0.367 | 0.361 | 0.37754 | 9.61978 | | | |
| Benzo[a]anthracene | 1.181 | 1.21 | 1.235 | 1.213 | 1.181 | 1.114 | 1.112 | 1.092 | 1.16726 | 4.63198 | | | |
| Chrysene | 1.167 | 1.138 | 1.155 | 1.151 | 1.093 | 1.031 | 1.013 | 1.004 | 1.09382 | 6.26791 | | | |
| Perylene-d12 | ISTD | | | | | | | | | | | | |
| Di-n-Octyl Phthalate | 1.364 | 1.142 | 1.348 | 1.513 | 1.525 | 1.548 | 1.582 | 1.525 | 1.44341 | 10.3012 | | | |
| 7,12-Dimethylbenz[a]anthracene | 0.488 | 0.529 | 0.555 | 0.542 | 0.522 | 0.5 | 0.507 | 0.501 | 0.51811 | 4.44032 | | | |
| Benzo[b]fluoranthene | 1.212 | 1.176 | 1.198 | 1.254 | 1.17 | 1.047 | 1.098 | 1.07 | 1.15324 | 6.35221 | | | |
| Benzo[k]fluoranthene | 1.094 | 1.094 | 1.135 | 1.129 | 1.155 | 1.055 | 1.131 | 1.103 | 1.112 | 2.85328 | | | |
| Benzo[a]pyrene | 0.891 | 1.021 | 1.092 | 1.123 | 1.14 | 1.087 | 1.097 | 1.074 | 1.06573 | 7.39412 | | | |
| 3-Methylcholanthrene | 0.352 | 0.461 | 0.518 | 0.537 | 0.57 | 0.555 | 0.553 | 0.53 | 0.5095 | 14.0968 | | | |
| Indeno[1,2,3-cd]pyrene | 0.887 | 1.087 | 1.183 | 1.209 | 1.222 | 1.127 | 1.064 | 1.033 | 1.10141 | 10.0501 | | | |
| Dibenz[ah]anthracene | 0.734 | 0.91 | 0.99 | 1.02 | 1.035 | 0.959 | 0.907 | 0.877 | 0.92902 | 10.4493 | | | |
| Benzo[ghi]perylene | 0.736 | 0.896 | 0.98 | 1.001 | 1.039 | 0.951 | 0.886 | 0.867 | 0.91958 | 10.3688 | | | |

Fri Aug 18 14:31:58 2017

Calibration Table Report
Method: TCL.M
Title: OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
Last Calibration: Thu Aug 17 10:56:35 2017
Curve: WG626039
Calibration Files

| Compound | 3<br>19M000324.D | 10<br>19M000325.D | 25<br>19M000326.D | 50<br>19M000323.D | 80<br>19M000327.D | 100<br>19M000328.D | 120<br>19M000329.D | Avg | %RSD | Linear |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | ISTD | | | | | | | | | |
| Benzaldehyde | 0.889 | 1.009 | 0.980 | 0.993 | 0.951 | 0.933 | 0.922 | 0.954 | 4.467 | |
| Naphthalene-d8 | ISTD | | | | | | | | | |
| Alpha-Terpineol | 0.241 | 0.278 | 0.273 | 0.276 | 0.253 | 0.245 | 0.246 | 0.259 | 6.231 | |
| Caprolactam | 0.078 | 0.125 | 0.138 | 0.149 | 0.142 | 0.141 | 0.149 | 0.132 | 19.028 | 0.999 |
| Acenaphthene-d10 | ISTD | | | | | | | | | |
| 1,1'-Biphenyl | 1.696 | 1.819 | 1.691 | 1.610 | 1.512 | 1.447 | 1.485 | 1.609 | 8.395 | |
| Phenanthrene-d10 | ISTD | | | | | | | | | |
| Atrazine | 0.159 | 0.207 | 0.213 | 0.217 | 0.209 | 0.201 | 0.201 | 0.201 | 9.681 | |

Thu Aug 17 10:58:31 2017

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081498 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: WATERLOO
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: 5460104
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081498 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: WATERLOO
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: 5460104
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number:L17081498 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: 5460104
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081498 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 |
|---|---|---|---|---|---|---|---|---|
| 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

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5460104
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081498 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: WATERLOO
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: 5460104
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number:L17081498 Run Date:08/15/2017 Sample ID:WG625881-11
Instrument ID:HPMS19 Run Time:21:00 Method:8270D
File ID:19M000316 Analyst:SCB QC Key:WATERLOO
ICal Workgroup:WG625881 Cal ID:HPMS19 - 15-AUG-17

| Analyte | | Expected | Found | Units | RF | %D | UCL | Q |
|---|---|---|---|---|---|---|---|---|
| 2,4,6-Trichlorophenol | CCC | 50000 | 53100 | ug/L | 0.407 | 6.10 | 25 | |
| 2,4-Dichlorophenol | CCC | 50000 | 54000 | ug/L | 0.283 | 8.00 | 25 | |
| 2-Nitrophenol | CCC | 50000 | 54000 | ug/L | 0.196 | 8.00 | 25 | |
| Acenaphthene | CCC | 50000 | 54000 | ug/L | 1.31 | 8.00 | 25 | |
| Benzo[a]pyrene | CCC | 50000 | 51400 | ug/L | 1.10 | 2.70 | 25 | |
| Di-n-Octyl Phthalate | CCC | 50000 | 56200 | ug/L | 1.62 | 12.5 | 25 | |
| Fluoranthene | CCC | 50000 | 49700 | ug/L | 1.23 | 0.600 | 25 | |
| Hexachlorobutadiene | CCC | 50000 | 55500 | ug/L | 0.166 | 11.1 | 25 | |
| Diphenylamine/n-Nitrosodiphenylamine | CCC | 50000 | 50800 | ug/L | 0.700 | 1.70 | 25 | |
| Pentachlorophenol | CCC | 50000 | 62200 | ug/L | 0.159 | 24.3 | 25 | |
| Phenol | CCC | 50000 | 51500 | ug/L | 1.68 | 3.00 | 25 | |
| n-Nitrosodipropylamine | SPCC | 50000 | 52600 | ug/L | 0.905 | 5.30 | 25 | |
| 2,4-Dinitrophenol | SPCC | 50000 | 64700 | ug/L | 0.203 | 29.5 | 25 | * |
| 4-Nitrophenol | SPCC | 50000 | 55600 | ug/L | 0.277 | 11.1 | 25 | |
| Hexachlorocyclopentadiene | SPCC | 50000 | 62000 | ug/L | 0.277 | 23.9 | 25 | |
| 1,3-Dinitrobenzene | | 50000 | 52700 | ug/L | 0.263 | 5.40 | 25 | |
| 2,4,5-Trichlorophenol | | 50000 | 51600 | ug/L | 0.407 | 3.20 | 25 | |
| 2,4-Dimethylphenol | | 50000 | 53600 | ug/L | 0.330 | 7.20 | 25 | |
| 2,4-Dinitrotoluene | | 50000 | 53600 | ug/L | 0.467 | 7.10 | 25 | |
| 2,6-Dinitrotoluene | | 50000 | 52800 | ug/L | 0.358 | 5.70 | 25 | |
| 2-Chloronaphthalene | | 50000 | 56200 | ug/L | 1.45 | 12.3 | 25 | |
| 2-Chlorophenol | | 50000 | 52700 | ug/L | 1.48 | 5.40 | 25 | |
| 2-Methylnaphthalene | | 50000 | 48500 | ug/L | 0.680 | 3.10 | 25 | |
| 2-Methylphenol | | 50000 | 50600 | ug/L | 1.01 | 1.30 | 25 | |
| 2-Nitroaniline | | 50000 | 54600 | ug/L | 0.405 | 9.30 | 25 | |
| 3-Nitroaniline | | 50000 | 52400 | ug/L | 0.418 | 4.70 | 25 | |
| 3-,4-Methylphenol | | 50000 | 52100 | ug/L | 1.45 | 4.20 | 25 | |
| 4-Bromophenyl Phenyl Ether | | 50000 | 51500 | ug/L | 0.212 | 3.00 | 25 | |
| 4-Chloroaniline | | 50000 | 50800 | ug/L | 0.126 | 1.70 | 25 | |
| Acenaphthylene | | 50000 | 50200 | ug/L | 1.99 | 0.400 | 25 | |
| Anthracene | | 50000 | 50000 | ug/L | 1.16 | 0.100 | 25 | |
| Benzo[a]anthracene | | 50000 | 49600 | ug/L | 1.16 | 0.700 | 25 | |
| Benzo[b]fluoranthene | | 50000 | 53300 | ug/L | 1.23 | 6.70 | 25 | |
| Benzo[ghi]perylene | | 50000 | 53400 | ug/L | 0.981 | 6.70 | 25 | |
| Benzo[k]fluoranthene | | 50000 | 48500 | ug/L | 1.08 | 3.10 | 25 | |
| Benzoic Acid | | 50000 | 58900 | ug/L | 0.212 | 17.8 | 25 | |
| Benzyl Alcohol | | 50000 | 53100 | ug/L | 0.958 | 6.20 | 25 | |
| bis(2-Chloroethyl)ether | | 50000 | 50400 | ug/L | 1.04 | 0.700 | 25 | |
| bis(2-Chloroethoxy)methane | | 50000 | 52500 | ug/L | 0.505 | 4.90 | 25 | |
| bis(2-Ethylhexyl)phthalate | | 50000 | 58000 | ug/L | 0.912 | 15.9 | 25 | |
| Butyl Benzyl Phthalate | | 50000 | 55800 | ug/L | 0.654 | 11.7 | 25 | |
| Carbazole | | 50000 | 53200 | ug/L | 1.14 | 6.30 | 25 | |

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5460104
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081498 Run Date: 08/15/2017 Sample ID: WG625881-11
Instrument ID: HPMS19 Run Time: 21:00 Method: 8270D
File ID: 19M000316 Analyst: SCB QC Key: WATERLOO
ICal Workgroup: WG625881 Cal ID: HPMS19 - 15-AUG-17

| Analyte | | Expected | Found | Units | RF | %D | UCL | Q |
|---|---|---|---|---|---|---|---|---|
| Chrysene | | 50000 | 51000 | ug/L | 1.12 | 2.00 | 25 | |
| Di-n-Butyl Phthalate | | 50000 | 55200 | ug/L | 1.47 | 10.4 | 25 | |
| Dibenz[ah]anthracene | | 50000 | 54600 | ug/L | 1.01 | 9.10 | 25 | |
| Dibenzofuran | | 50000 | 49900 | ug/L | 1.80 | 0.100 | 25 | |
| Diethylphthalate | | 50000 | 51200 | ug/L | 1.53 | 2.50 | 25 | |
| Dimethylphthalate | | 50000 | 52500 | ug/L | 1.52 | 5.00 | 25 | |
| Fluorene | | 50000 | 51800 | ug/L | 1.42 | 3.50 | 25 | |
| Hexachlorobenzene | | 50000 | 50000 | ug/L | 0.214 | 0 | 25 | |
| Hexachloroethane | | 50000 | 49900 | ug/L | 0.580 | 0.200 | 25 | |
| Indeno[1,2,3-cd]pyrene | | 50000 | 53300 | ug/L | 1.18 | 6.70 | 25 | |
| Isophorone | | 50000 | 52600 | ug/L | 0.660 | 5.20 | 25 | |
| Naphthalene | | 50000 | 50200 | ug/L | 1.06 | 0.400 | 25 | |
| Nitrobenzene | | 50000 | 52600 | ug/L | 0.363 | 5.10 | 25 | |
| Phenanthrene | | 50000 | 49700 | ug/L | 1.13 | 0.500 | 25 | |
| Pyrene | | 50000 | 49500 | ug/L | 1.31 | 1.00 | 25 | |

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5460104
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081498 Run Date: 08/15/2017 Sample ID: WG625881-12
Instrument ID: HPMS19 Run Time: 21:30 Method: 8270D
File ID: 19M000317 Analyst: SCB QC Key: WATERLOO
ICal Workgroup: WG625881 Cal ID: HPMS19 - 15-AUG-17

| Analyte | | Expected | Found | Units | RF | %D | UCL | Q |
|---|---|---|---|---|---|---|---|---|
| 1,4-Dioxane | | 50000 | 47400 | ug/L | 0.551 | 5.10 | 25 | |

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

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Version 1.5 PDF File ID: 5460104
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081498 Run Date: 08/15/2017 Sample ID: WG625881-13
Instrument ID: HPMS19 Run Time: 22:01 Method: 8270D
File ID: 19M000318 Analyst: SCB QC Key: WATERLOO
ICal Workgroup: WG625881 Cal ID: HPMS19 - 15-AUG-17

| Analyte | | Expected | Found | Units | RF | %D | UCL | Q |
|---|---|---|---|---|---|---|---|---|
| 3,3'-Dichlorobenzidine | | 50000 | 60800 | ug/L | 0.459 | 21.6 | 25 | |

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5460104
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081498 Run Date: 08/16/2017 Sample ID: WG626039-09
Instrument ID: HPMS19 Run Time: 15:45 Method: 8270D
File ID: 19M000330 Analyst: SCB QC Key: WATERLOO
ICal Workgroup: WG626039 Cal ID: HPMS19 - 16-AUG-17

| Analyte | | Expected | Found | Units | RF | %D | UCL | Q |
|---|---|---|---|---|---|---|---|---|
| 1,1'-Biphenyl | | 50000 | 50700 | ug/L | 1.63 | 1.30 | 25 | |

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5460104
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 08/31/2017 Sample ID: WG627960-02
Instrument ID: HPMS12 Run Time: 09:39 Method: 8270D
File ID: 12M64165 Analyst: SCB QC Key: WATERLOO
Workgroup (AAB#): WG627873 Cal ID: HPMS12 - 03-AUG-17
Matrix: WATER

| Analyte | | Expected | Found | UNITS | RF | %D | UCL | Q |
|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | CCC | 50000 | 51500 | ug/L | 1.52 | 2.95 | 20 | |
| 4-Chloro-3-Methylphenol | CCC | 50000 | 53300 | ug/L | 0.377 | 6.52 | 20 | |
| 2,4,6-Trichlorophenol | CCC | 50000 | 52100 | ug/L | 0.435 | 4.23 | 20 | |
| 2,4-Dichlorophenol | CCC | 50000 | 52900 | ug/L | 0.300 | 5.75 | 20 | |
| 2-Nitrophenol | CCC | 50000 | 50300 | ug/L | 0.189 | 0.596 | 20 | |
| Acenaphthene | CCC | 50000 | 55600 | ug/L | 1.43 | 11.3 | 20 | |
| Benzo[a]pyrene | CCC | 50000 | 54500 | ug/L | 1.20 | 8.99 | 20 | |
| Di-n-Octyl Phthalate | CCC | 50000 | 50700 | ug/L | 1.51 | 1.46 | 20 | |
| Fluoranthene | CCC | 50000 | 51000 | ug/L | 1.24 | 2.03 | 20 | |
| Hexachlorobutadiene | CCC | 50000 | 53400 | ug/L | 0.203 | 6.80 | 20 | |
| Diphenylamine/n-Nitrosodiphenylamine | CCC | 50000 | 52200 | ug/L | 0.698 | 4.34 | 20 | |
| Pentachlorophenol | CCC | 50000 | 49400 | ug/L | 0.134 | 1.29 | 20 | |
| Phenol | CCC | 50000 | 56500 | ug/L | 1.79 | 12.9 | 20 | |
| n-Nitrosodipropylamine | SPCC | 50000 | 57900 | ug/L | 1.14 | 15.8 | 20 | |
| 2,4-Dinitrophenol | SPCC | 50000 | 56800 | ug/L | 0.245 | 13.6 | 20 | |
| 4-Nitrophenol | SPCC | 50000 | 60900 | ug/L | 0.389 | 21.8 | 20 | * |
| Hexachlorocyclopentadiene | SPCC | 50000 | 52600 | ug/L | 0.328 | 5.11 | 20 | |
| Sym-Trinitrobenzene | | 50000 | 54300 | ug/L | 0.281 | 8.59 | 20 | |
| 1,3-Dinitrobenzene | | 50000 | 49400 | ug/L | 0.249 | 1.24 | 20 | |
| 1,4-Dioxane | | 50000 | 51500 | ug/L | 0.539 | 2.97 | 20 | |
| 2,4,5-Trichlorophenol | | 50000 | 51700 | ug/L | 0.451 | 3.37 | 20 | |
| 2,4-Dimethylphenol | | 50000 | 48800 | ug/L | 0.305 | 2.41 | 20 | |
| 2,4-Dinitrotoluene | | 50000 | 52200 | ug/L | 0.493 | 4.46 | 20 | |
| 2,6-Dinitrotoluene | | 50000 | 50600 | ug/L | 0.348 | 1.26 | 20 | |
| 2-Chloronaphthalene | | 50000 | 51300 | ug/L | 1.30 | 2.64 | 20 | |
| 2-Chlorophenol | | 50000 | 49300 | ug/L | 1.31 | 1.44 | 20 | |
| 2-Methylnaphthalene | | 50000 | 52100 | ug/L | 0.752 | 4.25 | 20 | |
| 2-Methylphenol | | 50000 | 54600 | ug/L | 1.24 | 9.18 | 20 | |
| 2-Nitroaniline | | 50000 | 56800 | ug/L | 0.466 | 13.5 | 20 | |
| 3-Nitroaniline | | 50000 | 48900 | ug/L | 0.345 | 2.19 | 20 | |
| 3,3'-Dichlorobenzidine | | 50000 | 55400 | ug/L | 0.451 | 10.8 | 20 | |
| 3-,4-Methylphenol | | 50000 | 51800 | ug/L | 1.49 | 3.62 | 20 | |
| 4-Bromophenyl Phenyl Ether | | 50000 | 53100 | ug/L | 0.223 | 6.11 | 20 | |
| 4-Chloroaniline | | 50000 | 57100 | ug/L | 0.168 | 14.2 | 20 | |
| Acenaphthylene | | 50000 | 53800 | ug/L | 2.16 | 7.68 | 20 | |
| Anthracene | | 50000 | 51400 | ug/L | 1.18 | 2.75 | 20 | |
| Benzo[a]anthracene | | 50000 | 54400 | ug/L | 1.29 | 8.83 | 20 | |
| Benzo[b]fluoranthene | | 50000 | 55900 | ug/L | 1.49 | 11.8 | 20 | |
| Benzo[ghi]perylene | | 50000 | 57700 | ug/L | 1.11 | 15.4 | 20 | |
| Benzo[k]fluoranthene | | 50000 | 53100 | ug/L | 1.19 | 6.23 | 20 | |
| Benzoic Acid | | 50000 | 30800 | ug/L | 0.0799 | 38.5 | 20 | * |
| Benzyl Alcohol | | 50000 | 54500 | ug/L | 0.924 | 9.07 | 20 | |

CCV - Modified 03/05/2008
PDF File ID: 5460106
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 08/31/2017 Sample ID: WG627960-02
Instrument ID: HPMS12 Run Time: 09:39 Method: 8270D
File ID: 12M64165 Analyst: SCB QC Key: WATERLOO
Workgroup (AAB#): WG627873 Cal ID: HPMS12 - 03-AUG-17
Matrix: WATER

| Analyte | | Expected | Found | UNITS | RF | %D | UCL | Q |
|---|---|---|---|---|---|---|---|---|
| bis(2-Chloroethyl)ether | | 50000 | 56600 | ug/L | 1.05 | 13.3 | 20 | |
| bis(2-Chloroethoxy)methane | | 50000 | 56300 | ug/L | 0.608 | 12.7 | 20 | |
| bis(2-Ethylhexyl)phthalate | | 50000 | 55800 | ug/L | 0.899 | 11.6 | 20 | |
| Butyl Benzyl Phthalate | | 50000 | 57700 | ug/L | 0.725 | 15.5 | 20 | |
| Carbazole | | 50000 | 50700 | ug/L | 1.00 | 1.38 | 20 | |
| Chrysene | | 50000 | 54500 | ug/L | 1.17 | 8.92 | 20 | |
| Di-n-Butyl Phthalate | | 50000 | 51800 | ug/L | 1.36 | 3.58 | 20 | |
| Dibenz[ah]anthracene | | 50000 | 55700 | ug/L | 1.15 | 11.4 | 20 | |
| Dibenzofuran | | 50000 | 51900 | ug/L | 1.87 | 3.71 | 20 | |
| Diethylphthalate | | 50000 | 53200 | ug/L | 1.62 | 6.31 | 20 | |
| Dimethylphthalate | | 50000 | 51500 | ug/L | 1.52 | 2.91 | 20 | |
| Fluorene | | 50000 | 56300 | ug/L | 1.73 | 12.6 | 20 | |
| Hexachlorobenzene | | 50000 | 50800 | ug/L | 0.221 | 1.61 | 20 | |
| Hexachloroethane | | 50000 | 53200 | ug/L | 0.662 | 6.46 | 20 | |
| Indeno[1,2,3-cd]pyrene | | 50000 | 58500 | ug/L | 1.41 | 17.1 | 20 | |
| Isophorone | | 50000 | 54700 | ug/L | 0.750 | 9.38 | 20 | |
| Naphthalene | | 50000 | 48700 | ug/L | 1.04 | 2.51 | 20 | |
| Nitrobenzene | | 50000 | 56000 | ug/L | 0.442 | 11.9 | 20 | |
| Phenanthrene | | 50000 | 50900 | ug/L | 1.12 | 1.87 | 20 | |
| Pyrene | | 50000 | 52000 | ug/L | 1.30 | 3.92 | 20 | |

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5460106
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 09/12/2017 Sample ID: WG629380-02

Instrument ID: HPMS19 Run Time: 14:21 Method: 8270D

File ID: 19M000498 Analyst: MES QC Key: WATERLOO

Workgroup (AAB#): WG628781 Cal ID: HPMS19 - 15-AUG-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | RF | %D | UCL | Q |
|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | CCC | 50000 | 50400 | ug/L | 1.53 | 0.707 | 20 | |
| 4-Chloro-3-Methylphenol | CCC | 50000 | 53800 | ug/L | 0.310 | 7.55 | 20 | |
| 2,4,6-Trichlorophenol | CCC | 50000 | 53000 | ug/L | 0.407 | 6.07 | 20 | |
| 2,4-Dichlorophenol | CCC | 50000 | 52200 | ug/L | 0.274 | 4.38 | 20 | |
| 2-Nitrophenol | CCC | 50000 | 55300 | ug/L | 0.200 | 10.5 | 20 | |
| Acenaphthene | CCC | 50000 | 48900 | ug/L | 1.19 | 2.16 | 20 | |
| Benzo[a]pyrene | CCC | 50000 | 52100 | ug/L | 1.11 | 4.16 | 20 | |
| Di-n-Octyl Phthalate | CCC | 50000 | 54300 | ug/L | 1.57 | 8.63 | 20 | |
| Fluoranthene | CCC | 50000 | 50700 | ug/L | 1.25 | 1.31 | 20 | |
| Hexachlorobutadiene | CCC | 50000 | 50700 | ug/L | 0.152 | 1.40 | 20 | |
| Diphenylamine/n-Nitrosodiphenylamine | CCC | 50000 | 48700 | ug/L | 0.671 | 2.60 | 20 | |
| Pentachlorophenol | CCC | 50000 | 54000 | ug/L | 0.137 | 7.90 | 20 | |
| Phenol | CCC | 50000 | 50800 | ug/L | 1.66 | 1.61 | 20 | |
| n-Nitrosodipropylamine | SPCC | 50000 | 49300 | ug/L | 0.847 | 1.45 | 20 | |
| 2,4-Dinitrophenol | SPCC | 50000 | 55700 | ug/L | 0.170 | 11.4 | 20 | |
| 4-Nitrophenol | SPCC | 50000 | 55000 | ug/L | 0.275 | 10.1 | 20 | |
| Hexachlorocyclopentadiene | SPCC | 50000 | 57200 | ug/L | 0.256 | 14.5 | 20 | |

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5460106
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 09/12/2017 Sample ID: WG629382-01
Instrument ID: HPMS19 Run Time: 14:52 Method: 8270D
File ID: 19M000499 Analyst: MES QC Key: WATERLOO
Workgroup (AAB#): WG628781 Cal ID: HPMS19 - 16-AUG-17
Matrix: WATER

| Analyte | | Expected | Found | UNITS | RF | %D | UCL | Q |
|---|---|---|---|---|---|---|---|---|
| 1,1'-Biphenyl | | 50000 | 49100 | ug/L | 1.58 | 1.83 | 20 | |

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5460106
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 09/13/2017 Sample ID: WG629552-02

Instrument ID: HPMS19 Run Time: 13:54 Method: 8270D

File ID: 19M000540 Analyst: SCB QC Key: WATERLOO

Workgroup (AAB#): WG628781 Cal ID: HPMS19 - 15-AUG-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | RF | %D | UCL | Q |
|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | CCC | 50000 | 49800 | ug/L | 1.51 | 0.369 | 20 | |
| 4-Chloro-3-Methylphenol | CCC | 50000 | 52900 | ug/L | 0.304 | 5.72 | 20 | |
| 2,4,6-Trichlorophenol | CCC | 50000 | 52600 | ug/L | 0.403 | 5.25 | 20 | |
| 2,4-Dichlorophenol | CCC | 50000 | 51800 | ug/L | 0.272 | 3.70 | 20 | |
| 2-Nitrophenol | CCC | 50000 | 55600 | ug/L | 0.202 | 11.2 | 20 | |
| Acenaphthene | CCC | 50000 | 49100 | ug/L | 1.20 | 1.70 | 20 | |
| Benzo[a]pyrene | CCC | 50000 | 53200 | ug/L | 1.13 | 6.48 | 20 | |
| Di-n-Octyl Phthalate | CCC | 50000 | 54900 | ug/L | 1.59 | 9.82 | 20 | |
| Fluoranthene | CCC | 50000 | 50200 | ug/L | 1.24 | 0.491 | 20 | |
| Hexachlorobutadiene | CCC | 50000 | 50400 | ug/L | 0.151 | 0.821 | 20 | |
| Diphenylamine/n-Nitrosodiphenylamine | CCC | 50000 | 48500 | ug/L | 0.668 | 2.95 | 20 | |
| Pentachlorophenol | CCC | 50000 | 50500 | ug/L | 0.128 | 0.959 | 20 | |
| Phenol | CCC | 50000 | 50700 | ug/L | 1.66 | 1.34 | 20 | |
| n-Nitrosodipropylamine | SPCC | 50000 | 49700 | ug/L | 0.854 | 0.688 | 20 | |
| 2,4-Dinitrophenol | SPCC | 50000 | 58100 | ug/L | 0.179 | 16.3 | 20 | |
| 4-Nitrophenol | SPCC | 50000 | 53700 | ug/L | 0.268 | 7.34 | 20 | |
| Hexachlorocyclopentadiene | SPCC | 50000 | 56100 | ug/L | 0.251 | 12.3 | 20 | |

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5460106
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 09/13/2017 Sample ID: WG629570-01
Instrument ID: HPMS19 Run Time: 14:25 Method: 8270D
File ID: 19M000541 Analyst: SCB QC Key: WATERLOO
Workgroup (AAB#): WG628781 Cal ID: HPMS19 - 16-AUG-17
Matrix: WATER

| Analyte | | Expected | Found | UNITS | RF | %D | UCL | Q |
|---|---|---|---|---|---|---|---|---|
| 1,1'-Biphenyl | | 50000 | 49300 | ug/L | 1.59 | 1.47 | 20 | |

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5460106
Report generated 09/18/2017 08:43

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L17081498
Instrument ID: HPMS12
Workgroup (AAB#): WG627873

CCV Number: WG627960-02
CAL ID: HPMS12-03-AUG-17
Matrix: WATER

| Sample Number | Dilution | Tag | IS-1 | IS-2 | IS-3 | IS-4 | IS-5 | IS-6 |
|---|---|---|---|---|---|---|---|---|
| WG627960-02 | NA | NA | 137292 | 287085 | 573212 | 531324 | 583182 | 579985 |
| Upper Limit | NA | NA | 274584 | 574170 | 1146424 | 1062648 | 1166364 | 1159970 |
| Lower Limit | NA | NA | 68646 | 143543 | 286606 | 265662 | 291591 | 289993 |
| L17081498-01 | 1.00 | 01 | 115676 | 239487 | 466744 | 436665 | 456067 | 469328 |
| L17081498-03 | 1.00 | 01 | 114778 | 233685 | 453295 | 427416 | 445545 | 459769 |
| L17081498-05 | 1.00 | 01 | 111413 | 231920 | 480940 | 428837 | 471710 | 465541 |
| L17081498-06 | 1.00 | 01 | 115694 | 241376 | 468159 | 433111 | 463625 | 480962 |
| L17081498-07 | 1.00 | 01 | 115184 | 242570 | 423053 | 436007 | 451067 | 472753 |
| L17081498-09 | 1.00 | 01 | 110599 | 227163 | 434404 | 417493 | 428688 | 447437 |
| WG627606-01 | 1.00 | 01 | 116438 | 243920 | 474721 | 440703 | 458100 | 481758 |
| WG627757-01 | 1.00 | 01 | 113492 | 234091 | 453669 | 422424 | 447901 | 459520 |
| WG627757-02 | 1.00 | 01 | 114110 | 235754 | 483676 | 447012 | 482650 | 482943 |

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 - Modified 03/06/2008
PDF File ID: 5460107
Report generated 09/18/2017 08:44

**Microbac Laboratories Inc.**

**INTERNAL STANDARD AREA SUMMARY**
**(COMPARED TO CCV)**

**Login Number:** L17081498 **CCV Number:** WG629380-02
**Instrument ID:** HPMS19 **CAL ID:** HPMS19-15-AUG-17
**Workgroup (AAB#):** WG628781 **Matrix:** WATER

| Sample Number | Dilution | Tag | IS-1 | IS-2 | IS-3 | IS-4 | IS-5 | IS-6 |
|---|---|---|---|---|---|---|---|---|
| WG629380-02 | NA | NA | 147011 | 292133 | 539546 | 578835 | 558287 | 559727 |
| Upper Limit | NA | NA | 294022 | 584266 | 1079092 | 1157670 | 1116574 | 1119454 |
| Lower Limit | NA | NA | 73506 | 146067 | 269773 | 289418 | 279144 | 279864 |
| WG628510-01 | 1.00 | 01 | 123066 | 245282 | 446471 | 486933 | 431214 | 468068 |
| WG628510-02 | 1.00 | 01 | 129029 | 261851 | 479844 | 515616 | 487876 | 494122 |
| WG628510-03 | 1.00 | 01 | 127753 | 258686 | 465325 | 513517 | 473550 | 486981 |

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 - Modified 03/06/2008
PDF File ID: 5460107
Report generated 09/18/2017 08:44

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L17081498
Instrument ID: HPMS19
Workgroup (AAB#): WG628781

CCV Number: WG629552-02
CAL ID: HPMS19-15-AUG-17
Matrix: WATER

| Sample Number | Dilution | Tag | IS-1 | IS-2 | IS-3 | IS-4 | IS-5 | IS-6 |
|---|---|---|---|---|---|---|---|---|
| WG629552-02 | NA | NA | 138971 | 277971 | 510914 | 550473 | 535804 | 531657 |
| Upper Limit | NA | NA | 277942 | 555942 | 1021828 | 1100946 | 1071608 | 1063314 |
| Lower Limit | NA | NA | 69486 | 138986 | 255457 | 275237 | 267902 | 265829 |
| L17081498-01 | 1.00 | RE | 121442 | 240637 | 437688 | 481437 | 437122 | 455377 |
| L17081498-03 | 1.00 | RE | 161387 | 314188 | 571967 | 629020 | 574385 | 594735 |
| L17081498-05 | 1.00 | RE | 120302 | 239817 | 438018 | 481961 | 453661 | 458774 |
| L17081498-06 | 1.00 | RE | 121278 | 242023 | 440490 | 487227 | 455167 | 456277 |
| L17081498-07 | 1.00 | RE | 119540 | 236665 | 431825 | 472874 | 425560 | 448448 |
| L17081498-09 | 1.00 | RE | 117682 | 232799 | 422530 | 467895 | 411441 | 439483 |

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 - Modified 03/06/2008
PDF File ID: 5460107
Report generated 09/18/2017 08:44

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number:L17081498 CCV Number:WG627960-02
Instrument ID:HPMS12 CAL ID: HPMS12-03-AUG-17
Workgroup (AAB#):WG627873 Matrix:WATER

| Sample Number | Dilution | Tag | IS-1 | IS-2 | IS-3 | IS-4 | IS-5 | IS-6 |
|---|---|---|---|---|---|---|---|---|
| WG627960-02 | NA | NA | 7.83 | 10.93 | 16.24 | 9.12 | 19.09 | 12.55 |
| Upper Limit | NA | NA | 8.33 | 11.43 | 16.74 | 9.62 | 19.59 | 13.05 |
| Lower Limit | NA | NA | 7.33 | 10.43 | 15.74 | 8.62 | 18.59 | 12.05 |
| L17081498-01 | 1.00 | 01 | 7.828 | 10.932 | 16.237 | 9.121 | 19.084 | 12.546 |
| L17081498-03 | 1.00 | 01 | 7.829 | 10.932 | 16.237 | 9.121 | 19.079 | 12.546 |
| L17081498-05 | 1.00 | 01 | 7.828 | 10.932 | 16.242 | 9.121 | 19.085 | 12.546 |
| L17081498-06 | 1.00 | 01 | 7.829 | 10.932 | 16.243 | 9.121 | 19.085 | 12.546 |
| L17081498-07 | 1.00 | 01 | 7.828 | 10.932 | 16.237 | 9.121 | 19.085 | 12.546 |
| L17081498-09 | 1.00 | 01 | 7.828 | 10.932 | 16.237 | 9.121 | 19.084 | 12.546 |
| WG627606-01 | 1.00 | 01 | 7.829 | 10.932 | 16.237 | 9.121 | 19.085 | 12.546 |
| WG627757-01 | 1.00 | 01 | 7.828 | 10.932 | 16.237 | 9.121 | 19.085 | 12.546 |
| WG627757-02 | 1.00 | 01 | 7.829 | 10.932 | 16.243 | 9.121 | 19.09 | 12.546 |

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: 5460109
Report generated 09/18/2017 08:44

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number: L17081498 CCV Number: WG629380-02

Instrument ID: HPMS19 CAL ID: HPMS19 - 15-AUG-17

Workgroup (AAB#): WG628781 Matrix: WATER

| Sample Number | Dilution | Tag | IS-1 | IS-2 | IS-3 | IS-4 | IS-5 | IS-6 |
|---|---|---|---|---|---|---|---|---|
| WG629380-02 | NA | NA | 7.68 | 10.78 | 16.02 | 8.97 | 18.69 | 12.37 |
| Upper Limit | NA | NA | 8.18 | 11.28 | 16.52 | 9.47 | 19.19 | 12.87 |
| Lower Limit | NA | NA | 7.18 | 10.28 | 15.52 | 8.47 | 18.19 | 11.87 |
| WG628510-01 | 1.00 | 01 | 7.681 | 10.78 | 16.021 | 8.969 | 18.686 | 12.369 |
| WG628510-02 | 1.00 | 01 | 7.681 | 10.781 | 16.022 | 8.969 | 18.686 | 12.363 |
| WG628510-03 | 1.00 | 01 | 7.681 | 10.781 | 16.021 | 8.969 | 18.686 | 12.363 |

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: 5460109
Report generated 09/18/2017 08:44

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number:L17081498 CCV Number:WG629552-02
Instrument ID:HPMS19 CAL ID: HPMS19-15-AUG-17
Workgroup (AAB#):WG628781 Matrix:WATER

| Sample Number | Dilution | Tag | IS-1 | IS-2 | IS-3 | IS-4 | IS-5 | IS-6 |
|---|---|---|---|---|---|---|---|---|
| WG629552-02 | NA | NA | 7.68 | 10.78 | 16.03 | 8.97 | 18.69 | 12.37 |
| Upper Limit | NA | NA | 8.18 | 11.28 | 16.53 | 9.47 | 19.19 | 12.87 |
| Lower Limit | NA | NA | 7.18 | 10.28 | 15.53 | 8.47 | 18.19 | 11.87 |
| L17081498-01 | 1.00 | RE | 7.681 | 10.78 | 16.015 | 8.969 | 18.686 | 12.369 |
| L17081498-03 | 1.00 | RE | 7.681 | 10.781 | 16.015 | 8.969 | 18.686 | 12.363 |
| L17081498-05 | 1.00 | RE | 7.681 | 10.78 | 16.021 | 8.969 | 18.686 | 12.369 |
| L17081498-06 | 1.00 | RE | 7.681 | 10.781 | 16.016 | 8.969 | 18.686 | 12.369 |
| L17081498-07 | 1.00 | RE | 7.681 | 10.775 | 16.015 | 8.969 | 18.686 | 12.363 |
| L17081498-09 | 1.00 | RE | 7.681 | 10.78 | 16.015 | 8.969 | 18.686 | 12.363 |

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: 5460109
Report generated 09/18/2017 08:44

# 2.2.1.3 Sample Data

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 01 09:08:37 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

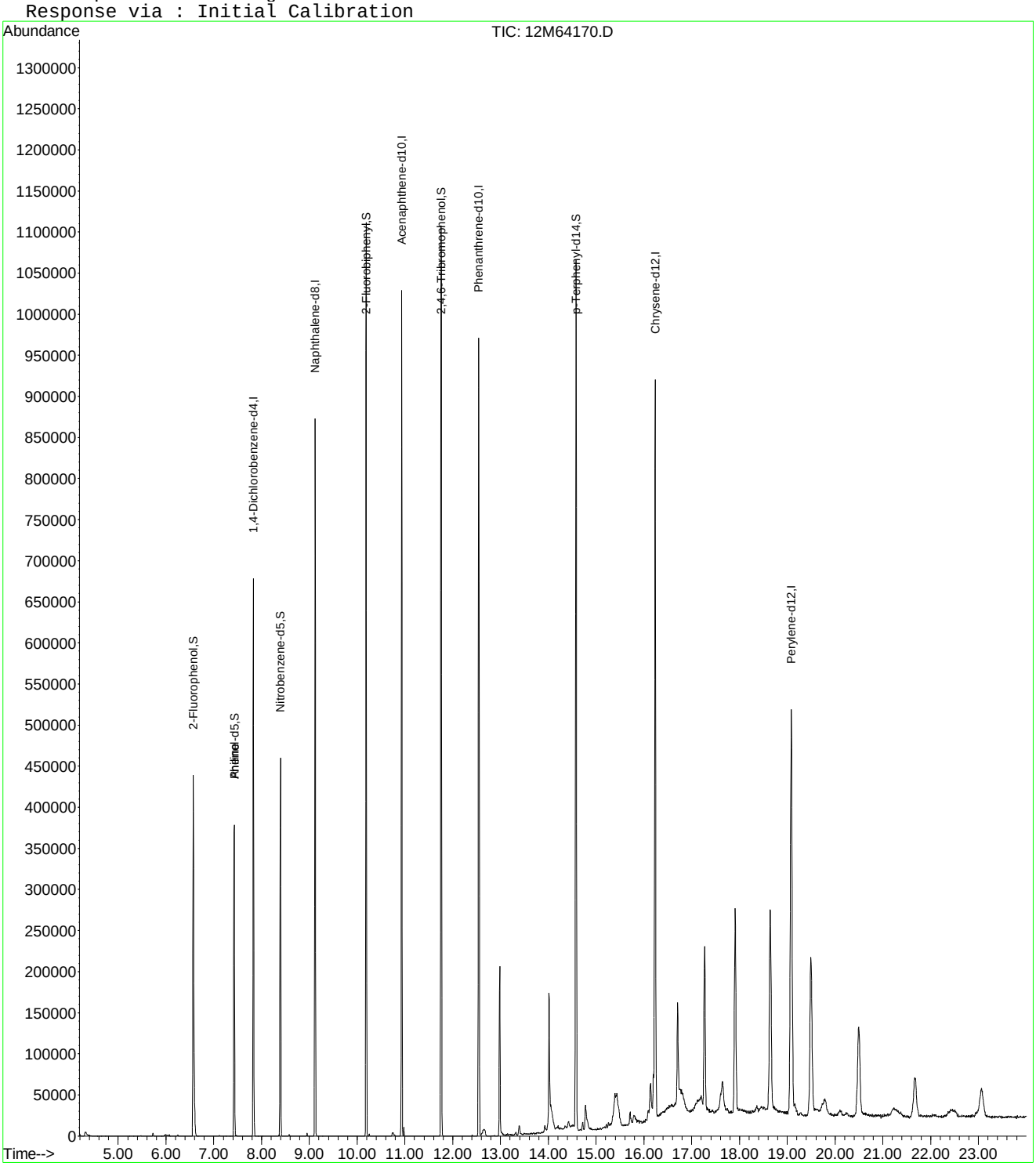
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.828 | 152 | 115676 | 40.0000 | ug/ml | 0.000 |
| 30) Naphthalene-d8 | 9.121 | 136 | 436665 | 40.0000 | ug/ml | 0.000 |
| 54) Acenaphthene-d10 | 10.932 | 164 | 239487 | 40.0000 | ug/ml | 0.000 |
| 87) Phenanthrene-d10 | 12.546 | 188 | 469328 | 40.0000 | ug/ml | -0.011 |
| 113) Chrysene-d12 | 16.237 | 240 | 466744 | 40.0000 | ug/ml | -0.011 |
| 128) Perylene-d12 | 19.084 | 264 | 456067 | 40.0000 | ug/ml | -0.016 |
| **System Monitoring Compounds** | | | | | | |
| 8) 2-Fluorophenol | 6.573 | 112 | 172531 | 48.9736994 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 21 - 100 | | Recovery = 48.97% | | | |
| 12) Phenol-d5 | 7.428 | 99 | 151507 | 33.6382319 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 94 | | Recovery = 33.64% | | | |
| 31) Nitrobenzene-d5 | 8.395 | 82 | 167311 | 38.3953108 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 35 - 114 | | Recovery = 76.79% | | | |
| 59) 2-Fluorobiphenyl | 10.190 | 172 | 370166 | 44.5201040 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 43 - 116 | | Recovery = 89.04% | | | |
| 86) 2,4,6-Tribromophenol | 11.760 | 330 | 143198 | 113.5231622 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 123 | | Recovery = 113.52% | | | |
| 117) p-Terphenyl-d14 | 14.581 | 244 | 451936 | 44.9775884 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 33 - 141 | | Recovery = 89.96% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 11) Aniline | 7.42 | 66 | 9490 | 4.0480 | ug/ml# | 1 |

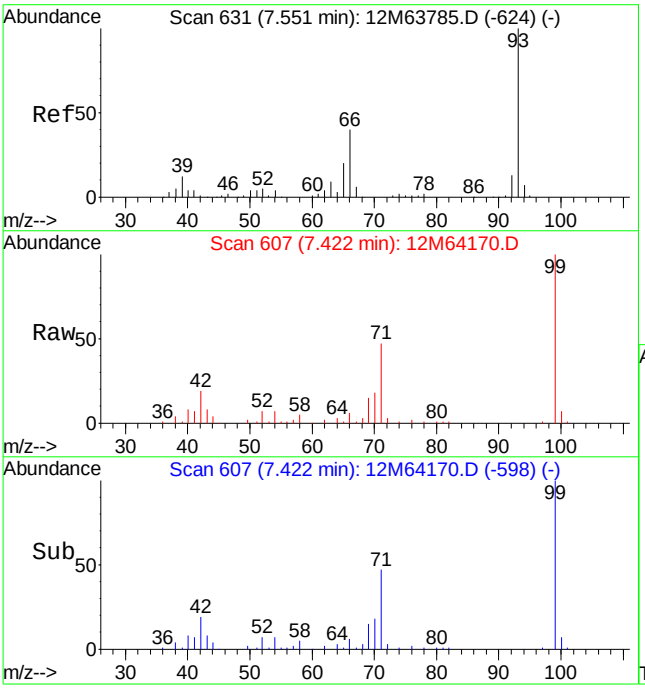
(#) = qualifier out of range (m) = manual integration (+) = signals summed
12M64170.D MEGAMIX.M Fri Sep 01 09:08:38 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 1 9:08 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

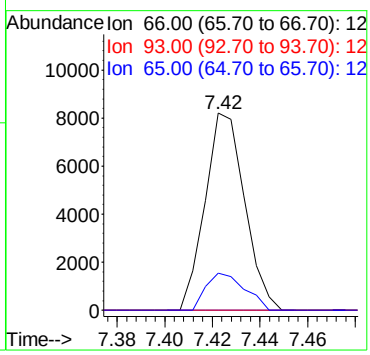





#11
Aniline
Concen: 4.0480 ug/ml
RT: 7.42 min Scan# 607
Delta R.T. -0.10 min
Lab File: 12M64170.D
Acq: 31 Aug 2017 12:22 pm

Tgt Ion: 66 Resp: 9490

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 66 | 100 | | |
| 93 | 0.0 | 231.9 | 541.1# |
| 65 | 18.4 | 48.5 | 113.1# |



LSC Area Percent Report

Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 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

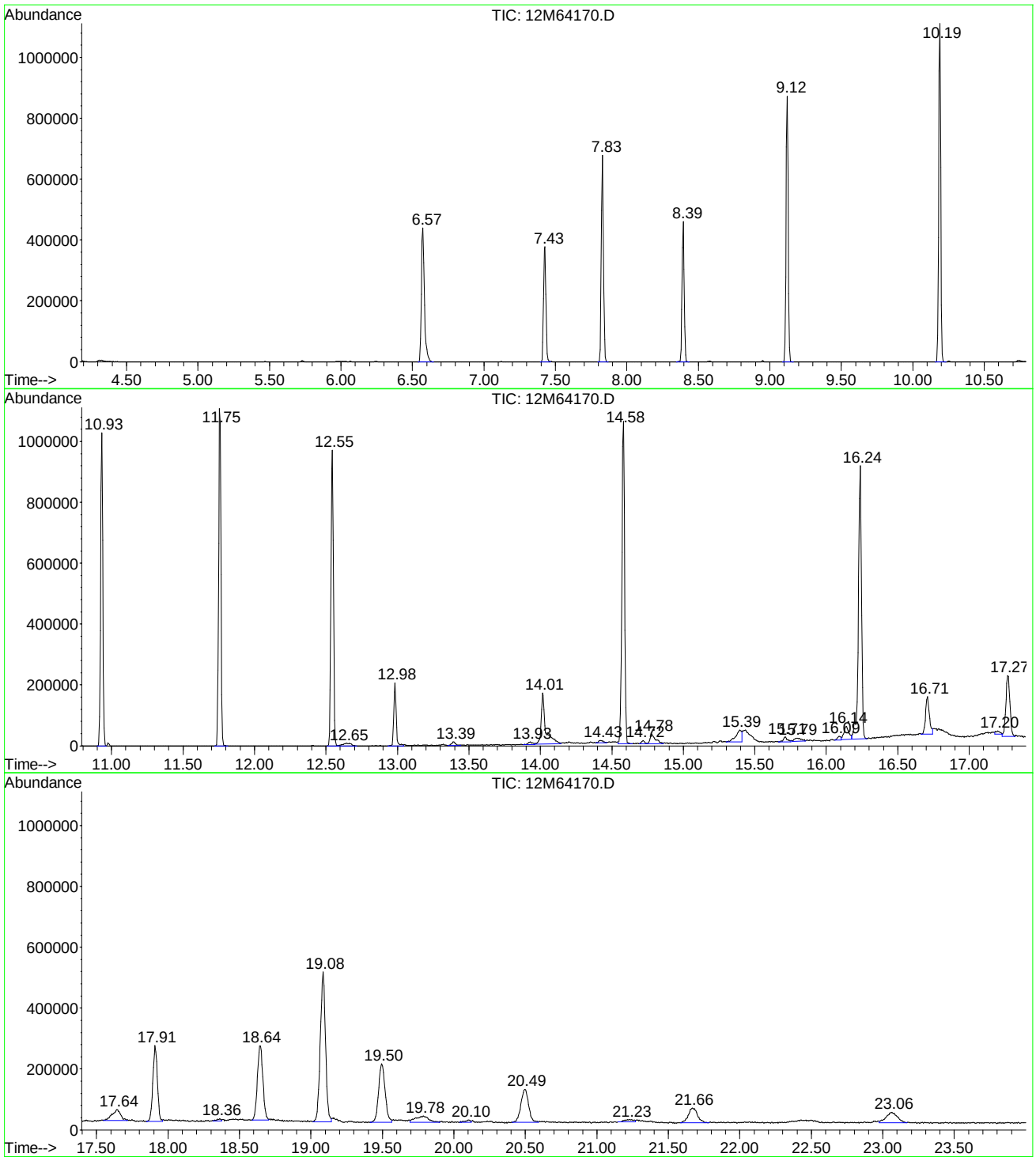
If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

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 | 461 | rBB | 439385 | 614117 | 43.99% | 3.734% |
| 2 | 7.428 | 602 | 608 | 615 | rBV | 378423 | 440123 | 31.53% | 2.676% |
| 3 | 7.828 | 677 | 683 | 690 | rBB | 678437 | 714664 | 51.20% | 4.345% |
| 4 | 8.395 | 780 | 789 | 796 | rBB | 460339 | 480051 | 34.39% | 2.919% |
| 5 | 9.121 | 919 | 925 | 932 | rBB | 872991 | 895532 | 64.15% | 5.445% |
| 6 | 10.190 | 1119 | 1125 | 1132 | rBB | 1111808 | 1096193 | 78.53% | 6.665% |
| 7 | 10.932 | 1258 | 1264 | 1269 | rBB | 1028988 | 1072076 | 76.80% | 6.519% |
| 8 | 11.755 | 1412 | 1418 | 1428 | rBB | 1108008 | 1250238 | 89.56% | 7.602% |
| 9 | 12.546 | 1559 | 1566 | 1573 | rBV | 971232 | 1184402 | 84.85% | 7.202% |
| 10 | 12.647 | 1573 | 1585 | 1597 | rVB6 | 8157 | 32373 | 2.32% | 0.197% |
| 11 | 12.984 | 1639 | 1648 | 1659 | rBV | 206269 | 240945 | 17.26% | 1.465% |
| 12 | 13.395 | 1717 | 1725 | 1734 | rBV2 | 11680 | 25679 | 1.84% | 0.156% |
| 13 | 13.929 | 1816 | 1825 | 1831 | rBV4 | 9687 | 21811 | 1.56% | 0.133% |
| 14 | 14.015 | 1831 | 1841 | 1865 | rVV2 | 167946 | 356251 | 25.52% | 2.166% |
| 15 | 14.426 | 1911 | 1918 | 1925 | rBV4 | 7719 | 17656 | 1.26% | 0.107% |
| 16 | 14.581 | 1940 | 1947 | 1958 | rVB | 1059164 | 1395921 | 100.00% | 8.488% |
| 17 | 14.720 | 1968 | 1973 | 1978 | rBV4 | 10535 | 16929 | 1.21% | 0.103% |
| 18 | 14.779 | 1978 | 1984 | 1999 | rVV3 | 30311 | 79472 | 5.69% | 0.483% |
| 19 | 15.393 | 2082 | 2099 | 2102 | rBV3 | 38928 | 110908 | 7.95% | 0.674% |
| 20 | 15.714 | 2150 | 2159 | 2166 | rBV4 | 17178 | 34963 | 2.50% | 0.213% |
| 21 | 15.788 | 2168 | 2173 | 2185 | rVB8 | 9647 | 34413 | 2.47% | 0.209% |
| 22 | 16.087 | 2224 | 2229 | 2232 | rBV4 | 12271 | 19958 | 1.43% | 0.121% |
| 23 | 16.141 | 2232 | 2239 | 2246 | rVV2 | 43996 | 107246 | 7.68% | 0.652% |
| 24 | 16.237 | 2246 | 2257 | 2265 | rVB | 897391 | 1362383 | 97.60% | 8.284% |
| 25 | 16.707 | 2337 | 2345 | 2352 | rBV2 | 123805 | 228913 | 16.40% | 1.392% |
| 26 | 17.199 | 2433 | 2437 | 2443 | rVB10 | 10595 | 19928 | 1.43% | 0.121% |
| 27 | 17.268 | 2443 | 2450 | 2459 | rVB | 199937 | 393036 | 28.16% | 2.390% |
| 28 | 17.642 | 2503 | 2520 | 2533 | rVB7 | 35242 | 142648 | 10.22% | 0.867% |
| 29 | 17.909 | 2559 | 2570 | 2580 | rBV | 248448 | 540815 | 38.74% | 3.288% |
| 30 | 18.363 | 2646 | 2655 | 2657 | rBV9 | 7995 | 15308 | 1.10% | 0.093% |
| 31 | 18.641 | 2697 | 2707 | 2719 | rBV2 | 242935 | 652399 | 46.74% | 3.967% |
| 32 | 19.084 | 2777 | 2790 | 2801 | rBV2 | 492712 | 1247999 | 89.40% | 7.588% |
| 33 | 19.496 | 2852 | 2867 | 2880 | rBV2 | 192629 | 604124 | 43.28% | 3.673% |
| 34 | 19.784 | 2904 | 2921 | 2942 | rVB2 | 19738 | 122756 | 8.79% | 0.746% |
| 35 | 20.105 | 2969 | 2981 | 2984 | rBV6 | 7447 | 21532 | 1.54% | 0.131% |
| 36 | 20.495 | 3038 | 3054 | 3072 | rBV3 | 107886 | 401357 | 28.75% | 2.440% |
| 37 | 21.232 | 3176 | 3192 | 3199 | rBV3 | 8684 | 39537 | 2.83% | 0.240% |
| 38 | 21.665 | 3258 | 3273 | 3295 | rBV5 | 48168 | 219831 | 15.75% | 1.337% |
| 39 | 23.064 | 3518 | 3535 | 3554 | rVB9 | 34985 | 191812 | 13.74% | 1.166% |

Sum of corrected areas: 16446299

```
File       : I:\MSDCHEM\1\DATA\083117\12M64170.D
Operator   : SCB
Acquired   : 31 Aug 2017  12:22 pm using AcqMethod BNARUN
Instrument :   MSD12
Sample Name: L17081498-01
Misc Info  : 1,1
Vial Number: 7
Quant File :MEGAMIX.RES (RTE Integrator)
```



Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

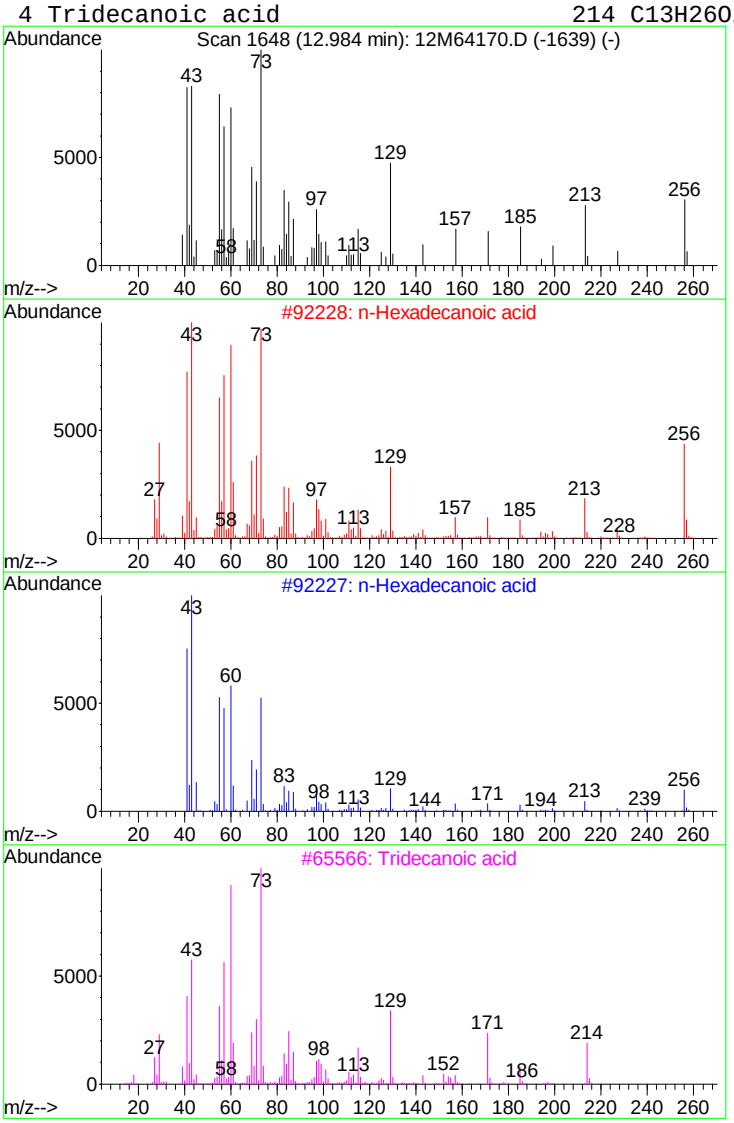
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

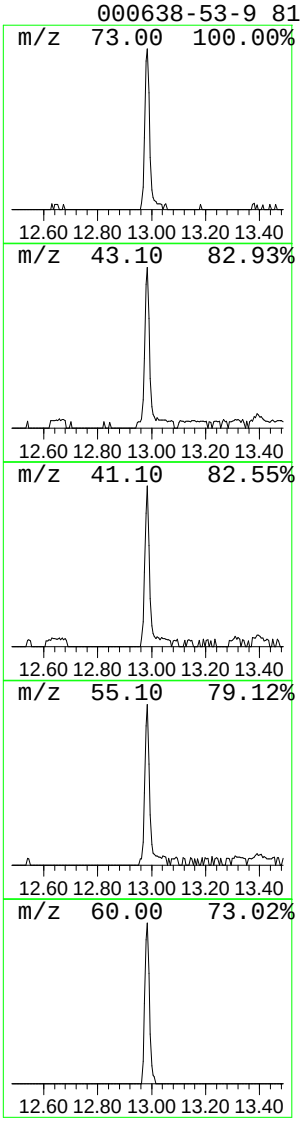
**********

Peak Number 1 n-Hexadecanoic acid Concentration Rank 7

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.98 | 8.14 ug/ml | 240945 | Phenanthrene-d10 | 12.55 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | n-Hexadecanoic acid | 256 | C16H32O2 | 000057-10-3 | 96 |
| 2 | n-Hexadecanoic acid | 256 | C16H32O2 | 000057-10-3 | 93 |
| 3 | Tridecanoic acid | 214 | C13H26O2 | 000638-53-9 | 81 |
| 4 | Tridecanoic acid | 214 | C13H26O2 | 000638-53-9 | 81 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

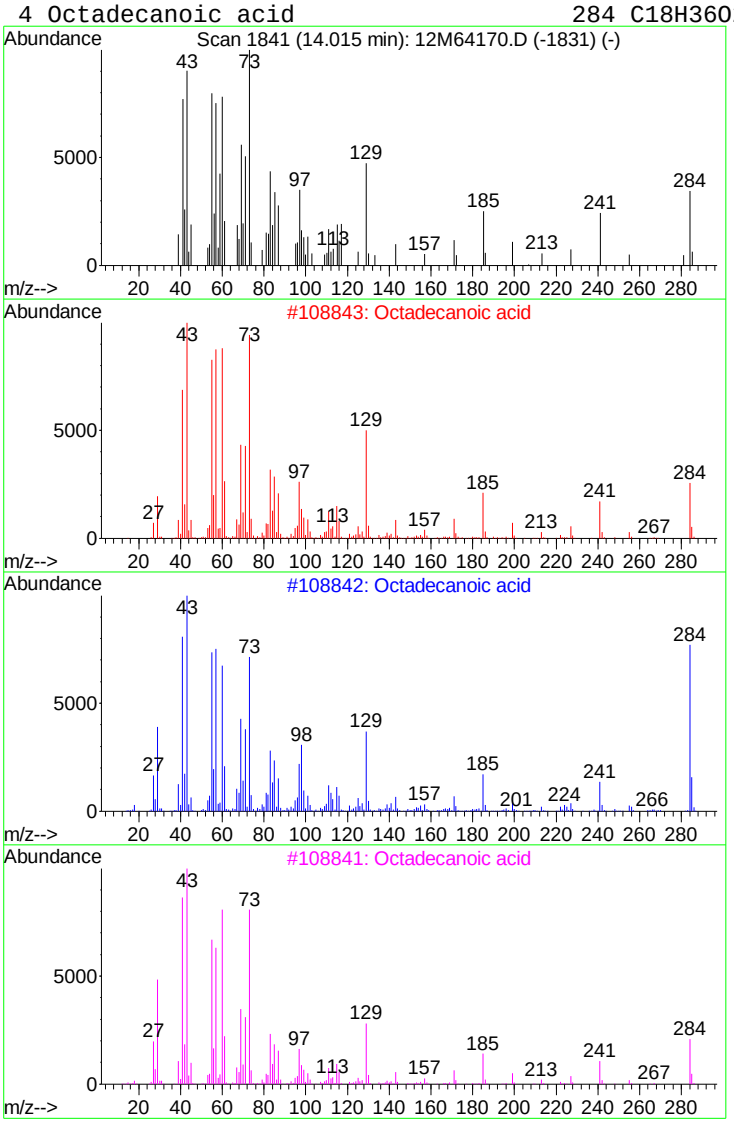
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

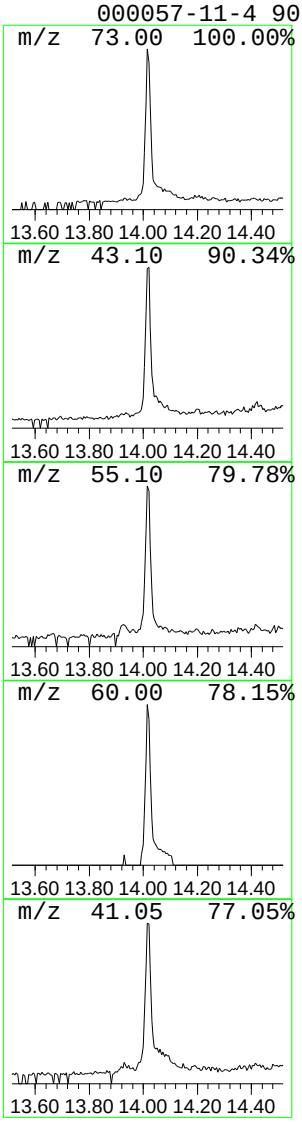
**********

Peak Number 2 Octadecanoic acid Concentration Rank 5

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.01 | 12.03 ug/ml | 356251 | Phenanthrene-d10 | 12.55 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Octadecanoic acid | 284 | C18H36O2 | 000057-11-4 | 98 |
| 2 | Octadecanoic acid | 284 | C18H36O2 | 000057-11-4 | 94 |
| 3 | Octadecanoic acid | 284 | C18H36O2 | 000057-11-4 | 94 |
| 4 | Octadecanoic acid | 284 | C18H36O2 | 000057-11-4 | 90 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

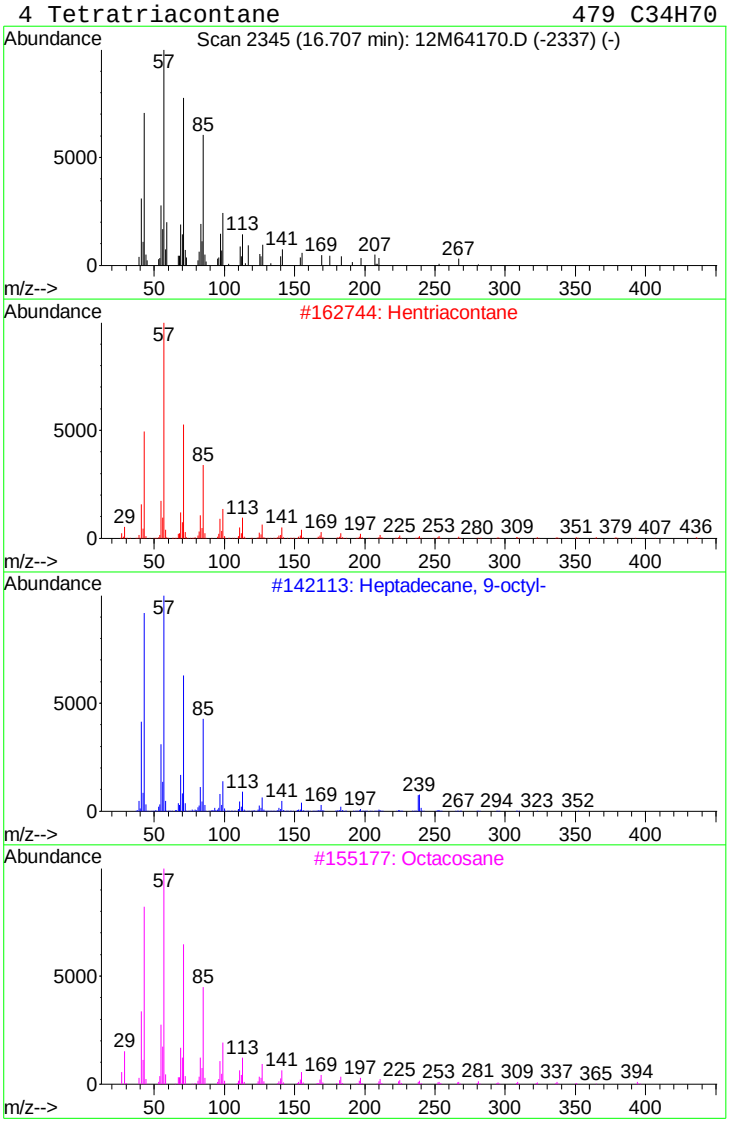
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

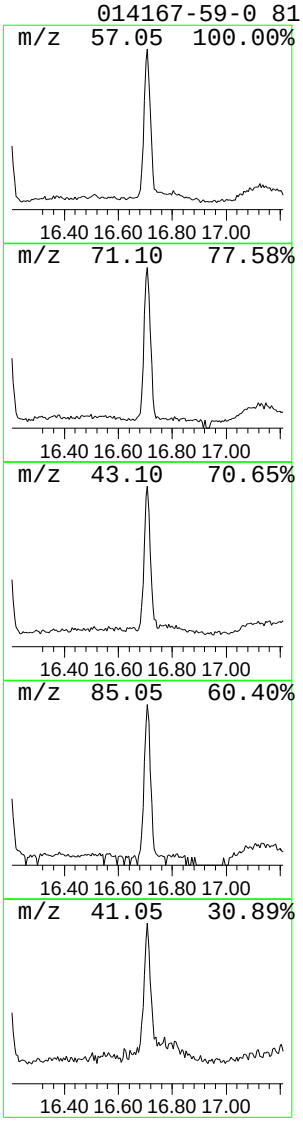
**********

Peak Number 3 Hentriacontane Concentration Rank 9

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.71 | 6.72 ug/ml | 228913 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Hentriacontane | 437 | C31H64 | 000630-04-6 | 83 |
| 2 | Heptadecane, 9-octyl- | 352 | C25H52 | 007225-64-1 | 83 |
| 3 | Octacosane | 394 | C28H58 | 000630-02-4 | 81 |
| 4 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 81 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

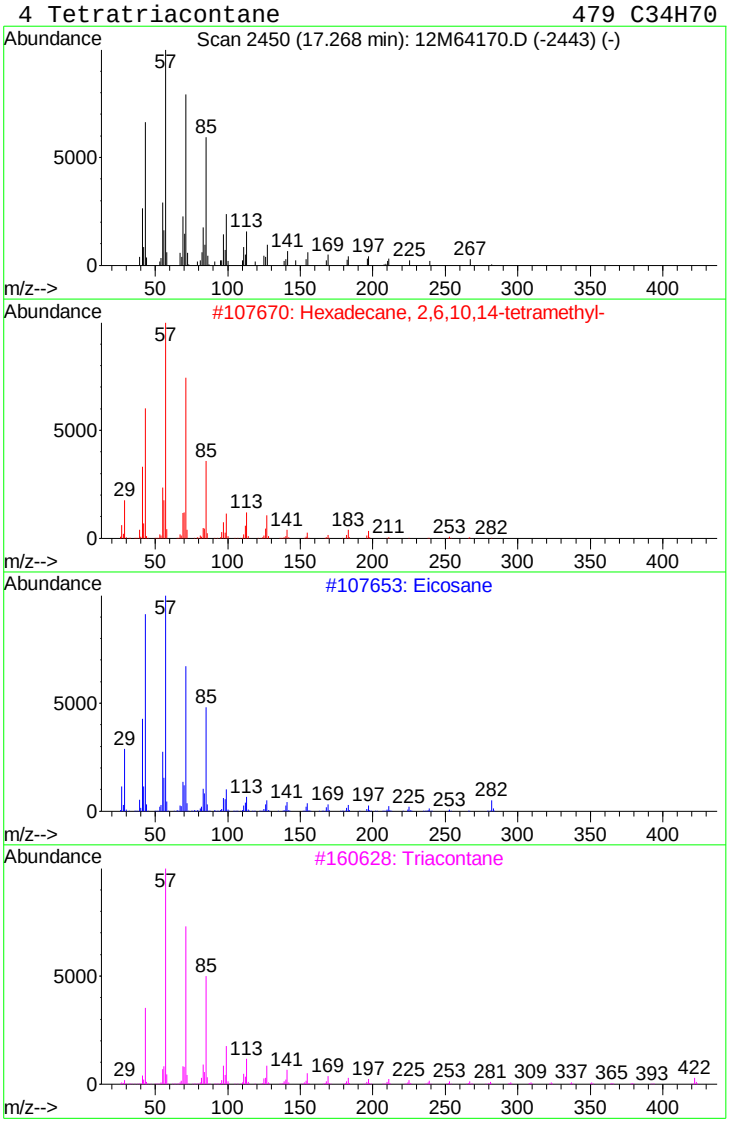
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

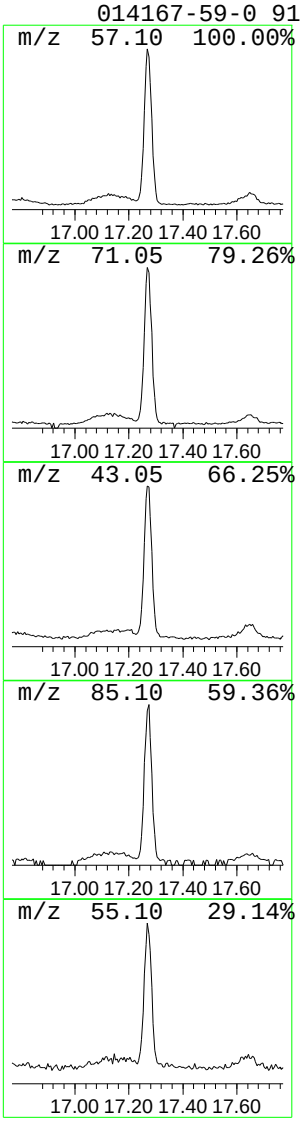
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Peak Number 4 Hexadecane, 2,6,10,14-tetra... Concentration Rank 6

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.27 | 11.54 ug/ml | 393036 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Hexadecane, 2,6,10,14-tetramethyl- | 282 | C20H42 | 000638-36-8 | 93 |
| 2 | Eicosane | 282 | C20H42 | 000112-95-8 | 93 |
| 3 | Triacontane | 422 | C30H62 | 000638-68-6 | 91 |
| 4 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

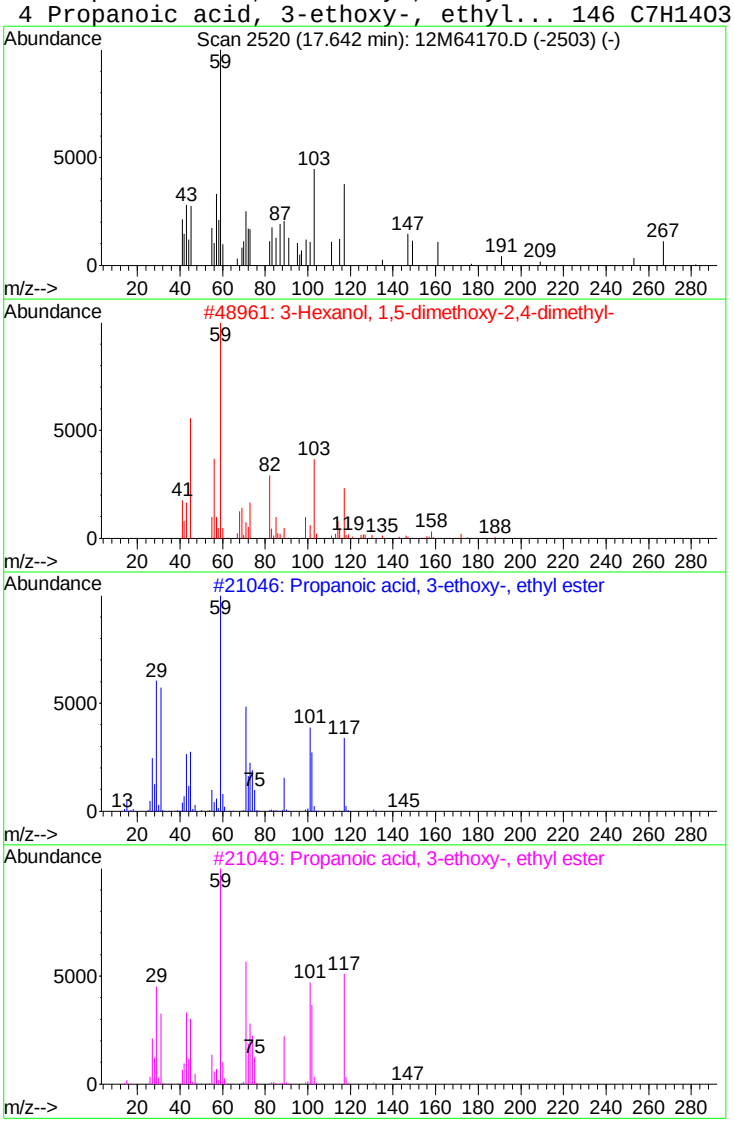
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

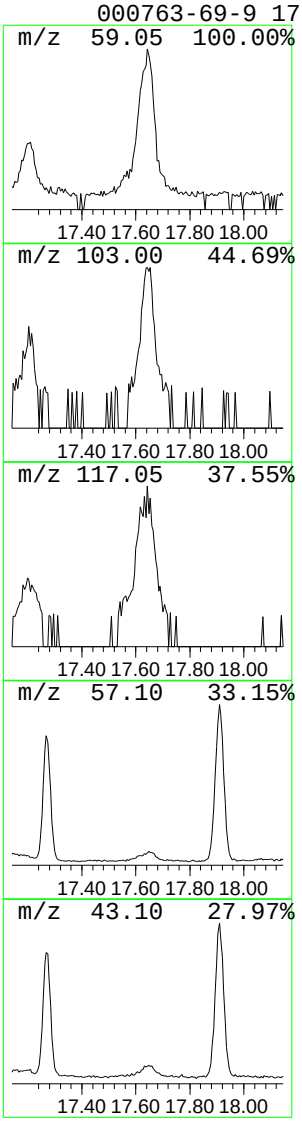
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Peak Number 5 3-Hexanol, 1,5-dimethoxy-2,... Concentration Rank 11

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.64 | 4.19 ug/ml | 142648 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 3-Hexanol, 1,5-dimethoxy-2,4-dim... | 190 | C10H22O3 | 013897-22-8 | 38 |
| 2 | Propanoic acid, 3-ethoxy-, ethyl... | 146 | C7H14O3 | 000763-69-9 | 32 |
| 3 | Propanoic acid, 3-ethoxy-, ethyl... | 146 | C7H14O3 | 000763-69-9 | 23 |
| 4 | Propanoic acid, 3-ethoxy-, ethyl... | 146 | C7H14O3 | 000763-69-9 | 17 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

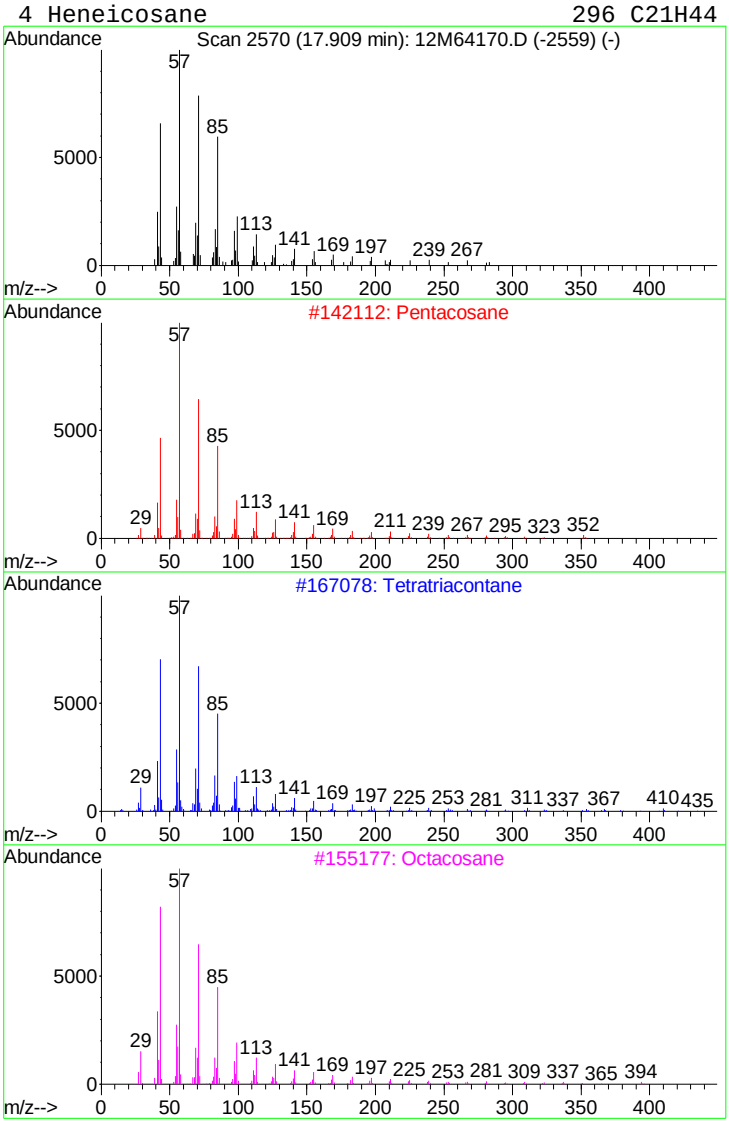
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

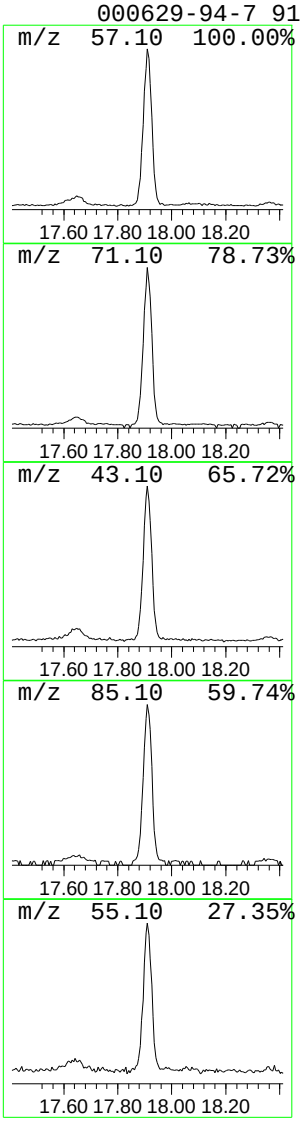
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Peak Number 6 Pentacosane Concentration Rank 3

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.91 | 17.33 ug/ml | 540815 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Pentacosane | 352 | C25H52 | 000629-99-2 | 91 |
| 2 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 3 | Octacosane | 394 | C28H58 | 000630-02-4 | 91 |
| 4 | Heneicosane | 296 | C21H44 | 000629-94-7 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

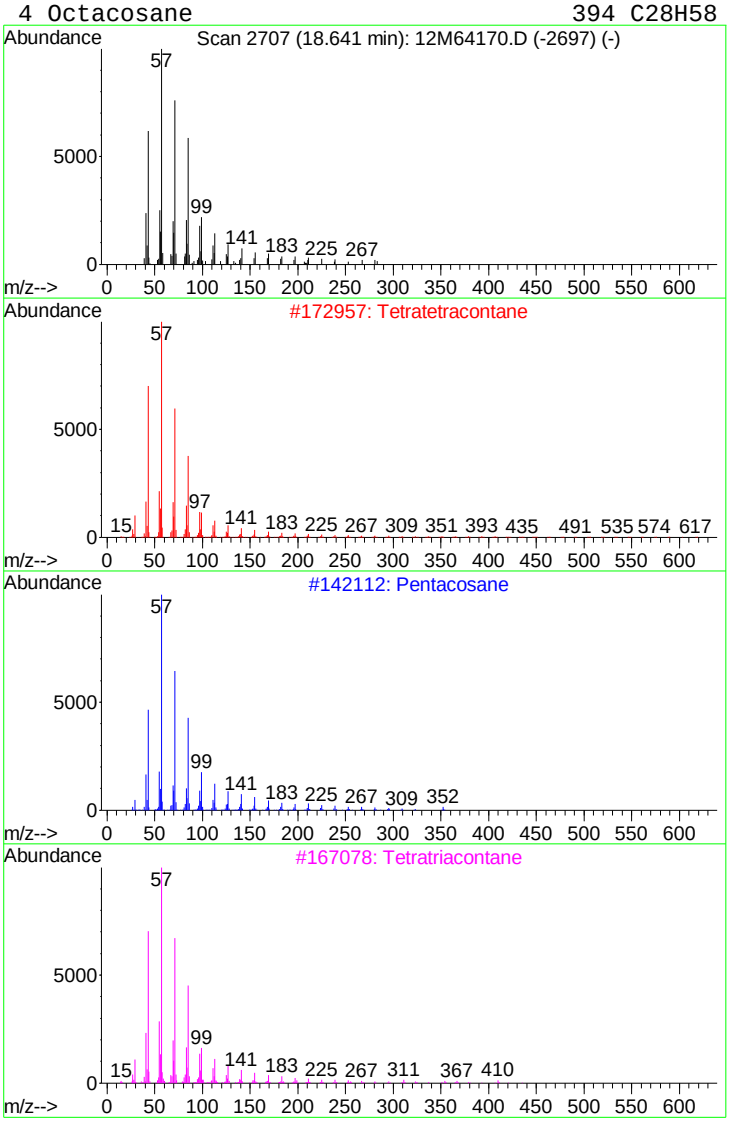
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

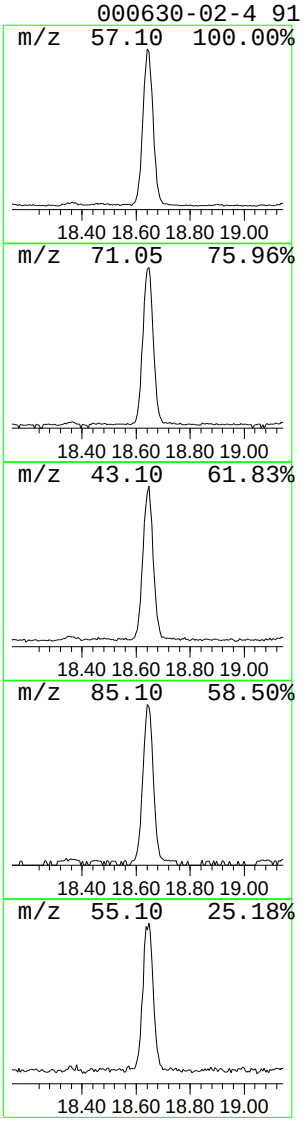
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Peak Number 7 Tetratetracontane Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 18.64 | 20.91 ug/ml | 652399 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 91 |
| 2 | Pentacosane | 352 | C25H52 | 000629-99-2 | 91 |
| 3 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 4 | Octacosane | 394 | C28H58 | 000630-02-4 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

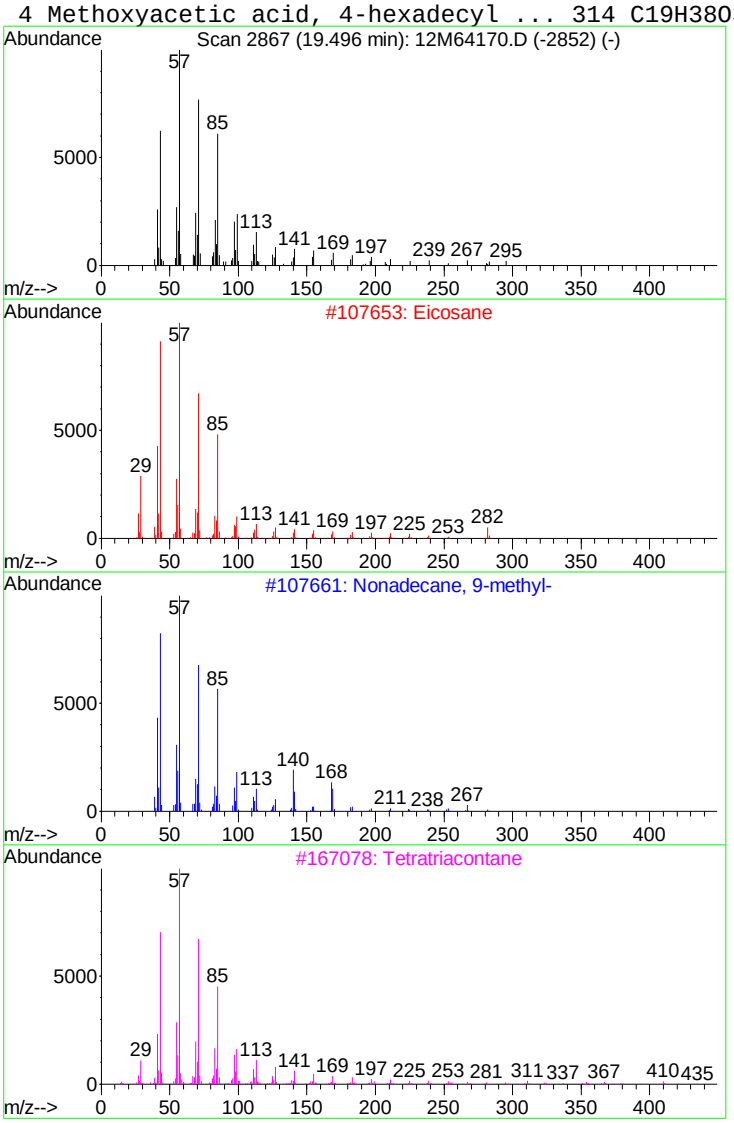
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

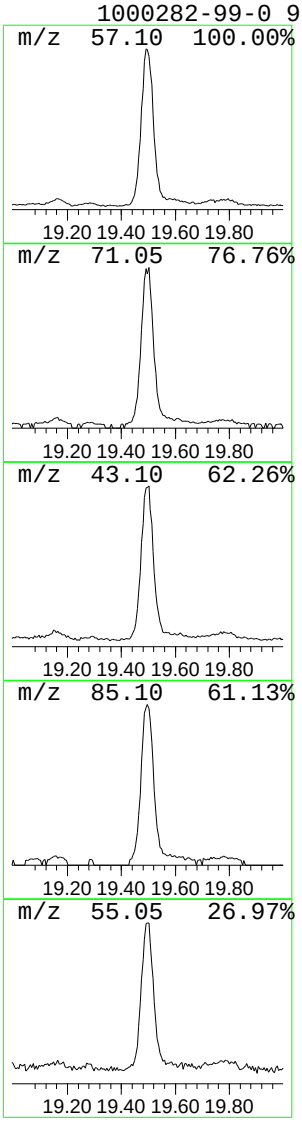
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Peak Number 8 Eicosane Concentration Rank 2

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 19.50 | 19.36 ug/ml | 604124 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Eicosane | 282 | C20H42 | 000112-95-8 | 94 |
| 2 | Nonadecane, 9-methyl- | 282 | C20H42 | 013287-24-6 | 91 |
| 3 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 4 | Methoxyacetic acid, 4-hexadecyl ... | 314 | C19H38O3 | 1000282-99-0 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

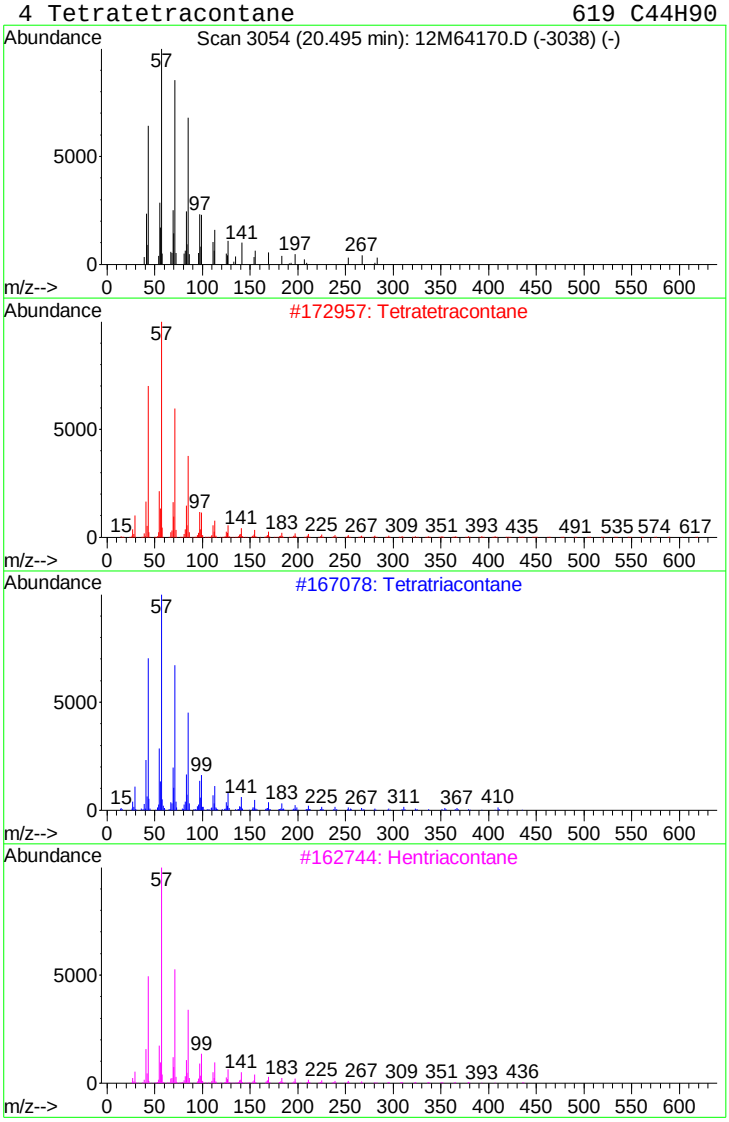
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

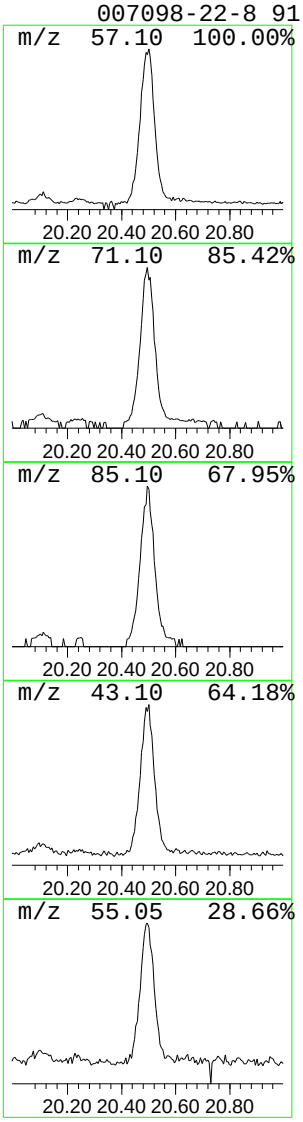
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Peak Number 9 Tetratetracontane Concentration Rank 4

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 20.49 | 12.86 ug/ml | 401357 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 91 |
| 2 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 3 | Hentriacontane | 437 | C31H64 | 000630-04-6 | 91 |
| 4 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

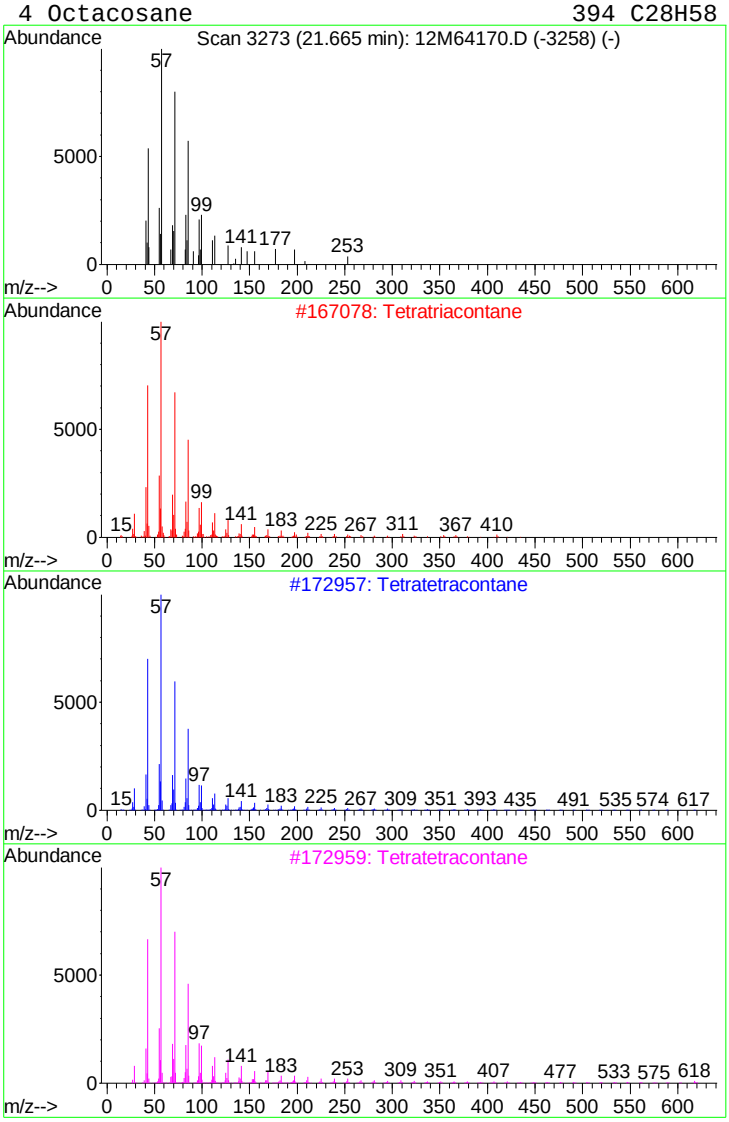
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

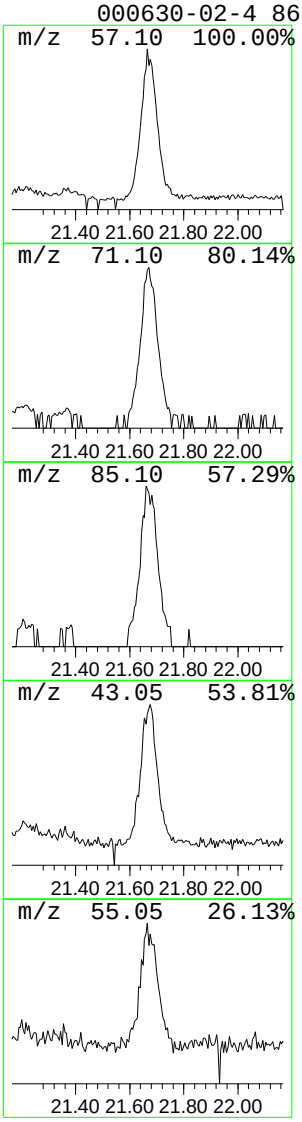
**********

Peak Number 10 Tetratriacontane Concentration Rank 8

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 21.66 | 7.05 ug/ml | 219831 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 90 |
| 2 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 90 |
| 3 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 86 |
| 4 | Octacosane | 394 | C28H58 | 000630-02-4 | 86 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64170.D Vial: 7
Acq On : 31 Aug 2017 12:22 pm Operator: SCB
Sample : L17081498-01 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

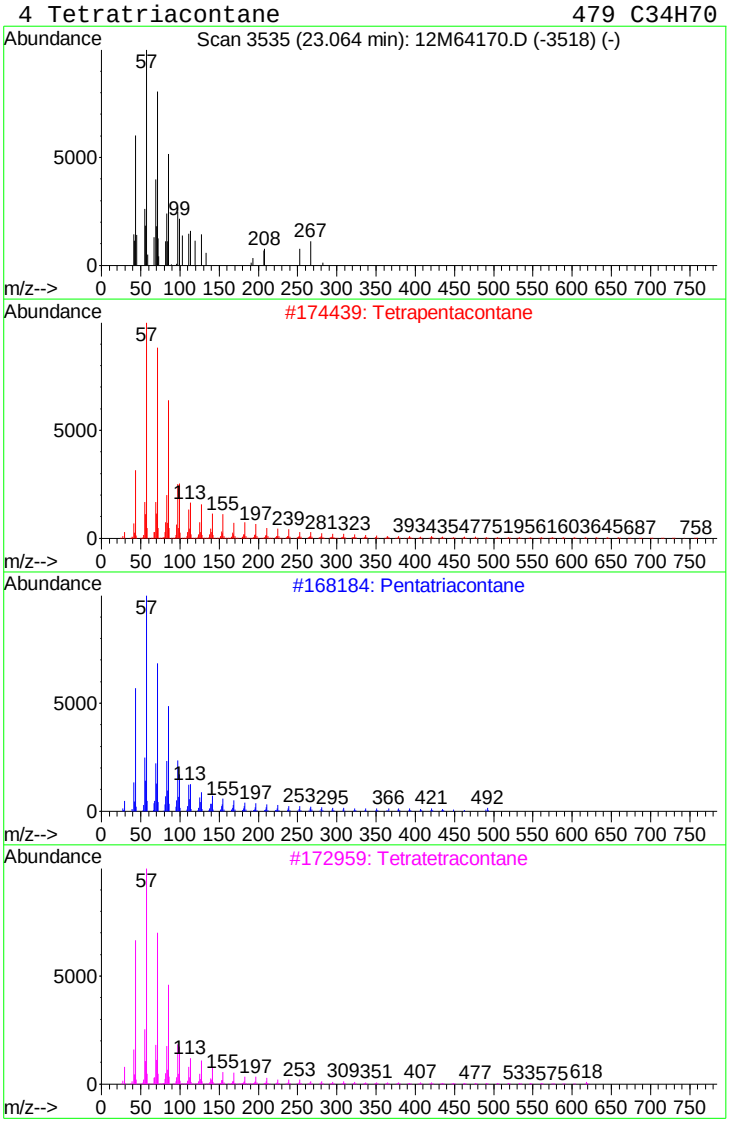
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

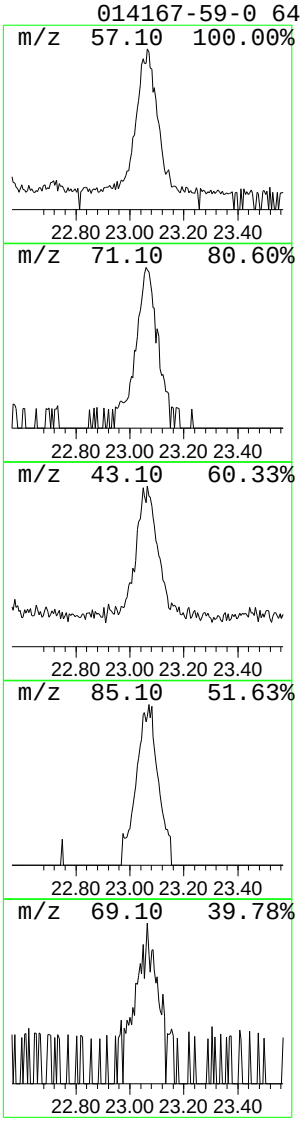
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Peak Number 11 Tetrapentacontane Concentration Rank 10

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 23.06 | 6.15 ug/ml | 191812 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetrapentacontane | 759 | C54H110 | 005856-66-6 | 80 |
| 2 | Pentatriacontane | 493 | C35H72 | 000630-07-9 | 72 |
| 3 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 72 |
| 4 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 64 |



Tentatively Identified Compound (LSC) summary

Operator ID: SCB  Date Acquired: 31 Aug 2017  12:22 pm
Data File: I:\MSDCHEM\1\DATA\083117\12M64170.D
Name: L17081498-01
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

| | | | | | Internal Standard | | | |
|---|---|---|---|---|---|---|---|---|
| TIC Top Hit name | RT | EstConc | Units | Response | # | RT | Resp | Conc |
| n-Hexadecanoic acid | 12.98 | 8.1 | ug/ml | 240945 | 4 | 12.55 | 1184400 | 40.0 |
| Octadecanoic acid | 14.01 | 12.0 | ug/ml | 356251 | 4 | 12.55 | 1184400 | 40.0 |
| Hentriacontane | 16.71 | 6.7 | ug/ml | 228913 | 5 | 16.24 | 1362380 | 40.0 |
| Hexadecane, 2,6,1... | 17.27 | 11.5 | ug/ml | 393036 | 5 | 16.24 | 1362380 | 40.0 |
| 3-Hexanol, 1,5-di... | 17.64 | 4.2 | ug/ml | 142648 | 5 | 16.24 | 1362380 | 40.0 |
| Pentacosane | 17.91 | 17.3 | ug/ml | 540815 | 6 | 19.08 | 1248000 | 40.0 |
| Tetratetracontane | 18.64 | 20.9 | ug/ml | 652399 | 6 | 19.08 | 1248000 | 40.0 |
| Eicosane | 19.50 | 19.4 | ug/ml | 604124 | 6 | 19.08 | 1248000 | 40.0 |
| Tetratetracontane | 20.49 | 12.9 | ug/ml | 401357 | 6 | 19.08 | 1248000 | 40.0 |
| Tetratriacontane | 21.66 | 7.0 | ug/ml | 219831 | 6 | 19.08 | 1248000 | 40.0 |
| Tetrapentacontane | 23.06 | 6.1 | ug/ml | 191812 | 6 | 19.08 | 1248000 | 40.0 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000544.D Vial: 6
Acq On : 13 Sep 2017 3:58 pm Operator: SCB
Sample : L17081498-01 RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:10:56 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

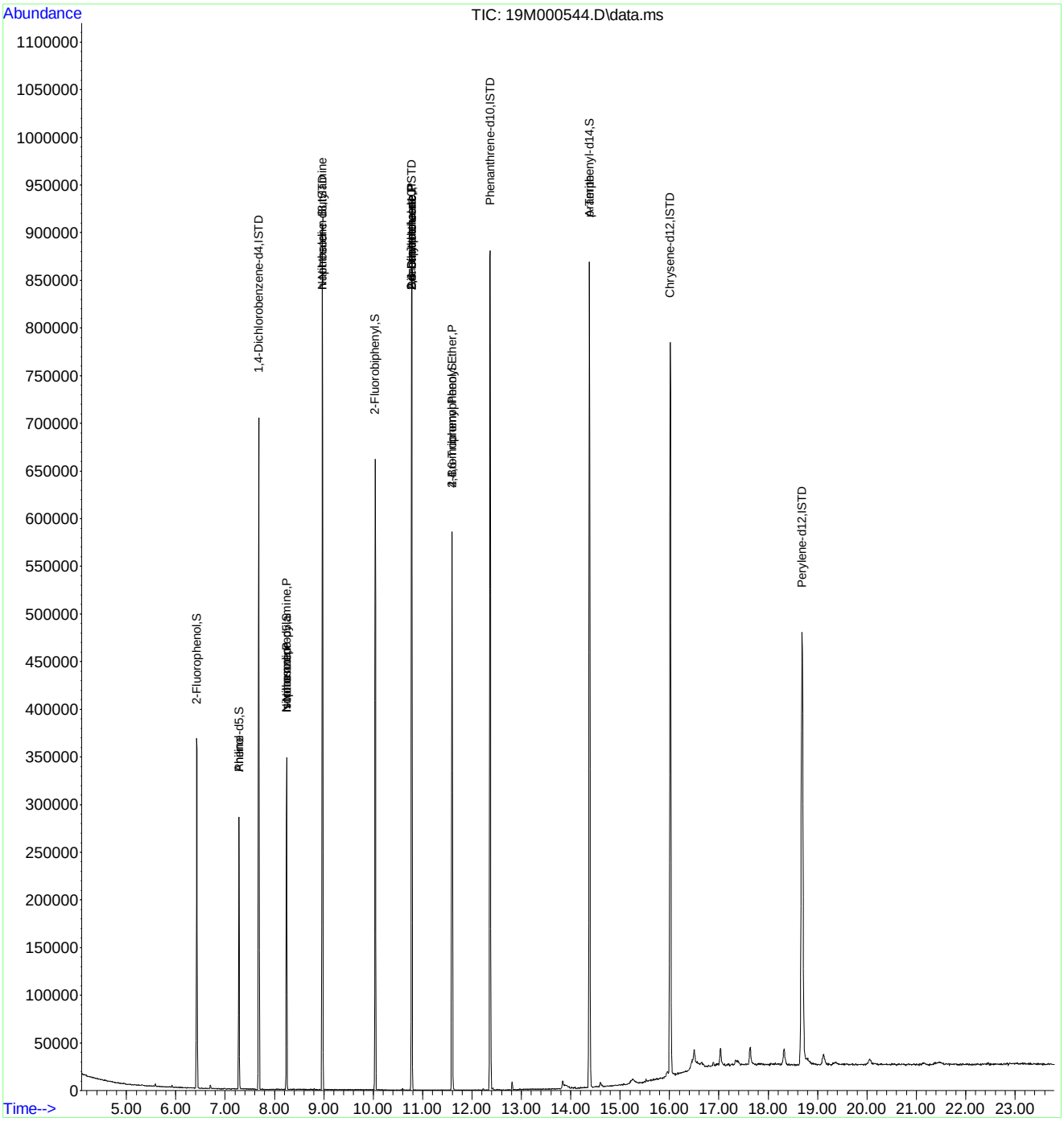
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 121442 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.969 | 136 | 481437 | 40.0000 | ug/mL | -0.0117 |
| 54) Acenaphthene-d10 | 10.780 | 164 | 240637 | 40.0000 | ug/mL | -0.0117 |
| 87) Phenanthrene-d10 | 12.369 | 188 | 455377 | 40.0000 | ug/mL | -0.0117 |
| 113) Chrysene-d12 | 16.015 | 240 | 437688 | 40.0000 | ug/mL | -0.0235 |
| 128) Perylene-d12 | 18.686 | 264 | 437122 | 40.0000 | ug/mL | -0.0294 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.428 | 112 | 131096 | 33.2245 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.281 | 99 | 108925 | 23.4951 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.245 | 82 | 116909 | 29.3493 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.039 | 172 | 239731 | 28.7212 | ug/mL | -0.0117 |
| 86) 2,4,6-Tribromophenol | 11.598 | 330 | 80412 | 81.6017 | ug/mL | -0.0117 |
| 117) p-Terphenyl-d14 | 14.380 | 244 | 405868 | 45.8447 | ug/mL | -0.0117 |
| Target Compounds | | | | | | Qvalue |
| 11) Aniline | 7.281 | 66 | 5215 | 2.198 | ug/mL# | 1 |
| 25) n-Nitrosodipropylamine | 8.245 | 70 | 15439 | 5.915 | ug/mL# | 48 |
| 34) Isophorone | 8.245 | 82 | 116909 | 15.476 | ug/mL# | 61 |
| 48) n-Nitrosodi-n-Butylamine | 8.969 | 84 | 10535 | 3.132 | ug/mL# | 17 |
| 65) Dimethylphthalate | 10.780 | 163 | 68674 | 7.868 | ug/mL# | 1 |
| 67) 2,6-Dinitrotoluene | 10.780 | 165 | 30926 | 15.188 | ug/mL# | 24 |
| 73) 2,4-Dinitrotoluene | 10.780 | 165 | 30926 | 11.787 | ug/mL# | 13 |
| 95) 4-Bromophenyl Phenyl E... | 11.598 | 248 | 4968 | 2.123 | ug/mL# | 1 |
| 116) Aramite | 14.380 | 185 | 890 | 3.079 | ug/mL# | 33 |

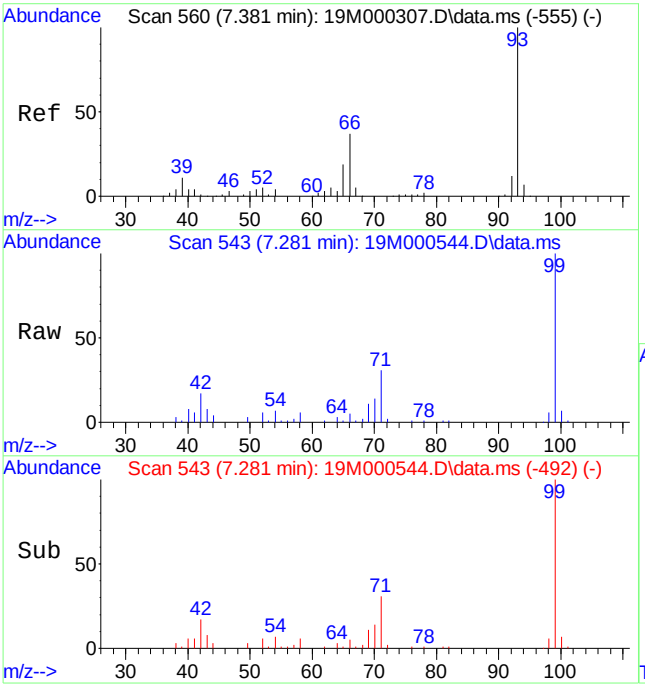
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000544.D Vial: 6
Acq On : 13 Sep 2017 3:58 pm Operator: SCB
Sample : L17081498-01 RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:10:56 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

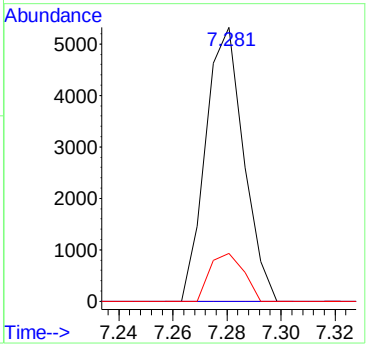


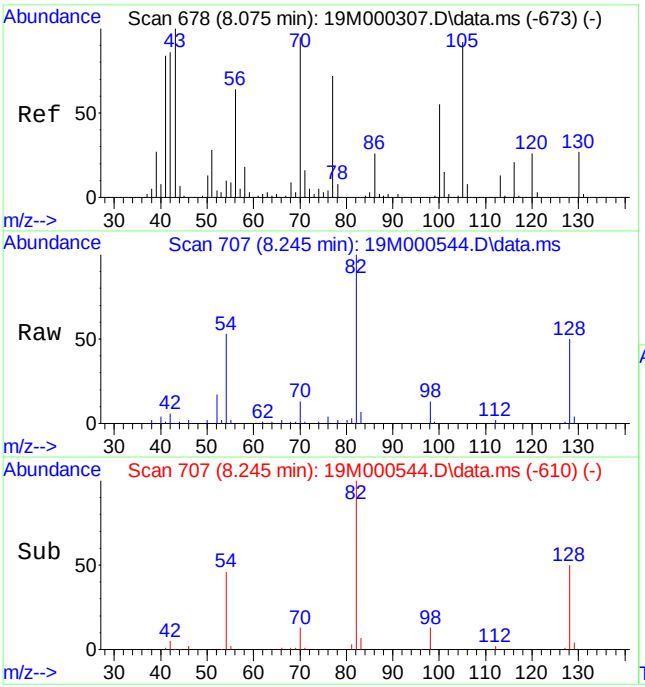



#11
Aniline
Concen: 2.20 ug/mL
RT: 7.281 min Scan# 543
Delta R.T. -0.100 min
Lab File: 19M000544.D
Acq: 13 Sep 2017 3:58 pm

Tgt Ion: 66 Resp: 5215

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 66 | 100 | | |
| 93 | 0.0 | 161.8 | 377.6# |
| 65 | 15.4 | 31.4 | 73.4# |

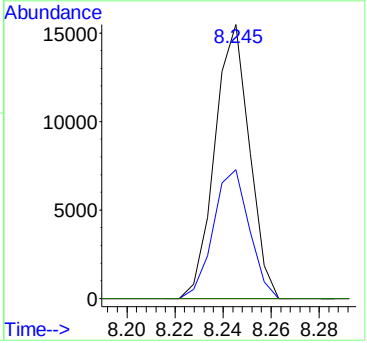


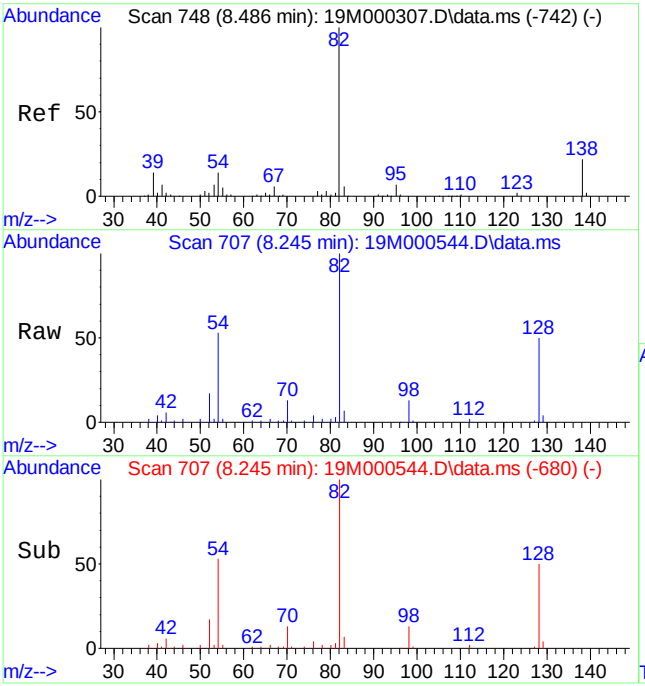




#25
n-Nitrosodipropylamine
Concen: 5.92 ug/mL
RT: 8.245 min Scan# 707
Delta R.T. 0.171 min
Lab File: 19M000544.D
Acq: 13 Sep 2017 3:58 pm

Tgt Ion: 70 Resp: 15439

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 70 | 100 | | |
| 42 | 49.0 | 61.9 | 144.3# |
| 101 | 0.0 | 9.7 | 22.5# |
| 130 | 0.0 | 17.3 | 40.5# |

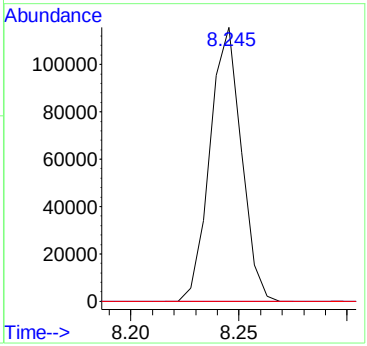


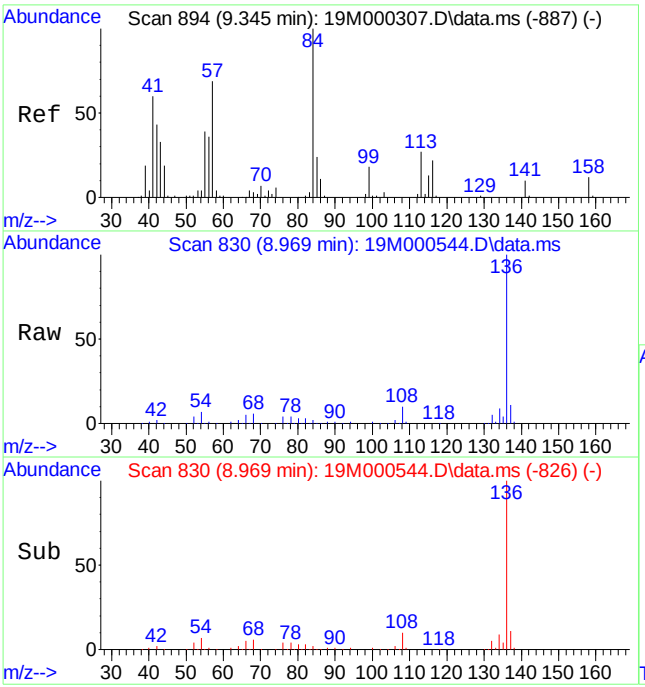



#34
Isophorone
Concen: 15.48 ug/mL
RT: 8.245 min Scan# 707
Delta R.T. -0.241 min
Lab File: 19M000544.D
Acq: 13 Sep 2017 3:58 pm

Tgt Ion: 82 Resp: 116909

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 82 | 100 | | |
| 95 | 0.0 | 4.3 | 9.9# |
| 138 | 0.0 | 12.8 | 29.8# |

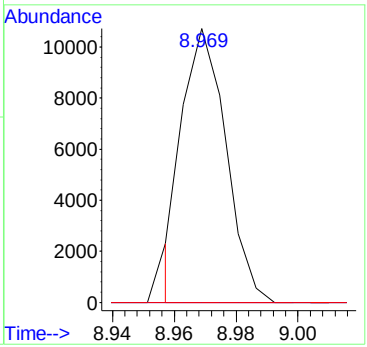


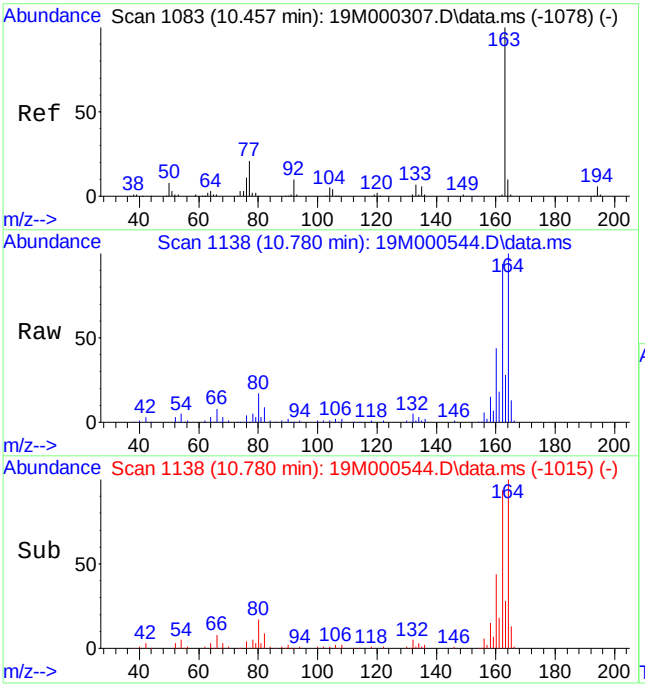




#48
n-Nitrosodi-n-Butylamine
Concen: 3.13 ug/mL
RT: 8.969 min Scan# 830
Delta R.T. -0.376 min
Lab File: 19M000544.D
Acq: 13 Sep 2017 3:58 pm

Tgt Ion: 84 Resp: 10535

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 57 | 0.0 | 52.2 | 78.2# |
| 41 | 0.0 | 54.5 | 81.7# |

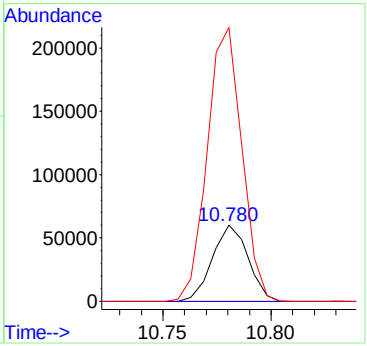


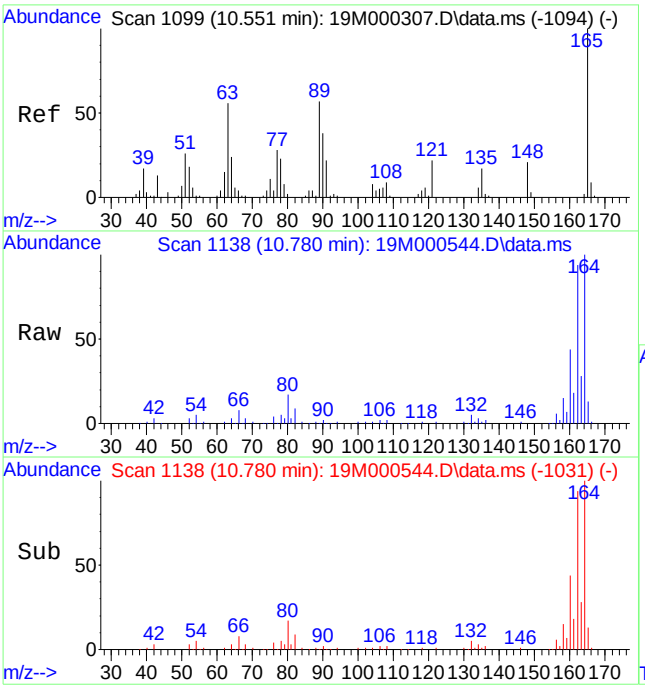



#65
Dimethylphthalate
Concen: 7.87 ug/mL
RT: 10.780 min Scan# 1138
Delta R.T. 0.324 min
Lab File: 19M000544.D
Acq: 13 Sep 2017 3:58 pm

Tgt Ion:163 Resp: 68674

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 163 | 100 | | |
| 194 | 0.0 | 3.6 | 8.4# |
| 164 | 350.4 | 6.1 | 14.1# |

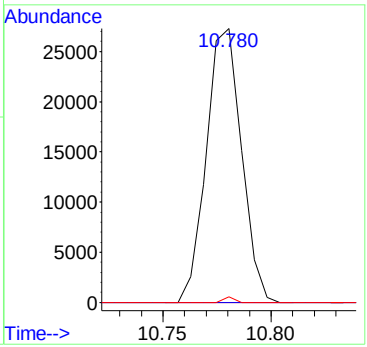


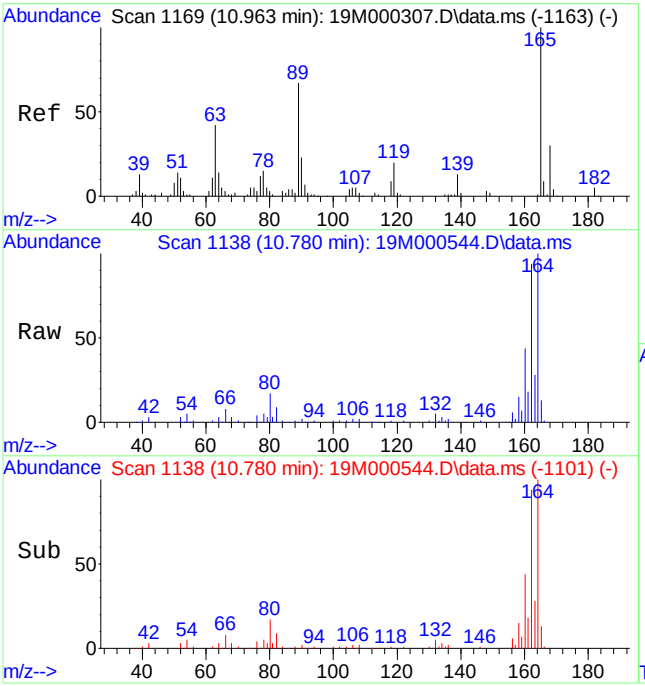




#67
2,6-Dinitrotoluene
Concen: 15.19 ug/mL
RT: 10.780 min Scan# 1138
Delta R.T. 0.229 min
Lab File: 19M000544.D
Acq: 13 Sep 2017 3:58 pm

Tgt Ion:165 Resp: 30926

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 165 | 100 | | |
| 63 | 0.0 | 33.3 | 77.7# |
| 89 | 0.6 | 33.2 | 77.6# |

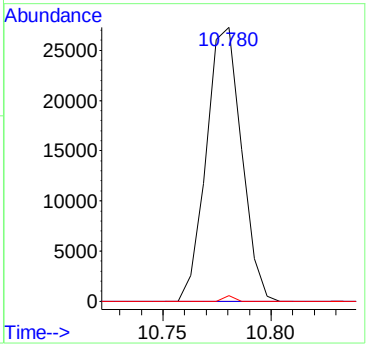


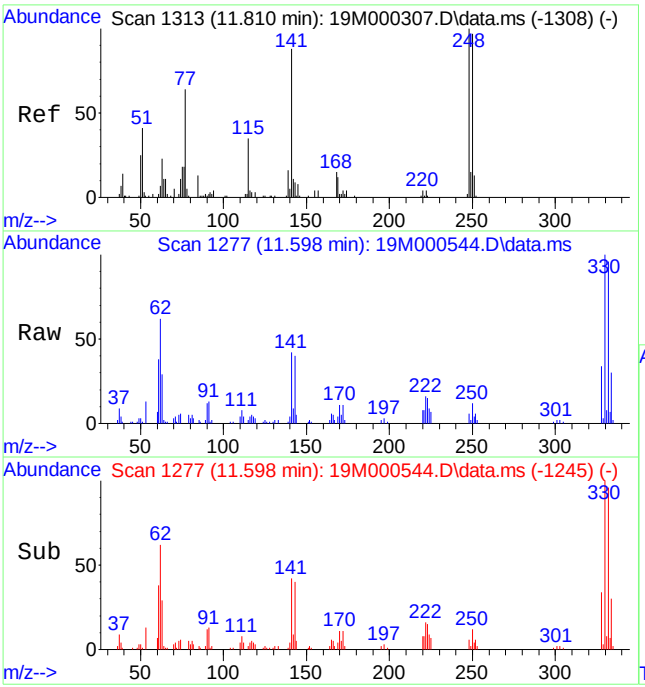



#73
2,4-Dinitrotoluene
Concen: 11.79 ug/mL
RT: 10.780 min Scan# 1138
Delta R.T. -0.182 min
Lab File: 19M000544.D
Acq: 13 Sep 2017 3:58 pm

Tgt Ion:165 Resp: 30926

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 165 | 100 | | |
| 63 | 0.0 | 37.6 | 87.6# |
| 89 | 0.6 | 50.2 | 117.0# |

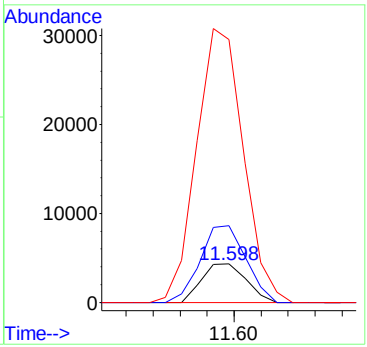


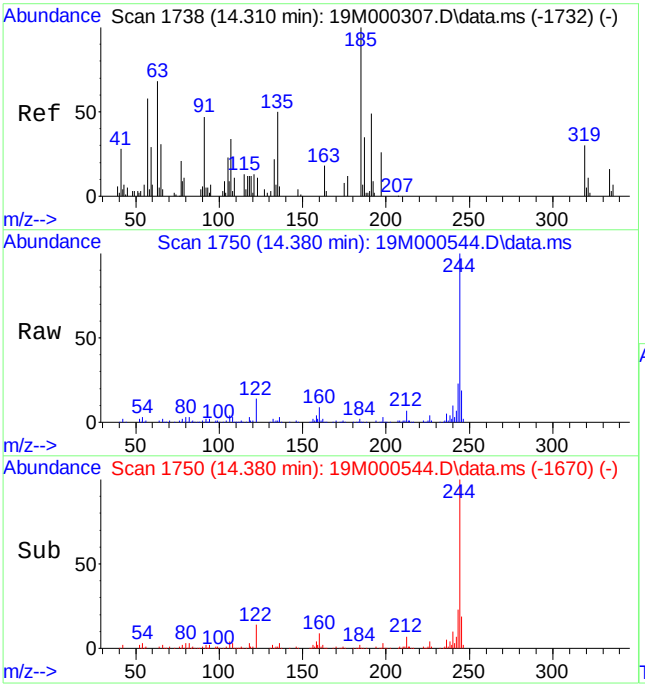




#95
4-Bromophenyl Phenyl Ether
Concen: 2.12 ug/mL
RT: 11.598 min Scan# 1277
Delta R.T. -0.212 min
Lab File: 19M000544.D
Acq: 13 Sep 2017 3:58 pm

Tgt Ion:248 Resp: 4968

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 248 | 100 | | |
| 250 | 203.5 | 58.0 | 135.2# |
| 141 | 746.6 | 51.6 | 120.4# |

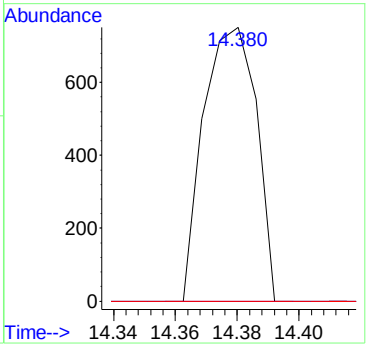





#116
Aramite
Concen: 3.08 ug/mL
RT: 14.380 min Scan# 1750
Delta R.T. 0.071 min
Lab File: 19M000544.D
Acq: 13 Sep 2017 3:58 pm

Tgt Ion:185 Resp: 890

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 185 | 100 | | |
| 191 | 0.0 | 41.6 | 62.4# |
| 319 | 0.0 | 24.2 | 36.2# |



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000544.D Vial: 6
Acq On : 13 Sep 2017 3:58 pm Operator: SCB
Sample : L17081498-01 RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:06:10 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

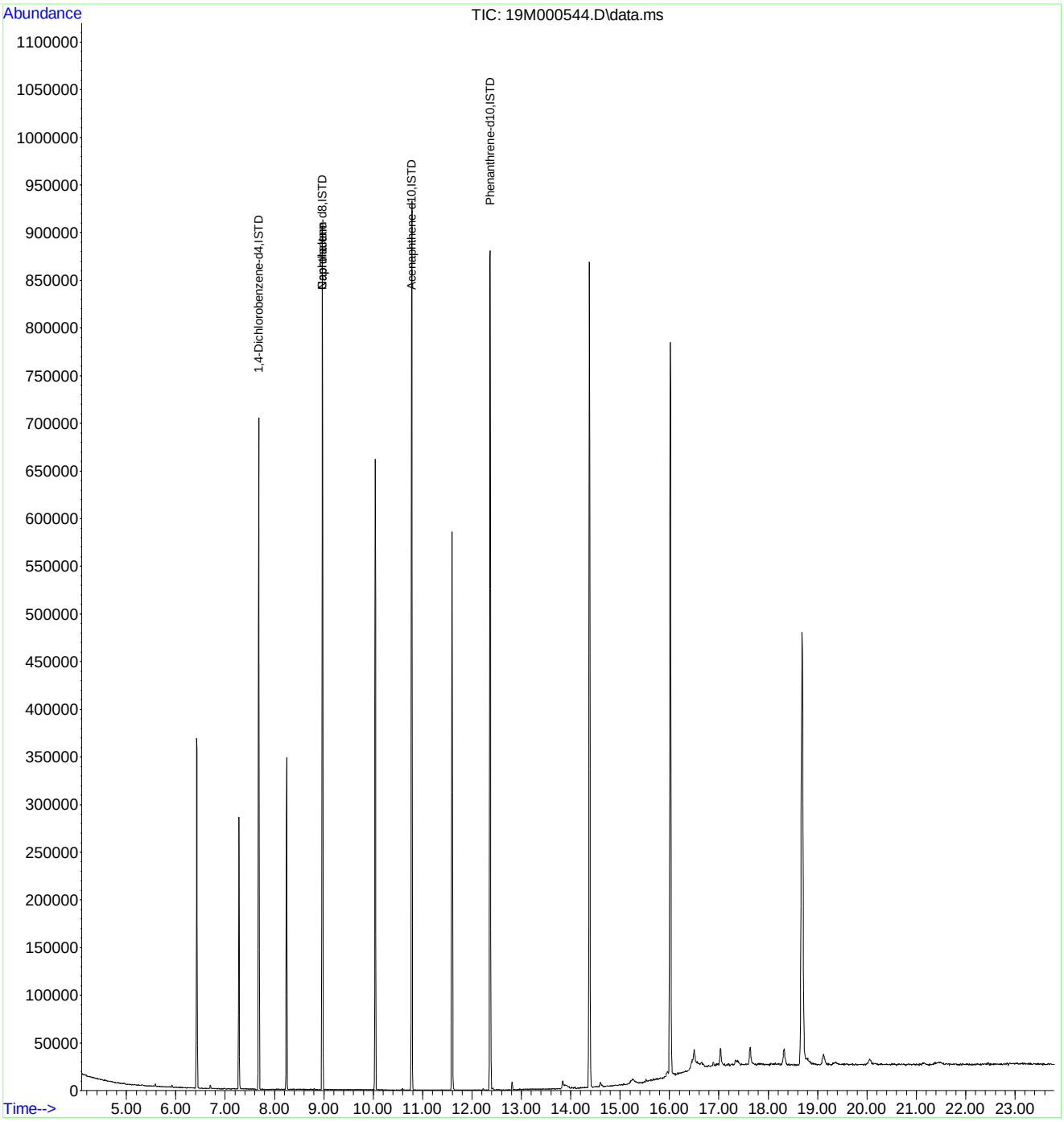
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 121442 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.969 | 136 | 481437 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.780 | 164 | 240637 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.369 | 188 | 455377 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 5) Caprolactam | 8.969 | 55 | 952 | 1.969 | ug/mL# | 1 |

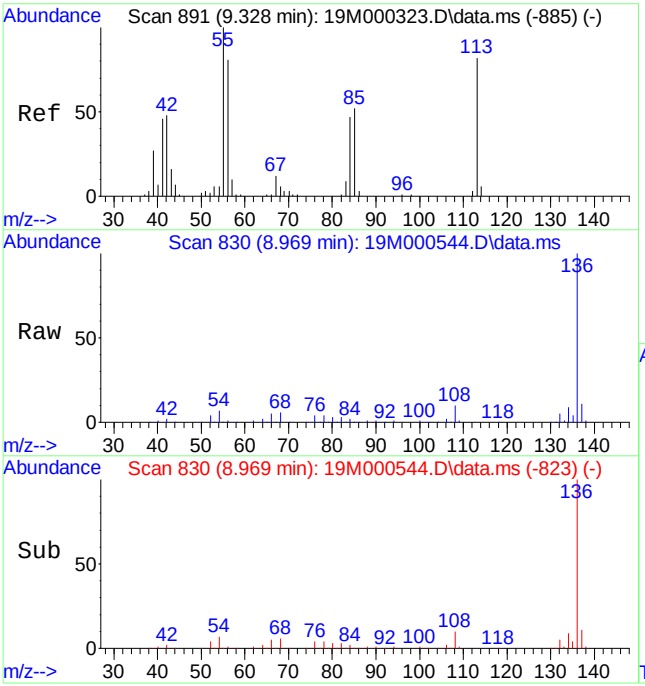
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000544.D Vial: 6
Acq On : 13 Sep 2017 3:58 pm Operator: SCB
Sample : L17081498-01 RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:06:10 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

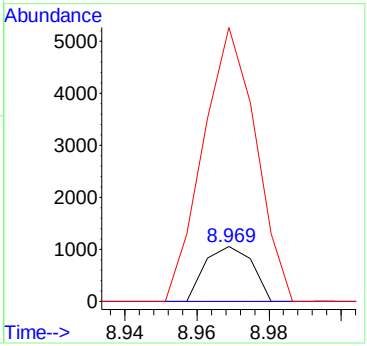





#5
Caprolactam
Concen: 1.97 ug/mL
RT: 8.969 min Scan# 830
Delta R.T. -0.359 min
Lab File: 19M000544.D
Acq: 13 Sep 2017 3:58 pm

Tgt Ion: 55 Resp: 952

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 55 | 100 | | |
| 113 | 0.0 | 63.4 | 95.0# |
| 56 | 562.8 | 64.3 | 96.5# |



Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 01 09:08:40 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

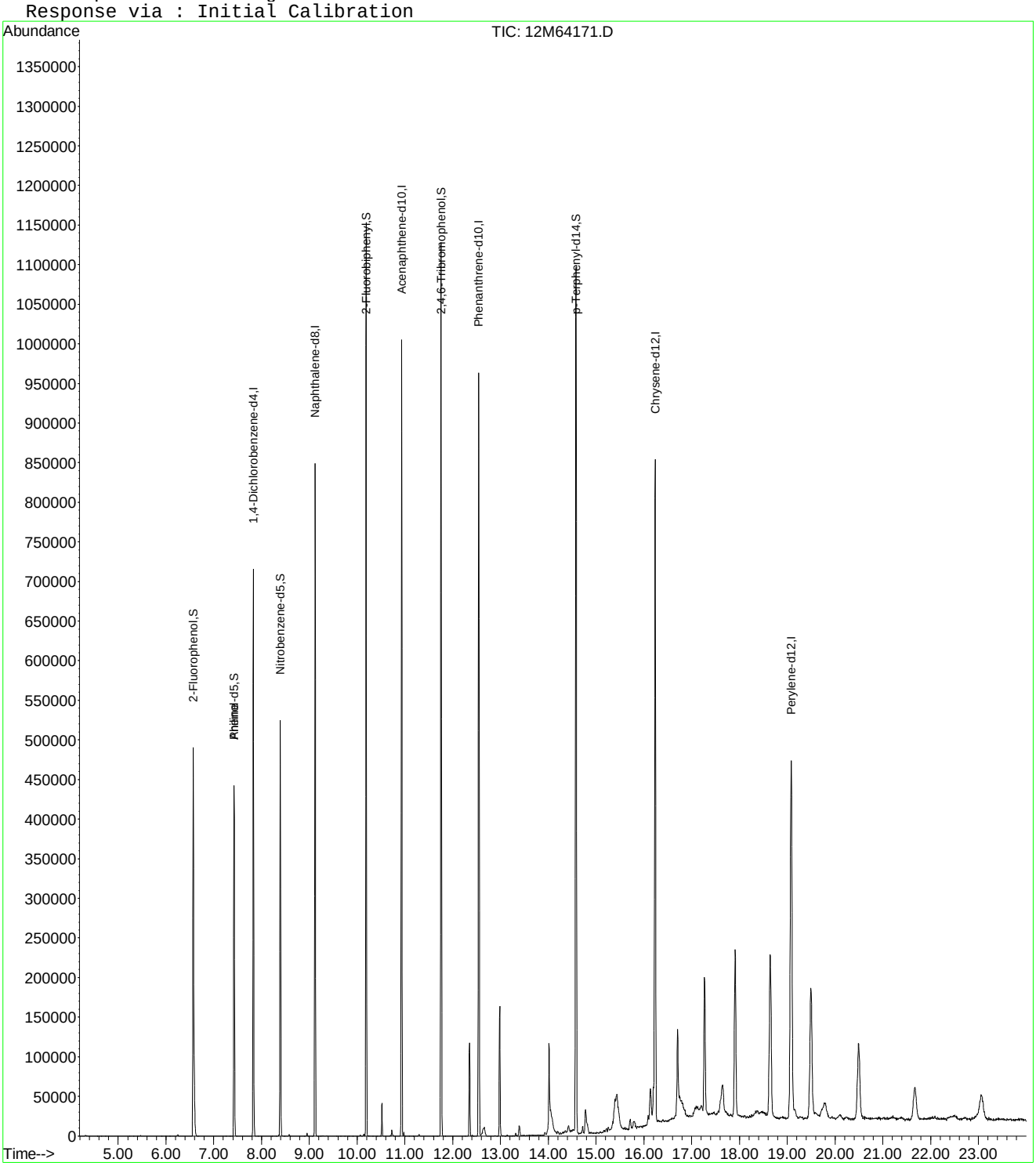
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.829 | 152 | 114778 | 40.0000 | ug/ml | 0.000 |
| 30) Naphthalene-d8 | 9.121 | 136 | 427416 | 40.0000 | ug/ml | 0.000 |
| 54) Acenaphthene-d10 | 10.932 | 164 | 233685 | 40.0000 | ug/ml | 0.000 |
| 87) Phenanthrene-d10 | 12.546 | 188 | 459769 | 40.0000 | ug/ml | -0.011 |
| 113) Chrysene-d12 | 16.237 | 240 | 453295 | 40.0000 | ug/ml | -0.011 |
| 128) Perylene-d12 | 19.079 | 264 | 445545 | 40.0000 | ug/ml | -0.021 |
| **System Monitoring Compounds** | | | | | | |
| 8) 2-Fluorophenol | 6.573 | 112 | 171569 | 49.0816553 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 21 - 100 | | Recovery = 49.08% | | | |
| 12) Phenol-d5 | 7.423 | 99 | 155147 | 34.7159020 | ug/ml | -0.01 |
| Spiked Amount 100.000 | Range 10 - 94 | | Recovery = 34.72% | | | |
| 31) Nitrobenzene-d5 | 8.395 | 82 | 195298 | 45.7877281 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 35 - 114 | | Recovery = 91.58% | | | |
| 59) 2-Fluorobiphenyl | 10.190 | 172 | 377822 | 46.5691160 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 43 - 116 | | Recovery = 93.14% | | | |
| 86) 2,4,6-Tribromophenol | 11.760 | 330 | 142937 | 116.1296982 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 123 | | Recovery = 116.13% | | | |
| 117) p-Terphenyl-d14 | 14.581 | 244 | 476632 | 48.8427649 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 33 - 141 | | Recovery = 97.69% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 11) Aniline | 7.42 | 66 | 11348 | 4.8784 | ug/ml# | 1 |

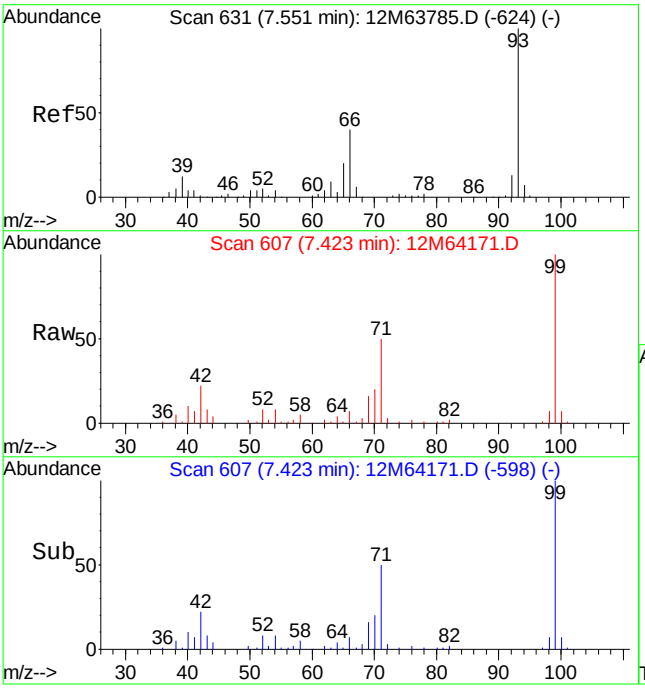
(#) = qualifier out of range (m) = manual integration (+) = signals summed
12M64171.D MEGAMIX.M Fri Sep 01 09:08:41 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 1 9:08 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

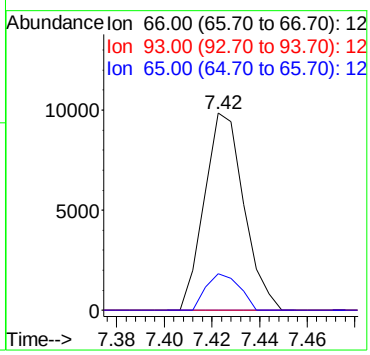





#11
Aniline
Concen: 4.8784 ug/ml
RT: 7.42 min Scan# 607
Delta R.T. -0.10 min
Lab File: 12M64171.D
Acq: 31 Aug 2017 12:54 pm

Tgt Ion: 66 Resp: 11348

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 66 | 100 | | |
| 93 | 0.0 | 231.9 | 541.1# |
| 65 | 15.6 | 48.5 | 113.1# |



LSC Area Percent Report

Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF 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

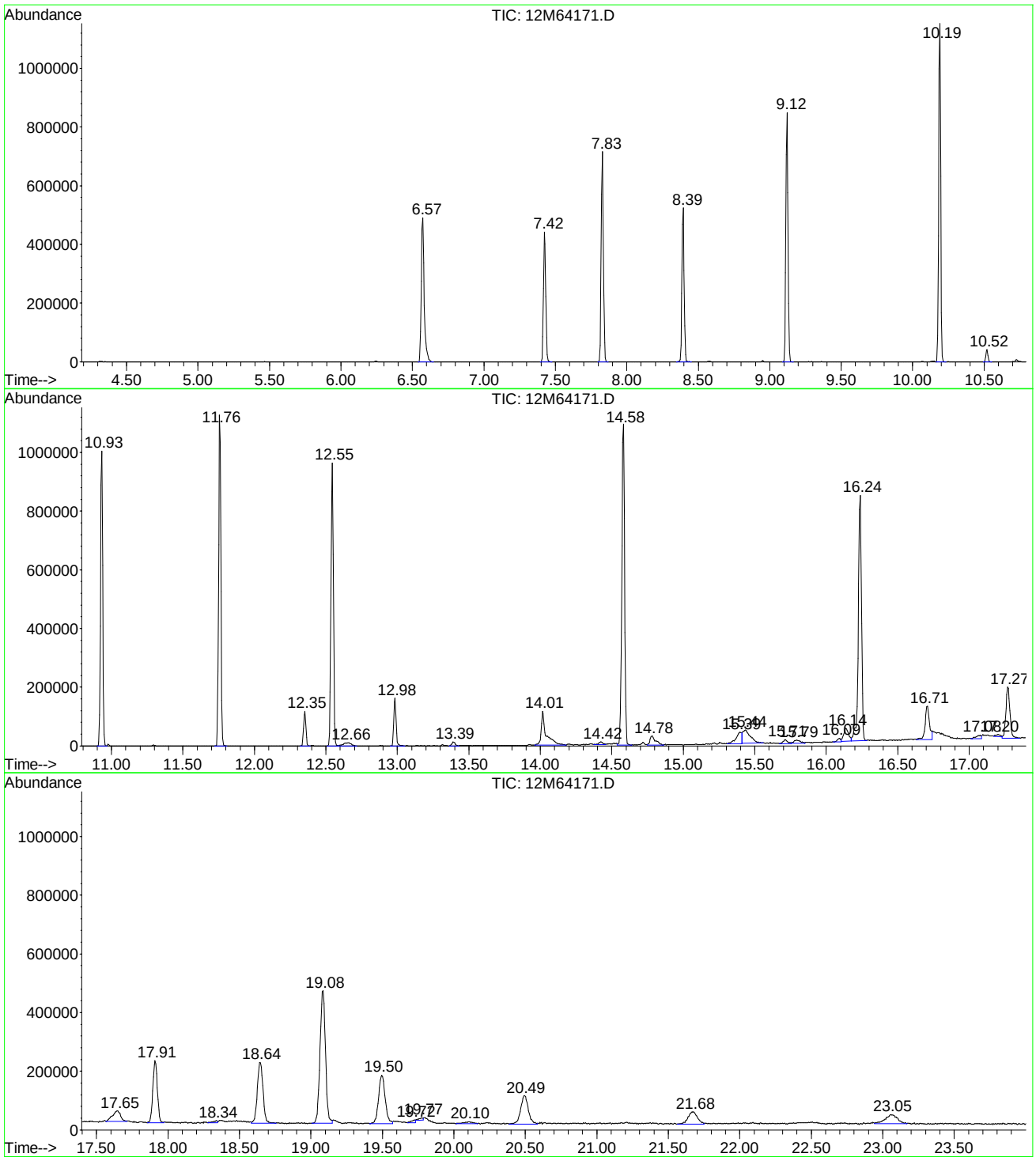
If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

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 | 461 | rBB | 490263 | 685931 | 46.46% | 4.194% |
| 2 | 7.423 | 602 | 607 | 616 | rBB | 442589 | 488838 | 33.11% | 2.989% |
| 3 | 7.829 | 677 | 683 | 690 | rBB | 715643 | 769964 | 52.15% | 4.708% |
| 4 | 8.395 | 780 | 789 | 799 | rBB | 524663 | 563016 | 38.13% | 3.443% |
| 5 | 9.121 | 919 | 925 | 932 | rBB | 849140 | 880770 | 59.66% | 5.385% |
| 6 | 10.190 | 1120 | 1125 | 1132 | rBB | 1153479 | 1120684 | 75.91% | 6.852% |
| 7 | 10.521 | 1182 | 1187 | 1192 | rBB | 41516 | 40663 | 2.75% | 0.249% |
| 8 | 10.932 | 1258 | 1264 | 1270 | rBB | 1005203 | 1053184 | 71.33% | 6.440% |
| 9 | 11.755 | 1412 | 1418 | 1427 | rBB | 1128334 | 1239195 | 83.93% | 7.577% |
| 10 | 12.353 | 1524 | 1530 | 1536 | rBB | 117462 | 131758 | 8.92% | 0.806% |
| 11 | 12.546 | 1559 | 1566 | 1574 | rBV | 963718 | 1155349 | 78.25% | 7.064% |
| 12 | 12.663 | 1574 | 1588 | 1597 | rVB4 | 10980 | 38637 | 2.62% | 0.236% |
| 13 | 12.984 | 1642 | 1648 | 1660 | rBB | 163696 | 184310 | 12.48% | 1.127% |
| 14 | 13.390 | 1719 | 1724 | 1731 | rBB3 | 12675 | 20959 | 1.42% | 0.128% |
| 15 | 14.015 | 1831 | 1841 | 1871 | rBV3 | 115085 | 276165 | 18.71% | 1.689% |
| 16 | 14.421 | 1908 | 1917 | 1924 | rBV4 | 8734 | 19436 | 1.32% | 0.119% |
| 17 | 14.581 | 1939 | 1947 | 1957 | rVB | 1094479 | 1476393 | 100.00% | 9.027% |
| 18 | 14.779 | 1978 | 1984 | 1999 | rVB2 | 30302 | 80146 | 5.43% | 0.490% |
| 19 | 15.393 | 2083 | 2099 | 2102 | rBV2 | 38785 | 107553 | 7.28% | 0.658% |
| 20 | 15.436 | 2102 | 2107 | 2129 | rVB2 | 44201 | 166316 | 11.27% | 1.017% |
| 21 | 15.714 | 2151 | 2159 | 2167 | rBV3 | 14200 | 31057 | 2.10% | 0.190% |
| 22 | 15.794 | 2167 | 2174 | 2184 | rVB8 | 10286 | 33187 | 2.25% | 0.203% |
| 23 | 16.093 | 2222 | 2230 | 2232 | rBV4 | 12800 | 19713 | 1.34% | 0.121% |
| 24 | 16.136 | 2232 | 2238 | 2245 | rVV3 | 45001 | 107143 | 7.26% | 0.655% |
| 25 | 16.237 | 2245 | 2257 | 2265 | rVB | 836396 | 1308450 | 88.62% | 8.001% |
| 26 | 16.707 | 2331 | 2345 | 2351 | rBV | 112930 | 238062 | 16.12% | 1.456% |
| 27 | 17.076 | 2402 | 2414 | 2416 | rBV9 | 11584 | 29082 | 1.97% | 0.178% |
| 28 | 17.199 | 2432 | 2437 | 2443 | rVV7 | 7083 | 16470 | 1.12% | 0.101% |
| 29 | 17.268 | 2443 | 2450 | 2465 | rVB | 174252 | 338643 | 22.94% | 2.071% |
| 30 | 17.648 | 2506 | 2521 | 2533 | rBV7 | 35168 | 135732 | 9.19% | 0.830% |
| 31 | 17.909 | 2560 | 2570 | 2582 | rBV2 | 211214 | 466861 | 31.62% | 2.855% |
| 32 | 18.337 | 2639 | 2650 | 2652 | rBV8 | 7484 | 16587 | 1.12% | 0.101% |
| 33 | 18.641 | 2696 | 2707 | 2728 | rVB | 206503 | 575685 | 38.99% | 3.520% |
| 34 | 19.085 | 2776 | 2790 | 2802 | rBV2 | 451816 | 1202538 | 81.45% | 7.353% |
| 35 | 19.496 | 2851 | 2867 | 2881 | rBV3 | 165234 | 528314 | 35.78% | 3.230% |
| 36 | 19.720 | 2901 | 2909 | 2911 | rBV6 | 9809 | 19625 | 1.33% | 0.120% |
| 37 | 19.774 | 2911 | 2919 | 2921 | rVV7 | 9197 | 17559 | 1.19% | 0.107% |
| 38 | 20.100 | 2964 | 2980 | 2992 | rVB7 | 6663 | 30771 | 2.08% | 0.188% |
| 39 | 20.490 | 3034 | 3053 | 3071 | rBV2 | 97026 | 356263 | 24.13% | 2.178% |
| 40 | 21.676 | 3254 | 3275 | 3289 | rBV4 | 42371 | 198493 | 13.44% | 1.214% |
| 41 | 23.054 | 3512 | 3533 | 3554 | rVB7 | 31040 | 185048 | 12.53% | 1.131% |

Sum of corrected areas:  16354550

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File       : I:\MSDCHEM\1\DATA\083117\12M64171.D
Operator   : SCB
Acquired   : 31 Aug 2017  12:54 pm using AcqMethod BNARUN
Instrument :   MSD12
Sample Name: L17081498-03 REF
Misc Info  : 1,1
Vial Number: 8
Quant File :MEGAMIX.RES (RTE Integrator)
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Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

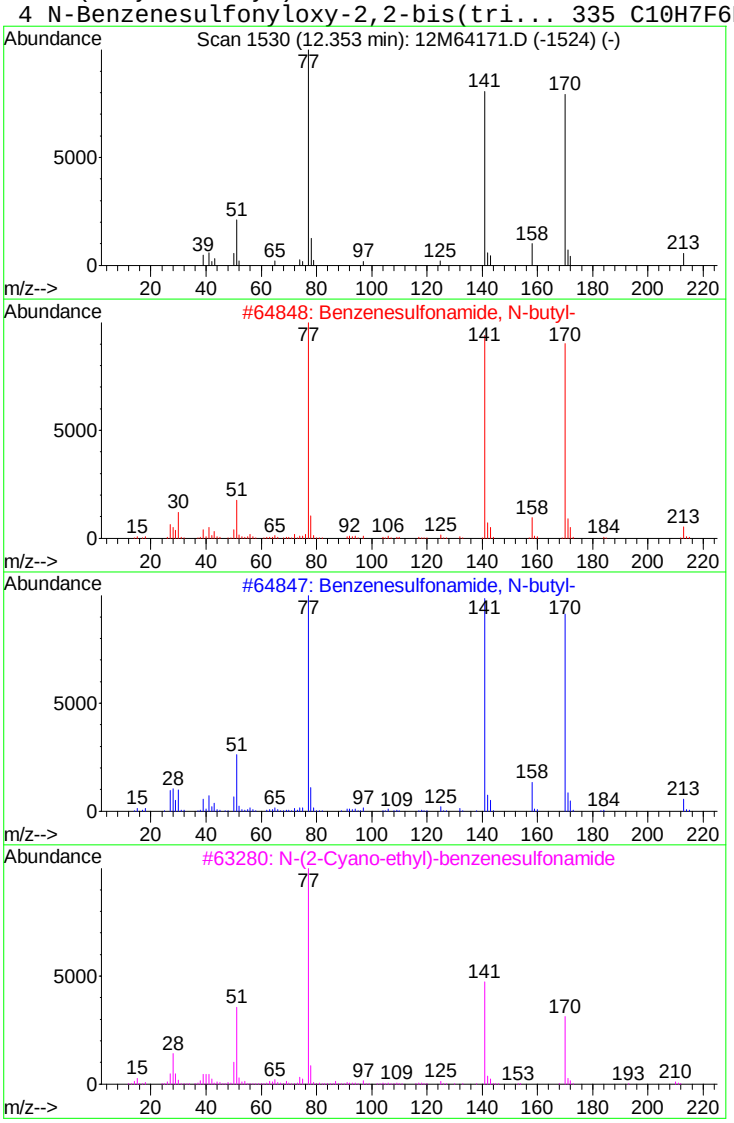
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Library : I:\DATABASE\NIST02.L

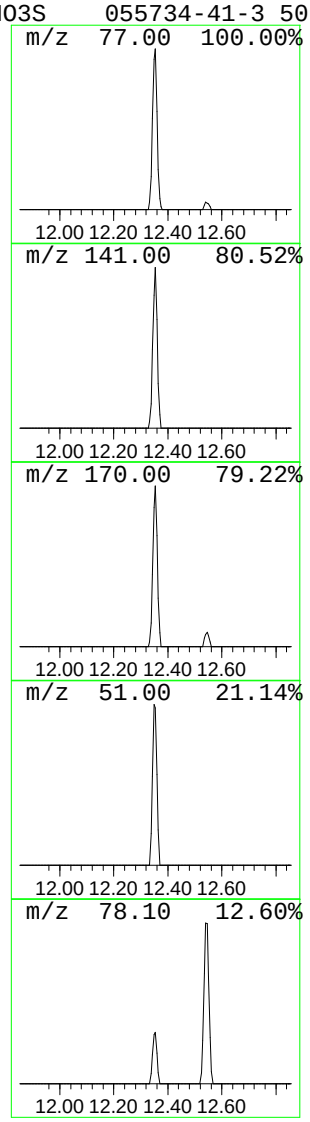
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Peak Number 1 Benzenesulfonamide, N-butyl- Concentration Rank 12

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.35 | 4.56 ug/ml | 131758 | Phenanthrene-d10 | 12.55 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzenesulfonamide, N-butyl- | 213 | C10H15NO2S | 003622-84-2 | 97 |
| 2 | Benzenesulfonamide, N-butyl- | 213 | C10H15NO2S | 003622-84-2 | 96 |
| 3 | N-(2-Cyano-ethyl)-benzenesulfona... | 210 | C9H10N2O2S | 002619-21-8 | 83 |
| 4 | N-Benzenesulfonyloxy-2,2-bis(tri... | 335 | C10H7F6NO3S | 055734-41-3 | 50 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

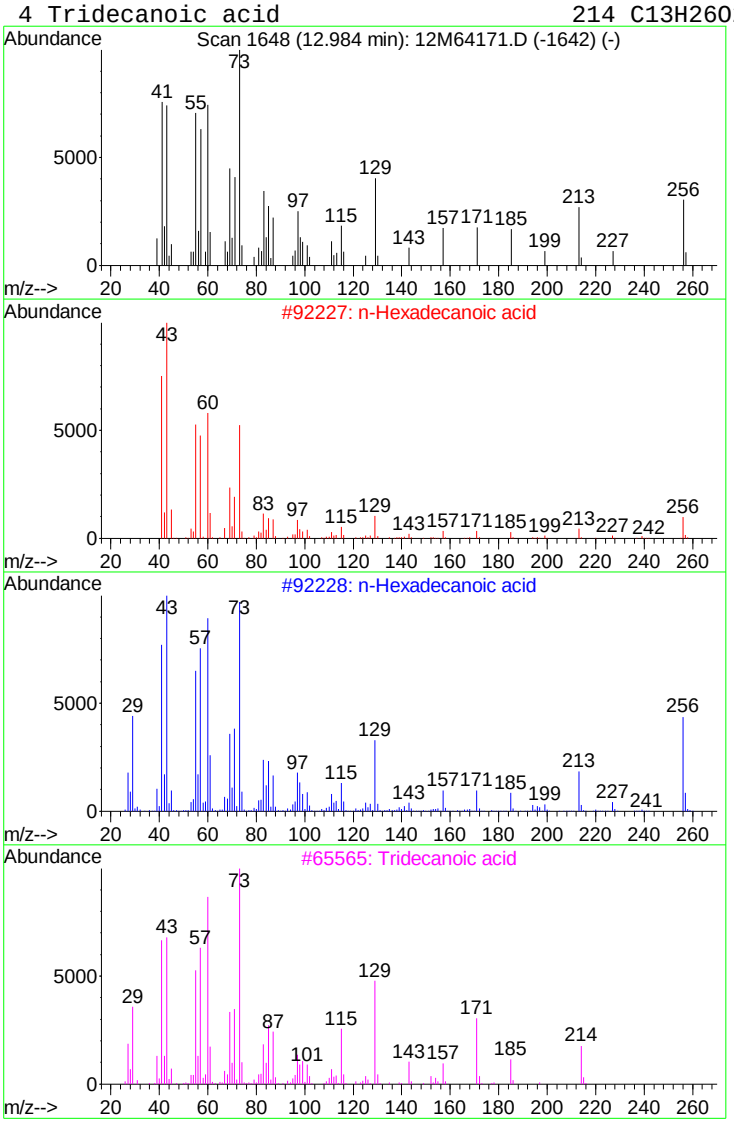
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Library : I:\DATABASE\NIST02.L

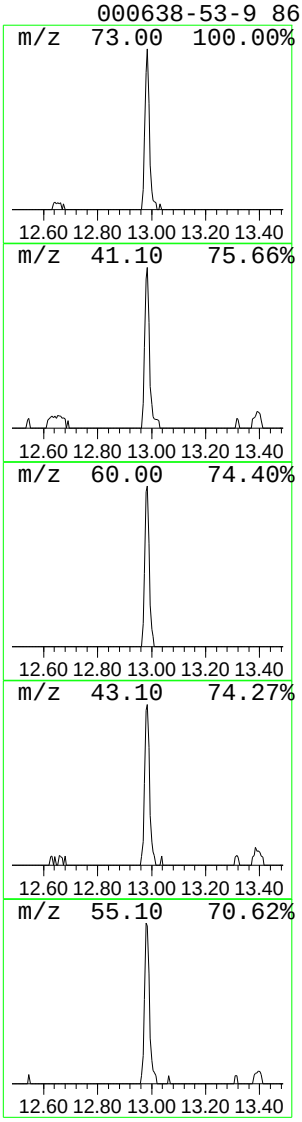
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Peak Number 2 n-Hexadecanoic acid Concentration Rank 9

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.98 | 6.38 ug/ml | 184310 | 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 | 94 |
| 3 | Tridecanoic acid | 214 | C13H26O2 | 000638-53-9 | 94 |
| 4 | Tridecanoic acid | 214 | C13H26O2 | 000638-53-9 | 86 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

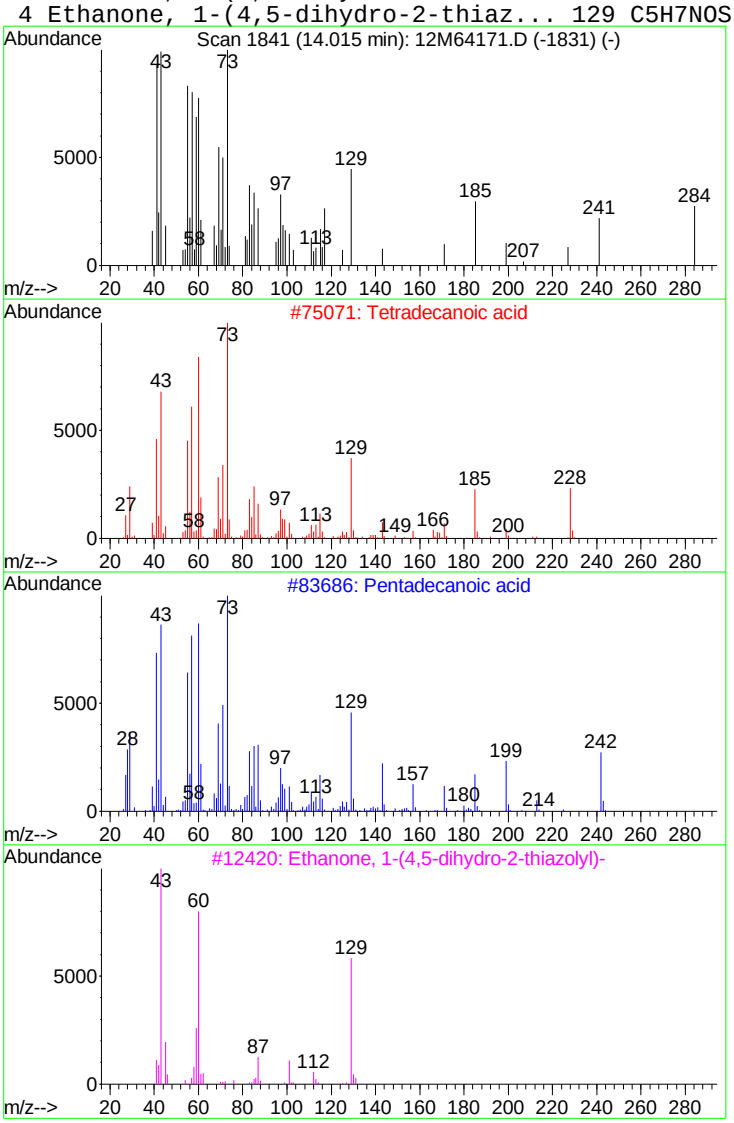
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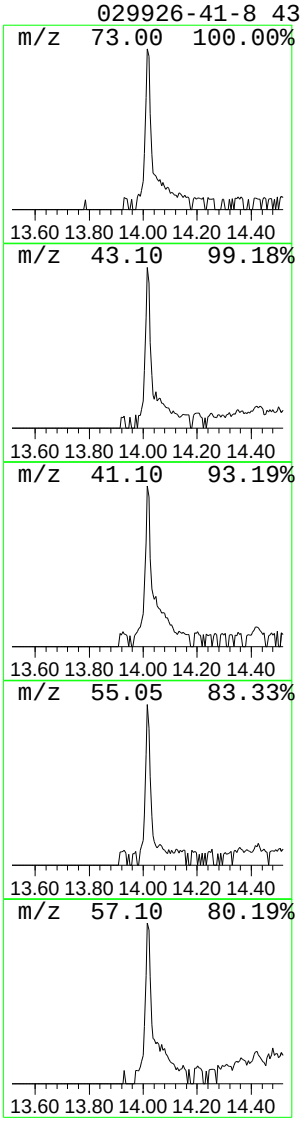
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Peak Number 3 Tetradecanoic acid Concentration Rank 6

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.01 | 9.56 ug/ml | 276165 | Phenanthrene-d10 | 12.55 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetradecanoic acid | 228 | C14H28O2 | 000544-63-8 | 47 |
| 2 | Pentadecanoic acid | 242 | C15H30O2 | 001002-84-2 | 47 |
| 3 | Ethanone, 1-(4,5-dihydro-2-thiaz... | 129 | C5H7NOS | 029926-41-8 | 43 |
| 4 | Ethanone, 1-(4,5-dihydro-2-thiaz... | 129 | C5H7NOS | 029926-41-8 | 43 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

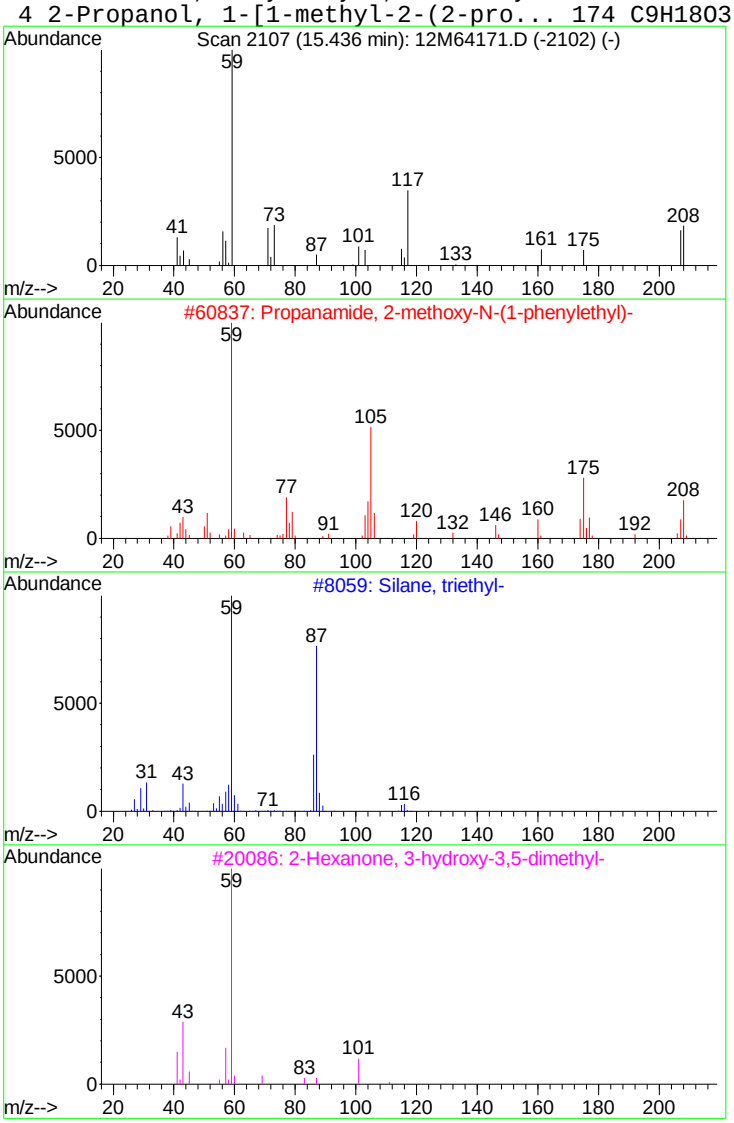
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Library : I:\DATABASE\NIST02.L

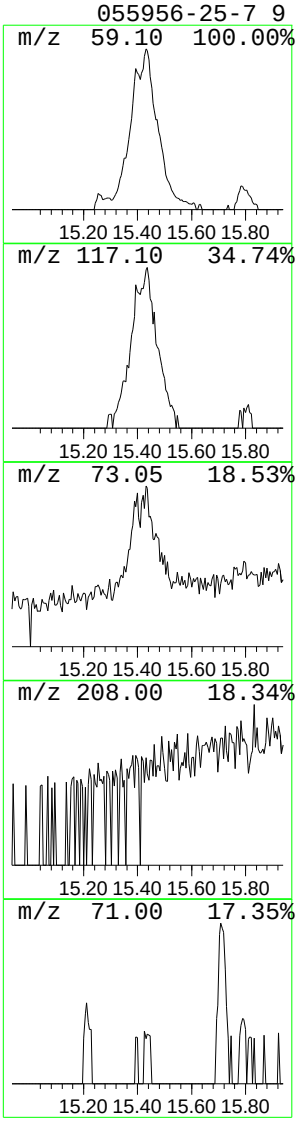
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Peak Number 4 Propanamide, 2-methoxy-N-(1... Concentration Rank 11

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.44 | 5.08 ug/ml | 166316 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Propanamide, 2-methoxy-N-(1-phen... | 207 | C12H17NO2 | 1000142-13-8 | 9 |
| 2 | Silane, triethyl- | 116 | C6H16Si | 000617-86-7 | 9 |
| 3 | 2-Hexanone, 3-hydroxy-3,5-dimethyl- | 144 | C8H16O2 | 006321-14-8 | 9 |
| 4 | 2-Propanol, 1-[1-methyl-2-(2-pro... | 174 | C9H18O3 | 055956-25-7 | 9 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

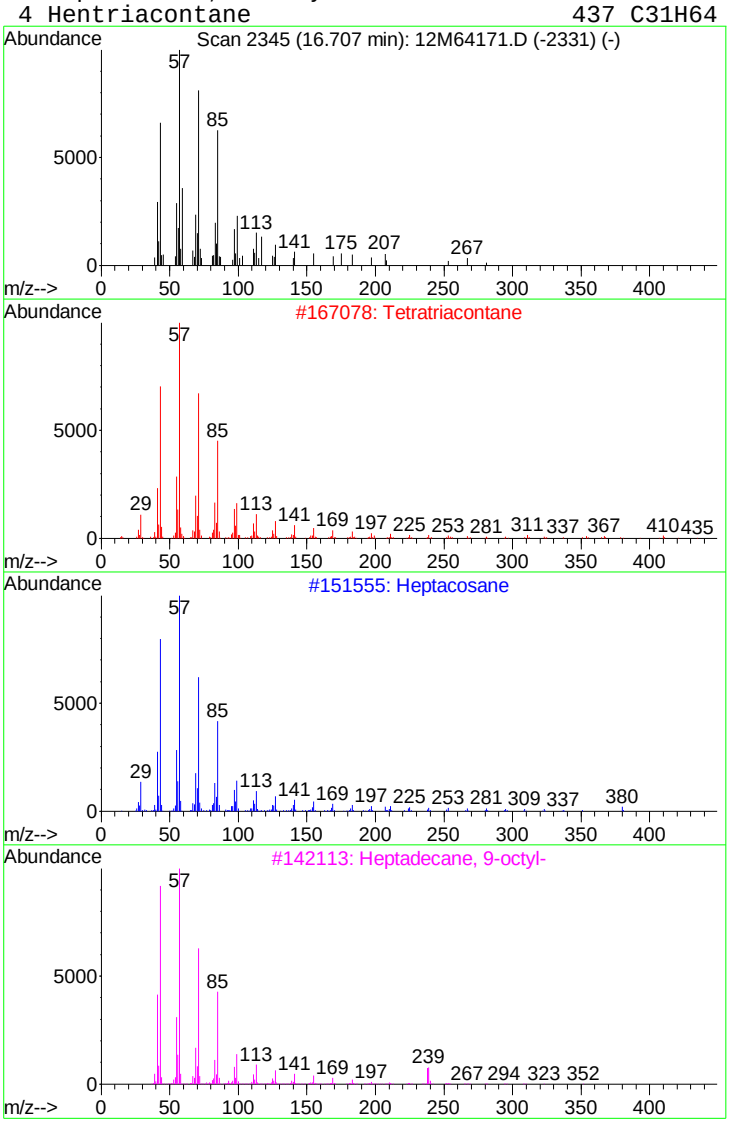
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Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

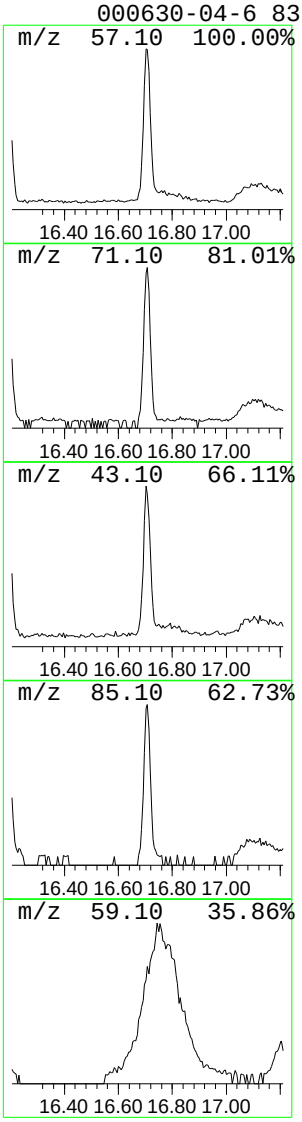
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Peak Number 5 Tetratriacontane Concentration Rank 7

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.71 | 7.28 ug/ml | 238062 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 87 |
| 2 | Heptacosane | 380 | C27H56 | 000593-49-7 | 87 |
| 3 | Heptadecane, 9-octyl- | 352 | C25H52 | 007225-64-1 | 83 |
| 4 | Hentriacontane | 437 | C31H64 | 000630-04-6 | 83 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

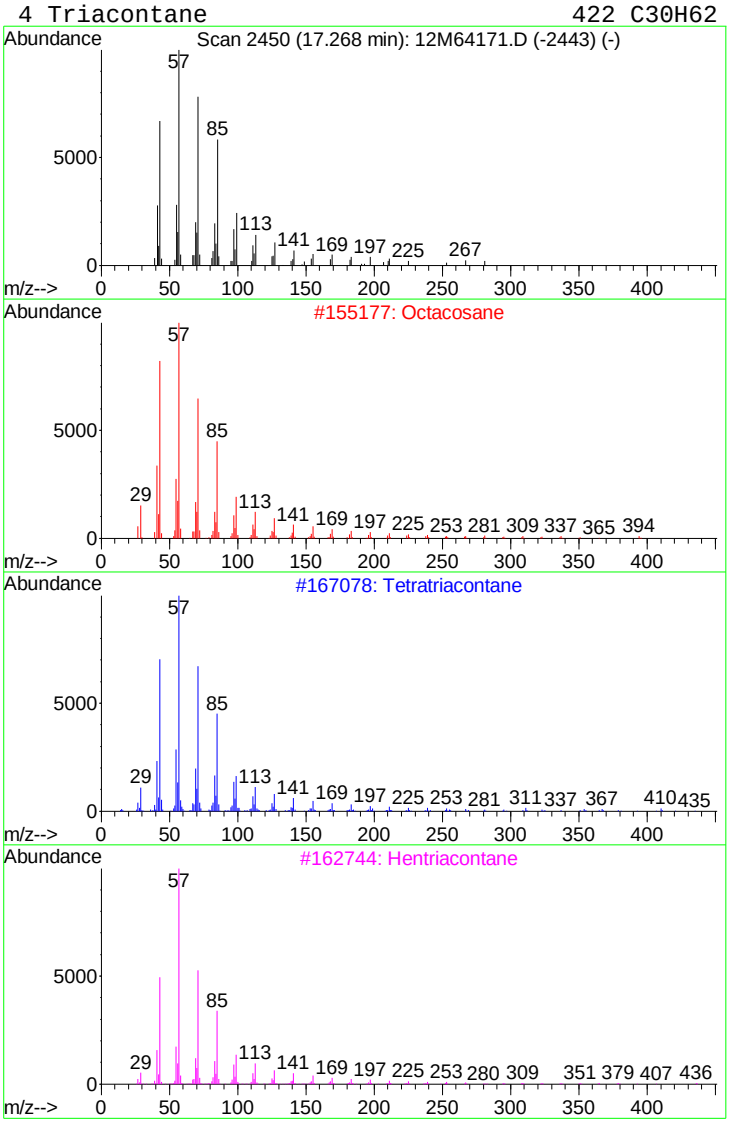
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Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

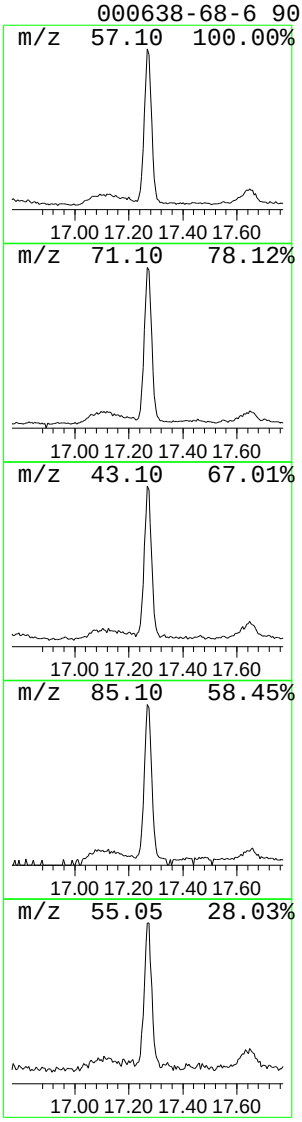
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Peak Number 6 Octacosane Concentration Rank 5

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.27 | 10.35 ug/ml | 338643 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Octacosane | 394 | C28H58 | 000630-02-4 | 91 |
| 2 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 3 | Hentriacontane | 437 | C31H64 | 000630-04-6 | 90 |
| 4 | Triacontane | 422 | C30H62 | 000638-68-6 | 90 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

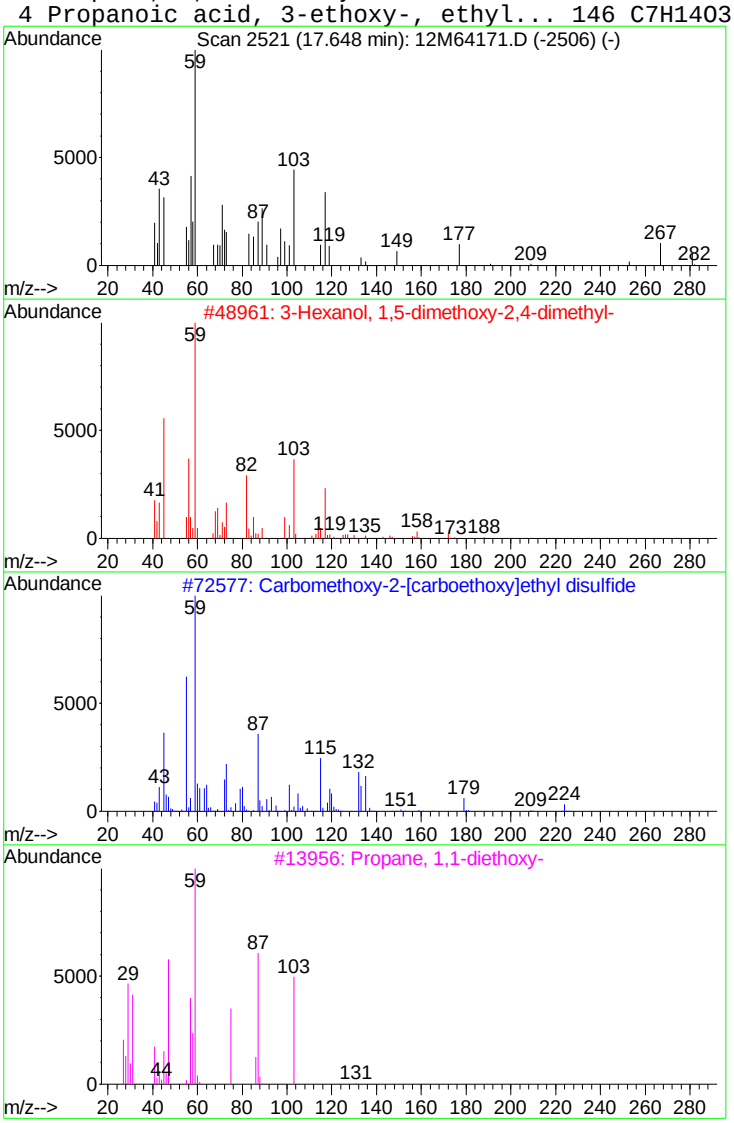
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Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

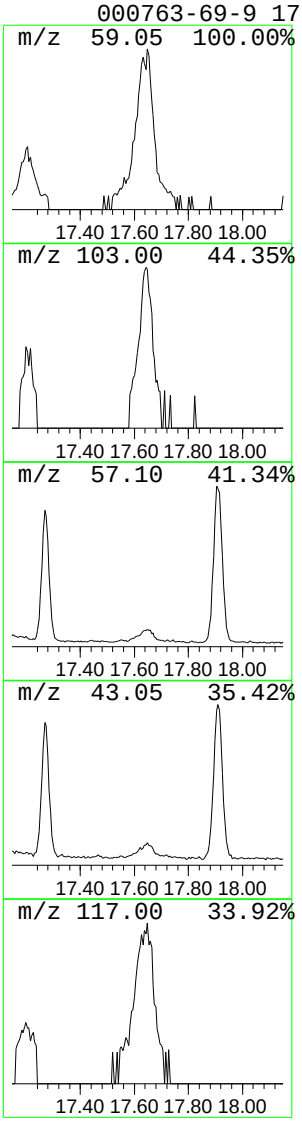
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Peak Number 7 3-Hexanol, 1,5-dimethoxy-2,... Concentration Rank 13

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.65 | 4.15 ug/ml | 135732 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 3-Hexanol, 1,5-dimethoxy-2,4-dim... | 190 | C10H22O3 | 013897-22-8 | 40 |
| 2 | Carbomethoxy-2-[carboethoxy]ethy... | 224 | C7H12O4S2 | 1000251-20-1 | 23 |
| 3 | Propane, 1,1-diethoxy- | 132 | C7H16O2 | 004744-08-5 | 23 |
| 4 | Propanoic acid, 3-ethoxy-, ethyl... | 146 | C7H14O3 | 000763-69-9 | 17 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

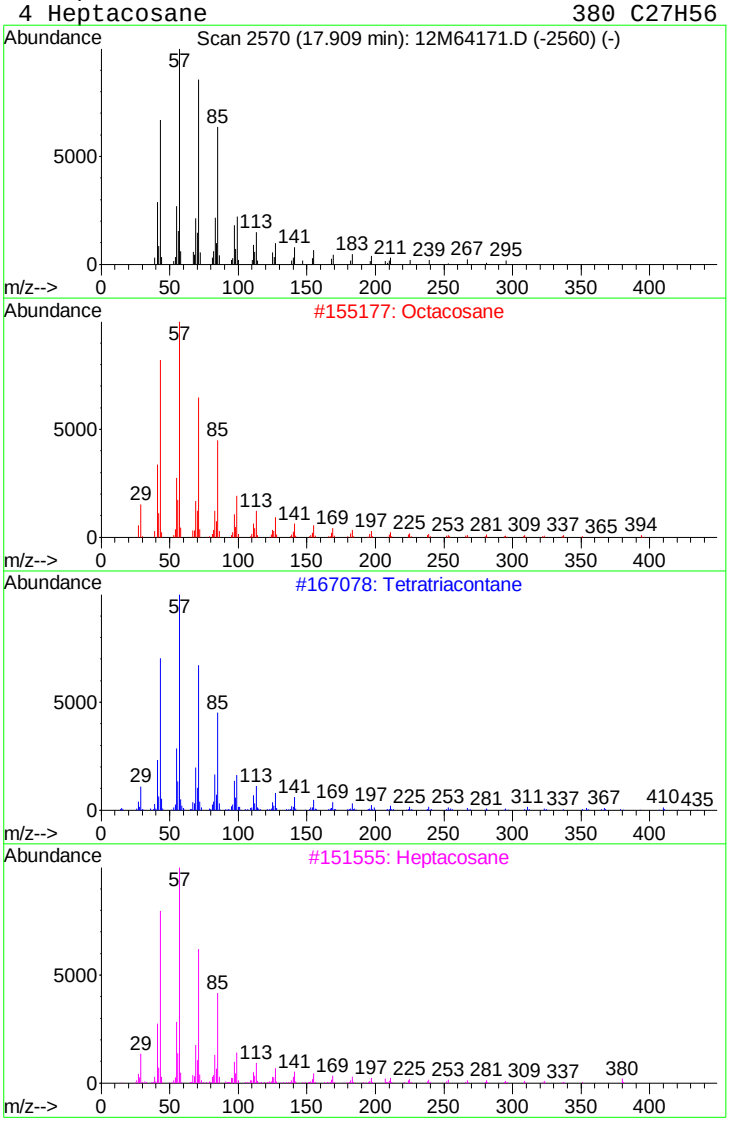
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Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

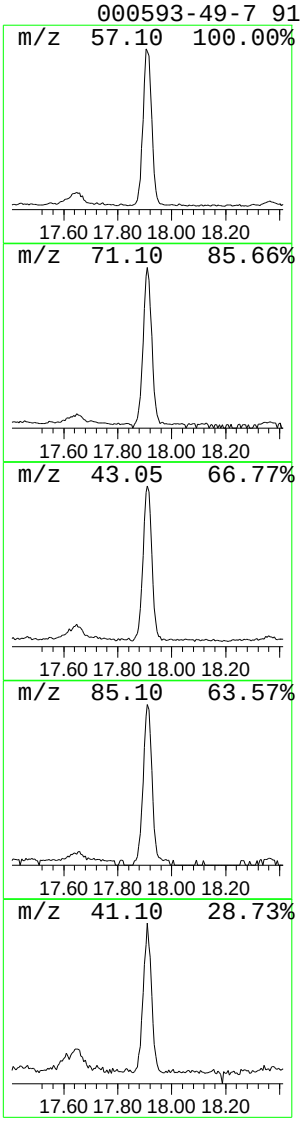
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Peak Number 8 Octacosane Concentration Rank 3

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.91 | 15.53 ug/ml | 466861 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Octacosane | 394 | C28H58 | 000630-02-4 | 91 |
| 2 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 3 | Heptacosane | 380 | C27H56 | 000593-49-7 | 91 |
| 4 | Heptacosane | 380 | C27H56 | 000593-49-7 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

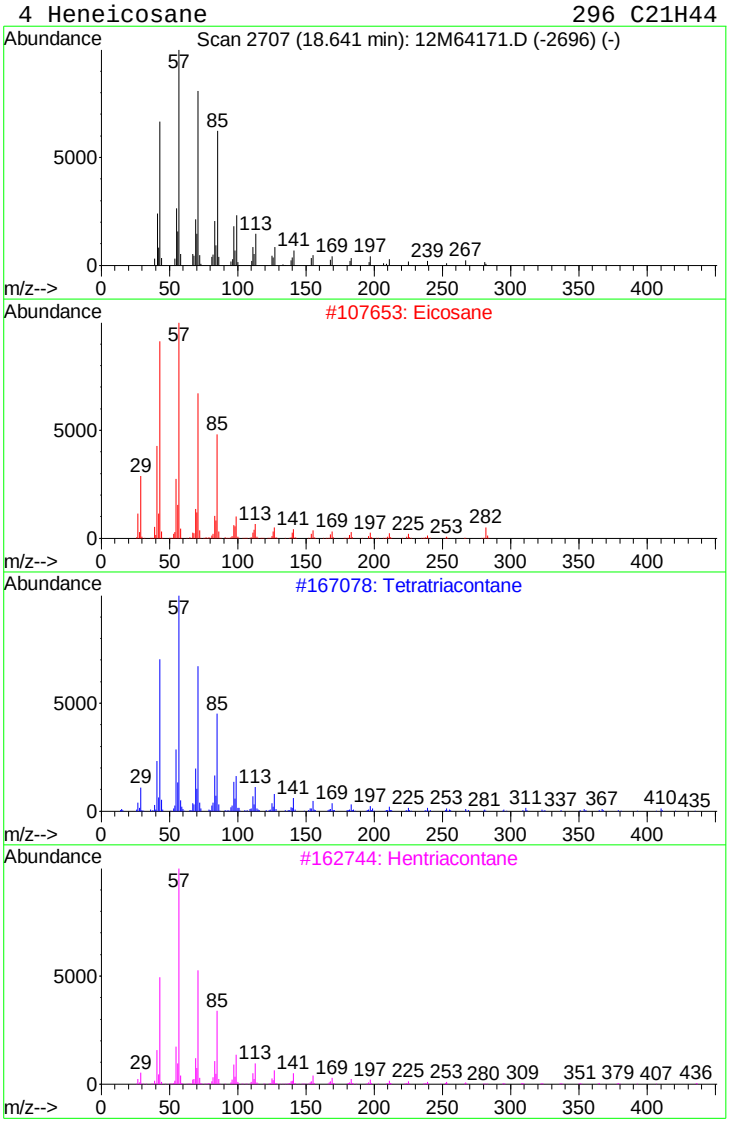
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

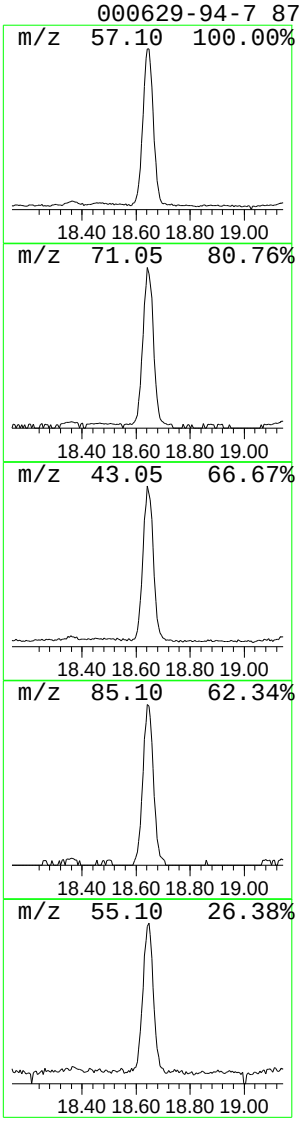
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Peak Number 9 Eicosane Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 18.64 | 19.15 ug/ml | 575685 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Eicosane | 282 | C20H42 | 000112-95-8 | 95 |
| 2 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 3 | Hentriacontane | 437 | C31H64 | 000630-04-6 | 87 |
| 4 | Heneicosane | 296 | C21H44 | 000629-94-7 | 87 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

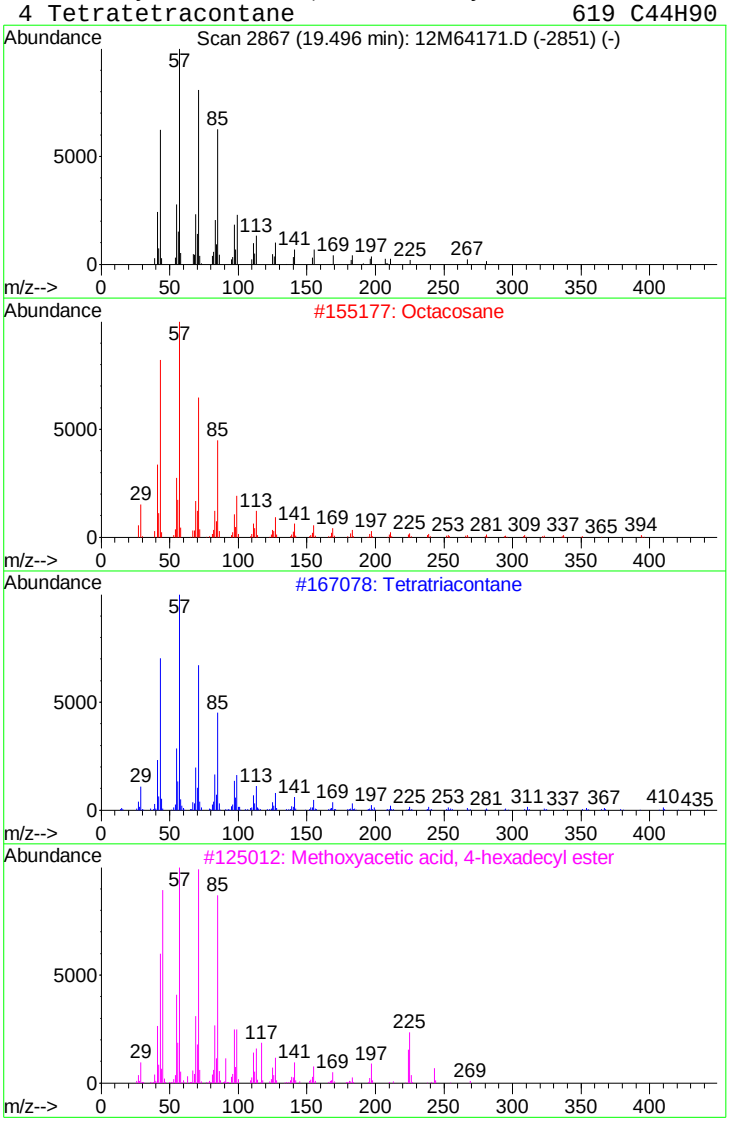
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Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

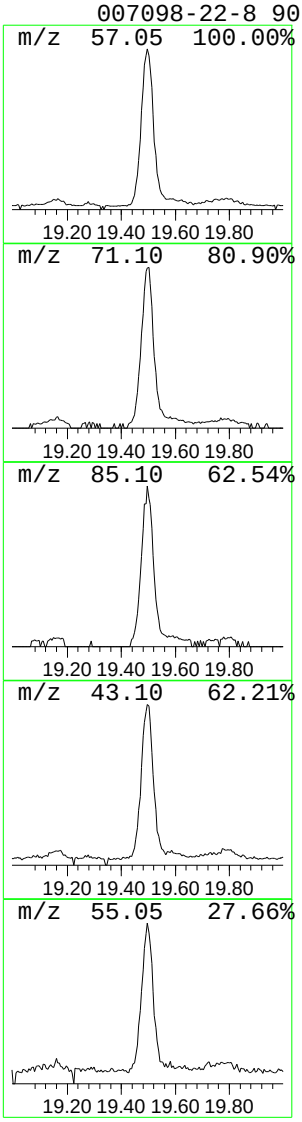
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Peak Number 10 Octacosane Concentration Rank 2

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 19.50 | 17.57 ug/ml | 528314 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Octacosane | 394 | C28H58 | 000630-02-4 | 91 |
| 2 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 3 | Methoxyacetic acid, 4-hexadecyl ... | 314 | C19H38O3 | 1000282-99-0 | 91 |
| 4 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 90 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

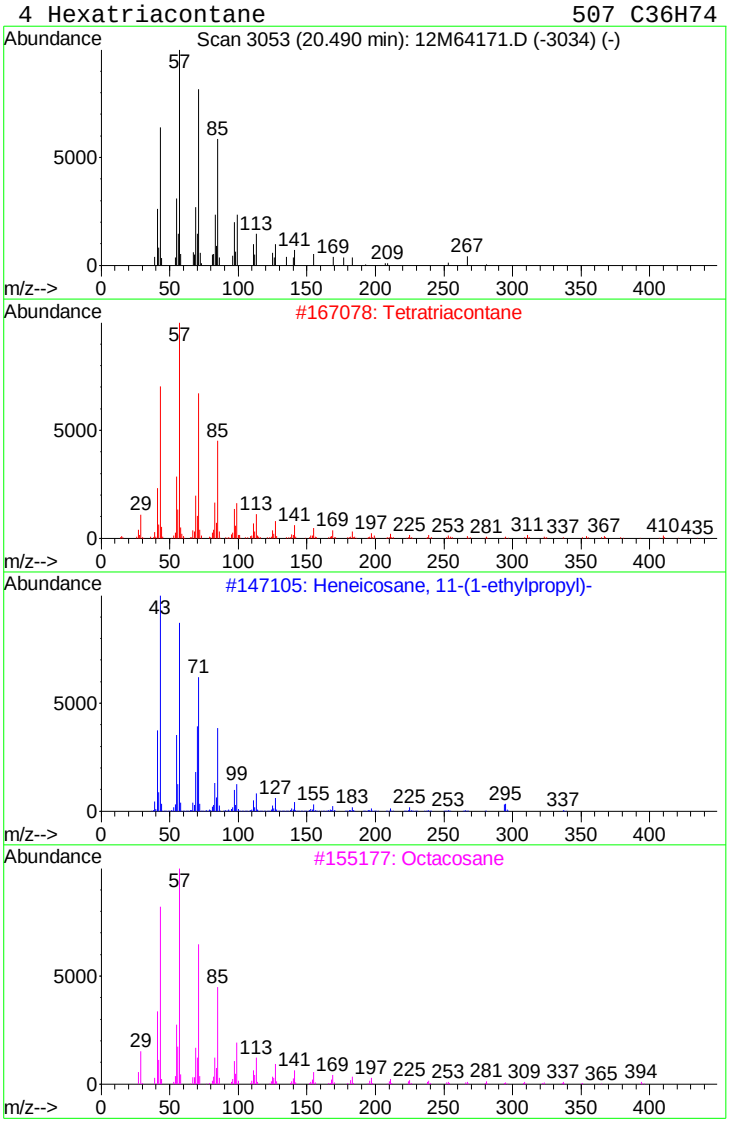
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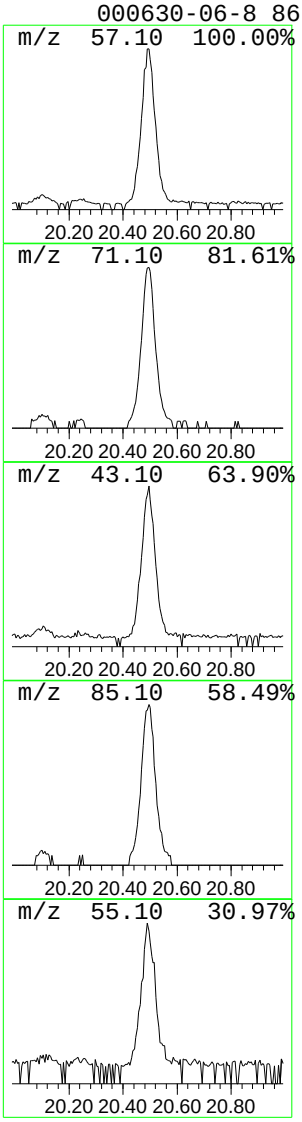
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Peak Number 11 Tetratriacontane Concentration Rank 4

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 20.49 | 11.85 ug/ml | 356263 | 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 | 90 |
| 3 | Octacosane | 394 | C28H58 | 000630-02-4 | 87 |
| 4 | Hexatriacontane | 507 | C36H74 | 000630-06-8 | 86 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

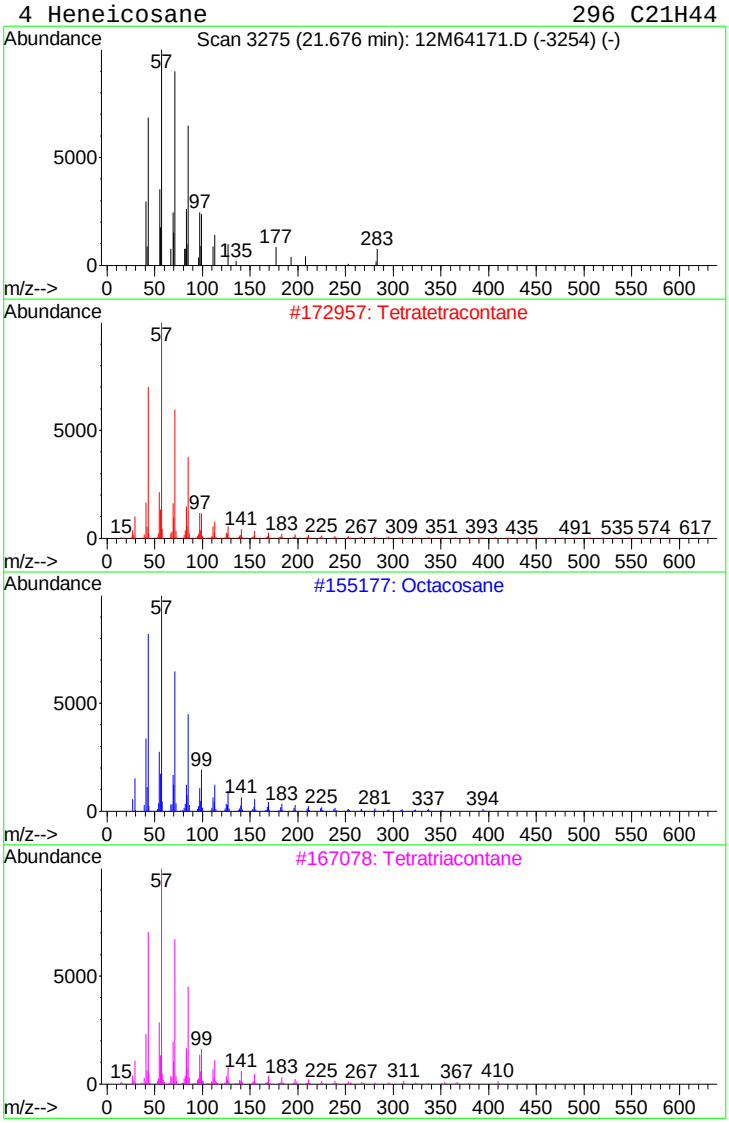
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

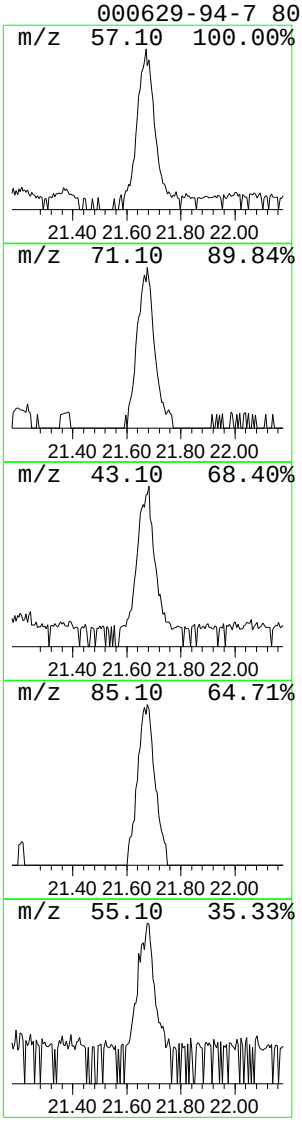
**********

Peak Number 12 Tetratetracontane Concentration Rank 8

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 21.68 | 6.60 ug/ml | 198493 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 86 |
| 2 | Octacosane | 394 | C28H58 | 000630-02-4 | 86 |
| 3 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 86 |
| 4 | Heneicosane | 296 | C21H44 | 000629-94-7 | 80 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64171.D Vial: 8
Acq On : 31 Aug 2017 12:54 pm Operator: SCB
Sample : L17081498-03 REF Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

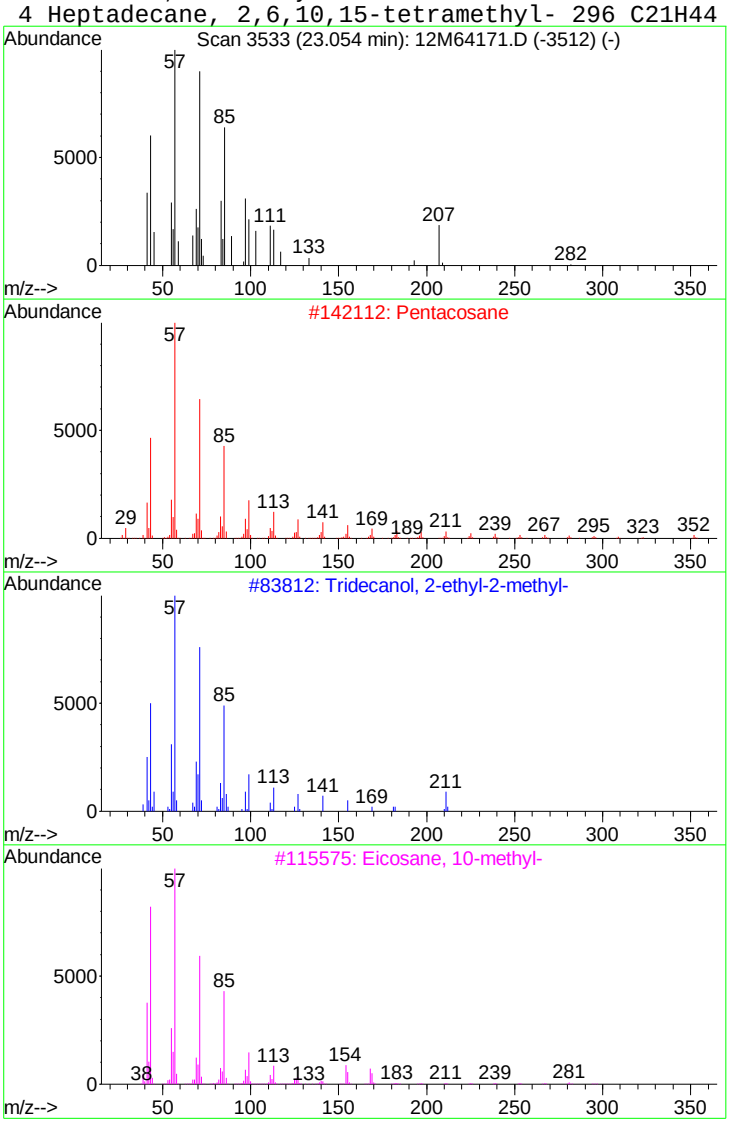
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

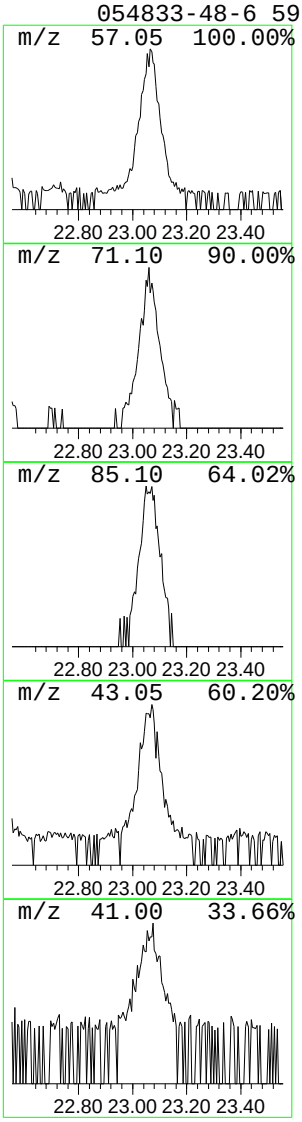
**********

Peak Number 13 Pentacosane Concentration Rank 10

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 23.05 | 6.16 ug/ml | 185048 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Pentacosane | 352 | C25H52 | 000629-99-2 | 64 |
| 2 | Tridecanol, 2-ethyl-2-methyl- | 242 | C16H34O | 1000115-66-1 | 64 |
| 3 | Eicosane, 10-methyl- | 296 | C21H44 | 054833-23-7 | 64 |
| 4 | Heptadecane, 2,6,10,15-tetramethyl- | 296 | C21H44 | 054833-48-6 | 59 |



Tentatively Identified Compound (LSC) summary

Operator ID: SCB  Date Acquired: 31 Aug 2017  12:54 pm
Data File: I:\MSDCHEM\1\DATA\083117\12M64171.D
Name: L17081498-03 REF
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

| | | | | | Internal Standard | | | |
|---|---|---|---|---|---|---|---|---|
| TIC Top Hit name | RT | EstConc | Units | Response | # | RT | Resp | Conc |
| Benzenesulfonamid... | 12.35 | 4.6 | ug/ml | 131758 | 4 | 12.55 | 1155350 | 40.0 |
| n-Hexadecanoic acid | 12.98 | 6.4 | ug/ml | 184310 | 4 | 12.55 | 1155350 | 40.0 |
| Tetradecanoic acid | 14.01 | 9.6 | ug/ml | 276165 | 4 | 12.55 | 1155350 | 40.0 |
| Propanamide, 2-me... | 15.44 | 5.1 | ug/ml | 166316 | 5 | 16.24 | 1308450 | 40.0 |
| Tetratriacontane | 16.71 | 7.3 | ug/ml | 238062 | 5 | 16.24 | 1308450 | 40.0 |
| Octacosane | 17.27 | 10.4 | ug/ml | 338643 | 5 | 16.24 | 1308450 | 40.0 |
| 3-Hexanol, 1,5-di... | 17.65 | 4.1 | ug/ml | 135732 | 5 | 16.24 | 1308450 | 40.0 |
| Octacosane | 17.91 | 15.5 | ug/ml | 466861 | 6 | 19.08 | 1202540 | 40.0 |
| Eicosane | 18.64 | 19.1 | ug/ml | 575685 | 6 | 19.08 | 1202540 | 40.0 |
| Octacosane | 19.50 | 17.6 | ug/ml | 528314 | 6 | 19.08 | 1202540 | 40.0 |
| Tetratriacontane | 20.49 | 11.9 | ug/ml | 356263 | 6 | 19.08 | 1202540 | 40.0 |
| Tetratetracontane | 21.68 | 6.6 | ug/ml | 198493 | 6 | 19.08 | 1202540 | 40.0 |
| Pentacosane | 23.05 | 6.2 | ug/ml | 185048 | 6 | 19.08 | 1202540 | 40.0 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000545.D Vial: 7
Acq On : 13 Sep 2017 4:28 pm Operator: SCB
Sample : L17081498-03 REF RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:11:04 2017
Quant Results File: MEGAMIX.RES

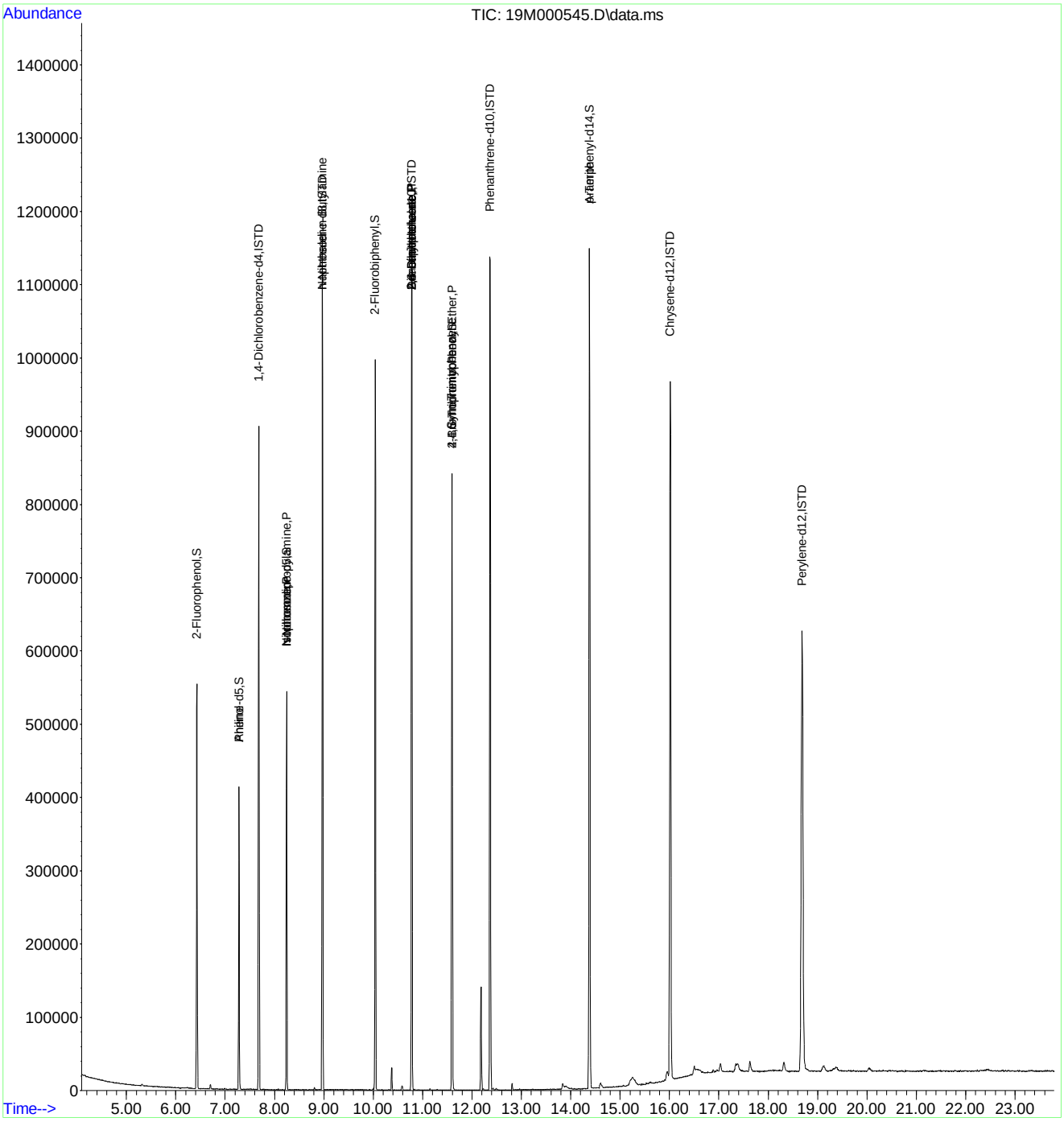
Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

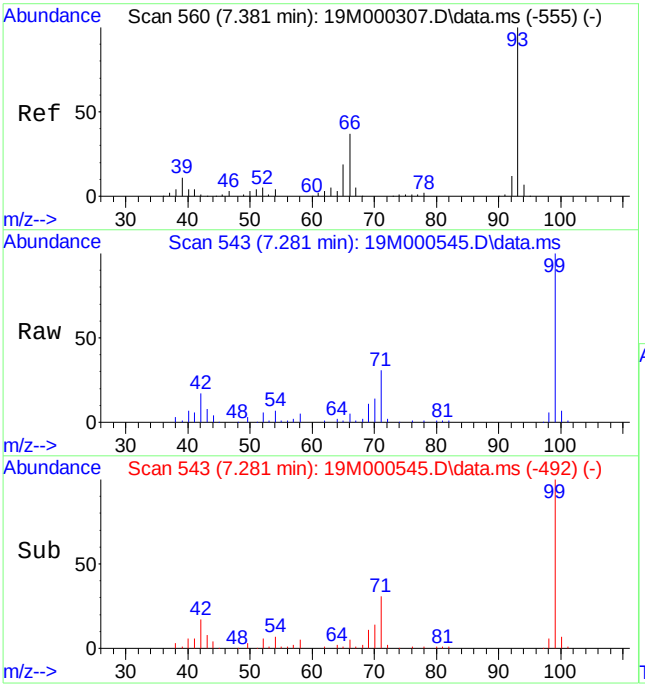
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 161387 | 40.0000 ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.969 | 136 | 629020 | 40.0000 ug/mL | -0.0117 |
| 54) Acenaphthene-d10 | 10.781 | 164 | 314188 | 40.0000 ug/mL | -0.0117 |
| 87) Phenanthrene-d10 | 12.363 | 188 | 594735 | 40.0000 ug/mL | -0.0176 |
| 113) Chrysene-d12 | 16.015 | 240 | 571967 | 40.0000 ug/mL | -0.0234 |
| 128) Perylene-d12 | 18.686 | 264 | 574385 | 40.0000 ug/mL | -0.0293 |
| System Monitoring Compounds | | | | | |
| 8) 2-Fluorophenol | 6.428 | 112 | 194490 | 37.0908 ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.281 | 99 | 157293 | 25.5305 ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.245 | 82 | 183738 | 35.3040 ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.039 | 172 | 365202 | 33.5108 ug/mL | -0.0117 |
| 86) 2,4,6-Tribromophenol | 11.598 | 330 | 114700 | 89.1486 ug/mL | -0.0117 |
| 117) p-Terphenyl-d14 | 14.380 | 244 | 540675 | 46.7341 ug/mL | -0.0117 |
| Target Compounds | | | | | Qvalue |
| 11) Aniline | 7.281 | 66 | 7416 | 2.352 ug/mL# | 1 |
| 25) n-Nitrosodipropylamine | 8.245 | 70 | 24677 | 7.115 ug/mL# | 47 |
| 27) n-Nitrosomorpholine | 8.245 | 56 | 234 | Below Cal # | 35 |
| 34) Isophorone | 8.245 | 82 | 183738 | 18.616 ug/mL# | 61 |
| 48) n-Nitrosodi-n-Butylamine | 8.969 | 84 | 14000 | 3.185 ug/mL# | 17 |
| 65) Dimethylphthalate | 10.781 | 163 | 89791 | 7.879 ug/mL# | 1 |
| 67) 2,6-Dinitrotoluene | 10.781 | 165 | 40385 | 15.191 ug/mL# | 24 |
| 73) 2,4-Dinitrotoluene | 10.781 | 165 | 40385 | 11.789 ug/mL# | 13 |
| 91) Sym-Trinitrobenzene | 11.592 | 75 | 187 | 2.237 ug/mL# | 1 |
| 95) 4-Bromophenyl Phenyl E... | 11.598 | 248 | 7430 | 2.431 ug/mL# | 1 |
| 116) Aramite | 14.380 | 185 | 1108 | 3.032 ug/mL# | 33 |

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

Data File : C:\msdchem\4\DATA\091317\19M000545.D Vial: 7
Acq On : 13 Sep 2017 4:28 pm Operator: SCB
Sample : L17081498-03 REF RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:11:04 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

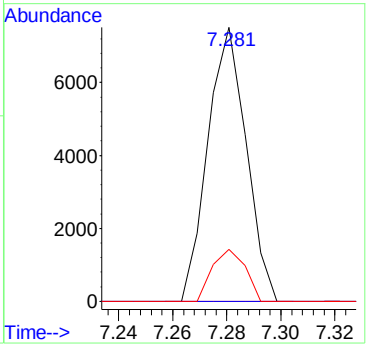


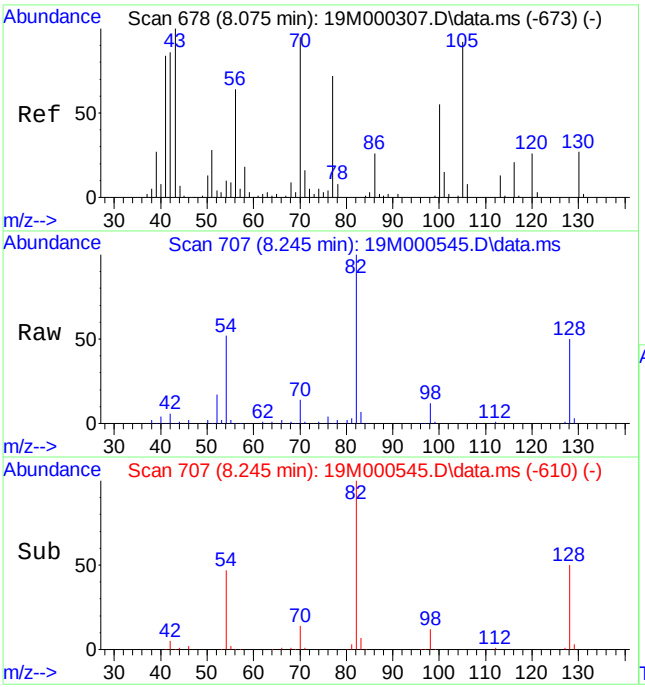



#11
Aniline
Concen: 2.35 ug/mL
RT: 7.281 min Scan# 543
Delta R.T. -0.100 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion: 66 Resp: 7416

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 66 | 100 | | |
| 93 | 0.0 | 161.8 | 377.6# |
| 65 | 16.3 | 31.4 | 73.4# |

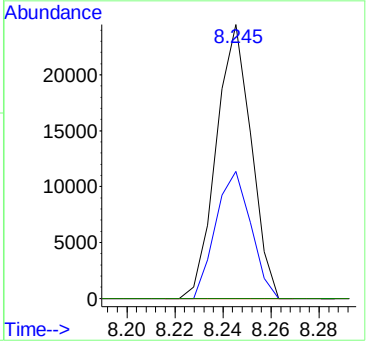


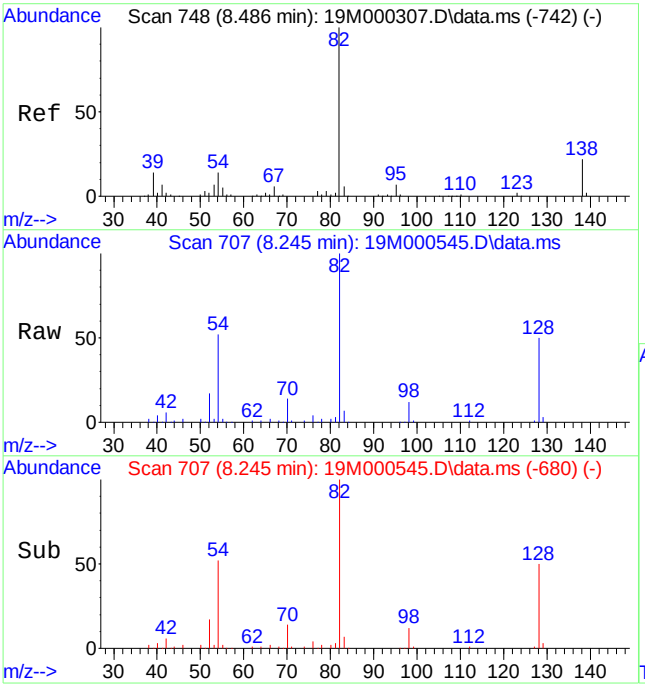




#25
n-Nitrosodipropylamine
Concen: 7.11 ug/mL
RT: 8.245 min Scan# 707
Delta R.T. 0.171 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion: 70 Resp: 24677

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 70 | 100 | | |
| 42 | 46.8 | 61.9 | 144.3# |
| 101 | 0.0 | 9.7 | 22.5# |
| 130 | 0.0 | 17.3 | 40.5# |

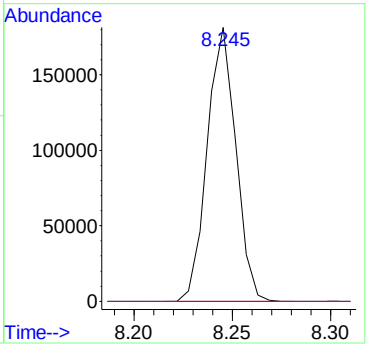


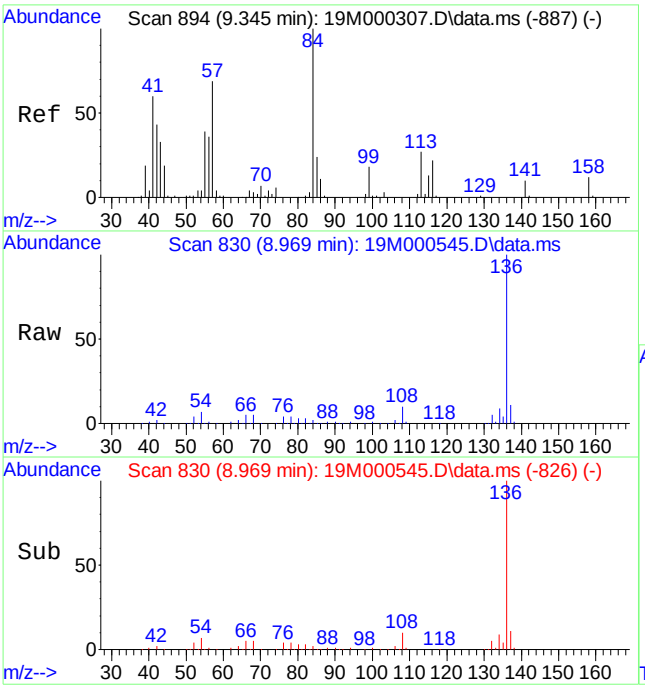



#34
Isophorone
Concen: 18.62 ug/mL
RT: 8.245 min Scan# 707
Delta R.T. -0.241 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion: 82 Resp: 183738

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 82 | 100 | | |
| 95 | 0.0 | 4.3 | 9.9# |
| 138 | 0.0 | 12.8 | 29.8# |

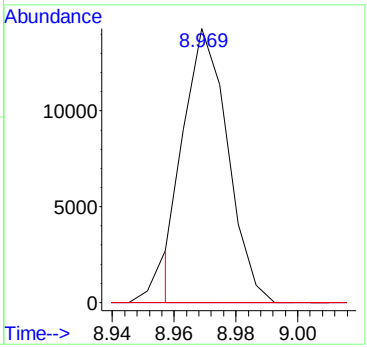


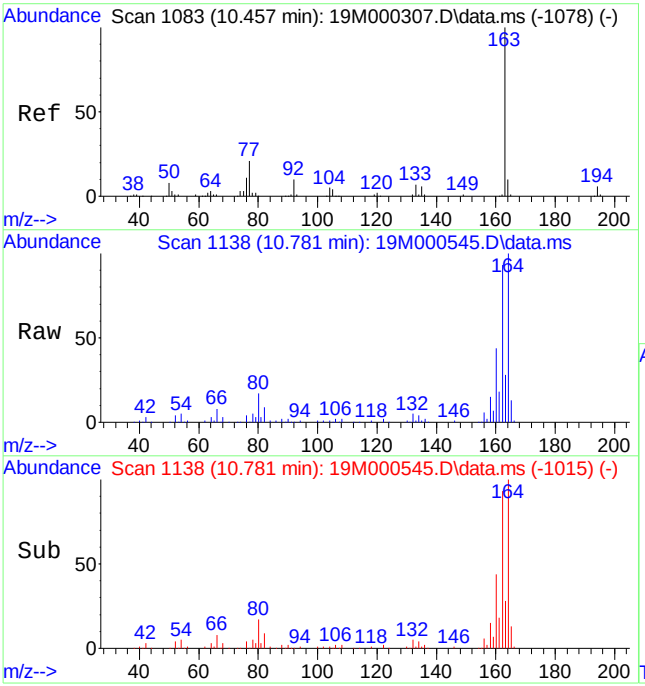




#48
n-Nitrosodi-n-Butylamine
Concen: 3.19 ug/mL
RT: 8.969 min Scan# 830
Delta R.T. -0.376 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion: 84 Resp: 14000

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 57 | 0.0 | 52.2 | 78.2# |
| 41 | 0.0 | 54.5 | 81.7# |

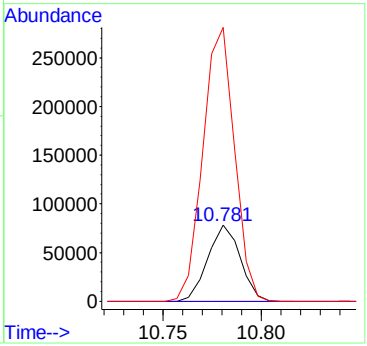


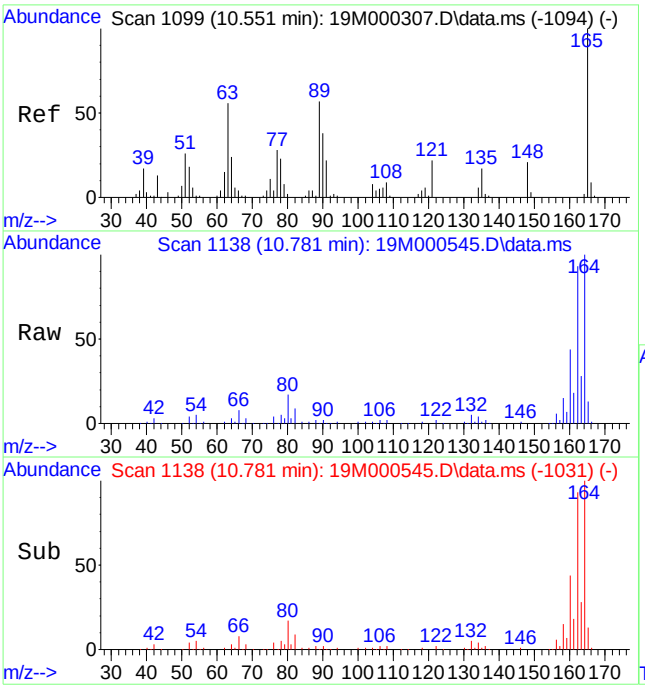



#65
Dimethylphthalate
Concen: 7.88 ug/mL
RT: 10.781 min Scan# 1138
Delta R.T. 0.324 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion:163 Resp: 89791

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 163 | 100 | | |
| 194 | 0.0 | 3.6 | 8.4# |
| 164 | 349.9 | 6.1 | 14.1# |

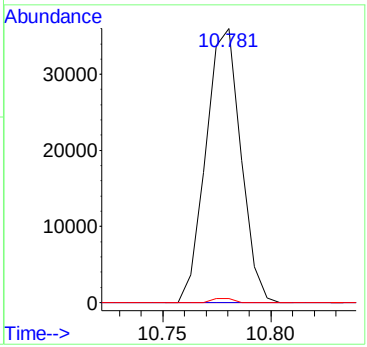


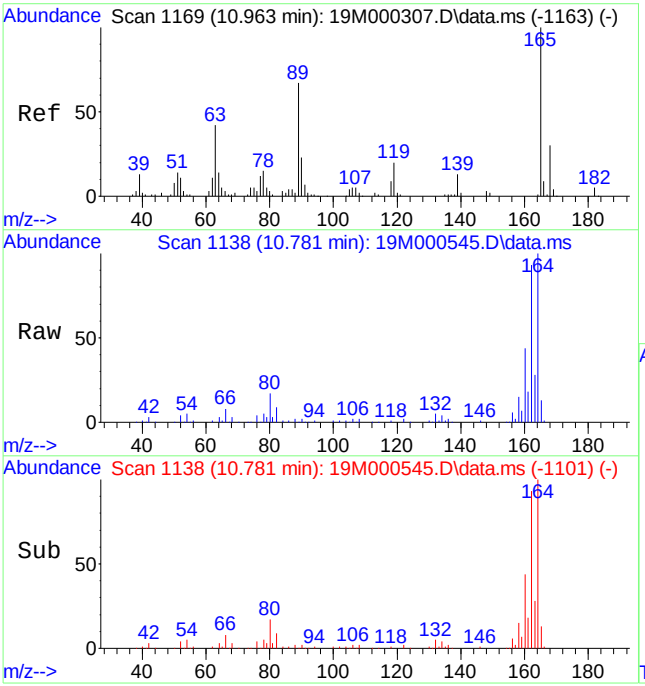




#67
2,6-Dinitrotoluene
Concen: 15.19 ug/mL
RT: 10.781 min Scan# 1138
Delta R.T. 0.229 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion:165 Resp: 40385

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 165 | 100 | | |
| 63 | 0.0 | 33.3 | 77.7# |
| 89 | 0.9 | 33.2 | 77.6# |

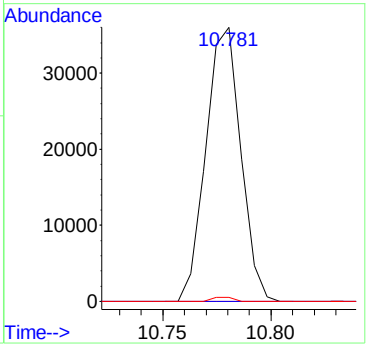


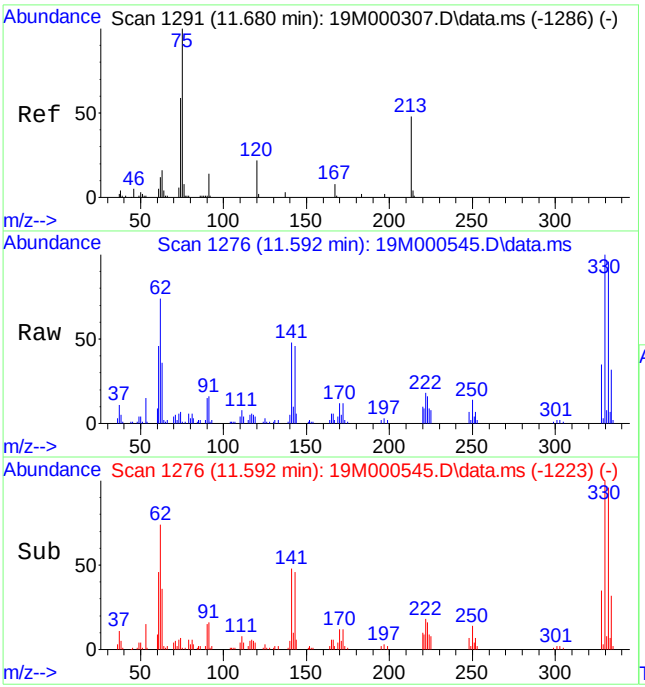



#73
2,4-Dinitrotoluene
Concen: 11.79 ug/mL
RT: 10.781 min Scan# 1138
Delta R.T. -0.182 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion:165 Resp: 40385

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 165 | 100 | | |
| 63 | 0.0 | 37.6 | 87.6# |
| 89 | 0.9 | 50.2 | 117.0# |

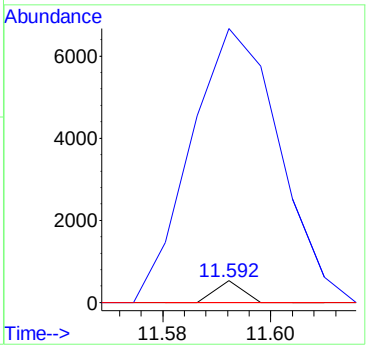


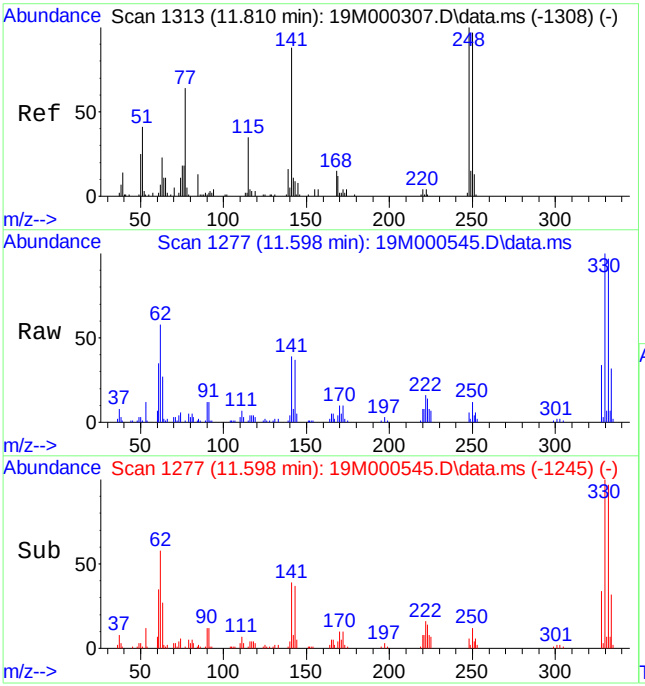




#91
Sym-Trinitrobenzene
Concen: 2.24 ug/mL
RT: 11.592 min Scan# 1276
Delta R.T. -0.088 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion: 75 Resp: 187

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 75 | 100 | | |
| 74 | 4069.5 | 46.9 | 70.3# |
| 213 | 0.0 | 38.0 | 57.0# |

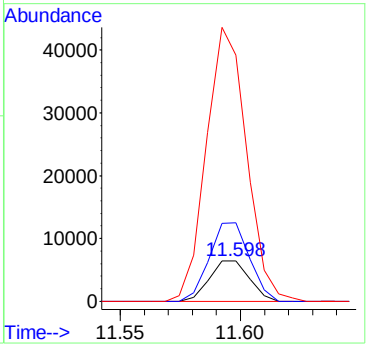


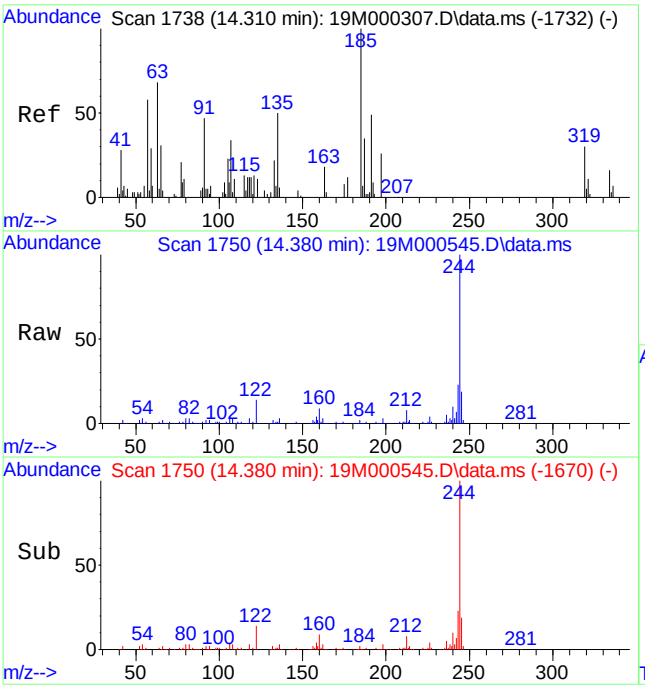



#95
4-Bromophenyl Phenyl Ether
Concen: 2.43 ug/mL
RT: 11.598 min Scan# 1277
Delta R.T. -0.212 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion:248 Resp: 7430

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 248 | 100 | | |
| 250 | 194.7 | 58.0 | 135.2# |
| 141 | 682.0 | 51.6 | 120.4# |

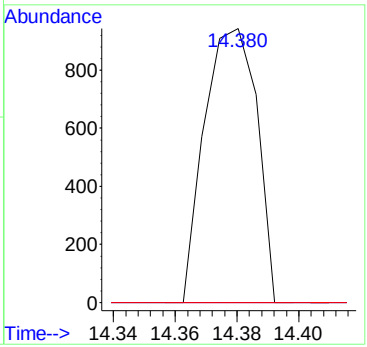



#116
Aramite
Concen: 3.03 ug/mL
RT: 14.380 min Scan# 1750
Delta R.T. 0.071 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion:185 Resp: 1108

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 185 | 100 | | |
| 191 | 0.0 | 41.6 | 62.4# |
| 319 | 0.0 | 24.2 | 36.2# |



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000545.D Vial: 7
Acq On : 13 Sep 2017 4:28 pm Operator: SCB
Sample : L17081498-03 REF RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:06:14 2017
Quant Results File: TCL.RES

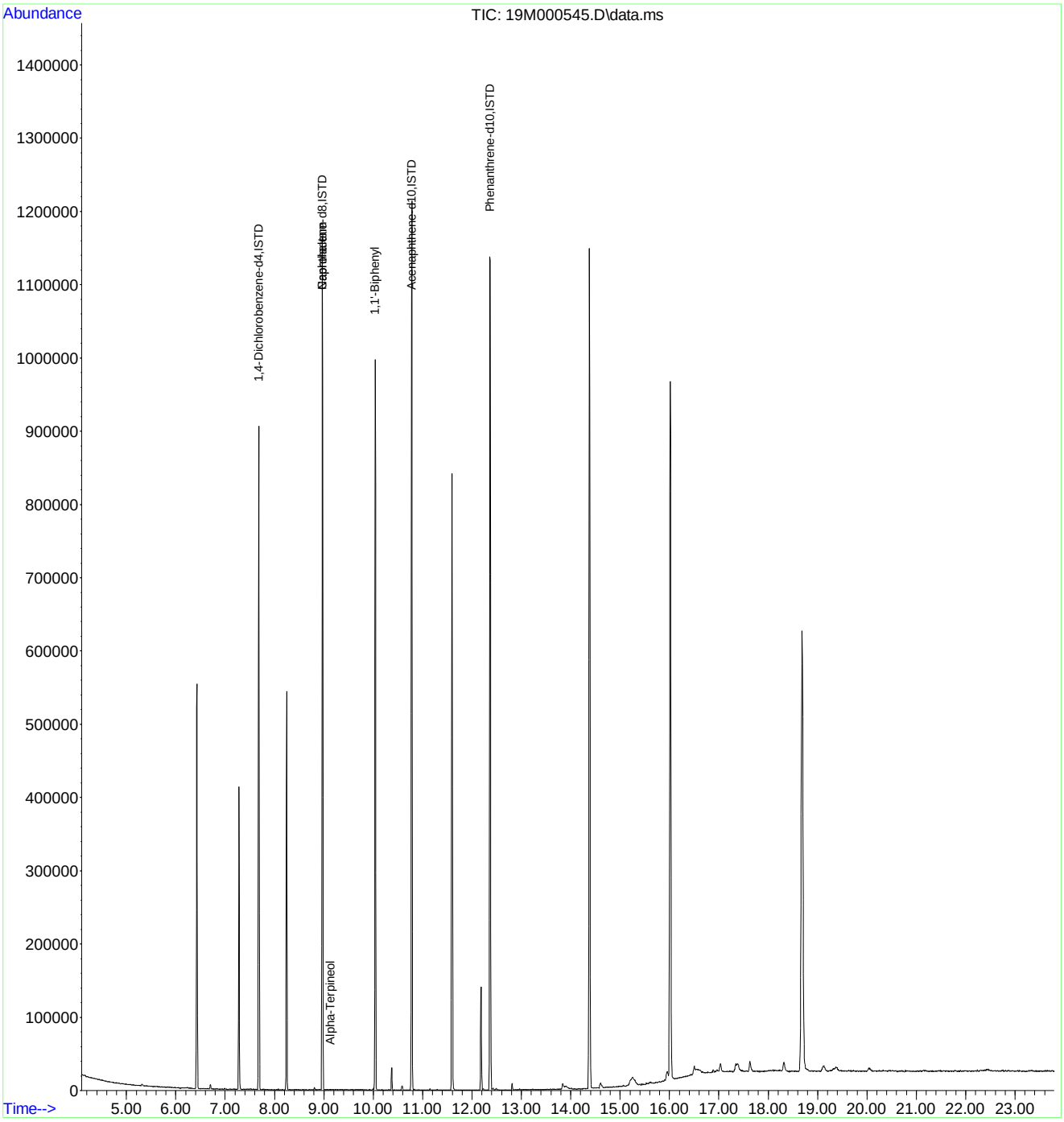
Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

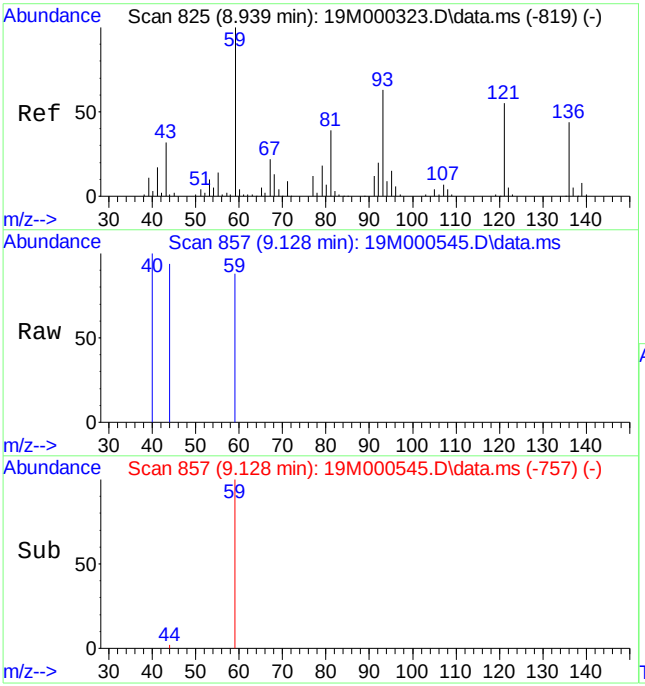
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 161387 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.969 | 136 | 629020 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.781 | 164 | 314188 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.363 | 188 | 594735 | 40.0000 | ug/mL | -0.0117 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 4) Alpha-Terpineol | 9.128 | 59 | 194 | 0.048 | ug/mL# | 22 |
| 5) Caprolactam | 8.969 | 55 | 1491 | 2.076 | ug/mL# | 1 |
| 7) 1,1'-Biphenyl | 10.039 | 154 | 409 | 0.032 | ug/mL# | 1 |

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

Data File : C:\msdchem\4\DATA\091317\19M000545.D Vial: 7
Acq On : 13 Sep 2017 4:28 pm Operator: SCB
Sample : L17081498-03 REF RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:06:14 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

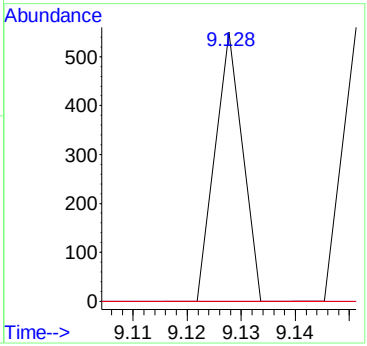


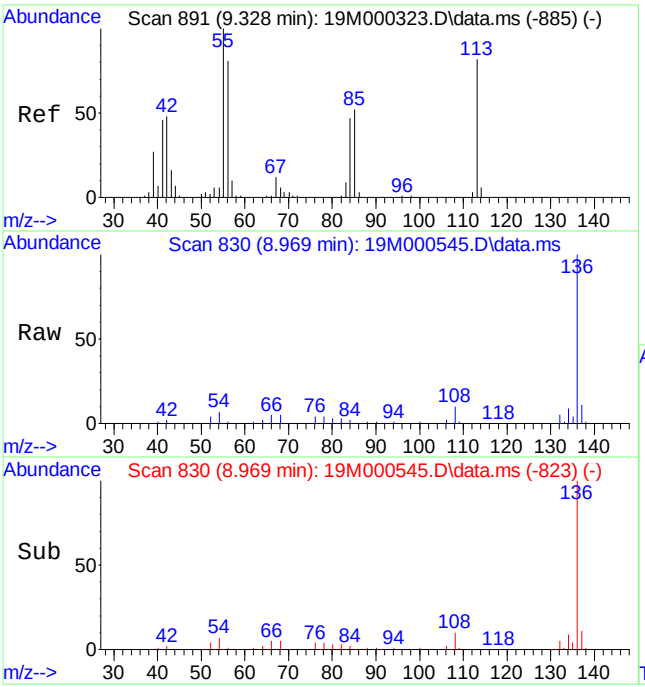



#4
Alpha-Terpineol
Concen: 0.05 ug/mL
RT: 9.128 min Scan# 857
Delta R.T. 0.189 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion: 59 Resp: 194

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 59 | 100 | | |
| 93 | 0.0 | 36.9 | 86.1# |
| 121 | 0.0 | 31.5 | 73.5# |

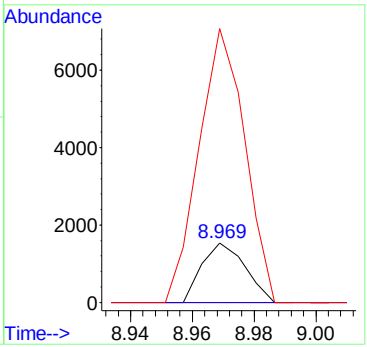


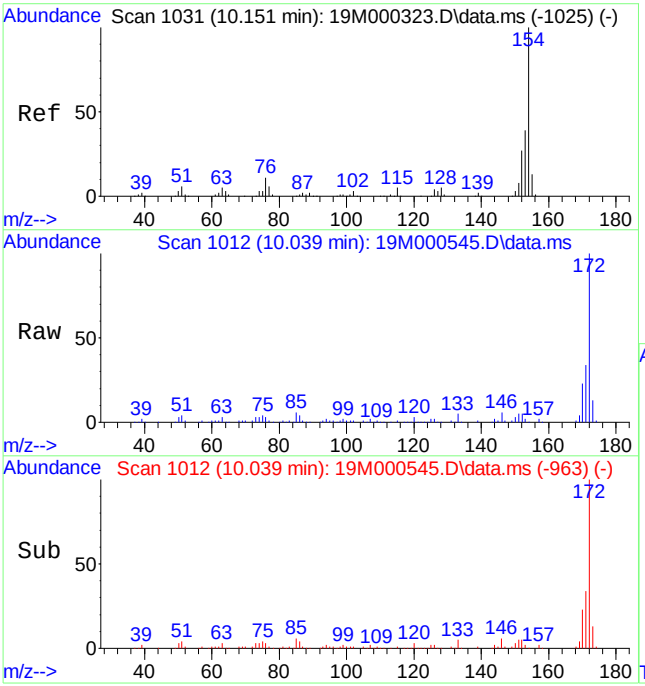




#5
Caprolactam
Concen: 2.08 ug/mL
RT: 8.969 min Scan# 830
Delta R.T. -0.359 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion: 55 Resp: 1491

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 55 | 100 | | |
| 113 | 0.0 | 63.4 | 95.0# |
| 56 | 487.4 | 64.3 | 96.5# |

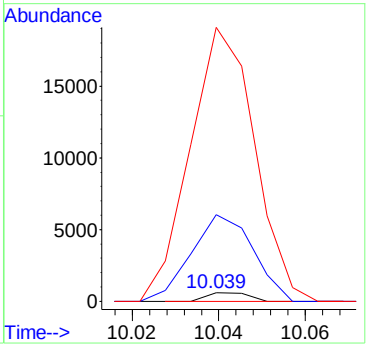





#7
1,1'-Biphenyl
Concen: 0.03 ug/mL
RT: 10.039 min Scan# 1012
Delta R.T. -0.112 min
Lab File: 19M000545.D
Acq: 13 Sep 2017 4:28 pm

Tgt Ion:154 Resp: 409

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 1473.3 | 31.2 | 46.8# |
| 152 | 4842.5 | 21.5 | 32.3# |



Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64172.D Vial: 9
Acq On : 31 Aug 2017 1:27 pm Operator: SCB
Sample : L17081498-05 MS Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 15:08:36 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 | 111413 | 40.0000 | ug/ml | 0.000 |
| 30) Naphthalene-d8 | 9.121 | 136 | 428837 | 40.0000 | ug/ml | 0.000 |
| 54) Acenaphthene-d10 | 10.932 | 164 | 231920 | 40.0000 | ug/ml | 0.000 |
| 87) Phenanthrene-d10 | 12.546 | 188 | 465541 | 40.0000 | ug/ml | -0.011 |
| 113) Chrysene-d12 | 16.242 | 240 | 480940 | 40.0000 | ug/ml | 0.000 |
| 128) Perylene-d12 | 19.085 | 264 | 471710 | 40.0000 | ug/ml | -0.016 |
| **System Monitoring Compounds** | | | | | | |
| 8) 2-Fluorophenol | 6.573 | 112 | 164989 | 48.6248367 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 21 - 100 | | Recovery = 48.62% | | | |
| 12) Phenol-d5 | 7.428 | 99 | 150325 | 34.6528587 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 94 | | Recovery = 34.65% | | | |
| 31) Nitrobenzene-d5 | 8.395 | 82 | 194454 | 45.4387847 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 35 - 114 | | Recovery = 90.88% | | | |
| 59) 2-Fluorobiphenyl | 10.190 | 172 | 382108 | 47.4558237 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 43 - 116 | | Recovery = 94.91% | | | |
| 86) 2,4,6-Tribromophenol | 11.760 | 330 | 143235 | 117.2574435 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 123 | | Recovery = 117.26% | | | |
| 117) p-Terphenyl-d14 | 14.581 | 244 | 476867 | 46.0579223 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 33 - 141 | | Recovery = 92.12% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.66 | 88 | 26297 | 18.0404 | ug/ml | 95 |
| 3) n-Nitrosodimethylamine | 5.13 | 74 | 48801 | 24.1694 | ug/ml | 98 |
| 4) Pyridine | 5.15 | 79 | 85038 | 23.0387 | ug/ml | 97 |
| 11) Aniline | 7.52 | 66 | 92232 | 40.8471 | ug/ml | 95 |
| 13) Phenol | 7.44 | 94 | 79761 | 18.0903 | ug/ml | 88 |
| 14) bis(2-Chloroethyl)ether | 7.54 | 63 | 102048 | 39.3539 | ug/ml | 94 |
| 16) 2-Chlorophenol | 7.65 | 128 | 127941 | 34.5321 | ug/ml | 94 |
| 17) 1,3-Dichlorobenzene | 7.80 | 146 | 98394 | 24.2557 | ug/ml | 98 |
| 18) 1,4-Dichlorobenzene | 7.84 | 146 | 103056 | 24.9908 | ug/ml | 99 |
| 19) Benzyl Alcohol | 7.94 | 108 | 96626 | 40.9550 | ug/ml | 91 |
| 20) 1,2-Dichlorobenzene | 8.04 | 146 | 104501 | 26.6556 | ug/ml | 98 |
| 21) 2-Methylphenol | 8.03 | 107 | 121072 | 38.2251 | ug/ml | 93 |
| 22) bis(2-Chloroisopropyl)ethe | 8.08 | 45 | 123896 | 39.4613 | ug/ml | 96 |
| 23) 3-,4-Methylphenol | 8.16 | 107 | 144187 | 36.0043 | ug/ml | 94 |
| 25) n-Nitrosodipropylamine | 8.21 | 70 | 141934 | 51.5486 | ug/ml# | 65 |
| 26) Acetophenone | 8.22 | 105 | 251804 | 46.3938 | ug/ml | 94 |
| 27) n-Nitrosomorpholine | 8.21 | 56 | 9402 | 4.4087 | ug/ml# | 44 |
| 28) o-Toluidine | 8.22 | 106 | 19618 | 3.3066 | ug/ml# | 1 |
| 29) Hexachloroethane | 8.36 | 117 | 43626 | 25.1713 | ug/ml | 98 |
| 32) Nitrobenzene | 8.41 | 77 | 172127 | 40.6183 | ug/ml | 92 |
| 34) Isophorone | 8.62 | 82 | 381163 | 51.8264 | ug/ml | 98 |
| 35) 2-Nitrophenol | 8.74 | 139 | 81261 | 40.4302 | ug/ml | 93 |
| 36) 2,4-Dimethylphenol | 8.70 | 122 | 156170 | 46.6347 | ug/ml | 93 |
| 38) bis(2-Chloroethoxy)methane | 8.80 | 93 | 202746 | 35.0273 | ug/ml | 90 |
| 39) Benzoic Acid | 8.74 | 105 | 26836 | 22.8218 | ug/ml# | 59 |
| 40) 2,4-Dichlorophenol | 8.96 | 162 | 138711 | 45.5711 | ug/ml | 99 |
| 42) 1,2,4-Trichlorobenzene | 9.06 | 180 | 107116 | 30.4298 | ug/ml | 100 |
| 43) Naphthalene | 9.14 | 128 | 365384 | 32.0836 | ug/ml# | 99 |
| 44) 4-Chloroaniline | 9.17 | 65 | 74024 | 47.0374 | ug/ml | 60 |
| 47) Hexachlorobutadiene | 9.29 | 225 | 64182 | 31.4840 | ug/ml | 99 |
| 49) p-Phenylenediamine | 9.60 | 108 | 14982 | 5.8393 | ug/ml# | 1 |
| 50) 4-Chloro-3-Methylphenol | 9.61 | 107 | 194594 | 51.2404 | ug/ml | 99 |
| 52) 2-Methylnaphthalene | 9.83 | 142 | 273729 | 35.4045 | ug/ml | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64172.D Vial: 9
Acq On : 31 Aug 2017 1:27 pm Operator: SCB
Sample : L17081498-05 MS Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 15:08:36 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

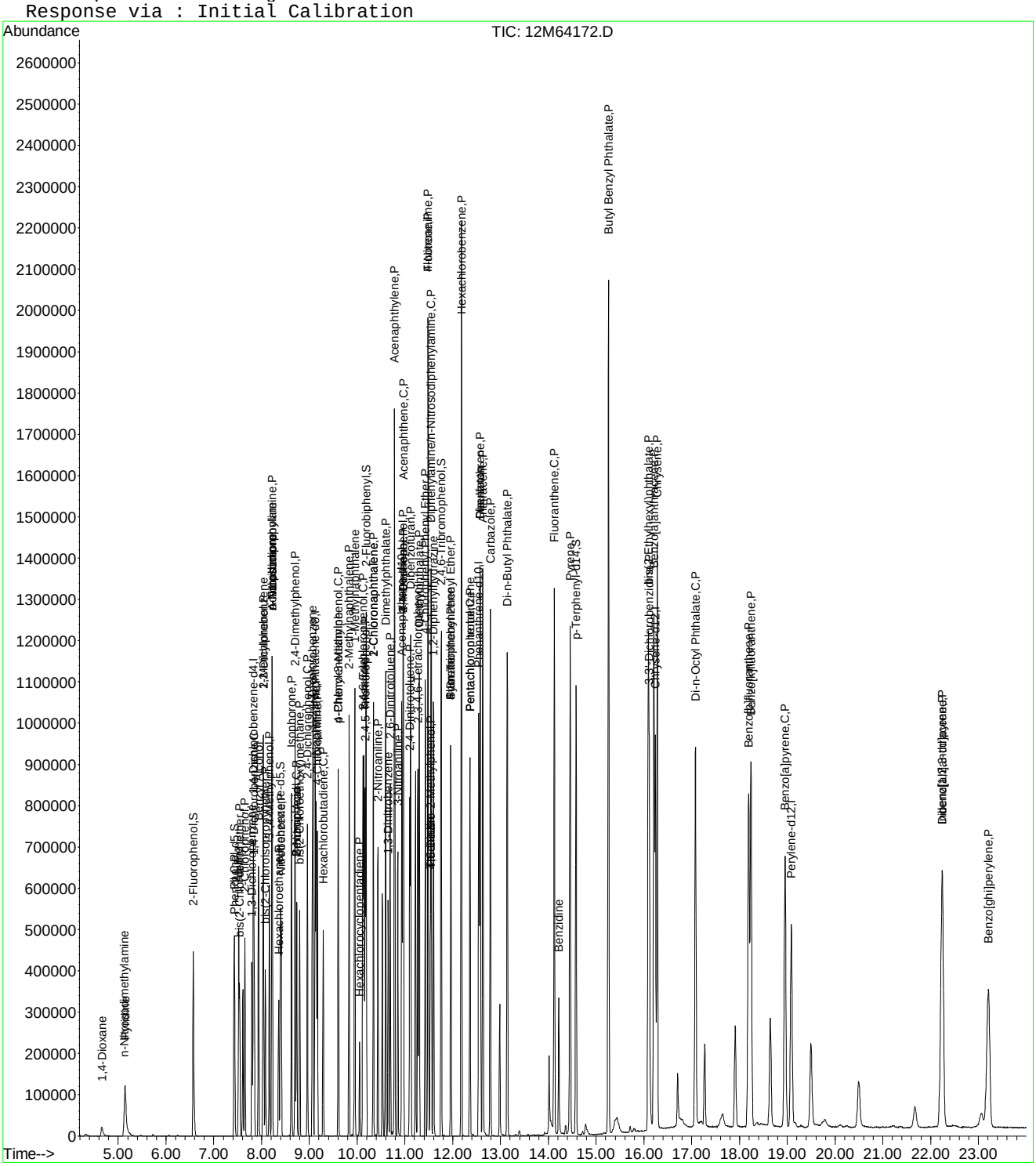
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | 1-Methylnaphthalene | 9.95 | 142 | 274127 | 38.7643 | ug/ml | 96 |
| 56) | Hexachlorocyclopentadiene | 10.05 | 237 | 37819 | 22.7751 | ug/ml | 98 |
| 57) | 2,4,6-Trichlorophenol | 10.12 | 196 | 119504 | 49.4015 | ug/ml | 99 |
| 58) | 2,4,5-Trichlorophenol | 10.17 | 196 | 127938 | 50.5712 | ug/ml | 99 |
| 60) | Isosafrole | 10.14 | 162 | 10611 | 3.6264 | ug/ml# | 41 |
| 61) | 2-Chloronaphthalene | 10.34 | 162 | 286785 | 38.9254 | ug/ml | 100 |
| 62) | 1-Chloronaphthalene | 10.34 | 162 | 286785 | 40.5549 | ug/ml | 99 |
| 63) | 2-Nitroaniline | 10.44 | 65 | 134132 | 56.3439 | ug/ml | 94 |
| 65) | Dimethylphthalate | 10.60 | 163 | 430282 | 50.1900 | ug/ml | 100 |
| 66) | 1,3-Dinitrobenzene | 10.65 | 168 | 68252 | 46.7663 | ug/ml | 87 |
| 67) | 2,6-Dinitrotoluene | 10.69 | 165 | 102764 | 51.5631 | ug/ml | 91 |
| 68) | Acenaphthylene | 10.78 | 152 | 551836 | 47.3553 | ug/ml | 100 |
| 69) | 3-Nitroaniline | 10.85 | 138 | 98053 | 47.9598 | ug/ml | 92 |
| 70) | 2,4-Dinitrophenol | 10.95 | 184 | 26121 | 26.2586 | ug/ml# | 1 |
| 71) | Acenaphthene | 10.96 | 154 | 341378 | 45.8798 | ug/ml | 95 |
| 72) | 4-Nitrophenol | 10.95 | 65 | 48966 | 26.4274 | ug/ml | 90 |
| 73) | 2,4-Dinitrotoluene | 11.10 | 165 | 140172 | 51.1852 | ug/ml | 94 |
| 75) | Dibenzofuran | 11.12 | 168 | 476953 | 45.5113 | ug/ml | 97 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.27 | 232 | 105055 | 48.2313 | ug/ml | 97 |
| 79) | Diethylphthalate | 11.30 | 149 | 459561 | 52.0238 | ug/ml | 99 |
| 80) | Thionazin | 11.53 | 107 | 6251 | 4.3280 | ug/ml# | 1 |
| 81) | Fluorene | 11.48 | 166 | 435169 | 48.9257 | ug/ml | 99 |
| 82) | 4-Chlorophenyl Phenyl Ethe | 11.42 | 204 | 202830 | 46.0200 | ug/ml | 98 |
| 83) | 4-Nitroaniline | 11.49 | 138 | 118116 | 51.9052 | ug/ml | 94 |
| 85) | 1,2-Diphenylhydrazine | 11.59 | 77 | 482228 | 52.9036 | ug/ml | 96 |
| 88) | 4,6-Dinitro-2-Methylphenol | 11.53 | 198 | 56778 | 32.7636 | ug/ml# | 67 |
| 89) | Diphenylamine/n-Nitrosodip | 11.55 | 169 | 377358 | 48.4850 | ug/ml | 99 |
| 91) | Sym-Trinitrobenzene | 11.96 | 75 | 26142 | 9.8391 | ug/ml# | 64 |
| 94) | Phorate | 11.96 | 75 | 26142 | 5.0122 | ug/ml# | 41 |
| 95) | 4-Bromophenyl Phenyl Ether | 11.96 | 248 | 116686 | 47.8081 | ug/ml | 99 |
| 96) | Hexachlorobenzene | 12.18 | 284 | 146113 | 57.6407 | ug/ml | 97 |
| 99) | Pentachlorophenol | 12.36 | 266 | 93645 | 57.7808 | ug/ml | 100 |
| 101) | Pentachloronitrobenzene | 12.36 | 237 | 4117 | 3.5370 | ug/ml# | 18 |
| 102) | Disulfoton | 12.57 | 88 | 46504 | 11.0372 | ug/ml# | 15 |
| 103) | Phenanthrene | 12.57 | 178 | 652053 | 50.7466 | ug/ml | 99 |
| 104) | Anthracene | 12.63 | 178 | 654481 | 48.9456 | ug/ml | 99 |
| 105) | Carbazole | 12.79 | 167 | 613756 | 53.2493 | ug/ml | 99 |
| 107) | Di-n-Butyl Phthalate | 13.14 | 149 | 766827 | 50.2537 | ug/ml | 99 |
| 112) | Fluoranthene | 14.13 | 202 | 749866 | 52.8671 | ug/ml | 99 |
| 114) | Benzidine | 14.22 | 184 | 176043 | 29.3465 | ug/ml | 100 |
| 115) | Pyrene | 14.46 | 202 | 749118 | 49.8217 | ug/ml | 99 |
| 121) | Butyl Benzyl Phthalate | 15.25 | 149 | 378868 | 50.1984 | ug/ml | 92 |
| 124) | bis(2-Ethylhexyl)phthalate | 16.09 | 149 | 512082 | 52.8577 | ug/ml | 99 |
| 125) | 3,3'-Dichlorobenzidine | 16.11 | 252 | 279445 | 57.1633 | ug/ml | 98 |
| 126) | Benzo[a]anthracene | 16.21 | 228 | 762510 | 53.5729 | ug/ml | 100 |
| 127) | Chrysene | 16.28 | 228 | 736459 | 57.0285 | ug/ml | 100 |
| 129) | Di-n-Octyl Phthalate | 17.08 | 149 | 872845 | 49.5825 | ug/ml | 98 |
| 131) | Benzo[b]fluoranthene | 18.19 | 252 | 741932 | 47.1806 | ug/ml | 95 |
| 132) | Benzo[k]fluoranthene | 18.24 | 252 | 710482 | 53.8486 | ug/ml | 99 |
| 133) | Benzo[a]pyrene | 18.96 | 252 | 686321 | 52.8073 | ug/ml | 98 |
| 135) | Indeno[1,2,3-cd]pyrene | 22.24 | 276 | 712136 | 49.9867 | ug/ml | 93 |
| 136) | Dibenz[ah]anthracene | 22.24 | 278 | 381004 | 31.3526 | ug/ml | 96 |
| 137) | Benzo[ghi]perylene | 23.21 | 276 | 626718 | 55.4244 | ug/ml | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed
12M64172.D MEGAMIX.M Thu Aug 31 15:08:38 2017 Page 2

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64172.D Vial: 9
Acq On : 31 Aug 2017 1:27 pm Operator: SCB
Sample : L17081498-05 MS Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 15:08 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



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000546.D Vial: 8
Acq On : 13 Sep 2017 4:58 pm Operator: SCB
Sample : L17081498-05 MS RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:02:41 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 120302 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.969 | 136 | 481961 | 40.0000 | ug/mL | -0.0118 |
| 54) Acenaphthene-d10 | 10.780 | 164 | 239817 | 40.0000 | ug/mL | -0.0118 |
| 87) Phenanthrene-d10 | 12.369 | 188 | 458774 | 40.0000 | ug/mL | -0.0118 |
| 113) Chrysene-d12 | 16.021 | 240 | 438018 | 40.0000 | ug/mL | -0.0176 |
| 128) Perylene-d12 | 18.686 | 264 | 453661 | 40.0000 | ug/mL | -0.0294 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.422 | 112 | 131024 | 33.5209 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.281 | 99 | 109486 | 23.8399 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.245 | 82 | 124621 | 31.2514 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.039 | 172 | 281756 | 33.8715 | ug/mL | -0.0118 |
| 86) 2,4,6-Tribromophenol | 11.598 | 330 | 99615 | 101.4344 | ug/mL | -0.0118 |
| 117) p-Terphenyl-d14 | 14.380 | 244 | 422598 | 47.6985 | ug/mL | -0.0118 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.493 | 88 | 22487 | 12.868 | ug/mL | 99 |
| 3) n-Nitrosodimethylamine | 4.957 | 74 | 39419 | 15.946 | ug/mL | 94 |
| 4) Pyridine | 4.981 | 79 | 53754 | 12.265 | ug/mL | 97 |
| 11) Aniline | 7.375 | 66 | 52840 | 22.479 | ug/mL | 90 |
| 13) Phenol | 7.292 | 94 | 57819 | 11.770 | ug/mL | 97 |
| 14) bis(2-Chloroethyl)ether | 7.398 | 63 | 83281 | 26.711 | ug/mL | 93 |
| 16) 2-Chlorophenol | 7.498 | 128 | 114398 | 27.063 | ug/mL | 100 |
| 17) 1,3-Dichlorobenzene | 7.651 | 146 | 93251 | 20.425 | ug/mL | 98 |
| 18) 1,4-Dichlorobenzene | 7.698 | 146 | 93724 | 20.554 | ug/mL | 100 |
| 19) Benzyl Alcohol | 7.792 | 108 | 74634 | 27.503 | ug/mL | 99 |
| 20) 1,2-Dichlorobenzene | 7.892 | 146 | 89767 | 21.862 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.887 | 107 | 80198 | 26.628 | ug/mL | 99 |
| 22) bis(2-Chloroisopropyl)... | 7.934 | 45 | 137644 | 27.415 | ug/mL | 98 |
| 23) 3-,4-Methylphenol | 8.016 | 107 | 101704 | 24.378 | ug/mL | 99 |
| 25) n-Nitrosodipropylamine | 8.069 | 70 | 82092 | 31.751 | ug/mL# | 67 |
| 26) Acetophenone | 8.075 | 105 | 311654 | 61.065 | ug/mL | 99 |
| 27) n-Nitrosomorpholine | 8.069 | 56 | 5737 | 2.058 | ug/mL# | 52 |
| 28) o-Toluidine | 8.075 | 106 | 24150 | 3.822 | ug/mL# | 1 |
| 29) Hexachloroethane | 8.210 | 117 | 32898 | 18.838 | ug/mL | 99 |
| 32) Nitrobenzene | 8.263 | 77 | 113904 | 27.366 | ug/mL | 100 |
| 34) Isophorone | 8.475 | 82 | 242139 | 32.019 | ug/mL | 99 |
| 35) 2-Nitrophenol | 8.586 | 139 | 68643 | 31.446 | ug/mL | 98 |
| 36) 2,4-Dimethylphenol | 8.557 | 122 | 124394 | 33.534 | ug/mL | 98 |
| 38) bis(2-Chloroethoxy)met... | 8.657 | 93 | 147166 | 25.378 | ug/mL | 89 |
| 39) Benzoic Acid | 8.586 | 105 | 16727 | 16.383 | ug/mL# | 45 |
| 40) 2,4-Dichlorophenol | 8.810 | 162 | 104399 | 33.060 | ug/mL | 99 |
| 42) 1,2,4-Trichlorobenzene | 8.916 | 180 | 80316 | 22.414 | ug/mL | 99 |
| 43) Naphthalene | 8.992 | 128 | 328264 | 25.880 | ug/mL | 98 |
| 44) 4-Chloroaniline | 9.022 | 65 | 44335 | 29.793 | ug/mL | 93 |
| 45) 2,6-Dichlorophenol | 8.810 | 162 | 104399 | 33.060 | ug/mL | 99 |
| 47) Hexachlorobutadiene | 9.145 | 225 | 38120 | 21.154 | ug/mL | 98 |
| 48) n-Nitrosodi-n-Butylamine | 9.322 | 84 | 10943 | 3.249 | ug/mL# | 49 |
| 49) p-Phenylenediamine | 9.457 | 108 | 10078 | 2.978 | ug/mL# | 1 |
| 50) 4-Chloro-3-Methylphenol | 9.457 | 107 | 128036 | 36.918 | ug/mL | 98 |
| 52) 2-Methylnaphthalene | 9.681 | 142 | 229588 | 27.142 | ug/mL | 99 |
| 53) 1-Methylnaphthalene | 9.798 | 142 | 226028 | 29.024 | ug/mL | 99 |
| 56) Hexachlorocyclopentadiene | 9.904 | 237 | 30022 | 22.438 | ug/mL | 99 |
| 57) 2,4,6-Trichlorophenol | 9.969 | 196 | 82831 | 36.048 | ug/mL | 99 |

Data File : C:\msdchem\4\DATA\091317\19M000546.D Vial: 8
Acq On : 13 Sep 2017 4:58 pm Operator: SCB
Sample : L17081498-05 MS RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:02:41 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 58) | 2,4,5-Trichlorophenol | 10.016 | 196 | 93059 | 39.346 | ug/mL | 99 |
| 60) | Isosafrole | 9.992 | 162 | 22338 | 6.786 | ug/mL# | 38 |
| 61) | 2-Chloronaphthalene | 10.186 | 162 | 223257 | 28.918 | ug/mL | 99 |
| 62) | 1-Chloronaphthalene | 10.186 | 162 | 223257 | 31.851 | ug/mL | 99 |
| 63) | 2-Nitroaniline | 10.280 | 65 | 94202 | 42.359 | ug/mL | 98 |
| 65) | Dimethylphthalate | 10.451 | 163 | 353158 | 40.597 | ug/mL | 100 |
| 66) | 1,3-Dinitrobenzene | 10.498 | 168 | 69290 | 46.273 | ug/mL | 98 |
| 67) | 2,6-Dinitrotoluene | 10.545 | 165 | 89363 | 44.038 | ug/mL | 99 |
| 68) | Acenaphthylene | 10.628 | 152 | 412427 | 34.642 | ug/mL | 100 |
| 69) | 3-Nitroaniline | 10.698 | 138 | 105837 | 44.190 | ug/mL | 99 |
| 70) | 2,4-Dinitrophenol | 10.798 | 184 | 38273 | 43.966 | ug/mL | 65 |
| 71) | Acenaphthene | 10.810 | 154 | 268723 | 36.870 | ug/mL | 99 |
| 72) | 4-Nitrophenol | 10.804 | 65 | 34583 | 23.112 | ug/mL | 93 |
| 73) | 2,4-Dinitrotoluene | 10.951 | 165 | 130189 | 49.788 | ug/mL | 93 |
| 75) | Dibenzofuran | 10.969 | 168 | 391952 | 36.365 | ug/mL | 99 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.116 | 232 | 80660 | 46.124 | ug/mL | 99 |
| 79) | Diethylphthalate | 11.151 | 149 | 388986 | 43.534 | ug/mL | 99 |
| 81) | Fluorene | 11.322 | 166 | 329632 | 40.106 | ug/mL | 100 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.275 | 204 | 155013 | 36.763 | ug/mL | 97 |
| 83) | 4-Nitroaniline | 11.327 | 138 | 112167 | 50.188 | ug/mL | 97 |
| 84) | 5-Nitro-o-Toluidine | 11.375 | 152 | 4427 | 1.873 | ug/mL# | 1 |
| 85) | 1,2-Diphenylhydrazine | 11.439 | 77 | 365993 | 41.446 | ug/mL | 100 |
| 88) | 4,6-Dinitro-2-Methylph... | 11.375 | 198 | 72570 | 48.048 | ug/mL | 94 |
| 89) | Diphenylamine/n-Nitros... | 11.392 | 169 | 334726 | 42.387 | ug/mL | 100 |
| 91) | Sym-Trinitrobenzene | 11.798 | 75 | 16122 | 9.208 | ug/mL# | 66 |
| 93) | Phenacetin | 12.010 | 108 | 8704 | 2.075 | ug/mL# | 43 |
| 94) | Phorate | 11.798 | 75 | 16122 | 3.019 | ug/mL# | 39 |
| 95) | 4-Bromophenyl Phenyl E... | 11.798 | 248 | 92196 | 39.106 | ug/mL | 99 |
| 96) | Hexachlorobenzene | 12.010 | 284 | 103119 | 41.942 | ug/mL | 98 |
| 97) | Dimethoate | 11.939 | 87 | 6054 | 2.080 | ug/mL# | 19 |
| 99) | Pentachlorophenol | 12.186 | 266 | 79867 | 54.863 | ug/mL | 99 |
| 100) | Pronamide | 11.939 | 173 | 35205 | 9.459 | ug/mL# | 71 |
| 101) | Pentachloronitrobenzene | 12.186 | 237 | 2512 | 2.819 | ug/mL# | 14 |
| 102) | Disulfoton | 12.392 | 88 | 39824 | 8.798 | ug/mL# | 3 |
| 103) | Phenanthrene | 12.392 | 178 | 592224 | 45.545 | ug/mL | 100 |
| 104) | Anthracene | 12.445 | 178 | 603709 | 45.169 | ug/mL | 100 |
| 105) | Carbazole | 12.604 | 167 | 616737 | 50.256 | ug/mL# | 100 |
| 107) | Di-n-Butyl Phthalate | 12.969 | 149 | 745858 | 48.856 | ug/mL | 100 |
| 112) | Fluoranthene | 13.921 | 202 | 682613 | 48.272 | ug/mL | 100 |
| 114) | Benzidine | 14.021 | 184 | 87939 | 13.400 | ug/mL | 100 |
| 115) | Pyrene | 14.251 | 202 | 717586 | 49.548 | ug/mL | 100 |
| 116) | Aramite | 14.374 | 185 | 735 | 2.907 | ug/mL# | 33 |
| 121) | Butyl Benzyl Phthalate | 15.057 | 149 | 354118 | 55.206 | ug/mL | 99 |
| 124) | bis(2-Ethylhexyl)phtha... | 15.898 | 149 | 469296 | 54.479 | ug/mL | 99 |
| 125) | 3,3'-Dichlorobenzidine | 15.904 | 252 | 217182 | 52.532 | ug/mL | 100 |
| 126) | Benzo[a]anthracene | 15.992 | 228 | 635893 | 49.749 | ug/mL | 99 |
| 127) | Chrysene | 16.062 | 228 | 622977 | 52.011 | ug/mL | 100 |
| 129) | Di-n-Octyl Phthalate | 16.845 | 149 | 907391 | 55.428 | ug/mL | 99 |
| 131) | Benzo[b]fluoranthene | 17.856 | 252 | 689214 | 52.694 | ug/mL | 96 |
| 132) | Benzo[k]fluoranthene | 17.904 | 252 | 614817 | 48.749 | ug/mL | 99 |
| 133) | Benzo[a]pyrene | 18.562 | 252 | 621000 | 51.377 | ug/mL | 99 |
| 135) | Indeno[1,2,3-cd]pyrene | 21.627 | 276 | 670502 | 53.676 | ug/mL | 99 |
| 136) | Dibenz[ah]anthracene | 21.627 | 278 | 545121 | 51.736 | ug/mL | 99 |
| 137) | Benzo[ghi]perylene | 22.521 | 276 | 601902 | 57.712 | ug/mL | 99 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000546.D Vial: 8
Acq On : 13 Sep 2017 4:58 pm Operator: SCB
Sample : L17081498-05 MS RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:02:41 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

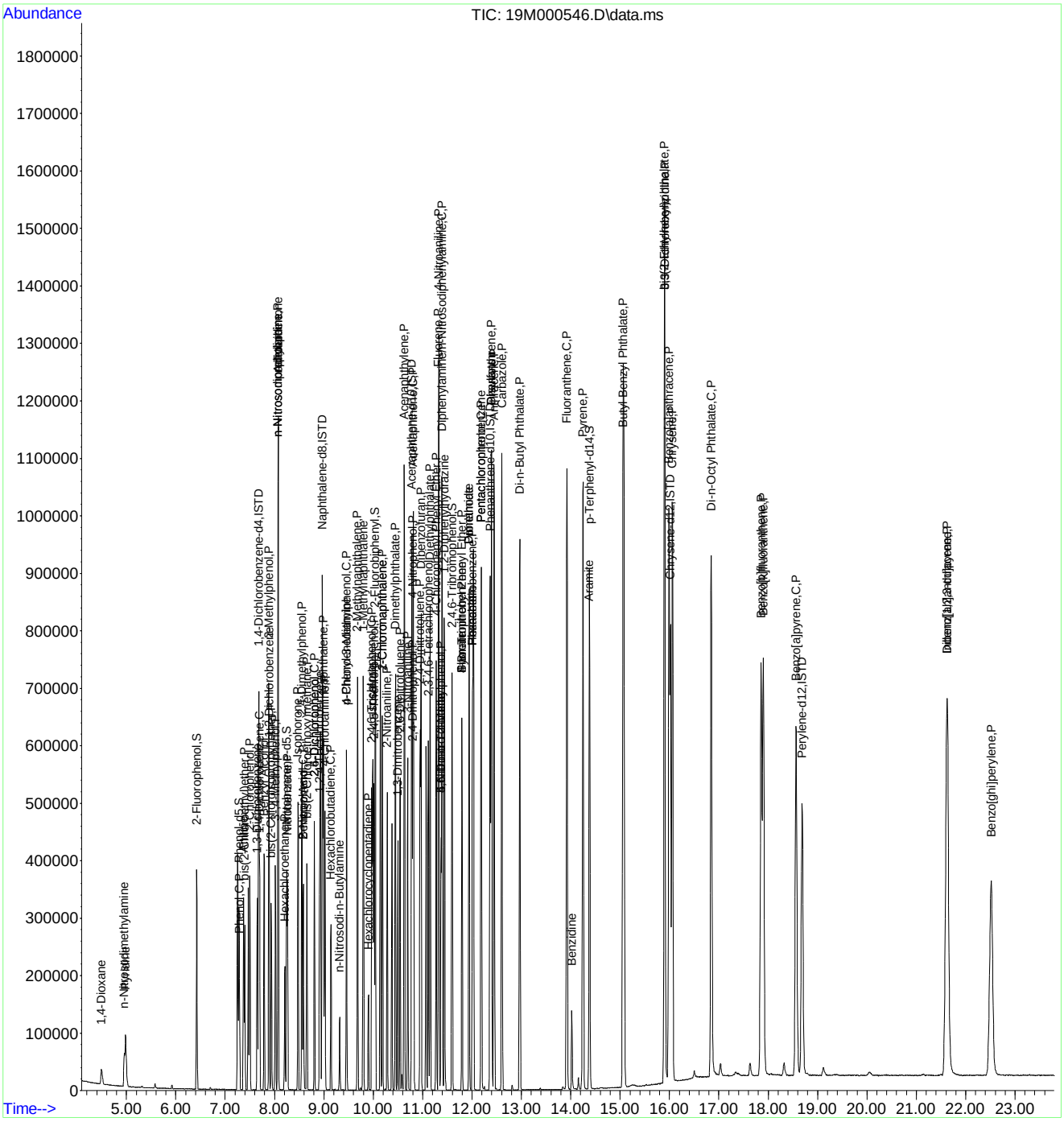
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000546.D Vial: 8
Acq On : 13 Sep 2017 4:58 pm Operator: SCB
Sample : L17081498-05 MS RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:02:41 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000546.D Vial: 8
Acq On : 13 Sep 2017 4:58 pm Operator: SCB
Sample : L17081498-05 MS RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:06:55 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

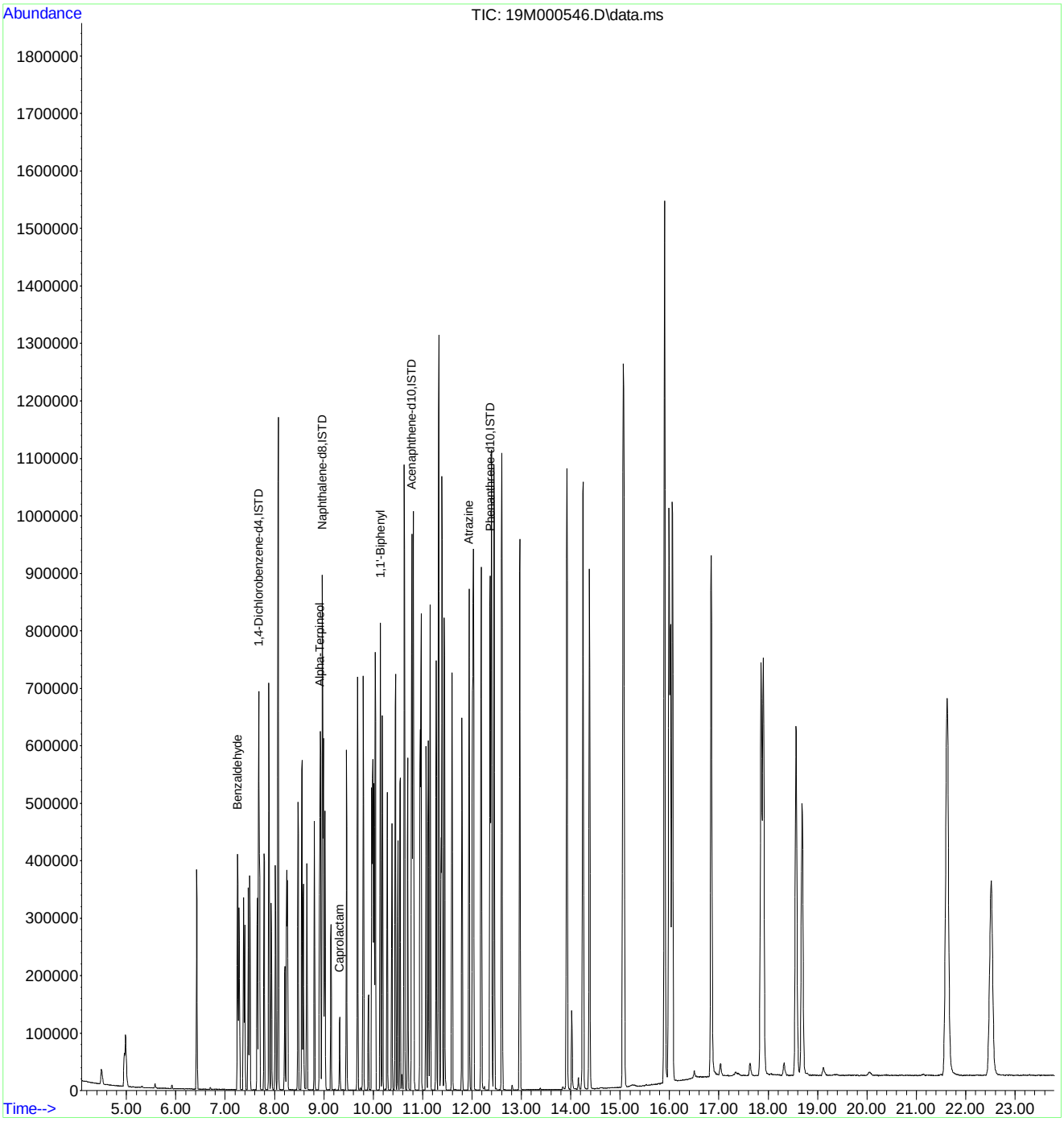
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 120302 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.969 | 136 | 481961 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.780 | 164 | 239817 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.369 | 188 | 458774 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.251 | 105 | 90398 | 31.506 | ug/mL | 99 |
| 4) Alpha-Terpineol | 8.928 | 59 | 106616 | 34.191 | ug/mL | 99 |
| 5) Caprolactam | 9.322 | 55 | 24800 | 15.386 | ug/mL | 96 |
| 7) 1,1'-Biphenyl | 10.145 | 154 | 321947 | 33.381 | ug/mL | 100 |
| 9) Atrazine | 11.939 | 200 | 127776 | 55.462 | ug/mL | 99 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000546.D Vial: 8
Acq On : 13 Sep 2017 4:58 pm Operator: SCB
Sample : L17081498-05 MS RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:06:55 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64173.D Vial: 10
Acq On : 31 Aug 2017 2:01 pm Operator: SCB
Sample : L17081498-06 MSD Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 15:08:38 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 | 115694 | 40.0000 | ug/ml | 0.000 |
| 30) Naphthalene-d8 | 9.121 | 136 | 433111 | 40.0000 | ug/ml | 0.000 |
| 54) Acenaphthene-d10 | 10.932 | 164 | 241376 | 40.0000 | ug/ml | 0.000 |
| 87) Phenanthrene-d10 | 12.546 | 188 | 480962 | 40.0000 | ug/ml | -0.011 |
| 113) Chrysene-d12 | 16.243 | 240 | 468159 | 40.0000 | ug/ml | 0.000 |
| 128) Perylene-d12 | 19.085 | 264 | 463625 | 40.0000 | ug/ml | -0.016 |
| **System Monitoring Compounds** | | | | | | |
| 8) 2-Fluorophenol | 6.573 | 112 | 187644 | 53.2553054 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 21 - 100 | | Recovery = 53.26% | | | |
| 12) Phenol-d5 | 7.428 | 99 | 160952 | 35.7296914 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 94 | | Recovery = 35.73% | | | |
| 31) Nitrobenzene-d5 | 8.395 | 82 | 193057 | 44.6671676 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 35 - 114 | | Recovery = 89.33% | | | |
| 59) 2-Fluorobiphenyl | 10.190 | 172 | 427937 | 51.0654708 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 43 - 116 | | Recovery = 102.13% | | | |
| 86) 2,4,6-Tribromophenol | 11.760 | 330 | 156896 | 123.4091203 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 123 | | Recovery = 123.41%# | | | |
| 117) p-Terphenyl-d14 | 14.581 | 244 | 461480 | 45.7886121 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 33 - 141 | | Recovery = 91.58% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.66 | 88 | 33210 | 21.9398 | ug/ml | 91 |
| 3) n-Nitrosodimethylamine | 5.13 | 74 | 55444 | 26.4433 | ug/ml | 88 |
| 4) Pyridine | 5.15 | 79 | 91007 | 23.7435 | ug/ml | 91 |
| 11) Aniline | 7.52 | 66 | 87379 | 37.2659 | ug/ml | 93 |
| 13) Phenol | 7.44 | 94 | 84395 | 18.4330 | ug/ml | 96 |
| 14) bis(2-Chloroethyl)ether | 7.54 | 63 | 99567 | 36.9763 | ug/ml | 92 |
| 16) 2-Chlorophenol | 7.65 | 128 | 151685 | 39.4259 | ug/ml | 97 |
| 17) 1,3-Dichlorobenzene | 7.80 | 146 | 126721 | 30.0829 | ug/ml | 98 |
| 18) 1,4-Dichlorobenzene | 7.84 | 146 | 129060 | 30.1386 | ug/ml | 98 |
| 19) Benzyl Alcohol | 7.94 | 108 | 102143 | 41.6914 | ug/ml | 96 |
| 20) 1,2-Dichlorobenzene | 8.04 | 146 | 129895 | 31.9070 | ug/ml | 98 |
| 21) 2-Methylphenol | 8.03 | 107 | 127826 | 38.8641 | ug/ml | 97 |
| 22) bis(2-Chloroisopropyl)ethe | 8.08 | 45 | 121824 | 37.3656 | ug/ml | 96 |
| 23) 3-,4-Methylphenol | 8.17 | 107 | 149777 | 36.0162 | ug/ml | 96 |
| 25) n-Nitrosodipropylamine | 8.21 | 70 | 129396 | 45.2560 | ug/ml# | 65 |
| 26) Acetophenone | 8.22 | 105 | 256450 | 45.5014 | ug/ml | 99 |
| 27) n-Nitrosomorpholine | 8.21 | 56 | 8183 | 3.6951 | ug/ml# | 45 |
| 28) o-Toluidine | 8.22 | 106 | 19643 | 3.1883 | ug/ml# | 1 |
| 29) Hexachloroethane | 8.36 | 117 | 49712 | 27.6215 | ug/ml | 89 |
| 32) Nitrobenzene | 8.42 | 77 | 169547 | 39.6146 | ug/ml | 99 |
| 34) Isophorone | 8.62 | 82 | 350059 | 47.1275 | ug/ml | 97 |
| 35) 2-Nitrophenol | 8.73 | 139 | 94995 | 46.7969 | ug/ml | 94 |
| 36) 2,4-Dimethylphenol | 8.70 | 122 | 165403 | 48.9044 | ug/ml | 98 |
| 38) bis(2-Chloroethoxy)methane | 8.80 | 93 | 198975 | 34.0366 | ug/ml | 89 |
| 39) Benzoic Acid | 8.74 | 105 | 44771 | 31.4632 | ug/ml# | 64 |
| 40) 2,4-Dichlorophenol | 8.96 | 162 | 156166 | 50.7994 | ug/ml | 97 |
| 42) 1,2,4-Trichlorobenzene | 9.06 | 180 | 133657 | 37.5950 | ug/ml | 99 |
| 43) Naphthalene | 9.14 | 128 | 431289 | 37.4969 | ug/ml# | 100 |
| 44) 4-Chloroaniline | 9.17 | 65 | 69041 | 43.4381 | ug/ml | 73 |
| 47) Hexachlorobutadiene | 9.29 | 225 | 78114 | 37.9401 | ug/ml | 99 |
| 49) p-Phenylenediamine | 9.60 | 108 | 14927 | 5.7605 | ug/ml# | 1 |
| 50) 4-Chloro-3-Methylphenol | 9.60 | 107 | 187727 | 48.9444 | ug/ml | 93 |
| 52) 2-Methylnaphthalene | 9.83 | 142 | 313872 | 40.1960 | ug/ml | 100 |

(#) = qualifier out of range (m) = manual integration
12M64173.D MEGAMIX.M Thu Aug 31 15:08:40 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64173.D Vial: 10
Acq On : 31 Aug 2017 2:01 pm Operator: SCB
Sample : L17081498-06 MSD Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 15:08:38 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

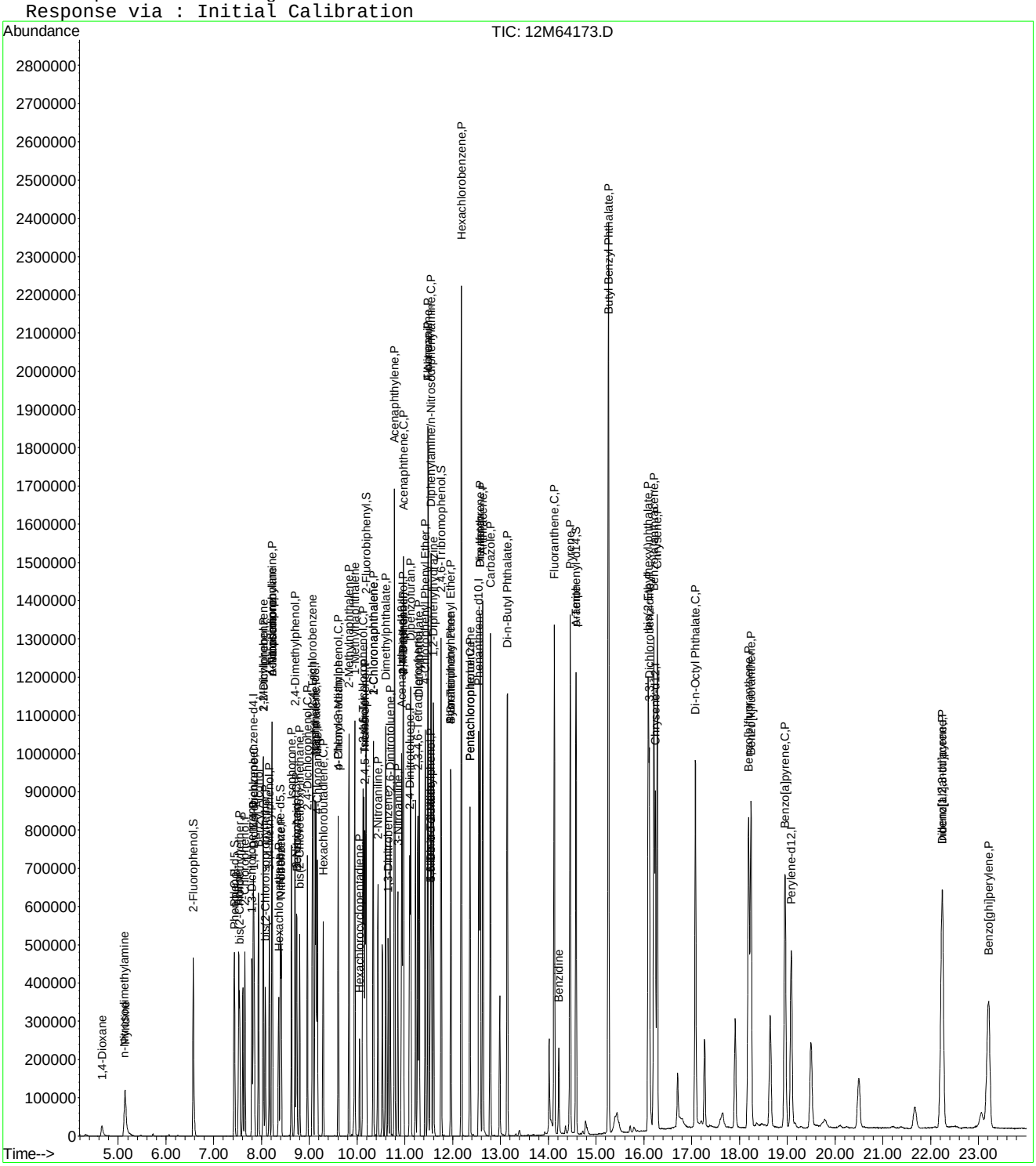
| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 53) | 1-Methylnaphthalene | 9.95 | 142 | 310578 | 43.4855 ug/ml | 99 |
| 56) | Hexachlorocyclopentadiene | 10.05 | 237 | 46575 | 26.5031 ug/ml | 99 |
| 57) | 2,4,6-Trichlorophenol | 10.12 | 196 | 130911 | 51.9970 ug/ml | 99 |
| 58) | 2,4,5-Trichlorophenol | 10.17 | 196 | 138677 | 52.6687 ug/ml | 100 |
| 60) | Isosafrole | 10.14 | 162 | 20017 | 6.5730 ug/ml# | 34 |
| 61) | 2-Chloronaphthalene | 10.34 | 162 | 326790 | 42.6176 ug/ml | 97 |
| 62) | 1-Chloronaphthalene | 10.34 | 162 | 326790 | 44.4017 ug/ml | 98 |
| 63) | 2-Nitroaniline | 10.44 | 65 | 116087 | 46.8535 ug/ml | 91 |
| 65) | Dimethylphthalate | 10.60 | 163 | 450387 | 50.4770 ug/ml | 100 |
| 66) | 1,3-Dinitrobenzene | 10.65 | 168 | 73577 | 48.4400 ug/ml | 90 |
| 67) | 2,6-Dinitrotoluene | 10.69 | 165 | 109487 | 52.7843 ug/ml | 90 |
| 68) | Acenaphthylene | 10.78 | 152 | 585634 | 48.2869 ug/ml | 99 |
| 69) | 3-Nitroaniline | 10.85 | 138 | 104938 | 49.3166 ug/ml | 93 |
| 70) | 2,4-Dinitrophenol | 10.95 | 184 | 28862 | 27.4374 ug/ml# | 1 |
| 71) | Acenaphthene | 10.96 | 154 | 364687 | 47.0924 ug/ml | 96 |
| 72) | 4-Nitrophenol | 10.95 | 65 | 41592 | 21.5682 ug/ml | 94 |
| 73) | 2,4-Dinitrotoluene | 11.10 | 165 | 147828 | 51.8661 ug/ml | 88 |
| 75) | Dibenzofuran | 11.12 | 168 | 516176 | 47.3245 ug/ml | 99 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.27 | 232 | 115388 | 50.8999 ug/ml | 98 |
| 79) | Diethylphthalate | 11.30 | 149 | 452867 | 49.2576 ug/ml | 99 |
| 81) | Fluorene | 11.48 | 166 | 458548 | 49.5345 ug/ml | 99 |
| 82) | 4-Chlorophenyl Phenyl Ethe | 11.42 | 204 | 223366 | 48.6940 ug/ml | 96 |
| 83) | 4-Nitroaniline | 11.49 | 138 | 125192 | 52.8595 ug/ml | 92 |
| 84) | 5-Nitro-o-Toluidine | 11.53 | 152 | 4587 | 1.7135 ug/ml# | 1 |
| 85) | 1,2-Diphenylhydrazine | 11.59 | 77 | 504097 | 53.1362 ug/ml | 99 |
| 88) | 4,6-Dinitro-2-Methylphenol | 11.53 | 198 | 65925 | 36.2118 ug/ml | 85 |
| 89) | Diphenylamine/n-Nitrosodip | 11.55 | 169 | 429852 | 53.4589 ug/ml | 99 |
| 91) | Sym-Trinitrobenzene | 11.96 | 75 | 28173 | 10.2047 ug/ml# | 68 |
| 94) | Phorate | 11.96 | 75 | 28173 | 5.2284 ug/ml# | 41 |
| 95) | 4-Bromophenyl Phenyl Ether | 11.96 | 248 | 123094 | 48.8165 ug/ml | 99 |
| 96) | Hexachlorobenzene | 12.18 | 284 | 153011 | 58.4265 ug/ml | 97 |
| 99) | Pentachlorophenol | 12.36 | 266 | 98922 | 58.8933 ug/ml | 100 |
| 101) | Pentachloronitrobenzene | 12.36 | 237 | 4174 | 3.4710 ug/ml# | 16 |
| 102) | Disulfoton | 12.57 | 88 | 46758 | 10.7417 ug/ml# | 16 |
| 103) | Phenanthrene | 12.58 | 178 | 685821 | 51.6633 ug/ml | 99 |
| 104) | Anthracene | 12.63 | 178 | 684270 | 49.5327 ug/ml | 99 |
| 105) | Carbazole | 12.79 | 167 | 638214 | 53.5960 ug/ml | 100 |
| 107) | Di-n-Butyl Phthalate | 13.14 | 149 | 782648 | 49.6460 ug/ml | 99 |
| 112) | Fluoranthene | 14.13 | 202 | 728052 | 49.6834 ug/ml | 100 |
| 114) | Benzidine | 14.22 | 184 | 121352 | 20.7817 ug/ml | 100 |
| 115) | Pyrene | 14.46 | 202 | 754389 | 51.5420 ug/ml | 99 |
| 116) | Aramite | 14.58 | 185 | 1683 | 1.8788 ug/ml# | 34 |
| 121) | Butyl Benzyl Phthalate | 15.25 | 149 | 409172 | 55.6936 ug/ml | 99 |
| 124) | bis(2-Ethylhexyl)phthalate | 16.09 | 149 | 508734 | 53.9457 ug/ml | 99 |
| 125) | 3,3'-Dichlorobenzidine | 16.11 | 252 | 289982 | 60.9382 ug/ml | 98 |
| 126) | Benzo[a]anthracene | 16.21 | 228 | 762684 | 55.0480 ug/ml | 100 |
| 127) | Chrysene | 16.28 | 228 | 741071 | 58.9523 ug/ml | 100 |
| 129) | Di-n-Octyl Phthalate | 17.08 | 149 | 893997 | 51.6697 ug/ml | 98 |
| 131) | Benzo[b]fluoranthene | 18.19 | 252 | 762691 | 49.3465 ug/ml | 95 |
| 132) | Benzo[k]fluoranthene | 18.24 | 252 | 706706 | 54.4964 ug/ml | 99 |
| 133) | Benzo[a]pyrene | 18.96 | 252 | 696406 | 54.5177 ug/ml | 98 |
| 135) | Indeno[1,2,3-cd]pyrene | 22.25 | 276 | 724874 | 51.7682 ug/ml | 93 |
| 136) | Dibenz[ah]anthracene | 22.24 | 278 | 390070 | 32.6584 ug/ml | 97 |
| 137) | Benzo[ghi]perylene | 23.21 | 276 | 637333 | 57.3460 ug/ml | 97 |

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

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64173.D Vial: 10
Acq On : 31 Aug 2017 2:01 pm Operator: SCB
Sample : L17081498-06 MSD Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 15:08 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




12M64173.D MEGAMIX.M Thu Aug 31 15:08:40 2017 Page 3

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000547.D Vial: 9
Acq On : 13 Sep 2017 5:28 pm Operator: SCB
Sample : L17081498-06 MSD RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:02:47 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 121278 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.969 | 136 | 487227 | 40.0000 | ug/mL | -0.0115 |
| 54) Acenaphthene-d10 | 10.781 | 164 | 242023 | 40.0000 | ug/mL | -0.0116 |
| 87) Phenanthrene-d10 | 12.369 | 188 | 456277 | 40.0000 | ug/mL | -0.0116 |
| 113) Chrysene-d12 | 16.016 | 240 | 440490 | 40.0000 | ug/mL | -0.0233 |
| 128) Perylene-d12 | 18.686 | 264 | 455167 | 40.0000 | ug/mL | -0.0292 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.422 | 112 | 146335 | 37.1367 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.281 | 99 | 120935 | 26.1209 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.246 | 82 | 132438 | 32.8527 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.040 | 172 | 289563 | 34.4927 | ug/mL | -0.0115 |
| 86) 2,4,6-Tribromophenol | 11.598 | 330 | 104622 | 105.5618 | ug/mL | -0.0115 |
| 117) p-Terphenyl-d14 | 14.380 | 244 | 405125 | 45.4697 | ug/mL | -0.0116 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.499 | 88 | 24526 | 13.922 | ug/mL | 100 |
| 3) n-Nitrosodimethylamine | 4.957 | 74 | 42498 | 17.054 | ug/mL | 95 |
| 4) Pyridine | 4.987 | 79 | 69075 | 15.634 | ug/mL | 98 |
| 11) Aniline | 7.375 | 66 | 62623 | 26.426 | ug/mL | 91 |
| 13) Phenol | 7.293 | 94 | 64370 | 12.998 | ug/mL | 97 |
| 14) bis(2-Chloroethyl)ether | 7.399 | 63 | 89853 | 28.586 | ug/mL | 90 |
| 16) 2-Chlorophenol | 7.499 | 128 | 124135 | 29.130 | ug/mL | 100 |
| 17) 1,3-Dichlorobenzene | 7.651 | 146 | 91231 | 19.822 | ug/mL | 100 |
| 18) 1,4-Dichlorobenzene | 7.699 | 146 | 92394 | 20.099 | ug/mL | 99 |
| 19) Benzyl Alcohol | 7.787 | 108 | 78958 | 28.862 | ug/mL | 98 |
| 20) 1,2-Dichlorobenzene | 7.893 | 146 | 89647 | 21.657 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.887 | 107 | 86098 | 28.357 | ug/mL | 99 |
| 22) bis(2-Chloroisopropyl)... | 7.934 | 45 | 144871 | 28.622 | ug/mL | 98 |
| 23) 3-,4-Methylphenol | 8.016 | 107 | 109499 | 26.035 | ug/mL | 99 |
| 25) n-Nitrosodipropylamine | 8.069 | 70 | 84539 | 32.435 | ug/mL# | 68 |
| 26) Acetophenone | 8.075 | 105 | 327736 | 63.699 | ug/mL | 99 |
| 27) n-Nitrosomorpholine | 8.069 | 56 | 5628 | 1.995 | ug/mL# | 55 |
| 28) o-Toluidine | 8.075 | 106 | 25172 | 3.952 | ug/mL# | 1 |
| 29) Hexachloroethane | 8.204 | 117 | 31411 | 17.842 | ug/mL | 100 |
| 32) Nitrobenzene | 8.263 | 77 | 121147 | 28.792 | ug/mL | 100 |
| 34) Isophorone | 8.475 | 82 | 246311 | 32.218 | ug/mL | 100 |
| 35) 2-Nitrophenol | 8.587 | 139 | 72504 | 32.855 | ug/mL | 97 |
| 36) 2,4-Dimethylphenol | 8.551 | 122 | 139205 | 37.121 | ug/mL | 92 |
| 38) bis(2-Chloroethoxy)met... | 8.651 | 93 | 154691 | 26.388 | ug/mL | 89 |
| 39) Benzoic Acid | 8.581 | 105 | 7660 | 12.309 | ug/mL# | 29 |
| 40) 2,4-Dichlorophenol | 8.810 | 162 | 109535 | 34.311 | ug/mL | 98 |
| 42) 1,2,4-Trichlorobenzene | 8.916 | 180 | 79586 | 21.970 | ug/mL | 99 |
| 43) Naphthalene | 8.993 | 128 | 333139 | 25.981 | ug/mL | 98 |
| 44) 4-Chloroaniline | 9.016 | 65 | 47331 | 31.462 | ug/mL | 97 |
| 45) 2,6-Dichlorophenol | 8.810 | 162 | 109535 | 34.311 | ug/mL | 98 |
| 47) Hexachlorobutadiene | 9.145 | 225 | 35430 | 19.449 | ug/mL | 99 |
| 48) n-Nitrosodi-n-Butylamine | 9.322 | 84 | 11769 | 3.457 | ug/mL# | 51 |
| 49) p-Phenylenediamine | 9.457 | 108 | 10602 | 3.099 | ug/mL# | 1 |
| 50) 4-Chloro-3-Methylphenol | 9.457 | 107 | 134537 | 38.374 | ug/mL | 99 |
| 52) 2-Methylnaphthalene | 9.681 | 142 | 230045 | 26.902 | ug/mL | 99 |
| 53) 1-Methylnaphthalene | 9.798 | 142 | 226861 | 28.816 | ug/mL | 99 |
| 56) Hexachlorocyclopentadiene | 9.904 | 237 | 29668 | 21.972 | ug/mL | 99 |
| 57) 2,4,6-Trichlorophenol | 9.969 | 196 | 84413 | 36.402 | ug/mL | 100 |

Data File : C:\msdchem\4\DATA\091317\19M000547.D Vial: 9
Acq On : 13 Sep 2017 5:28 pm Operator: SCB
Sample : L17081498-06 MSD RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:02:47 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 58) | 2,4,5-Trichlorophenol | 10.016 | 196 | 96527 | 40.441 | ug/mL | 99 |
| 60) | Isosafrole | 10.187 | 162 | 222846 | 67.079 | ug/mL# | 32 |
| 61) | 2-Chloronaphthalene | 10.187 | 162 | 222846 | 28.602 | ug/mL | 100 |
| 62) | 1-Chloronaphthalene | 10.187 | 162 | 222846 | 31.503 | ug/mL | 99 |
| 63) | 2-Nitroaniline | 10.281 | 65 | 98973 | 44.098 | ug/mL | 99 |
| 65) | Dimethylphthalate | 10.445 | 163 | 370810 | 42.238 | ug/mL | 100 |
| 66) | 1,3-Dinitrobenzene | 10.498 | 168 | 73351 | 48.539 | ug/mL | 98 |
| 67) | 2,6-Dinitrotoluene | 10.540 | 165 | 94166 | 45.982 | ug/mL | 100 |
| 68) | Acenaphthylene | 10.628 | 152 | 416125 | 34.634 | ug/mL | 100 |
| 69) | 3-Nitroaniline | 10.698 | 138 | 115112 | 47.625 | ug/mL | 100 |
| 70) | 2,4-Dinitrophenol | 10.798 | 184 | 39664 | 44.922 | ug/mL | 61 |
| 71) | Acenaphthene | 10.810 | 154 | 270426 | 36.766 | ug/mL | 99 |
| 72) | 4-Nitrophenol | 10.798 | 65 | 37050 | 24.536 | ug/mL | 94 |
| 73) | 2,4-Dinitrotoluene | 10.951 | 165 | 135183 | 51.227 | ug/mL | 94 |
| 75) | Dibenzofuran | 10.969 | 168 | 396242 | 36.428 | ug/mL | 99 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.116 | 232 | 86422 | 48.968 | ug/mL | 99 |
| 79) | Diethylphthalate | 11.151 | 149 | 410740 | 45.550 | ug/mL | 99 |
| 81) | Fluorene | 11.322 | 166 | 340982 | 41.109 | ug/mL | 99 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.275 | 204 | 159230 | 37.419 | ug/mL | 99 |
| 83) | 4-Nitroaniline | 11.328 | 138 | 115915 | 51.393 | ug/mL | 96 |
| 84) | 5-Nitro-o-Toluidine | 11.375 | 152 | 4545 | 1.905 | ug/mL# | 1 |
| 85) | 1,2-Diphenylhydrazine | 11.439 | 77 | 386591 | 43.379 | ug/mL | 100 |
| 88) | 4,6-Dinitro-2-Methylph... | 11.375 | 198 | 75090 | 49.764 | ug/mL | 95 |
| 89) | Diphenylamine/n-Nitros... | 11.392 | 169 | 353801 | 45.048 | ug/mL | 100 |
| 91) | Sym-Trinitrobenzene | 11.798 | 75 | 17138 | 9.692 | ug/mL# | 66 |
| 93) | Phenacetin | 12.010 | 108 | 9047 | 2.169 | ug/mL# | 42 |
| 94) | Phorate | 11.798 | 75 | 17138 | 3.227 | ug/mL# | 39 |
| 95) | 4-Bromophenyl Phenyl E... | 11.798 | 248 | 97320 | 41.505 | ug/mL | 100 |
| 96) | Hexachlorobenzene | 12.010 | 284 | 108023 | 44.177 | ug/mL | 98 |
| 97) | Dimethoate | 11.939 | 87 | 6423 | 2.186 | ug/mL# | 19 |
| 99) | Pentachlorophenol | 12.186 | 266 | 85031 | 58.551 | ug/mL | 100 |
| 100) | Pronamide | 11.939 | 173 | 35486 | 9.587 | ug/mL# | 71 |
| 101) | Pentachloronitrobenzene | 12.186 | 237 | 2817 | 3.178 | ug/mL# | 14 |
| 102) | Disulfoton | 12.392 | 88 | 41130 | 9.137 | ug/mL# | 2 |
| 103) | Phenanthrene | 12.392 | 178 | 617746 | 47.767 | ug/mL | 100 |
| 104) | Anthracene | 12.445 | 178 | 630507 | 47.432 | ug/mL | 100 |
| 105) | Carbazole | 12.604 | 167 | 636293 | 52.134 | ug/mL# | 100 |
| 107) | Di-n-Butyl Phthalate | 12.963 | 149 | 760826 | 50.109 | ug/mL | 100 |
| 112) | Fluoranthene | 13.922 | 202 | 698359 | 49.656 | ug/mL | 100 |
| 114) | Benzidine | 14.022 | 184 | 210699 | 31.927 | ug/mL | 100 |
| 115) | Pyrene | 14.245 | 202 | 727104 | 49.924 | ug/mL | 100 |
| 116) | Aramite | 14.022 | 185 | 31196 | 36.383 | ug/mL# | 33 |
| 121) | Butyl Benzyl Phthalate | 15.057 | 149 | 360660 | 55.911 | ug/mL | 99 |
| 124) | bis(2-Ethylhexyl)phtha... | 15.898 | 149 | 476136 | 54.959 | ug/mL | 99 |
| 125) | 3,3'-Dichlorobenzidine | 15.904 | 252 | 229746 | 55.259 | ug/mL | 100 |
| 126) | Benzo[a]anthracene | 15.992 | 228 | 644250 | 50.120 | ug/mL | 99 |
| 127) | Chrysene | 16.057 | 228 | 627126 | 52.063 | ug/mL | 100 |
| 129) | Di-n-Octyl Phthalate | 16.845 | 149 | 917125 | 55.838 | ug/mL | 99 |
| 131) | Benzo[b]fluoranthene | 17.857 | 252 | 653873 | 49.827 | ug/mL | 97 |
| 132) | Benzo[k]fluoranthene | 17.898 | 252 | 600416 | 47.450 | ug/mL | 98 |
| 133) | Benzo[a]pyrene | 18.563 | 252 | 626474 | 51.659 | ug/mL | 99 |
| 135) | Indeno[1,2,3-cd]pyrene | 21.621 | 276 | 657963 | 52.498 | ug/mL | 100 |
| 136) | Dibenz[ah]anthracene | 21.621 | 278 | 471097 | 44.563 | ug/mL | 99 |
| 137) | Benzo[ghi]perylene | 22.515 | 276 | 605861 | 57.899 | ug/mL | 99 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000547.D Vial: 9
Acq On : 13 Sep 2017 5:28 pm Operator: SCB
Sample : L17081498-06 MSD RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:02:47 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

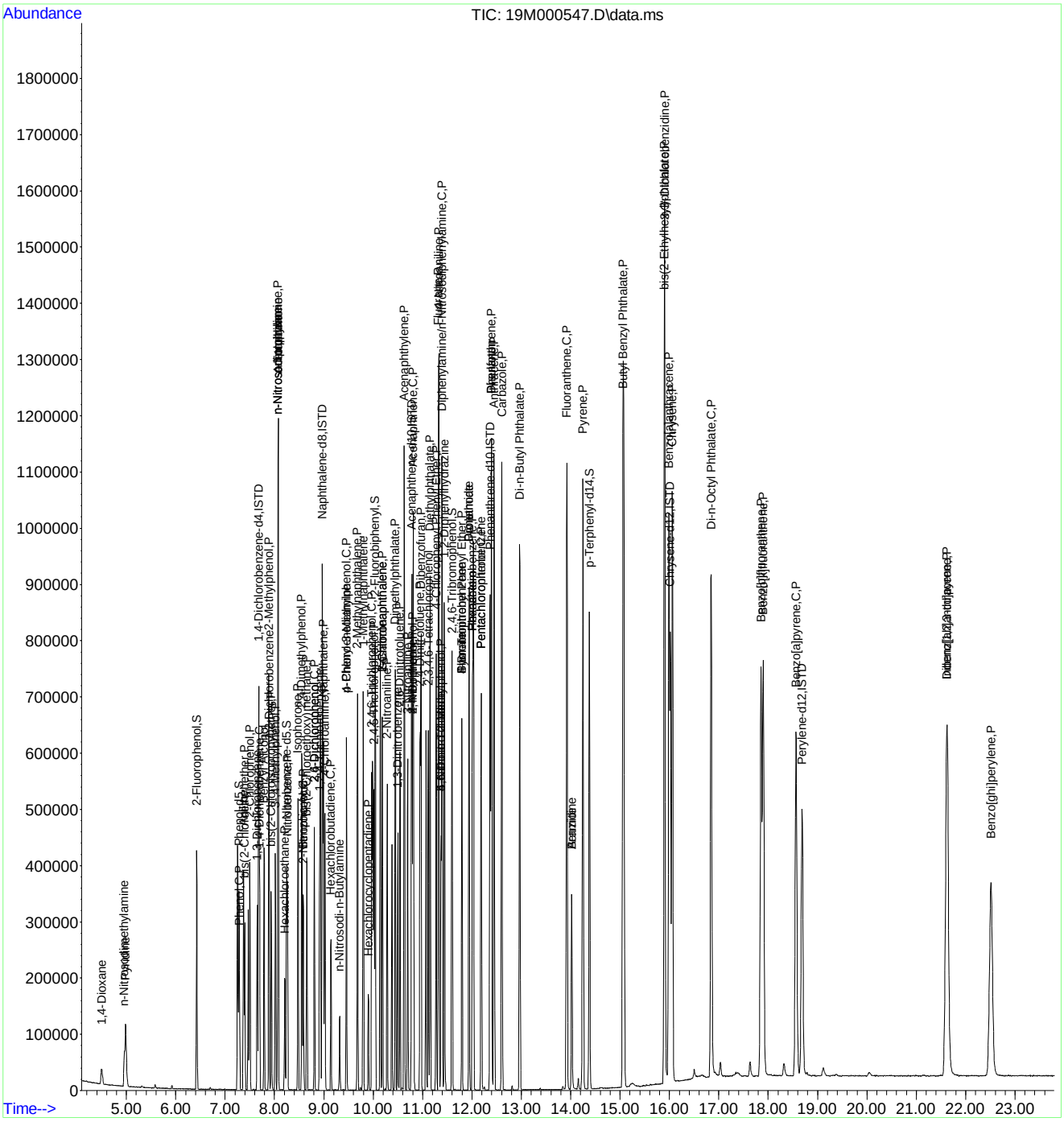
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000547.D Vial: 9
Acq On : 13 Sep 2017 5:28 pm Operator: SCB
Sample : L17081498-06 MSD RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:02:47 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000547.D Vial: 9
Acq On : 13 Sep 2017 5:28 pm Operator: SCB
Sample : L17081498-06 MSD RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:06:59 2017
Quant Results File: TCL.RES

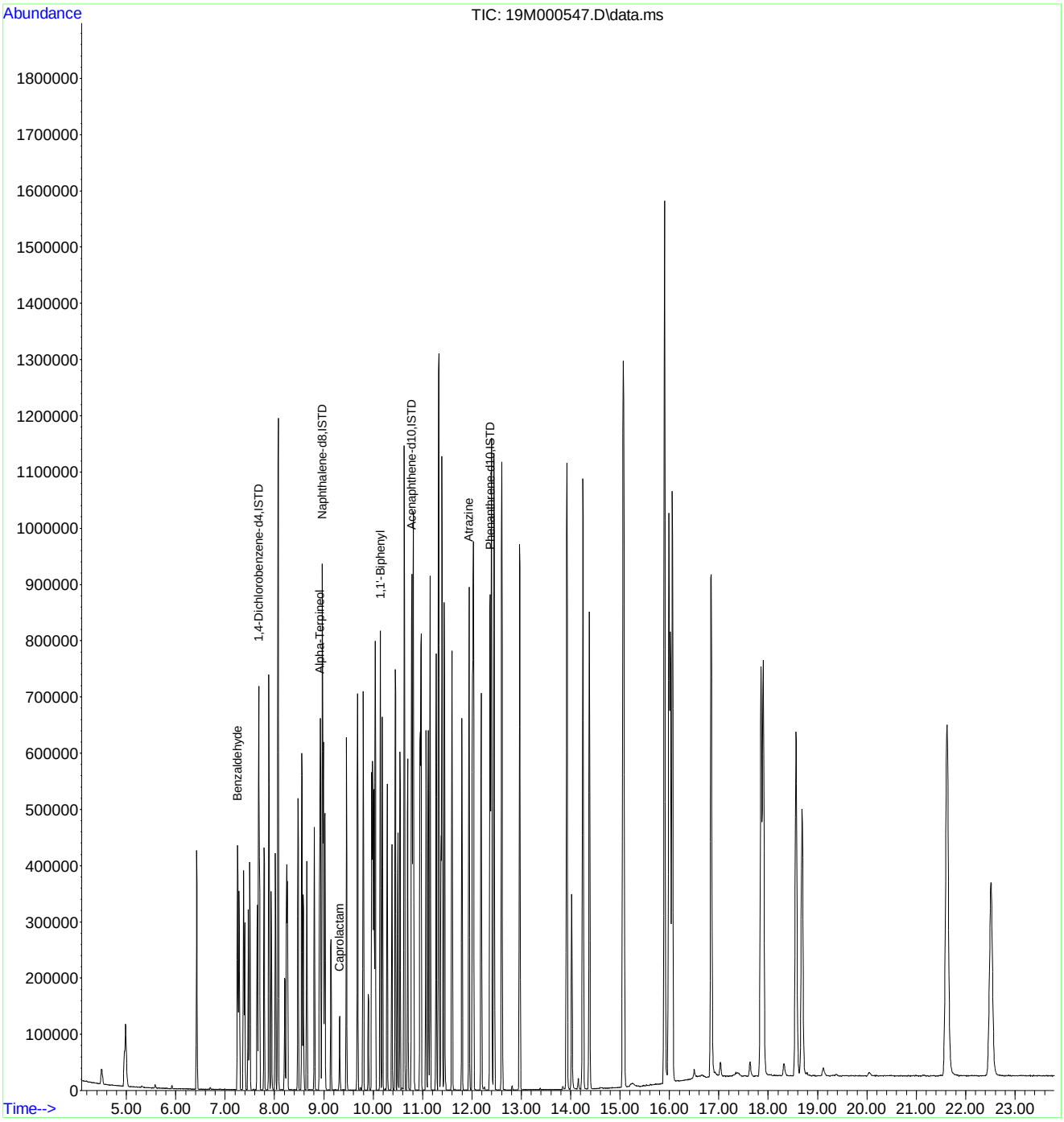
Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 121278 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.969 | 136 | 487227 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.781 | 164 | 242023 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.369 | 188 | 456277 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.251 | 105 | 96110 | 33.227 | ug/mL | 100 |
| 4) Alpha-Terpineol | 8.928 | 59 | 109059 | 34.596 | ug/mL | 98 |
| 5) Caprolactam | 9.322 | 55 | 25704 | 15.738 | ug/mL | 99 |
| 7) 1,1'-Biphenyl | 10.145 | 154 | 331465 | 34.055 | ug/mL | 99 |
| 9) Atrazine | 11.939 | 200 | 130756 | 57.066 | ug/mL | 99 |

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

Data File : C:\msdchem\4\DATA\091317\19M000547.D Vial: 9
Acq On : 13 Sep 2017 5:28 pm Operator: SCB
Sample : L17081498-06 MSD RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:06:59 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 01 09:08:43 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

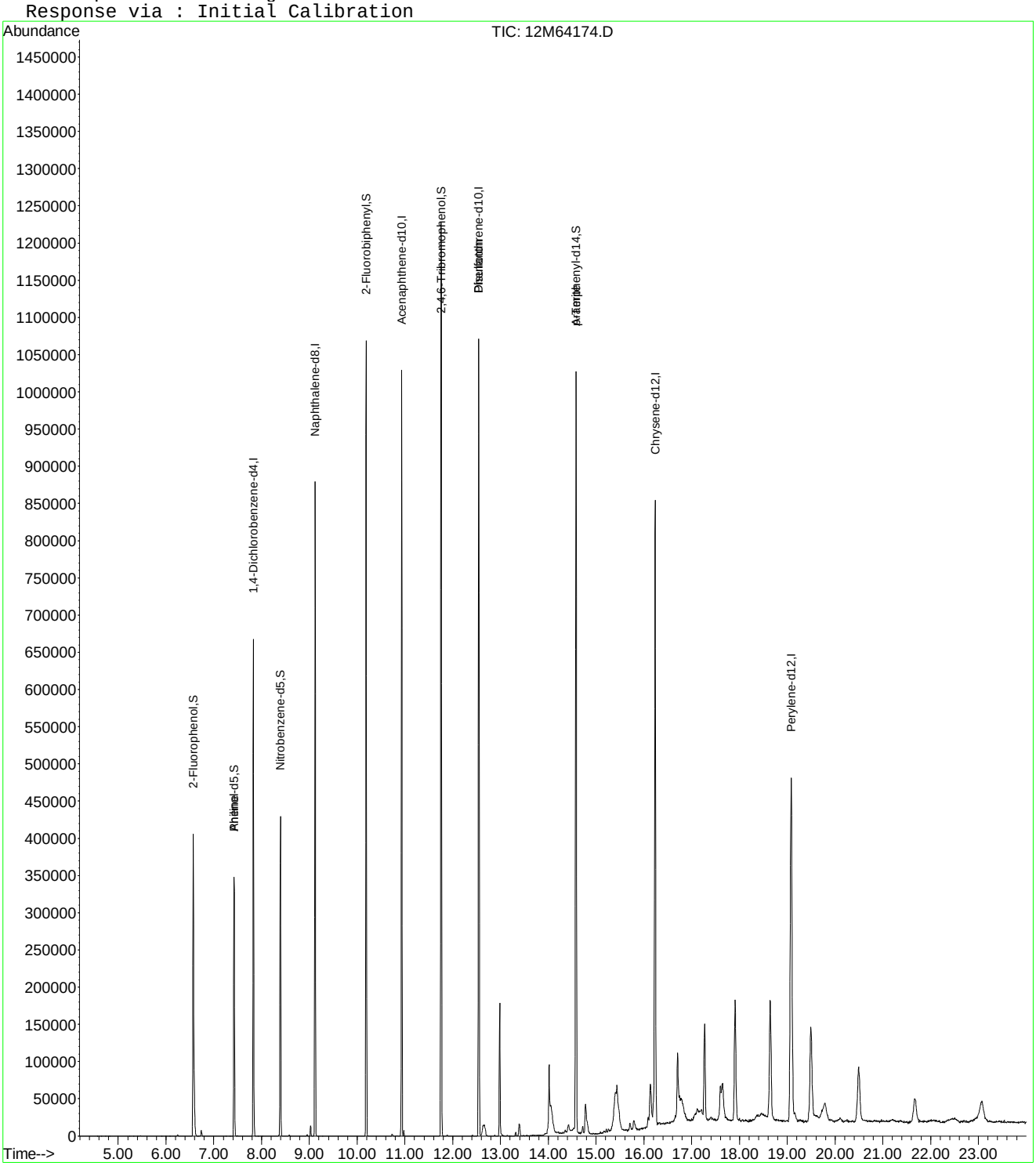
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.828 | 152 | 115184 | 40.0000 | ug/ml | 0.000 |
| 30) Naphthalene-d8 | 9.121 | 136 | 436007 | 40.0000 | ug/ml | 0.000 |
| 54) Acenaphthene-d10 | 10.932 | 164 | 242570 | 40.0000 | ug/ml | 0.000 |
| 87) Phenanthrene-d10 | 12.546 | 188 | 472753 | 40.0000 | ug/ml | -0.011 |
| 113) Chrysene-d12 | 16.237 | 240 | 423053 | 40.0000 | ug/ml | -0.011 |
| 128) Perylene-d12 | 19.085 | 264 | 451067 | 40.0000 | ug/ml | -0.016 |
| **System Monitoring Compounds** | | | | | | |
| 8) 2-Fluorophenol | 6.573 | 112 | 161692 | 46.0930462 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 21 - 100 | | Recovery = 46.09% | | | |
| 12) Phenol-d5 | 7.422 | 99 | 136979 | 30.5425687 | ug/ml | -0.01 |
| Spiked Amount 100.000 | Range 10 - 94 | | Recovery = 30.54% | | | |
| 31) Nitrobenzene-d5 | 8.395 | 82 | 159464 | 36.6497712 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 35 - 114 | | Recovery = 73.30% | | | |
| 59) 2-Fluorobiphenyl | 10.190 | 172 | 361243 | 42.8947302 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 43 - 116 | | Recovery = 85.79% | | | |
| 86) 2,4,6-Tribromophenol | 11.760 | 330 | 139207 | 108.9565786 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 123 | | Recovery = 108.96% | | | |
| 117) p-Terphenyl-d14 | 14.581 | 244 | 412626 | 45.3064238 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 33 - 141 | | Recovery = 90.61% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 11) Aniline | 7.42 | 66 | 8313 | 3.5611 | ug/ml# | 1 |
| 102) Disulfoton | 12.55 | 88 | 7837 | 1.8317 | ug/ml# | 45 |
| 116) Aramite | 14.58 | 185 | 1508 | 1.8630 | ug/ml# | 34 |

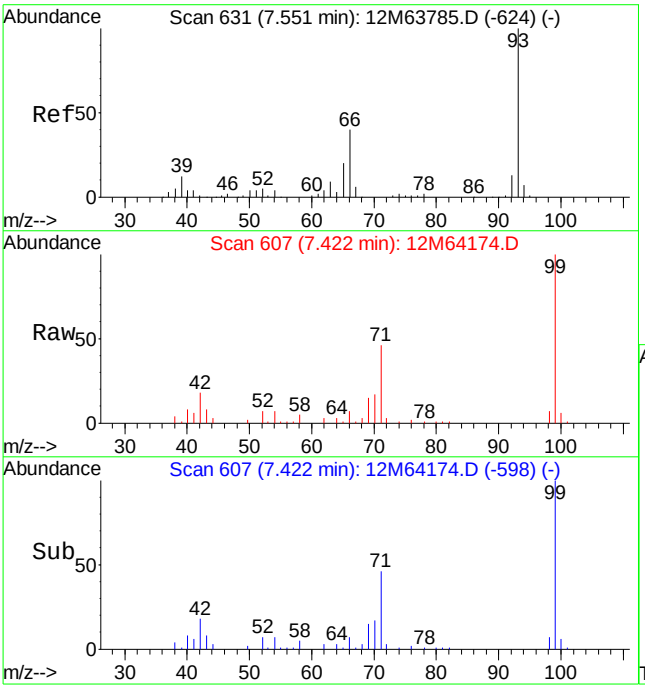
(#) = qualifier out of range (m) = manual integration (+) = signals summed
12M64174.D MEGAMIX.M Fri Sep 01 09:08:44 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 1 9:08 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

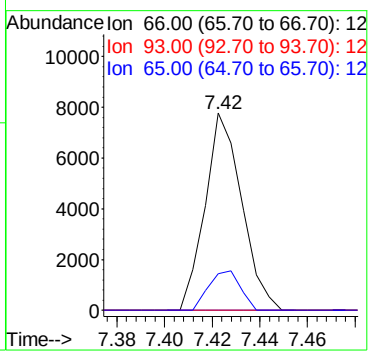


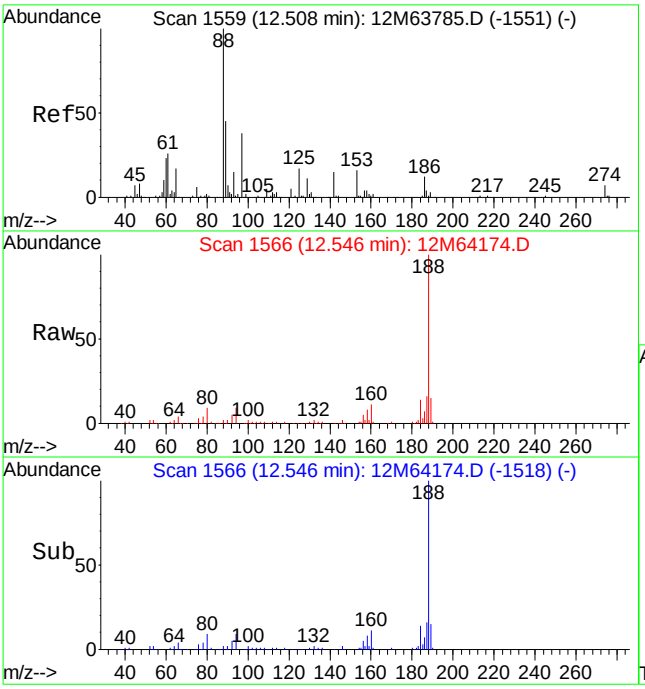



#11
Aniline
Concen: 3.5611 ug/ml
RT: 7.42 min Scan# 607
Delta R.T. -0.10 min
Lab File: 12M64174.D
Acq: 31 Aug 2017 2:31 pm

Tgt Ion: 66 Resp: 8313

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 66 | 100 | | |
| 93 | 0.0 | 231.9 | 541.1# |
| 65 | 17.3 | 48.5 | 113.1# |

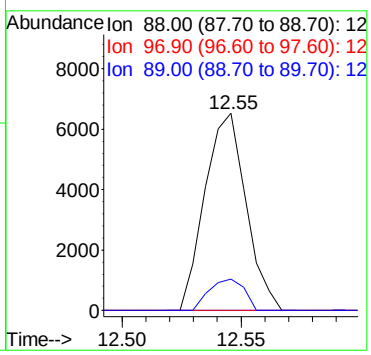


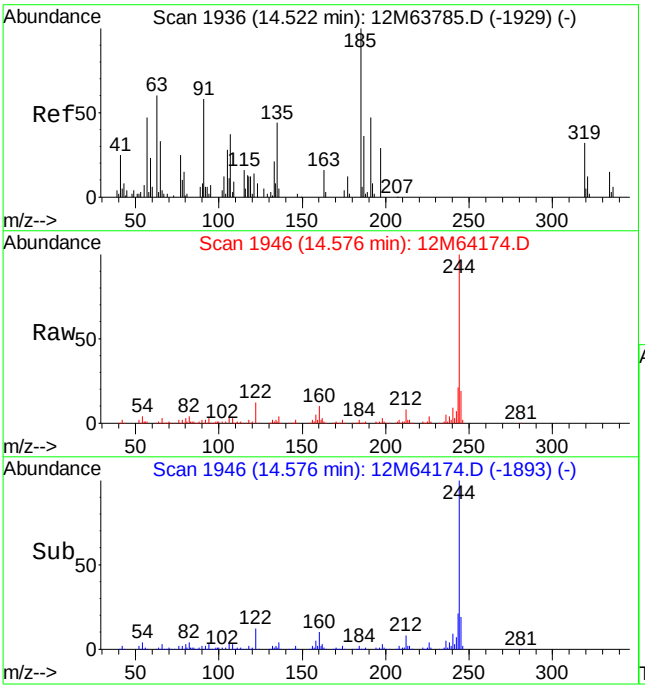




#102
Disulfoton
Concen: 1.8317 ug/ml
RT: 12.55 min Scan# 1566
Delta R.T. 0.06 min
Lab File: 12M64174.D
Acq: 31 Aug 2017 2:31 pm

Tgt Ion: 88 Resp: 7837

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 88 | 100 | | |
| 97 | 0.0 | 31.4 | 47.2# |
| 89 | 13.4 | 35.3 | 52.9# |

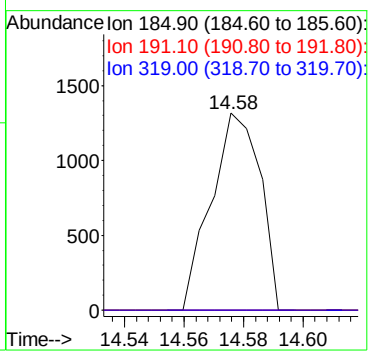





#116
Aramite
Concen: 1.8630 ug/ml
RT: 14.58 min Scan# 1946
Delta R.T. 0.09 min
Lab File: 12M64174.D
Acq: 31 Aug 2017 2:31 pm

Tgt Ion:185 Resp: 1508

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 185 | 100 | | |
| 191 | 0.0 | 38.6 | 57.8# |
| 319 | 0.0 | 25.8 | 38.6# |



LSC Area Percent Report

Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 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

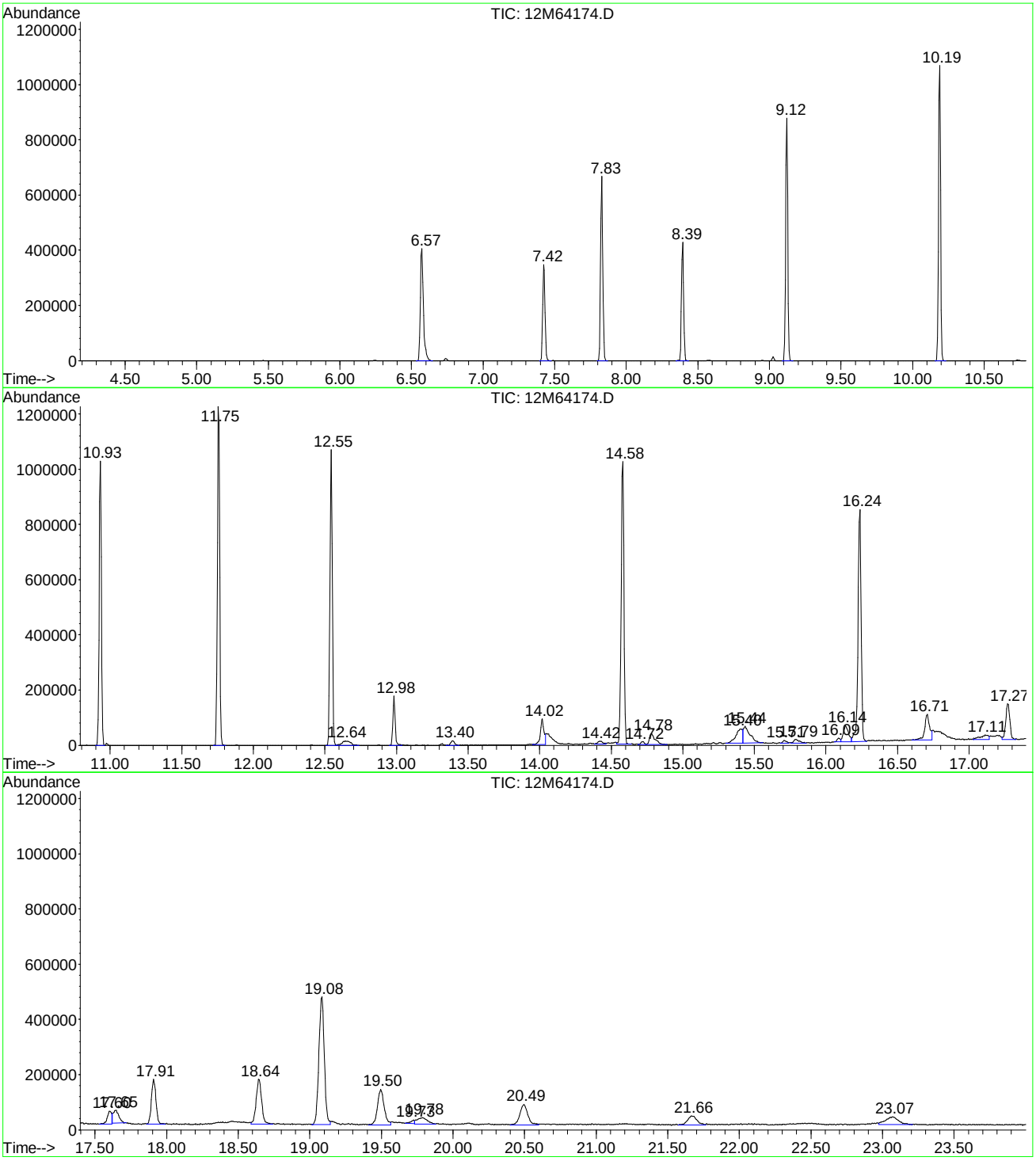
If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

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 | 441 | 448 | 461 | rBB | 405890 | 574421 | 41.76% | 3.694% |
| 2 | 7.422 | 602 | 607 | 616 | rBB | 348062 | 390828 | 28.41% | 2.513% |
| 3 | 7.828 | 677 | 683 | 690 | rBB | 667550 | 712185 | 51.78% | 4.579% |
| 4 | 8.395 | 780 | 789 | 796 | rBB | 429444 | 457368 | 33.25% | 2.941% |
| 5 | 9.121 | 919 | 925 | 932 | rBB | 879217 | 894115 | 65.01% | 5.749% |
| 6 | 10.190 | 1119 | 1125 | 1132 | rBB | 1068830 | 1065690 | 77.48% | 6.852% |
| 7 | 10.932 | 1258 | 1264 | 1269 | rBB | 1029345 | 1097086 | 79.76% | 7.054% |
| 8 | 11.755 | 1412 | 1418 | 1427 | rBB | 1227838 | 1365718 | 99.29% | 8.782% |
| 9 | 12.546 | 1559 | 1566 | 1573 | rBV | 1071155 | 1239389 | 90.11% | 7.969% |
| 10 | 12.642 | 1573 | 1584 | 1601 | rVB3 | 15266 | 61163 | 4.45% | 0.393% |
| 11 | 12.984 | 1642 | 1648 | 1658 | rBV | 178935 | 192854 | 14.02% | 1.240% |
| 12 | 13.395 | 1716 | 1725 | 1732 | rBB2 | 16238 | 29426 | 2.14% | 0.189% |
| 13 | 14.020 | 1829 | 1842 | 1846 | rBV | 93036 | 162323 | 11.80% | 1.044% |
| 14 | 14.415 | 1910 | 1916 | 1925 | rBV2 | 9768 | 23461 | 1.71% | 0.151% |
| 15 | 14.581 | 1939 | 1947 | 1957 | rVB | 1023906 | 1375443 | 100.00% | 8.844% |
| 16 | 14.720 | 1967 | 1973 | 1977 | rBV3 | 10150 | 15620 | 1.14% | 0.100% |
| 17 | 14.779 | 1977 | 1984 | 2004 | rVB3 | 40176 | 109210 | 7.94% | 0.702% |
| 18 | 15.404 | 2082 | 2101 | 2104 | rBV2 | 51826 | 176248 | 12.81% | 1.133% |
| 19 | 15.436 | 2104 | 2107 | 2129 | rVB2 | 60265 | 186279 | 13.54% | 1.198% |
| 20 | 15.708 | 2153 | 2158 | 2164 | rBV4 | 10286 | 17198 | 1.25% | 0.111% |
| 21 | 15.794 | 2167 | 2174 | 2186 | rVB5 | 12912 | 36403 | 2.65% | 0.234% |
| 22 | 16.088 | 2224 | 2229 | 2232 | rBV5 | 13537 | 20997 | 1.53% | 0.135% |
| 23 | 16.136 | 2232 | 2238 | 2246 | rVV3 | 57426 | 144625 | 10.51% | 0.930% |
| 24 | 16.237 | 2246 | 2257 | 2265 | rVB | 840140 | 1280100 | 93.07% | 8.231% |
| 25 | 16.707 | 2325 | 2345 | 2351 | rBV | 93474 | 228071 | 16.58% | 1.467% |
| 26 | 17.113 | 2405 | 2421 | 2426 | rBV | 15337 | 62960 | 4.58% | 0.405% |
| 27 | 17.268 | 2443 | 2450 | 2460 | rVB | 129307 | 250367 | 18.20% | 1.610% |
| 28 | 17.605 | 2499 | 2513 | 2515 | rBV3 | 46260 | 93412 | 6.79% | 0.601% |
| 29 | 17.647 | 2516 | 2521 | 2533 | rVB5 | 46386 | 123314 | 8.97% | 0.793% |
| 30 | 17.909 | 2561 | 2570 | 2584 | rVB | 162391 | 355687 | 25.86% | 2.287% |
| 31 | 18.641 | 2697 | 2707 | 2725 | rVB2 | 161567 | 427276 | 31.06% | 2.747% |
| 32 | 19.085 | 2777 | 2790 | 2801 | rBV2 | 462062 | 1216269 | 88.43% | 7.821% |
| 33 | 19.496 | 2851 | 2867 | 2880 | rBV2 | 128128 | 412133 | 29.96% | 2.650% |
| 34 | 19.726 | 2899 | 2910 | 2911 | rBV6 | 11308 | 22518 | 1.64% | 0.145% |
| 35 | 19.784 | 2911 | 2921 | 2938 | rVB6 | 23620 | 118705 | 8.63% | 0.763% |
| 36 | 20.495 | 3036 | 3054 | 3073 | rBV3 | 74735 | 279279 | 20.30% | 1.796% |
| 37 | 21.665 | 3256 | 3273 | 3291 | rBV6 | 32894 | 152593 | 11.09% | 0.981% |
| 38 | 23.070 | 3518 | 3536 | 3561 | rVB9 | 28359 | 181188 | 13.17% | 1.165% |

Sum of corrected areas: 15551922

File : I:\MSDCHEM\1\DATA\083117\12M64174.D
Operator : SCB
Acquired : 31 Aug 2017 2:31 pm using AcqMethod BNARUN
Instrument : MSD12
Sample Name: L17081498-07
Misc Info : 1,1
Vial Number: 11
Quant File :MEGAMIX.RES (RTE Integrator)



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

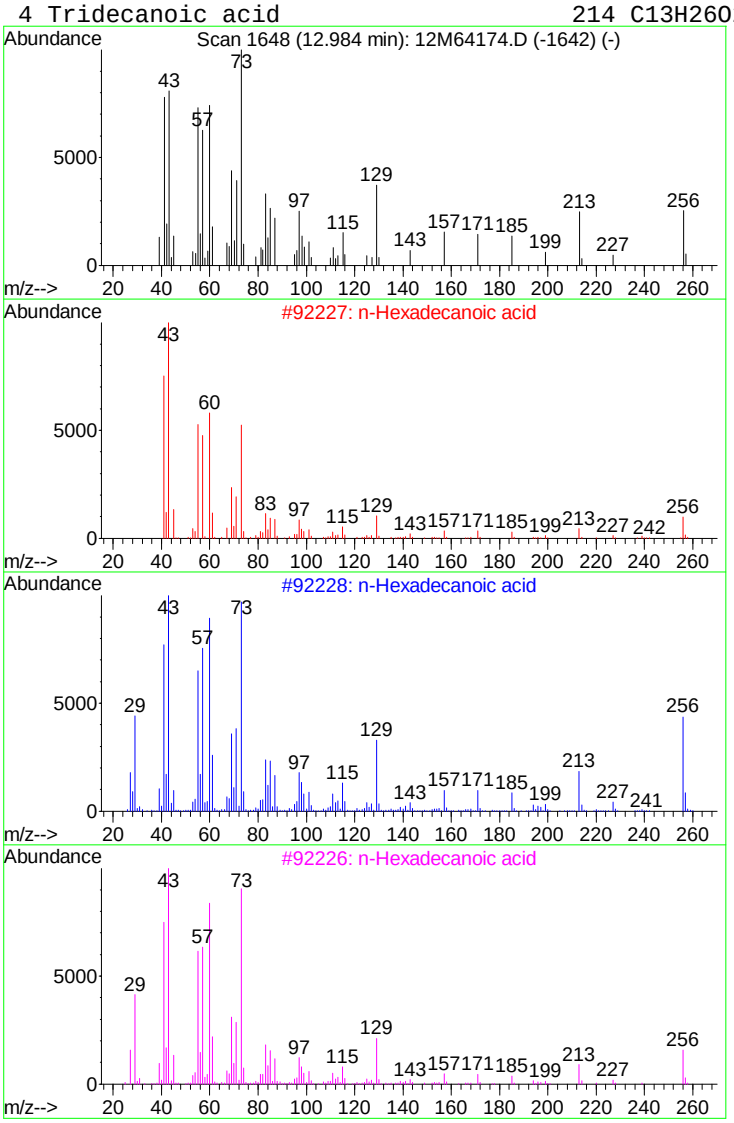
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Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

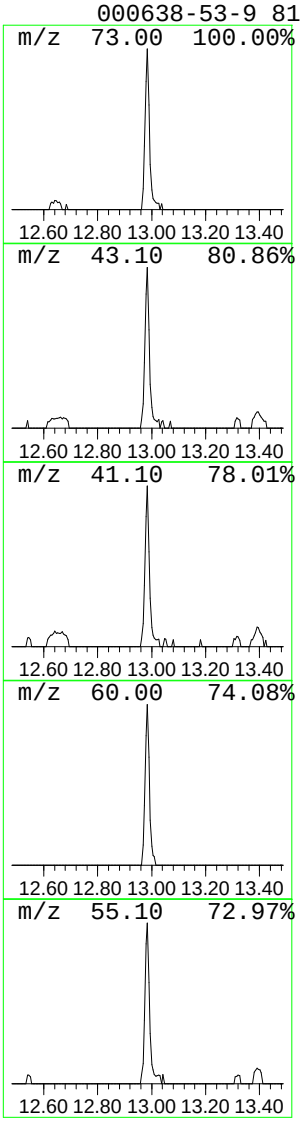
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Peak Number 1 n-Hexadecanoic acid Concentration Rank 7

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.98 | 6.22 ug/ml | 192854 | 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 | 97 |
| 3 | n-Hexadecanoic acid | 256 | C16H32O2 | 000057-10-3 | 93 |
| 4 | Tridecanoic acid | 214 | C13H26O2 | 000638-53-9 | 81 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

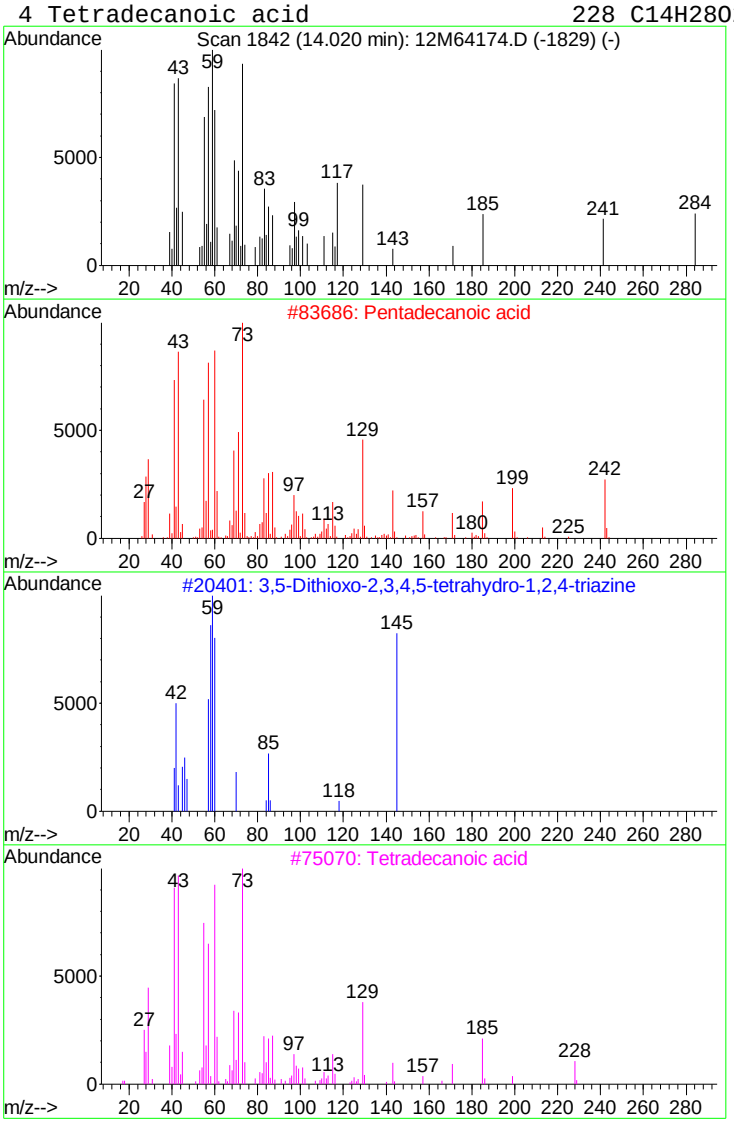
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Library : I:\DATABASE\NIST02.L

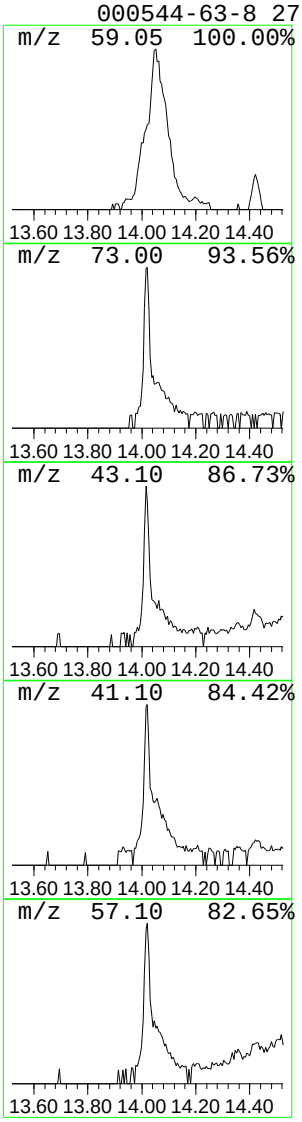
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Peak Number 2 Pentadecanoic acid Concentration Rank 11

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.02 | 5.24 ug/ml | 162323 | Phenanthrene-d10 | 12.55 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Pentadecanoic acid | 242 | C15H30O2 | 001002-84-2 | 38 |
| 2 | 3,5-Dithioxo-2,3,4,5-tetrahydro-... | 145 | C3H3N3S2 | 000461-90-5 | 35 |
| 3 | Tetradecanoic acid | 228 | C14H28O2 | 000544-63-8 | 30 |
| 4 | Tetradecanoic acid | 228 | C14H28O2 | 000544-63-8 | 27 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

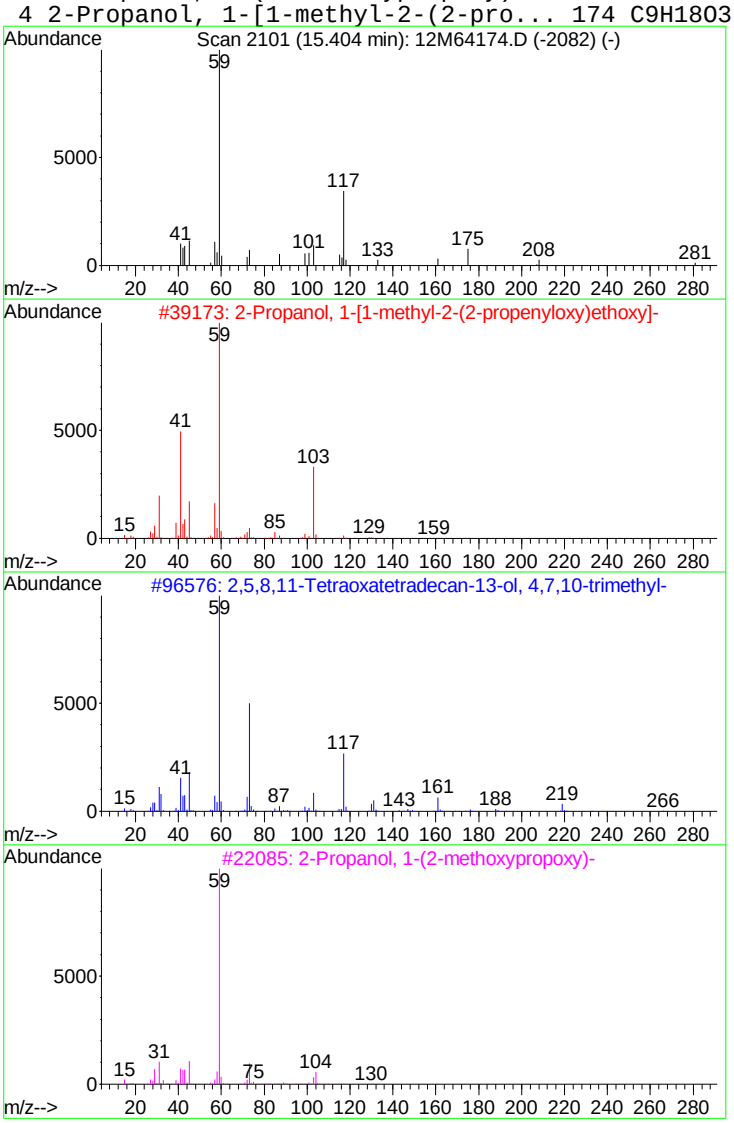
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Library : I:\DATABASE\NIST02.L

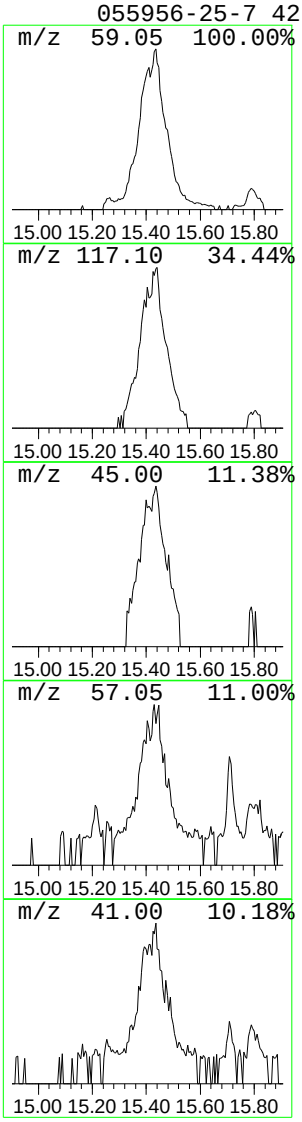
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Peak Number 3 2-Propanol, 1-[1-methyl-2-(... Concentration Rank 10

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.40 | 5.51 ug/ml | 176248 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 2-Propanol, 1-[1-methyl-2-(2-pro... | 174 | C9H18O3 | 055956-25-7 | 50 |
| 2 | 2,5,8,11-Tetraoxatetradecan-13-o... | 264 | C13H28O5 | 020324-34-9 | 50 |
| 3 | 2-Propanol, 1-(2-methoxypropoxy)- | 148 | C7H16O3 | 013429-07-7 | 43 |
| 4 | 2-Propanol, 1-[1-methyl-2-(2-pro... | 174 | C9H18O3 | 055956-25-7 | 42 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

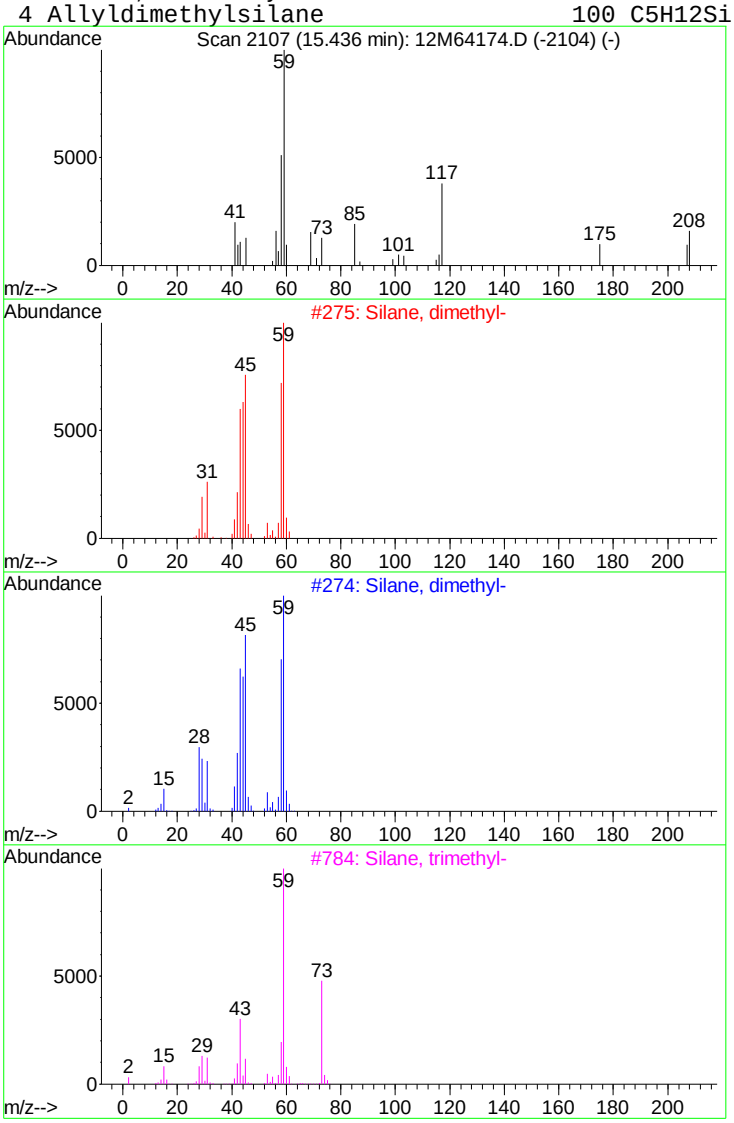
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

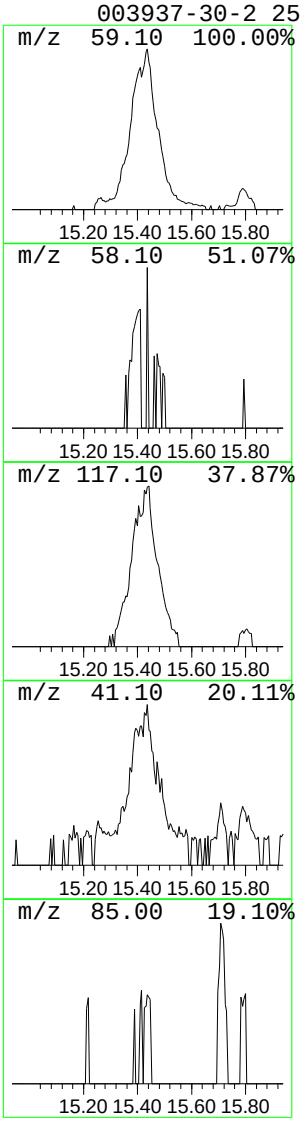
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Peak Number 4 Silane, dimethyl- Concentration Rank 9

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.44 | 5.82 ug/ml | 186279 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Silane, dimethyl- | 60 | C2H8Si | 001111-74-6 | 49 |
| 2 | Silane, dimethyl- | 60 | C2H8Si | 001111-74-6 | 47 |
| 3 | Silane, trimethyl- | 74 | C3H10Si | 000993-07-7 | 32 |
| 4 | Allyldimethylsilane | 100 | C5H12Si | 003937-30-2 | 25 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

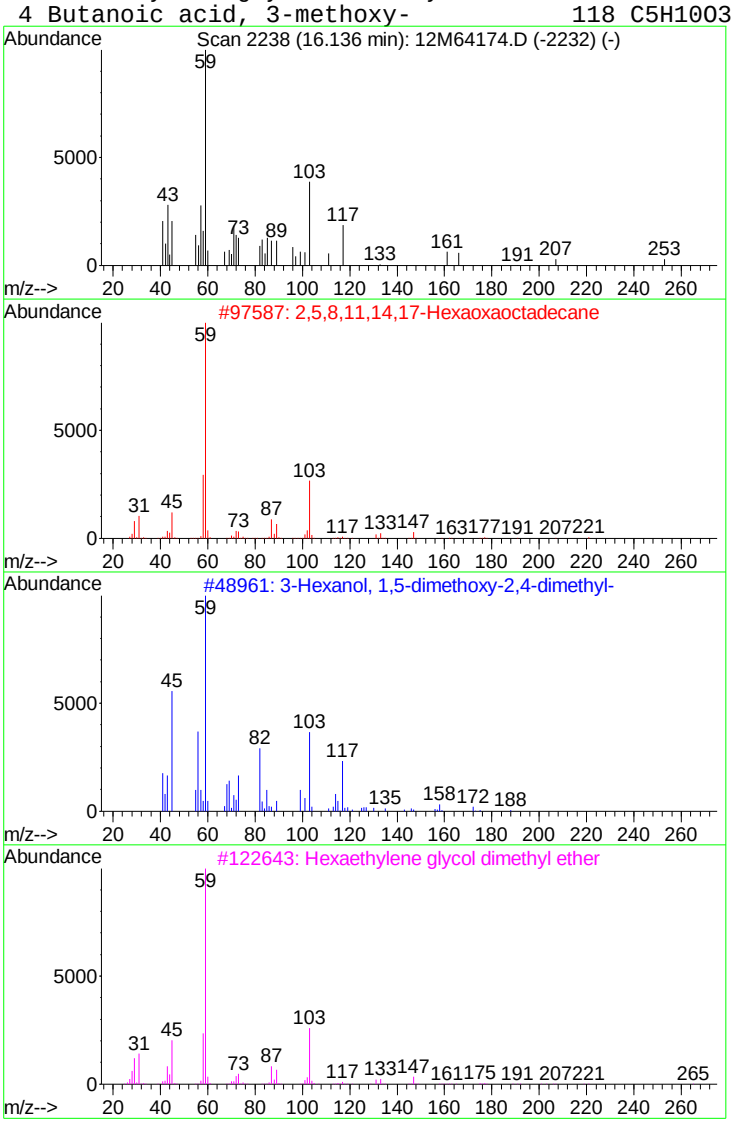
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Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

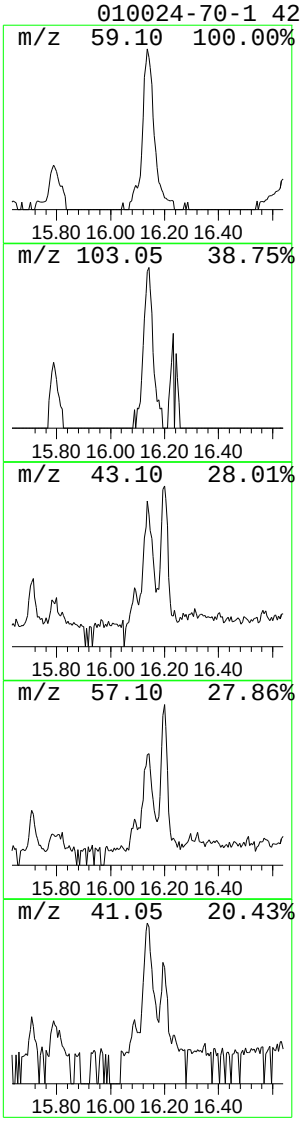
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Peak Number 5 2,5,8,11,14,17-Hexaoxaoctad... Concentration Rank 13

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.14 | 4.52 ug/ml | 144625 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 2,5,8,11,14,17-Hexaoxaoctadecane | 266 | C12H26O6 | 001191-87-3 | 45 |
| 2 | 3-Hexanol, 1,5-dimethoxy-2,4-dim... | 190 | C10H22O3 | 013897-22-8 | 45 |
| 3 | Hexaethylene glycol dimethyl ether | 310 | C14H30O7 | 001072-40-8 | 45 |
| 4 | Butanoic acid, 3-methoxy- | 118 | C5H10O3 | 010024-70-1 | 42 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

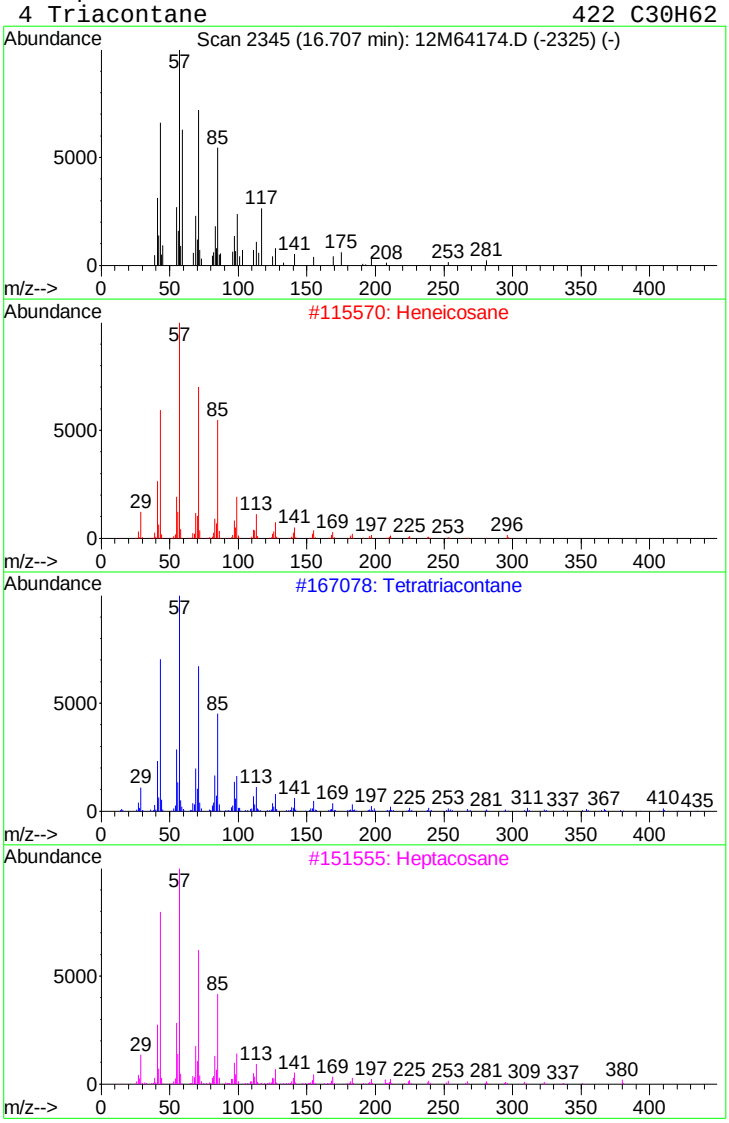
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Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

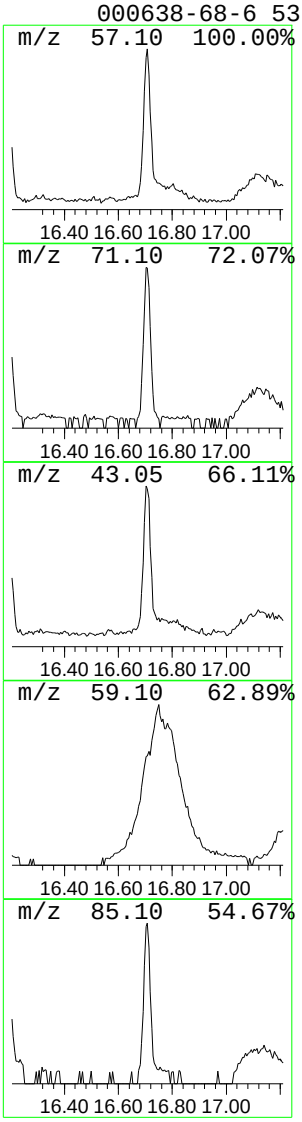
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Peak Number 6 Heneicosane Concentration Rank 6

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.71 | 7.13 ug/ml | 228071 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Heneicosane | 296 | C21H44 | 000629-94-7 | 64 |
| 2 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 60 |
| 3 | Heptacosane | 380 | C27H56 | 000593-49-7 | 58 |
| 4 | Triacontane | 422 | C30H62 | 000638-68-6 | 53 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

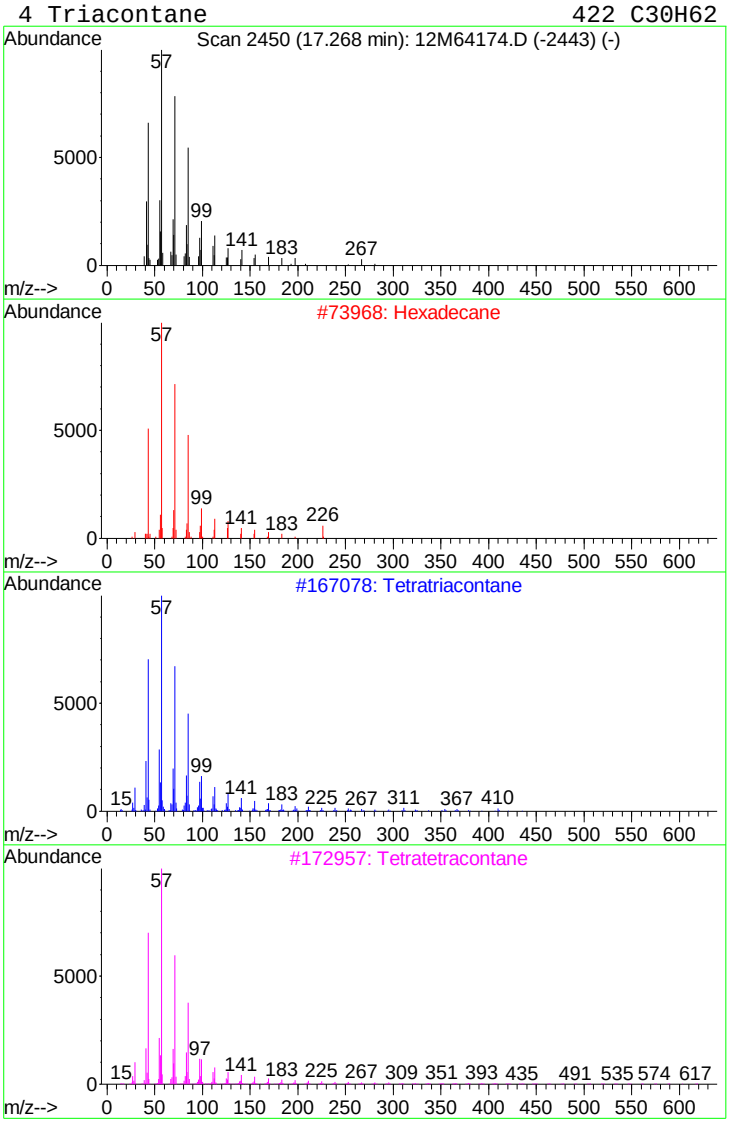
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

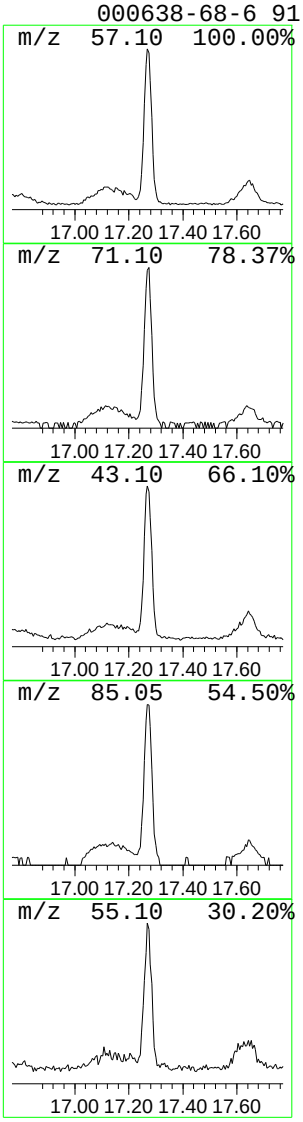
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Peak Number 7 Hexadecane Concentration Rank 5

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.27 | 7.82 ug/ml | 250367 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Hexadecane | 226 | C16H34 | 000544-76-3 | 91 |
| 2 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 3 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 91 |
| 4 | Triacontane | 422 | C30H62 | 000638-68-6 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

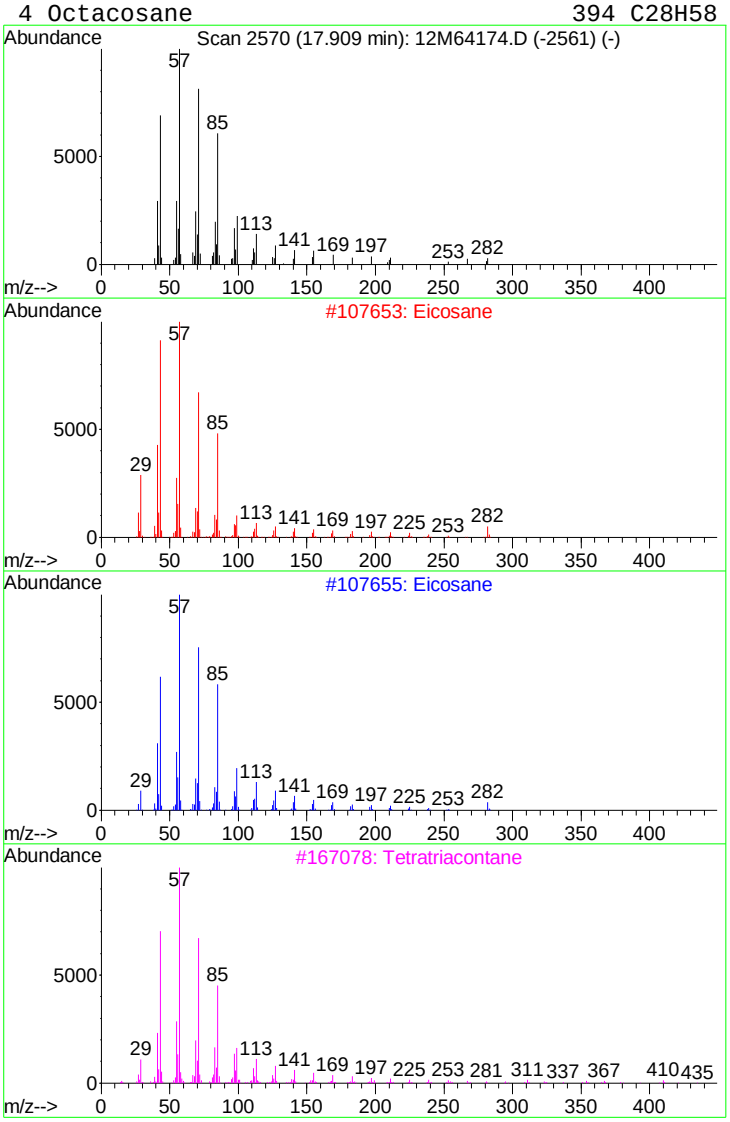
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Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

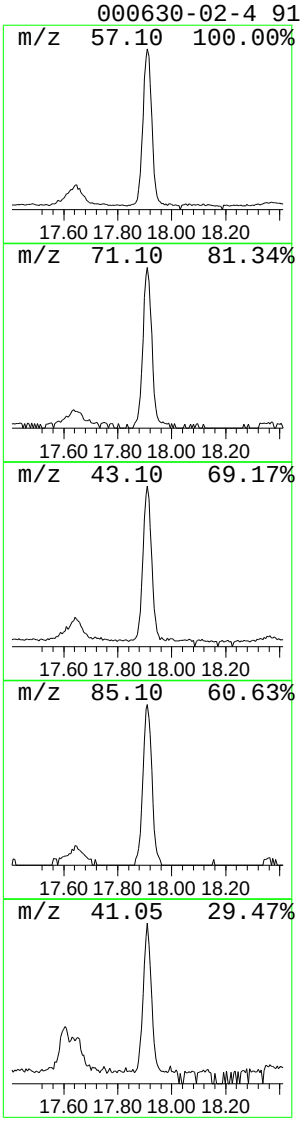
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Peak Number 8 Eicosane Concentration Rank 3

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.91 | 11.70 ug/ml | 355687 | 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 | 93 |
| 3 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 4 | Octacosane | 394 | C28H58 | 000630-02-4 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

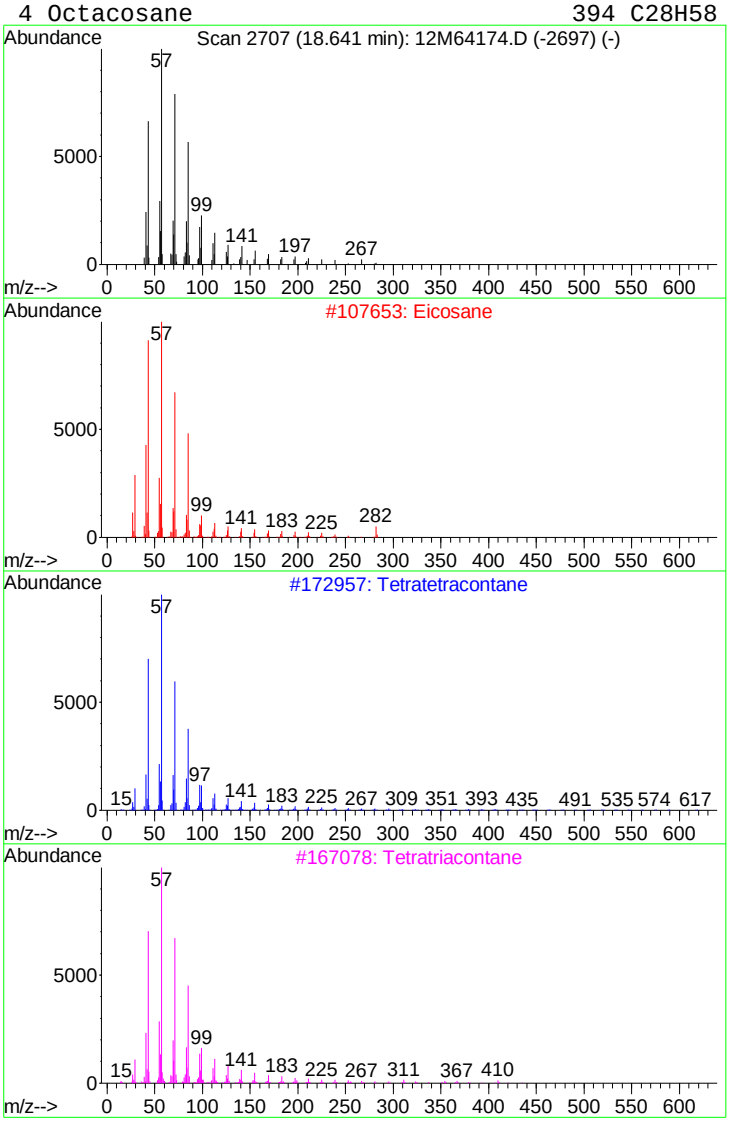
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Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

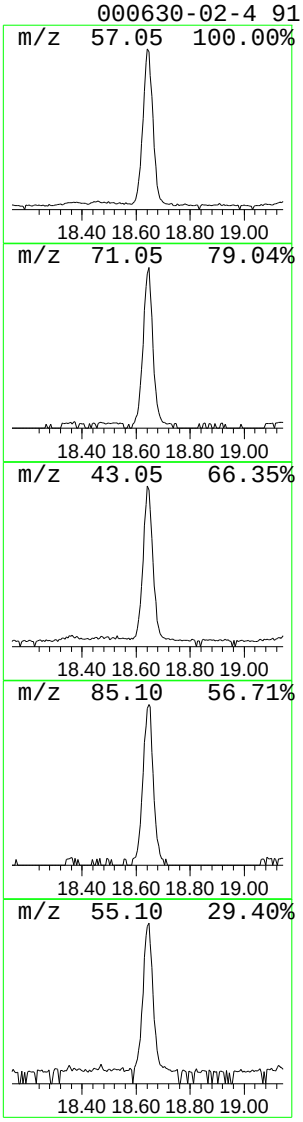
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Peak Number 9 Eicosane Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 18.64 | 14.05 ug/ml | 427276 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Eicosane | 282 | C20H42 | 000112-95-8 | 95 |
| 2 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 91 |
| 3 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 4 | Octacosane | 394 | C28H58 | 000630-02-4 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

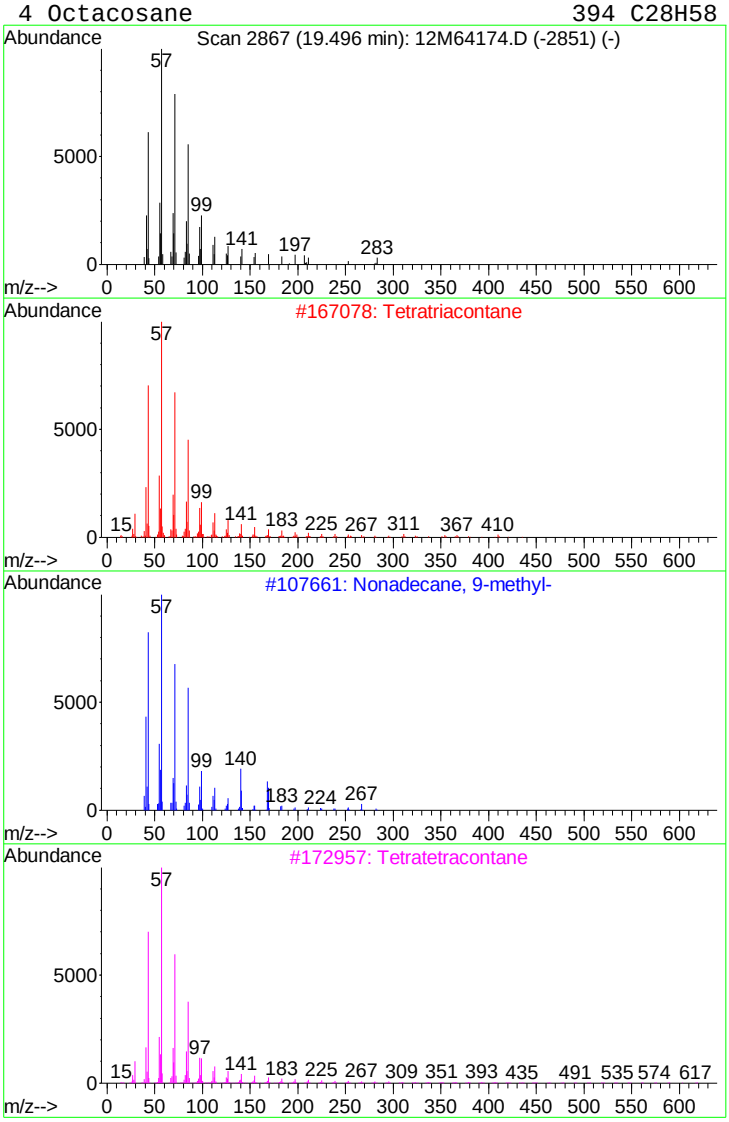
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

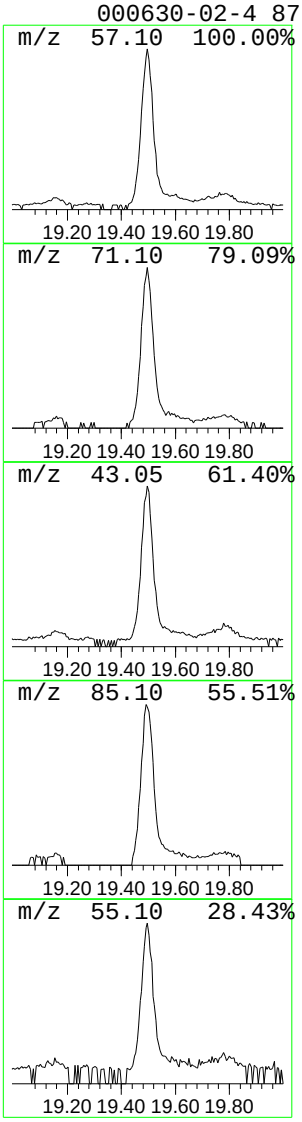
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Peak Number 10 Tetratriacontane Concentration Rank 2

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 19.50 | 13.55 ug/ml | 412133 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 2 | Nonadecane, 9-methyl- | 282 | C20H42 | 013287-24-6 | 91 |
| 3 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 87 |
| 4 | Octacosane | 394 | C28H58 | 000630-02-4 | 87 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

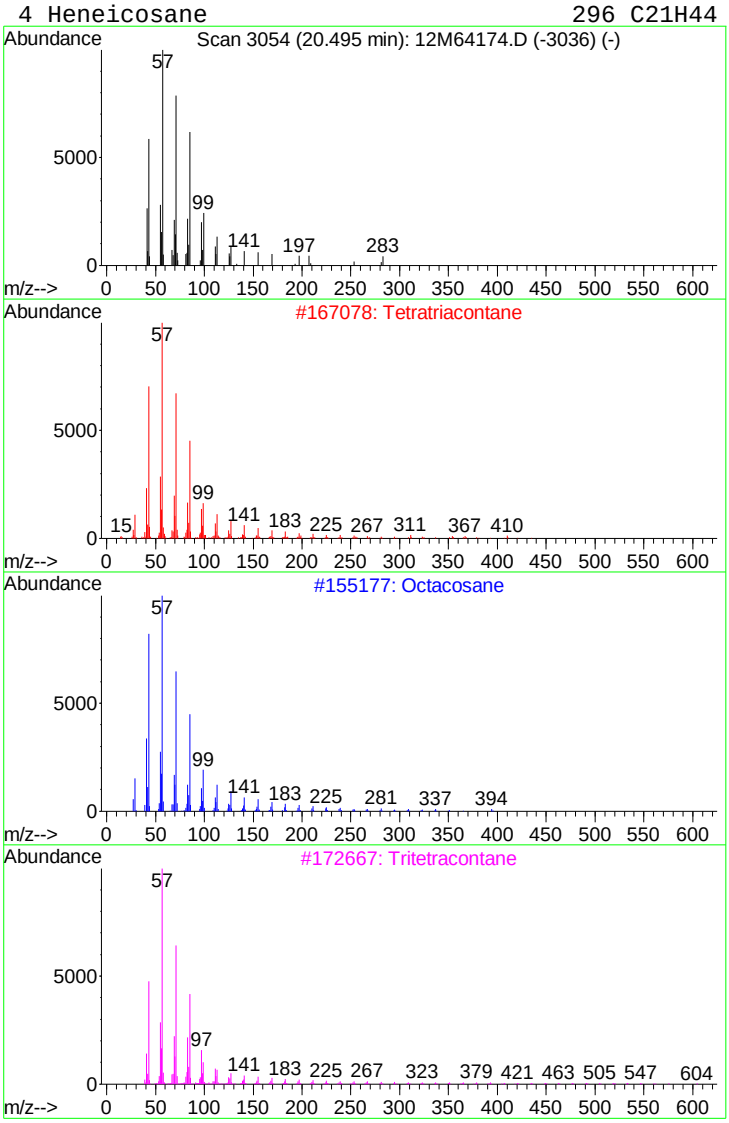
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

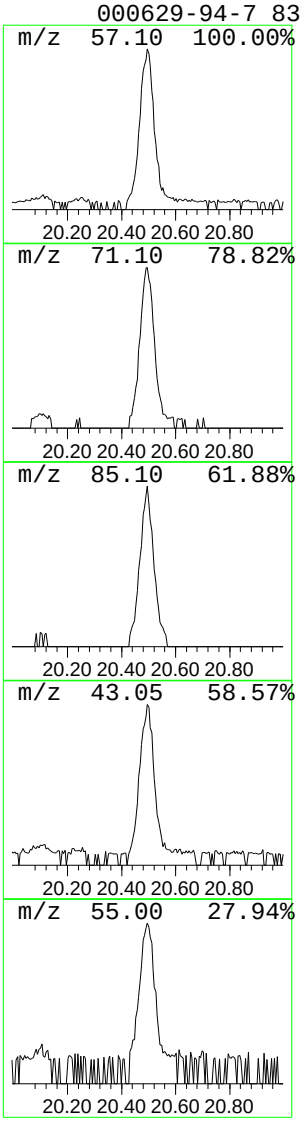
**********

Peak Number 11 Tetratriacontane Concentration Rank 4

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 20.49 | 9.18 ug/ml | 279279 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 2 | Octacosane | 394 | C28H58 | 000630-02-4 | 90 |
| 3 | Tritetracontane | 605 | C43H88 | 007098-21-7 | 86 |
| 4 | Heneicosane | 296 | C21H44 | 000629-94-7 | 83 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

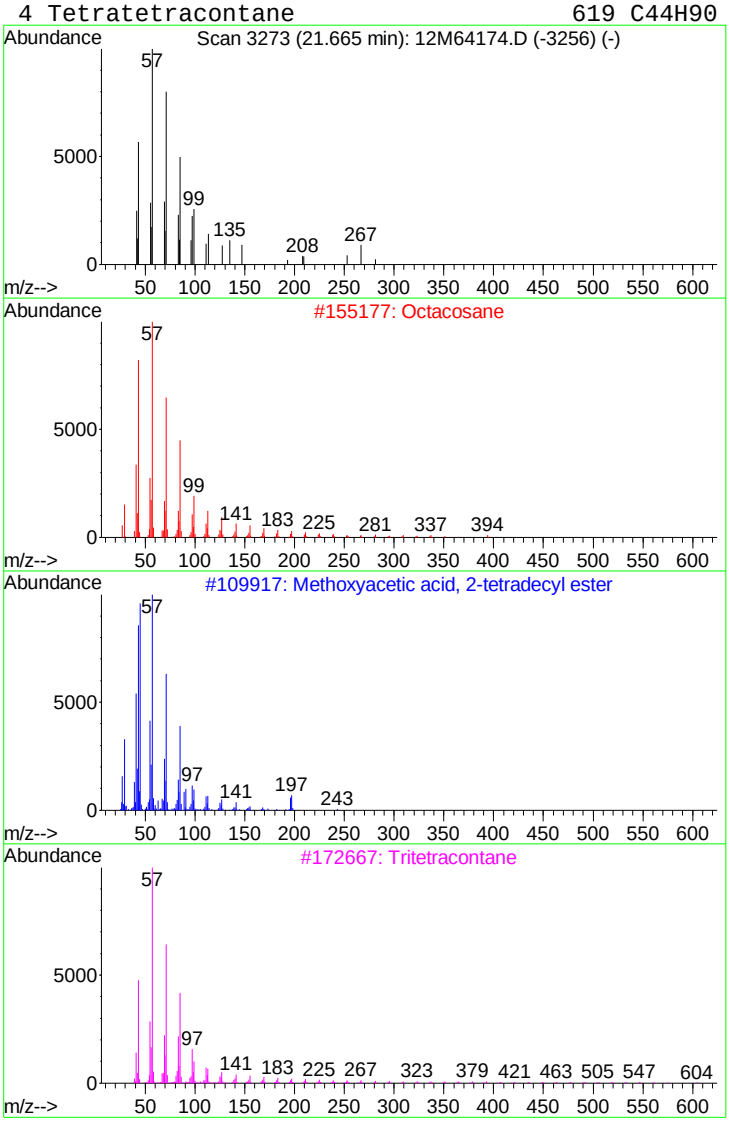
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

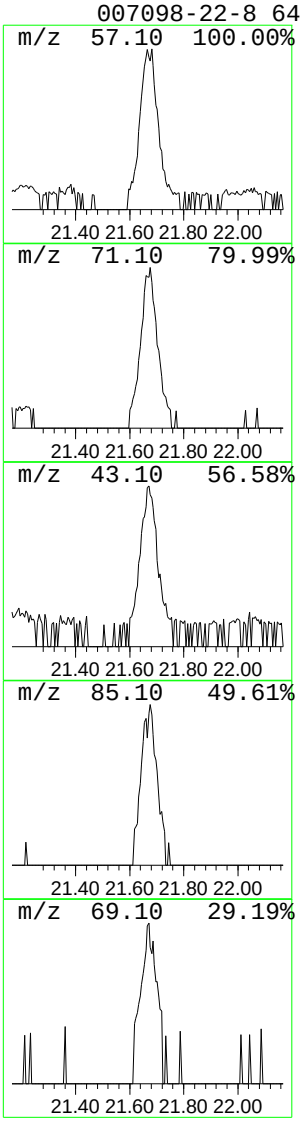
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Peak Number 12 Octacosane Concentration Rank 12

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 21.66 | 5.02 ug/ml | 152593 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Octacosane | 394 | C28H58 | 000630-02-4 | 72 |
| 2 | Methoxyacetic acid, 2-tetradecyl... | 286 | C17H34O3 | 1000282-04-8 | 72 |
| 3 | Tritetracontane | 605 | C43H88 | 007098-21-7 | 72 |
| 4 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 64 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64174.D Vial: 11
Acq On : 31 Aug 2017 2:31 pm Operator: SCB
Sample : L17081498-07 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

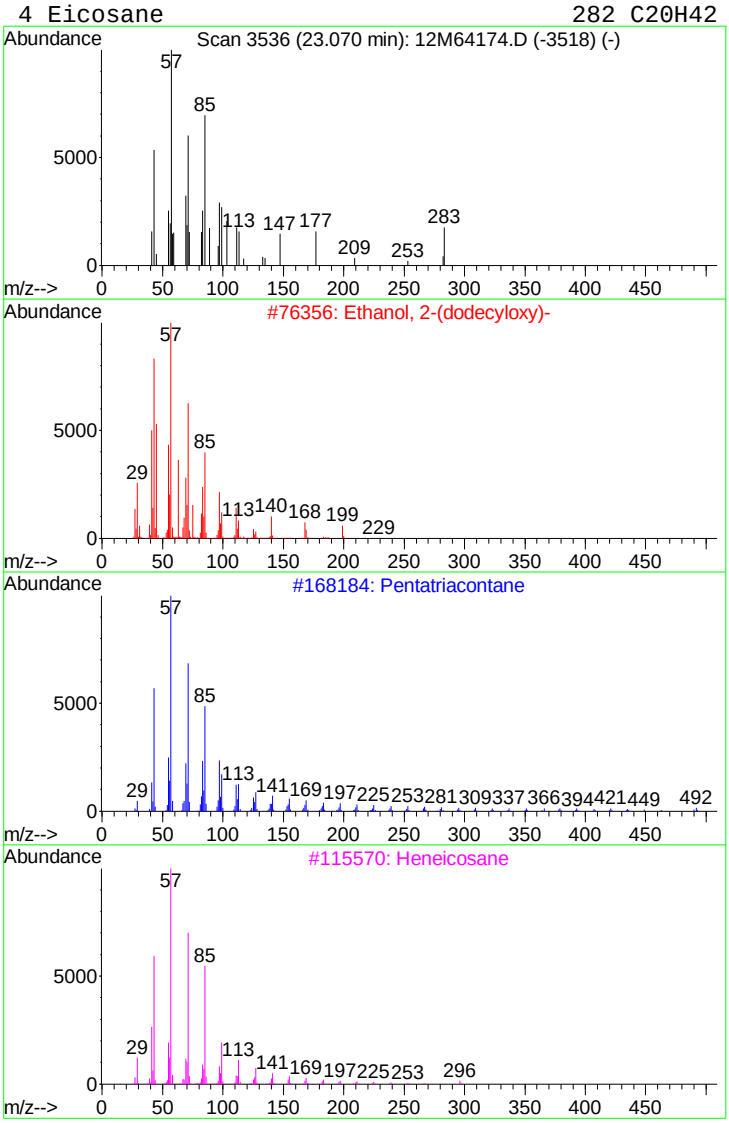
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

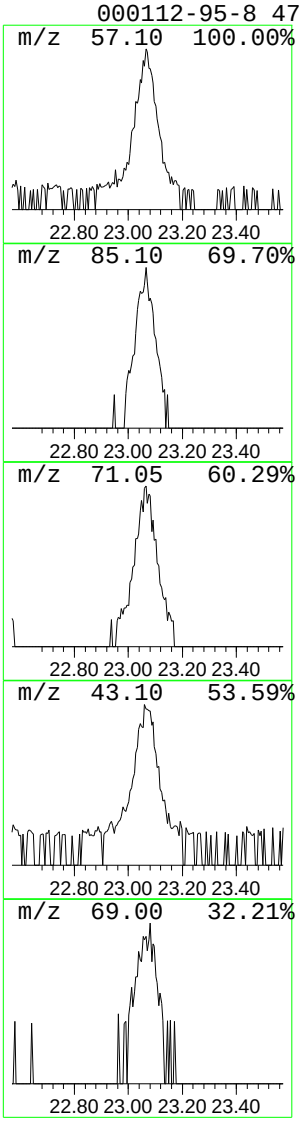
**********

Peak Number 13 Ethanol, 2-(dodecyloxy)- Concentration Rank 8

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 23.07 | 5.96 ug/ml | 181188 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Ethanol, 2-(dodecyloxy)- | 230 | C14H30O2 | 004536-30-5 | 50 |
| 2 | Pentatriacontane | 493 | C35H72 | 000630-07-9 | 50 |
| 3 | Heneicosane | 296 | C21H44 | 000629-94-7 | 47 |
| 4 | Eicosane | 282 | C20H42 | 000112-95-8 | 47 |



Tentatively Identified Compound (LSC) summary

Operator ID: SCB  Date Acquired: 31 Aug 2017  2:31 pm
Data File: I:\MSDCHEM\1\DATA\083117\12M64174.D
Name: L17081498-07
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

| | | | | | Internal Standard | | | |
|---|---|---|---|---|---|---|---|---|
| TIC Top Hit name | RT | EstConc | Units | Response | # | RT | Resp | Conc |
| n-Hexadecanoic acid | 12.98 | 6.2 | ug/ml | 192854 | 4 | 12.55 | 1239390 | 40.0 |
| Pentadecanoic acid | 14.02 | 5.2 | ug/ml | 162323 | 4 | 12.55 | 1239390 | 40.0 |
| 2-Propanol, 1-[1-... | 15.40 | 5.5 | ug/ml | 176248 | 5 | 16.24 | 1280100 | 40.0 |
| Silane, dimethyl- | 15.44 | 5.8 | ug/ml | 186279 | 5 | 16.24 | 1280100 | 40.0 |
| 2,5,8,11,14,17-He... | 16.14 | 4.5 | ug/ml | 144625 | 5 | 16.24 | 1280100 | 40.0 |
| Heneicosane | 16.71 | 7.1 | ug/ml | 228071 | 5 | 16.24 | 1280100 | 40.0 |
| Hexadecane | 17.27 | 7.8 | ug/ml | 250367 | 5 | 16.24 | 1280100 | 40.0 |
| Eicosane | 17.91 | 11.7 | ug/ml | 355687 | 6 | 19.08 | 1216270 | 40.0 |
| Eicosane | 18.64 | 14.1 | ug/ml | 427276 | 6 | 19.08 | 1216270 | 40.0 |
| Tetratriacontane | 19.50 | 13.6 | ug/ml | 412133 | 6 | 19.08 | 1216270 | 40.0 |
| Tetratriacontane | 20.49 | 9.2 | ug/ml | 279279 | 6 | 19.08 | 1216270 | 40.0 |
| Octacosane | 21.66 | 5.0 | ug/ml | 152593 | 6 | 19.08 | 1216270 | 40.0 |
| Ethanol, 2-(dodec... | 23.07 | 6.0 | ug/ml | 181188 | 6 | 19.08 | 1216270 | 40.0 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000548.D Vial: 10
Acq On : 13 Sep 2017 5:59 pm Operator: SCB
Sample : L17081498-07 RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:11:13 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

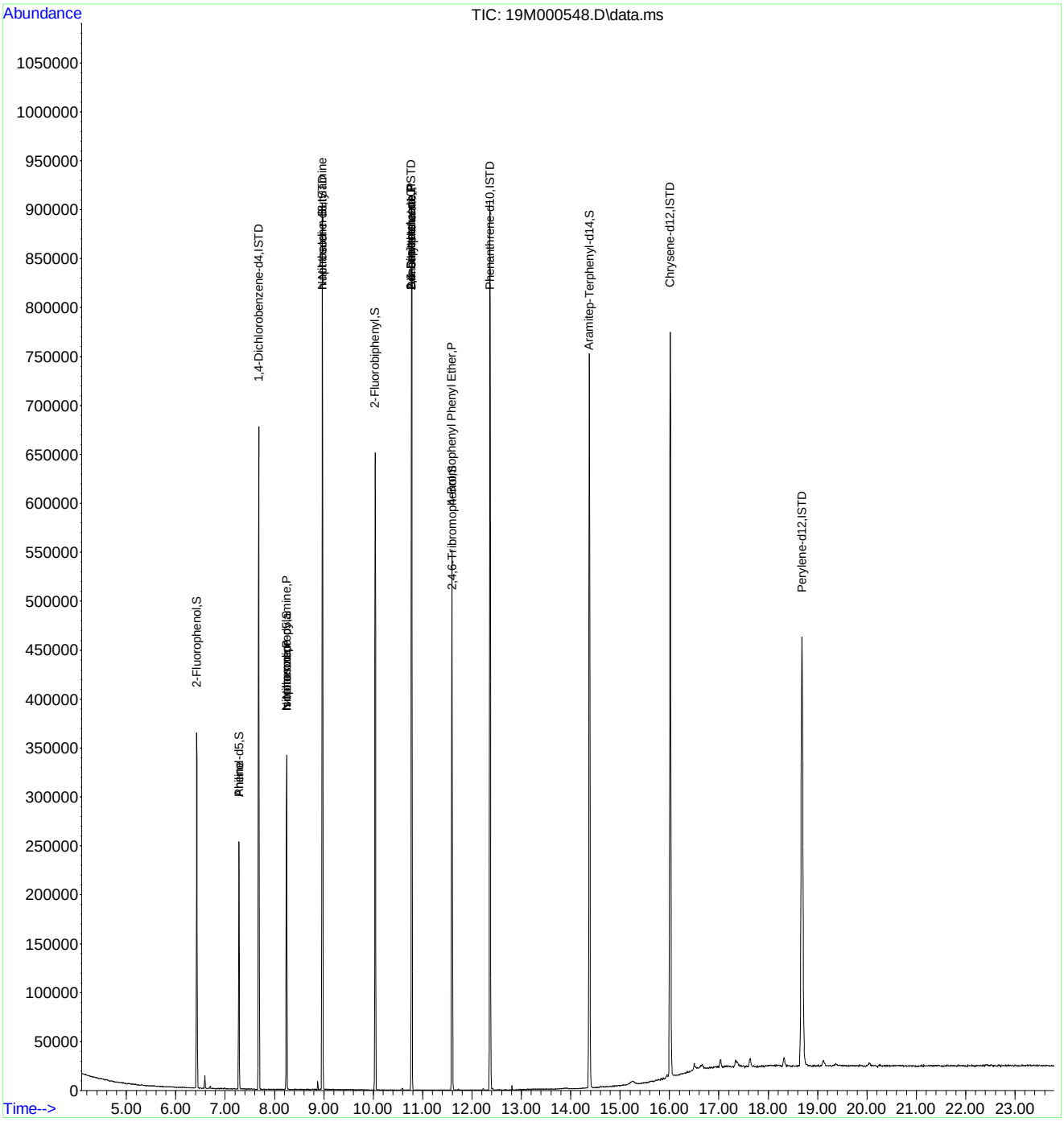
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 119540 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.969 | 136 | 472874 | 40.0000 | ug/mL | -0.0118 |
| 54) Acenaphthene-d10 | 10.775 | 164 | 236665 | 40.0000 | ug/mL | -0.0177 |
| 87) Phenanthrene-d10 | 12.363 | 188 | 448448 | 40.0000 | ug/mL | -0.0177 |
| 113) Chrysene-d12 | 16.015 | 240 | 431825 | 40.0000 | ug/mL | -0.0236 |
| 128) Perylene-d12 | 18.686 | 264 | 425560 | 40.0000 | ug/mL | -0.0294 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.422 | 112 | 128193 | 33.0057 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.281 | 99 | 98912 | 21.6748 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.245 | 82 | 115927 | 29.6298 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.039 | 172 | 237375 | 28.9163 | ug/mL | -0.0118 |
| 86) 2,4,6-Tribromophenol | 11.598 | 330 | 69105 | 71.3043 | ug/mL | -0.0118 |
| 117) p-Terphenyl-d14 | 14.380 | 244 | 362357 | 41.4856 | ug/mL | -0.0118 |
| Target Compounds | | | | | | Qvalue |
| 11) Aniline | 7.281 | 66 | 4633 | 1.983 | ug/mL# | 1 |
| 25) n-Nitrosodipropylamine | 8.245 | 70 | 15440 | 6.010 | ug/mL# | 47 |
| 34) Isophorone | 8.245 | 82 | 115927 | 15.624 | ug/mL# | 61 |
| 48) n-Nitrosodi-n-Butylamine | 8.969 | 84 | 10299 | 3.117 | ug/mL# | 17 |
| 65) Dimethylphthalate | 10.780 | 163 | 67264 | 7.835 | ug/mL# | 1 |
| 67) 2,6-Dinitrotoluene | 10.775 | 165 | 30651 | 15.306 | ug/mL# | 24 |
| 73) 2,4-Dinitrotoluene | 10.775 | 165 | 30651 | 11.878 | ug/mL# | 12 |
| 95) 4-Bromophenyl Phenyl E... | 11.592 | 248 | 4220 | 1.831 | ug/mL# | 1 |
| 116) Aramite | 14.374 | 185 | 428 | 2.574 | ug/mL# | 33 |

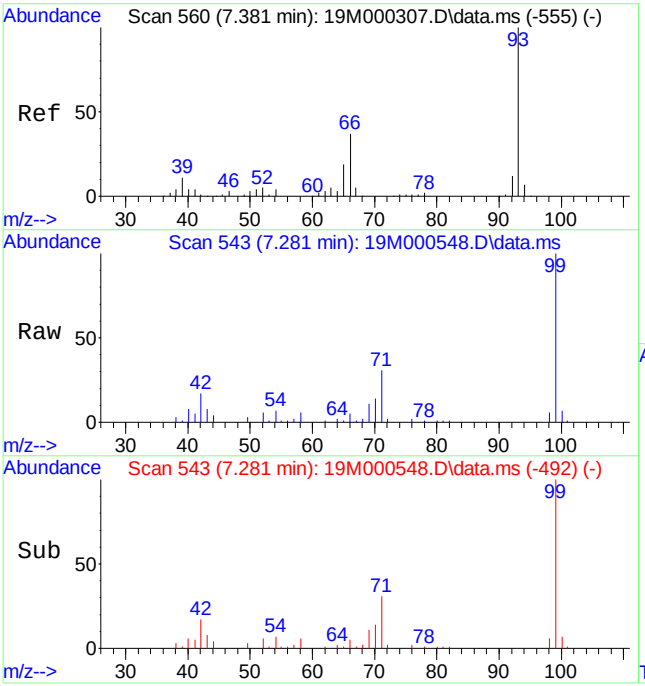
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000548.D Vial: 10
Acq On : 13 Sep 2017 5:59 pm Operator: SCB
Sample : L17081498-07 RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:11:13 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

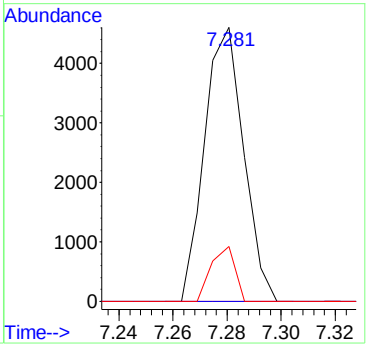


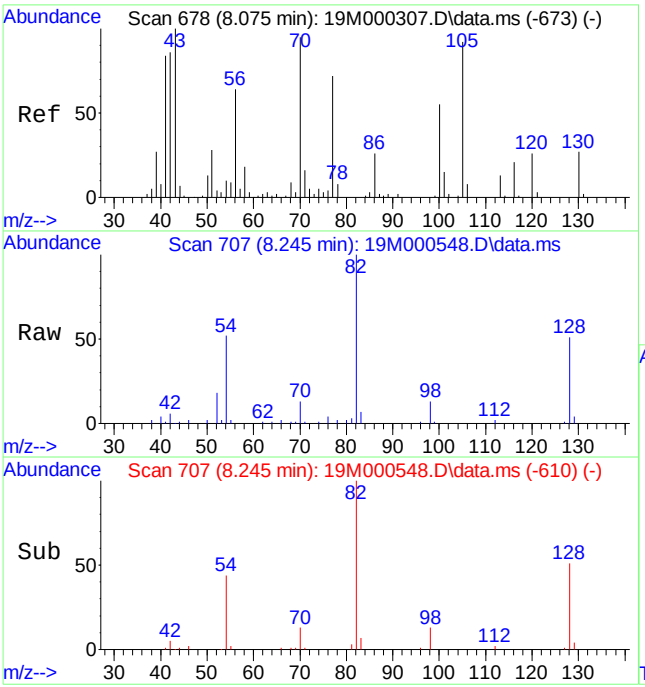



#11
Aniline
Concen: 1.98 ug/mL
RT: 7.281 min Scan# 543
Delta R.T. -0.100 min
Lab File: 19M000548.D
Acq: 13 Sep 2017 5:59 pm

Tgt Ion: 66 Resp: 4633

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 66 | 100 | | |
| 93 | 0.0 | 161.8 | 377.6# |
| 65 | 12.2 | 31.4 | 73.4# |

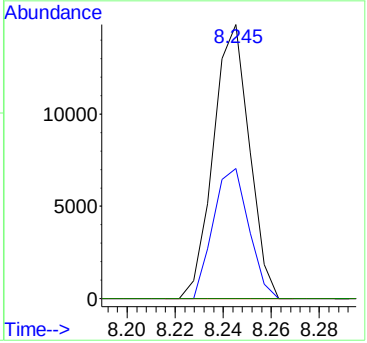


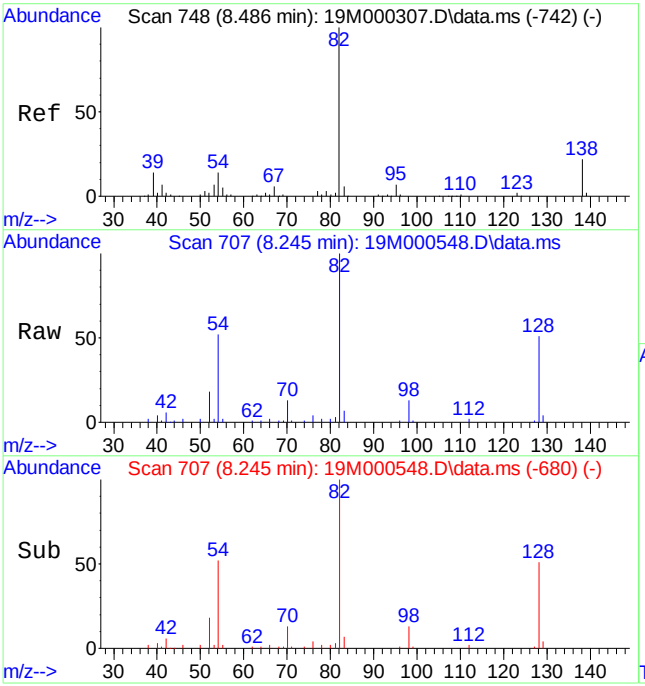




#25
n-Nitrosodipropylamine
Concen: 6.01 ug/mL
RT: 8.245 min Scan# 707
Delta R.T. 0.171 min
Lab File: 19M000548.D
Acq: 13 Sep 2017 5:59 pm

Tgt Ion: 70 Resp: 15440

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 70 | 100 | | |
| 42 | 46.9 | 61.9 | 144.3# |
| 101 | 0.0 | 9.7 | 22.5# |
| 130 | 0.0 | 17.3 | 40.5# |

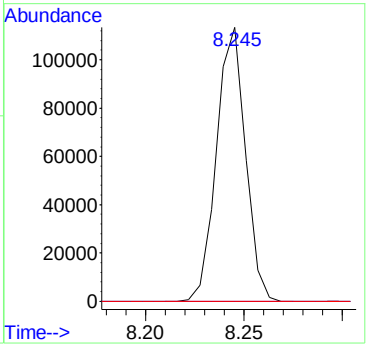


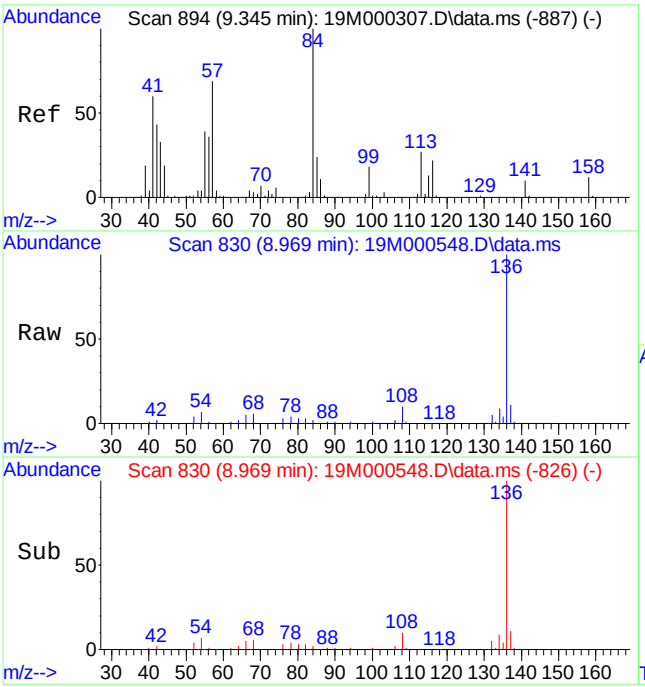



#34
Isophorone
Concen: 15.62 ug/mL
RT: 8.245 min Scan# 707
Delta R.T. -0.241 min
Lab File: 19M000548.D
Acq: 13 Sep 2017 5:59 pm

Tgt Ion: 82 Resp: 115927

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 82 | 100 | | |
| 95 | 0.0 | 4.3 | 9.9# |
| 138 | 0.0 | 12.8 | 29.8# |

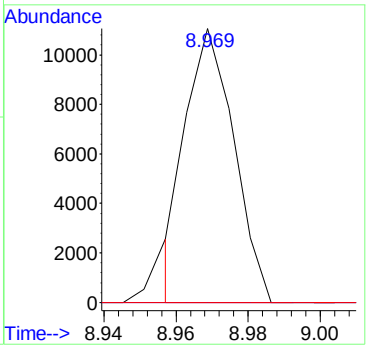


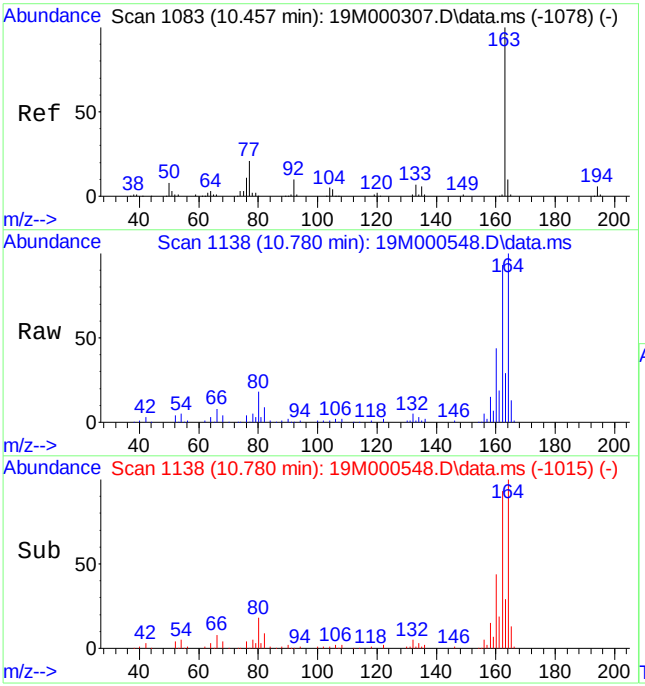




#48
n-Nitrosodi-n-Butylamine
Concen: 3.12 ug/mL
RT: 8.969 min Scan# 830
Delta R.T. -0.376 min
Lab File: 19M000548.D
Acq: 13 Sep 2017 5:59 pm

Tgt Ion: 84 Resp: 10299

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 57 | 0.0 | 52.2 | 78.2# |
| 41 | 0.0 | 54.5 | 81.7# |

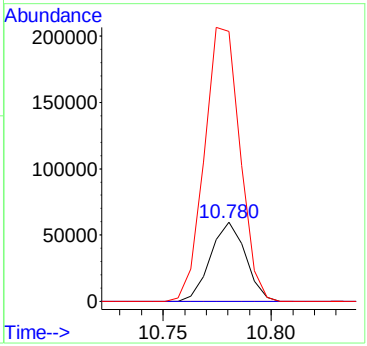


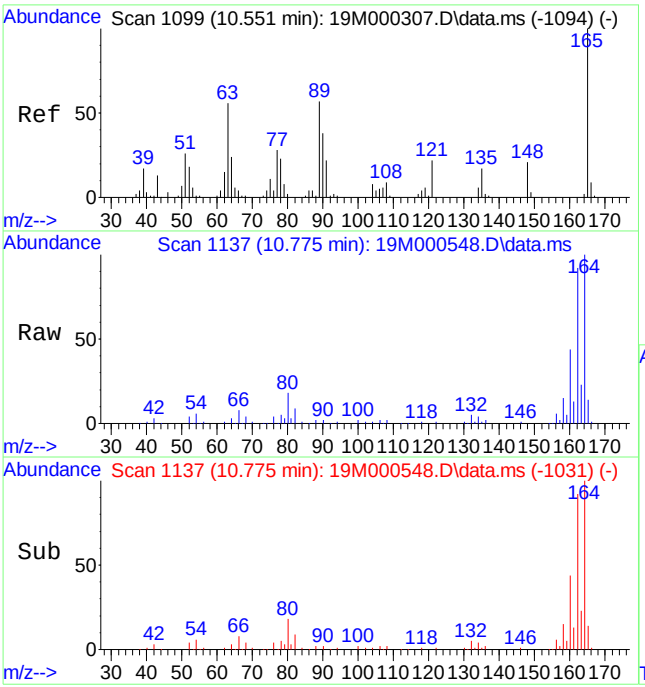



#65
Dimethylphthalate
Concen: 7.84 ug/mL
RT: 10.780 min Scan# 1138
Delta R.T. 0.323 min
Lab File: 19M000548.D
Acq: 13 Sep 2017 5:59 pm

Tgt Ion:163 Resp: 67264

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 163 | 100 | | |
| 194 | 0.0 | 3.6 | 8.4# |
| 164 | 351.8 | 6.1 | 14.1# |

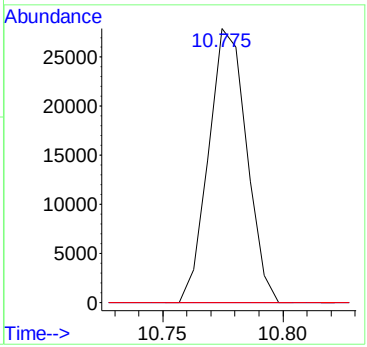


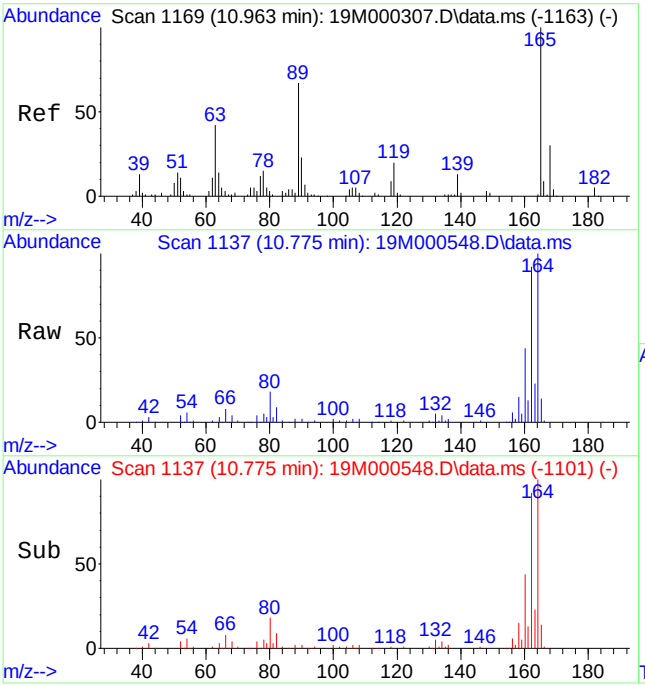




#67
2,6-Dinitrotoluene
Concen: 15.31 ug/mL
RT: 10.775 min Scan# 1137
Delta R.T. 0.223 min
Lab File: 19M000548.D
Acq: 13 Sep 2017 5:59 pm

Tgt Ion:165 Resp: 30651

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 165 | 100 | | |
| 63 | 0.0 | 33.3 | 77.7# |
| 89 | 0.0 | 33.2 | 77.6# |

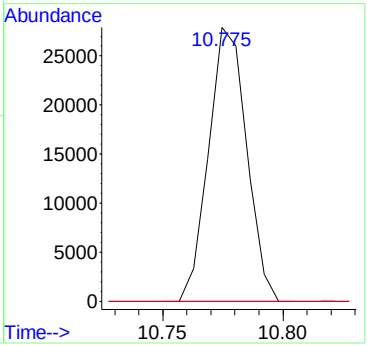


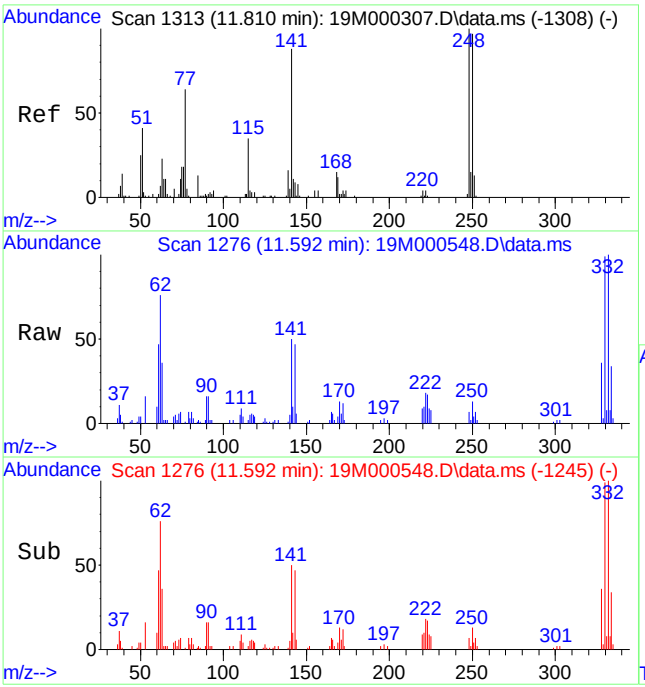



#73
2,4-Dinitrotoluene
Concen: 11.88 ug/mL
RT: 10.775 min Scan# 1137
Delta R.T. -0.188 min
Lab File: 19M000548.D
Acq: 13 Sep 2017 5:59 pm

Tgt Ion:165 Resp: 30651

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 165 | 100 | | |
| 63 | 0.0 | 37.6 | 87.6# |
| 89 | 0.0 | 50.2 | 117.0# |

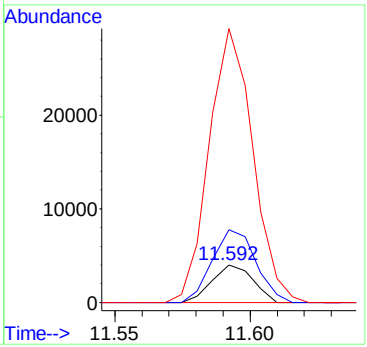


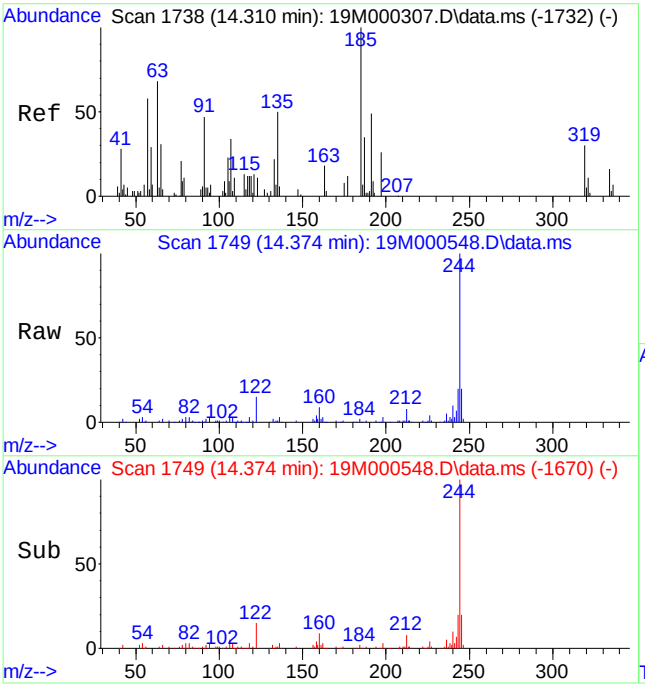




#95
4-Bromophenyl Phenyl Ether
Concen: 1.83 ug/mL
RT: 11.592 min Scan# 1276
Delta R.T. -0.218 min
Lab File: 19M000548.D
Acq: 13 Sep 2017 5:59 pm

Tgt Ion:248 Resp: 4220

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 248 | 100 | | |
| 250 | 206.2 | 58.0 | 135.2# |
| 141 | 775.5 | 51.6 | 120.4# |

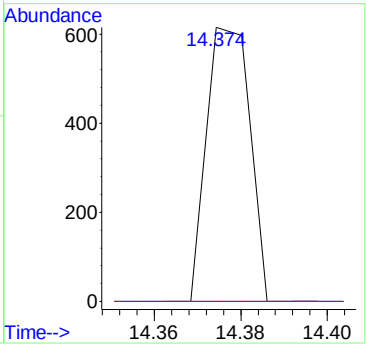





#116
Aramite
Concen: 2.57 ug/mL
RT: 14.374 min Scan# 1749
Delta R.T. 0.065 min
Lab File: 19M000548.D
Acq: 13 Sep 2017 5:59 pm

Tgt Ion:185 Resp: 428

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 185 | 100 | | |
| 191 | 0.0 | 41.6 | 62.4# |
| 319 | 0.0 | 24.2 | 36.2# |



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000548.D Vial: 10
Acq On : 13 Sep 2017 5:59 pm Operator: SCB
Sample : L17081498-07 RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:06:18 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

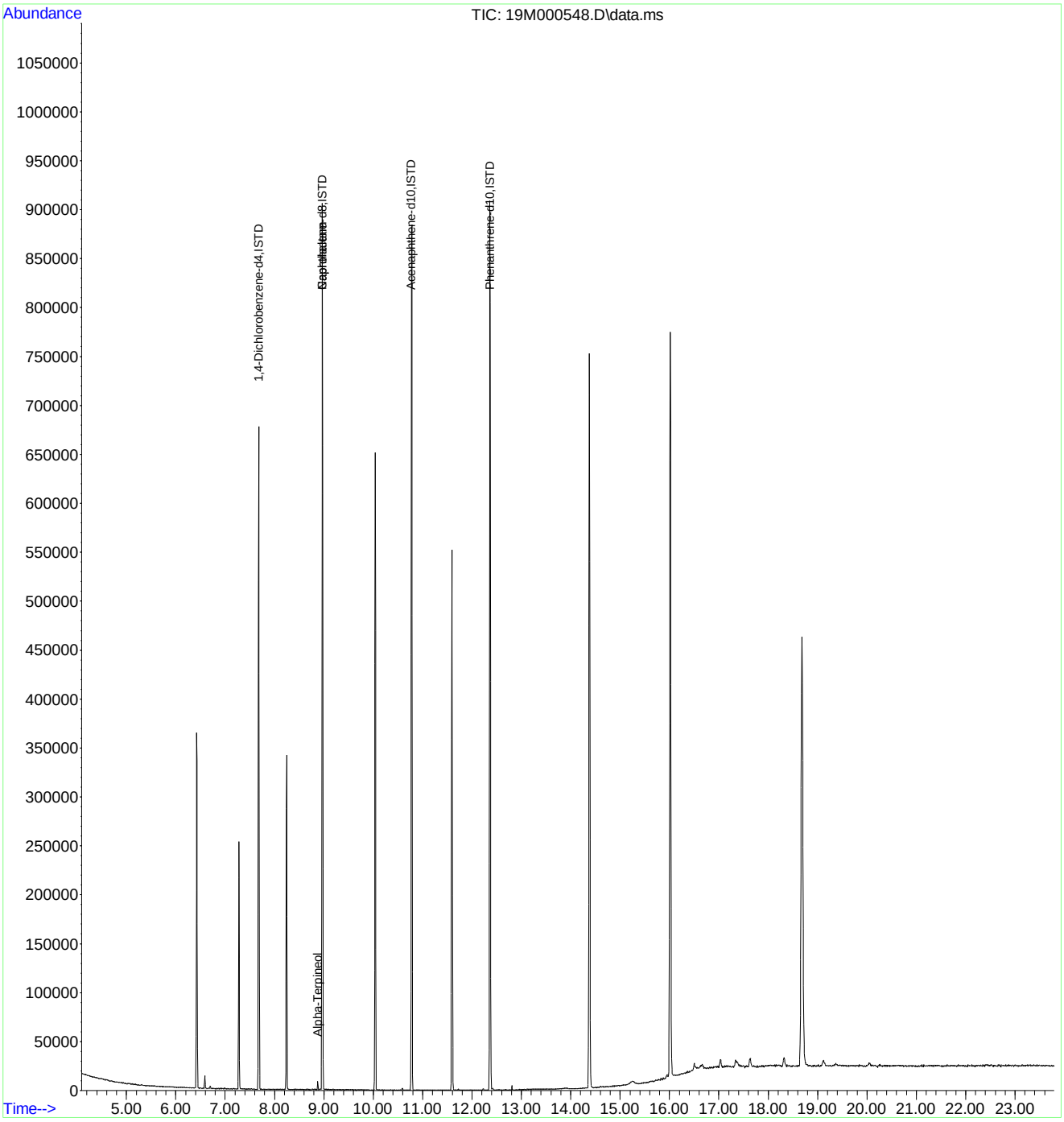
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 119540 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.969 | 136 | 472874 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.775 | 164 | 236665 | 40.0000 | ug/mL | -0.0118 |
| 8) Phenanthrene-d10 | 12.363 | 188 | 448448 | 40.0000 | ug/mL | -0.0118 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 4) Alpha-Terpineol | 8.875 | 59 | 402 | 0.131 | ug/mL# | 22 |
| 5) Caprolactam | 8.969 | 55 | 1023 | 2.020 | ug/mL# | 1 |

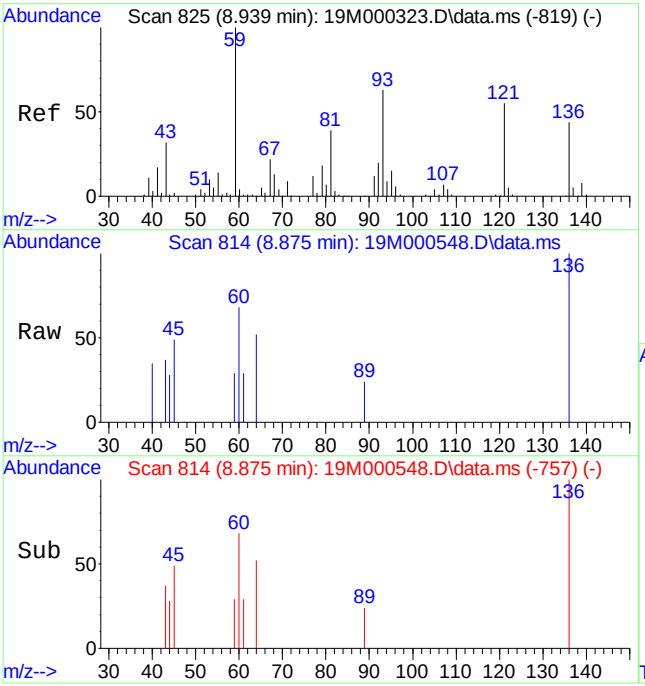
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000548.D Vial: 10
Acq On : 13 Sep 2017 5:59 pm Operator: SCB
Sample : L17081498-07 RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:06:18 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

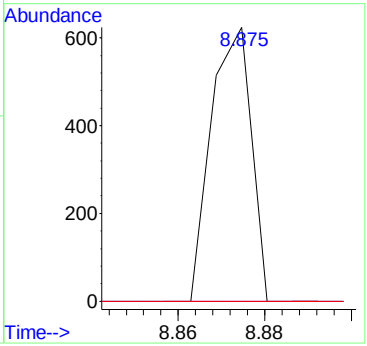


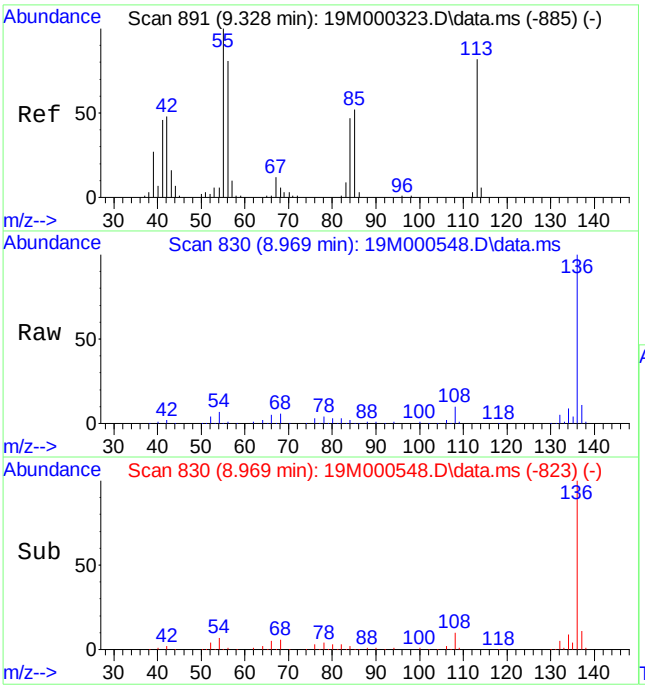



#4
Alpha-Terpineol
Concen: 0.13 ug/mL
RT: 8.875 min Scan# 814
Delta R.T. -0.064 min
Lab File: 19M000548.D
Acq: 13 Sep 2017 5:59 pm

Tgt Ion: 59 Resp: 402

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 59 | 100 | | |
| 93 | 0.0 | 36.9 | 86.1# |
| 121 | 0.0 | 31.5 | 73.5# |

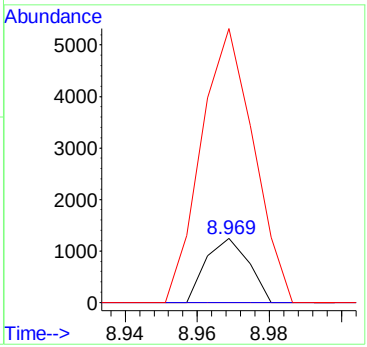



#5
Caprolactam
Concen: 2.02 ug/mL
RT: 8.969 min Scan# 830
Delta R.T. -0.359 min
Lab File: 19M000548.D
Acq: 13 Sep 2017 5:59 pm

Tgt Ion: 55 Resp: 1023

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 55 | 100 | | |
| 113 | 0.0 | 63.4 | 95.0# |
| 56 | 527.5 | 64.3 | 96.5# |



Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 01 09:08:46 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

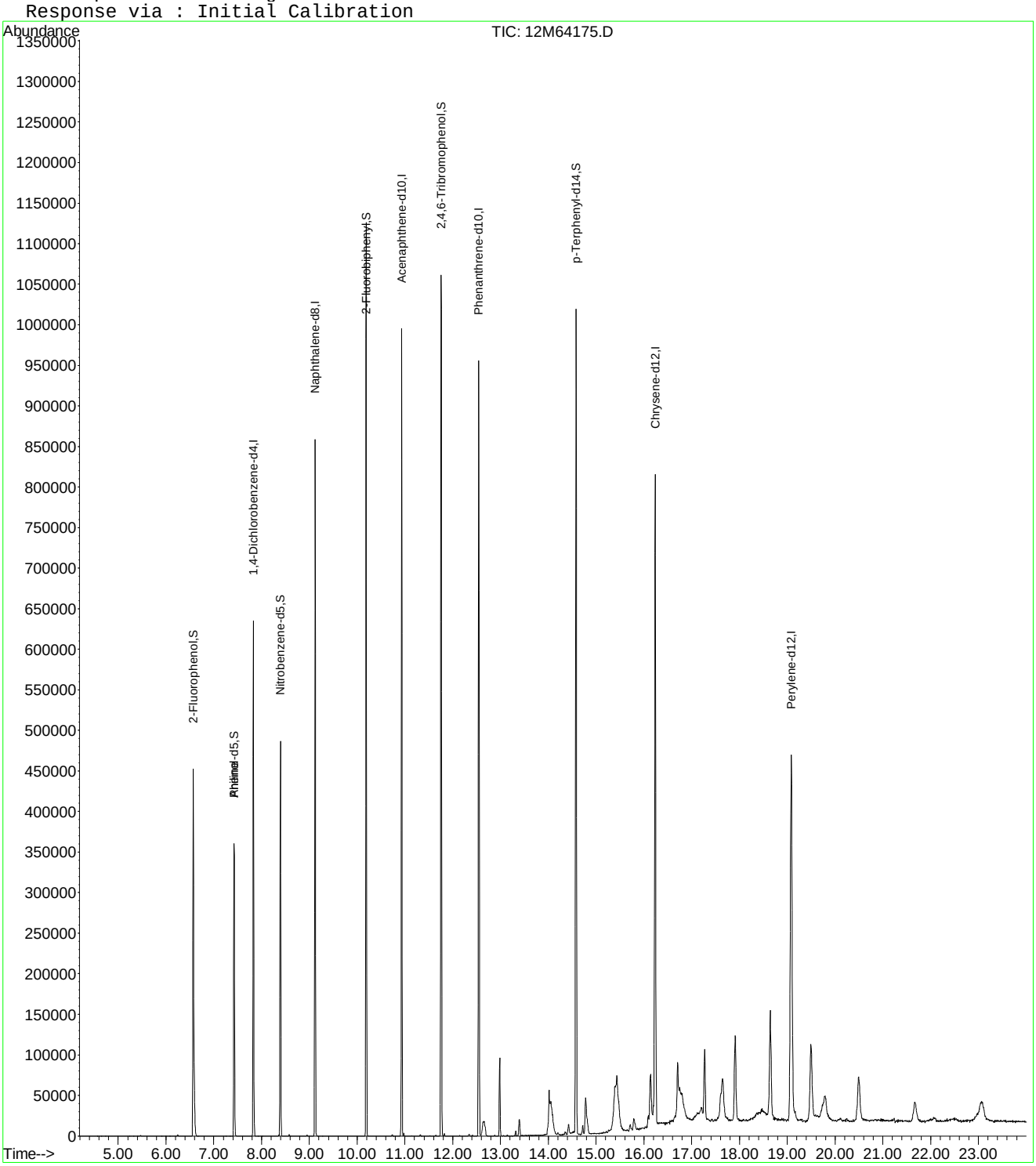
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.828 | 152 | 110599 | 40.0000 | ug/ml | 0.000 |
| 30) Naphthalene-d8 | 9.121 | 136 | 417493 | 40.0000 | ug/ml | 0.000 |
| 54) Acenaphthene-d10 | 10.932 | 164 | 227163 | 40.0000 | ug/ml | 0.000 |
| 87) Phenanthrene-d10 | 12.546 | 188 | 447437 | 40.0000 | ug/ml | -0.011 |
| 113) Chrysene-d12 | 16.237 | 240 | 434404 | 40.0000 | ug/ml | -0.011 |
| 128) Perylene-d12 | 19.084 | 264 | 428688 | 40.0000 | ug/ml | -0.016 |
| **System Monitoring Compounds** | | | | | | |
| 8) 2-Fluorophenol | 6.573 | 112 | 174720 | 51.8716968 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 21 - 100 | | Recovery = 51.87% | | | |
| 12) Phenol-d5 | 7.422 | 99 | 140652 | 32.6616737 | ug/ml | -0.01 |
| Spiked Amount 100.000 | Range 10 - 94 | | Recovery = 32.66% | | | |
| 31) Nitrobenzene-d5 | 8.395 | 82 | 175741 | 42.1818838 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 35 - 114 | | Recovery = 84.36% | | | |
| 59) 2-Fluorobiphenyl | 10.190 | 172 | 382794 | 48.5365736 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 43 - 116 | | Recovery = 97.07% | | | |
| 86) 2,4,6-Tribromophenol | 11.760 | 330 | 136698 | 114.2494285 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 123 | | Recovery = 114.25% | | | |
| 117) p-Terphenyl-d14 | 14.581 | 244 | 441853 | 47.2478406 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 33 - 141 | | Recovery = 94.50% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 11) Aniline | 7.42 | 66 | 8801 | 3.9264 | ug/ml# | 1 |

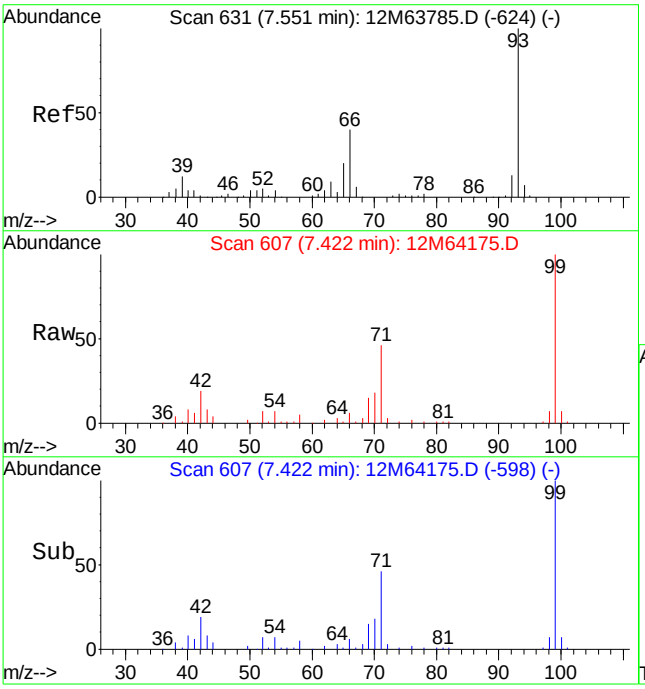
(#) = qualifier out of range (m) = manual integration (+) = signals summed
12M64175.D MEGAMIX.M Fri Sep 01 09:08:48 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 1 9:08 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

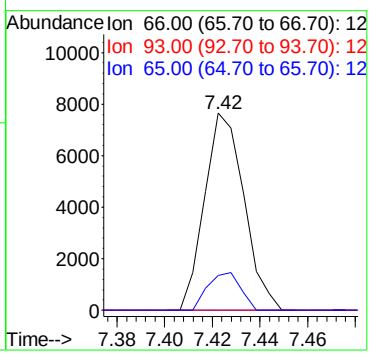





#11
Aniline
Concen: 3.9264 ug/ml
RT: 7.42 min Scan# 607
Delta R.T. -0.10 min
Lab File: 12M64175.D
Acq: 31 Aug 2017 3:04 pm

Tgt Ion: 66 Resp: 8801

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 66 | 100 | | |
| 93 | 0.0 | 231.9 | 541.1# |
| 65 | 15.9 | 48.5 | 113.1# |



LSC Area Percent Report

Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 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

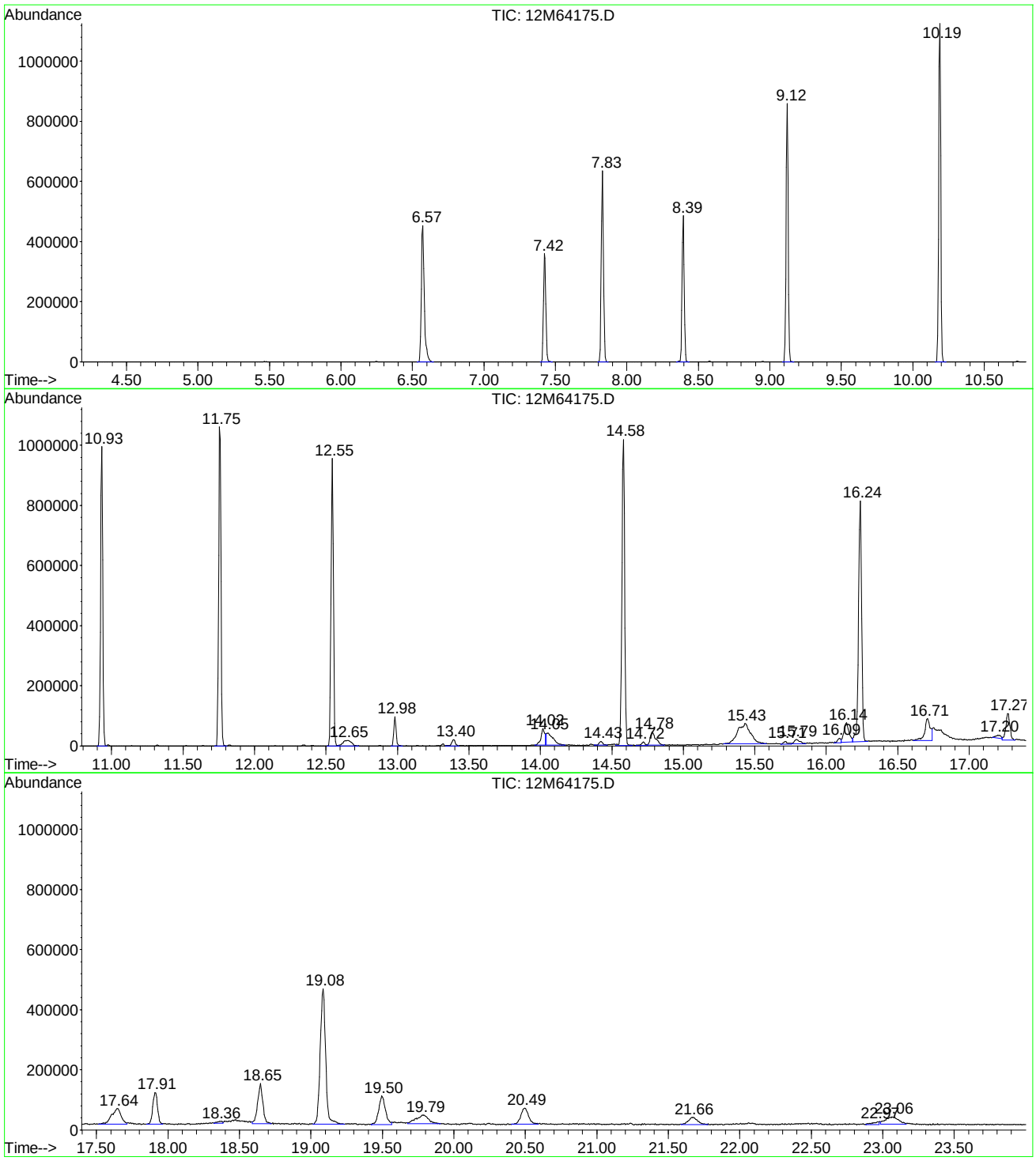
If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

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 | 441 | 448 | 461 | rBB | 452646 | 621043 | 45.76% | 4.189% |
| 2 | 7.422 | 602 | 607 | 617 | rBB | 360552 | 408058 | 30.07% | 2.752% |
| 3 | 7.828 | 677 | 683 | 690 | rBB | 635112 | 685776 | 50.53% | 4.625% |
| 4 | 8.395 | 780 | 789 | 796 | rBB | 486856 | 505821 | 37.27% | 3.412% |
| 5 | 9.121 | 919 | 925 | 933 | rBB | 858674 | 868101 | 63.97% | 5.855% |
| 6 | 10.190 | 1119 | 1125 | 1132 | rBB | 1126309 | 1128345 | 83.14% | 7.610% |
| 7 | 10.932 | 1258 | 1264 | 1270 | rBB | 995641 | 1026764 | 75.66% | 6.925% |
| 8 | 11.755 | 1412 | 1418 | 1427 | rBB | 1061444 | 1198636 | 88.32% | 8.084% |
| 9 | 12.546 | 1559 | 1566 | 1574 | rBV | 956029 | 1122637 | 82.72% | 7.572% |
| 10 | 12.647 | 1574 | 1585 | 1599 | rVB3 | 18312 | 71540 | 5.27% | 0.483% |
| 11 | 12.984 | 1643 | 1648 | 1657 | rBB | 96624 | 106127 | 7.82% | 0.716% |
| 12 | 13.395 | 1714 | 1725 | 1731 | rVB | 20464 | 33524 | 2.47% | 0.226% |
| 13 | 14.020 | 1831 | 1842 | 1845 | rBV4 | 55195 | 108703 | 8.01% | 0.733% |
| 14 | 14.052 | 1846 | 1848 | 1870 | rVB3 | 40857 | 125734 | 9.26% | 0.848% |
| 15 | 14.426 | 1909 | 1918 | 1925 | rBV | 12385 | 24542 | 1.81% | 0.166% |
| 16 | 14.581 | 1937 | 1947 | 1958 | rVB | 1018448 | 1357140 | 100.00% | 9.153% |
| 17 | 14.720 | 1963 | 1973 | 1978 | rBV5 | 11748 | 20054 | 1.48% | 0.135% |
| 18 | 14.784 | 1978 | 1985 | 2000 | rVB2 | 44690 | 115509 | 8.51% | 0.779% |
| 19 | 15.430 | 2078 | 2106 | 2133 | rBV | 68085 | 428403 | 31.57% | 2.889% |
| 20 | 15.714 | 2153 | 2159 | 2167 | rBV5 | 8786 | 19095 | 1.41% | 0.129% |
| 21 | 15.788 | 2167 | 2173 | 2185 | rVV4 | 14457 | 38832 | 2.86% | 0.262% |
| 22 | 16.093 | 2223 | 2230 | 2232 | rBV4 | 15460 | 24595 | 1.81% | 0.166% |
| 23 | 16.141 | 2232 | 2239 | 2247 | rVV2 | 64716 | 165032 | 12.16% | 1.113% |
| 24 | 16.237 | 2247 | 2257 | 2266 | rVB | 801042 | 1225676 | 90.31% | 8.267% |
| 25 | 16.707 | 2327 | 2345 | 2351 | rBV2 | 73657 | 206672 | 15.23% | 1.394% |
| 26 | 17.199 | 2430 | 2437 | 2443 | rVV7 | 8388 | 23258 | 1.71% | 0.157% |
| 27 | 17.268 | 2443 | 2450 | 2459 | rVB | 87171 | 171146 | 12.61% | 1.154% |
| 28 | 17.642 | 2496 | 2520 | 2533 | rBV6 | 51997 | 245766 | 18.11% | 1.658% |
| 29 | 17.909 | 2559 | 2570 | 2580 | rBV2 | 104323 | 242967 | 17.90% | 1.639% |
| 30 | 18.358 | 2647 | 2654 | 2659 | rBV9 | 5864 | 14915 | 1.10% | 0.101% |
| 31 | 18.646 | 2697 | 2708 | 2721 | rVB | 134997 | 337955 | 24.90% | 2.279% |
| 32 | 19.084 | 2777 | 2790 | 2817 | rBV2 | 451464 | 1191647 | 87.81% | 8.037% |
| 33 | 19.496 | 2853 | 2867 | 2880 | rBV3 | 95090 | 302641 | 22.30% | 2.041% |
| 34 | 19.790 | 2901 | 2922 | 2943 | rVB8 | 28733 | 171771 | 12.66% | 1.159% |
| 35 | 20.495 | 3037 | 3054 | 3071 | rBV3 | 54596 | 201435 | 14.84% | 1.359% |
| 36 | 21.665 | 3259 | 3273 | 3293 | rVB5 | 24246 | 110320 | 8.13% | 0.744% |
| 37 | 22.968 | 3501 | 3517 | 3518 | rBV8 | 9183 | 27175 | 2.00% | 0.183% |
| 38 | 23.064 | 3520 | 3535 | 3553 | rVB10 | 23594 | 149314 | 11.00% | 1.007% |

Sum of corrected areas: 14826669

File : I:\MSDCHEM\1\DATA\083117\12M64175.D
Operator : SCB
Acquired : 31 Aug 2017 3:04 pm using AcqMethod BNARUN
Instrument : MSD12
Sample Name: L17081498-09
Misc Info : 1,1
Vial Number: 12
Quant File :MEGAMIX.RES (RTE Integrator)



Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

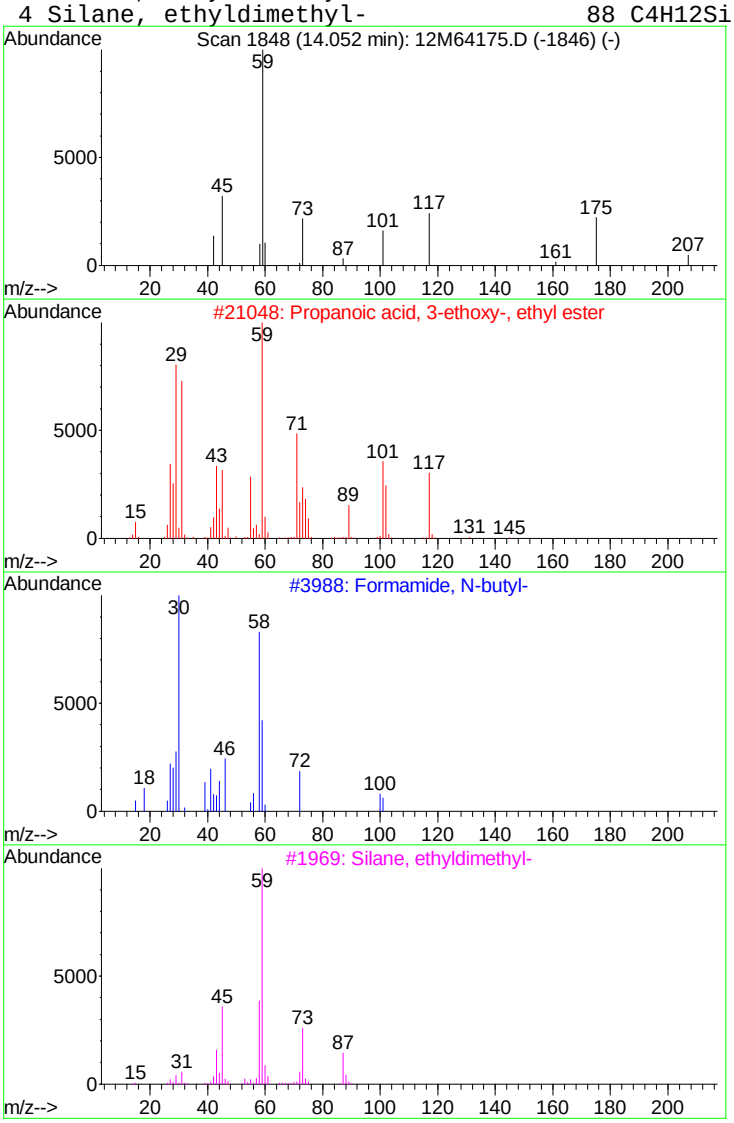
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

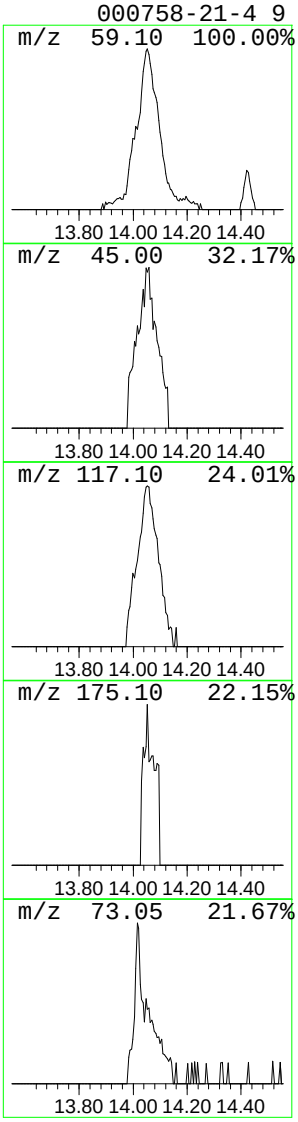
**********

Peak Number 1 Propanoic acid, 3-ethoxy-, ... Concentration Rank 12

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.05 | 4.48 ug/ml | 125734 | Phenanthrene-d10 | 12.55 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Propanoic acid, 3-ethoxy-, ethyl... | 146 | C7H14O3 | 000763-69-9 | 39 |
| 2 | Formamide, N-butyl- | 101 | C5H11NO | 000871-71-6 | 9 |
| 3 | Silane, ethyldimethyl- | 88 | C4H12Si | 000758-21-4 | 9 |
| 4 | Silane, ethyldimethyl- | 88 | C4H12Si | 000758-21-4 | 9 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

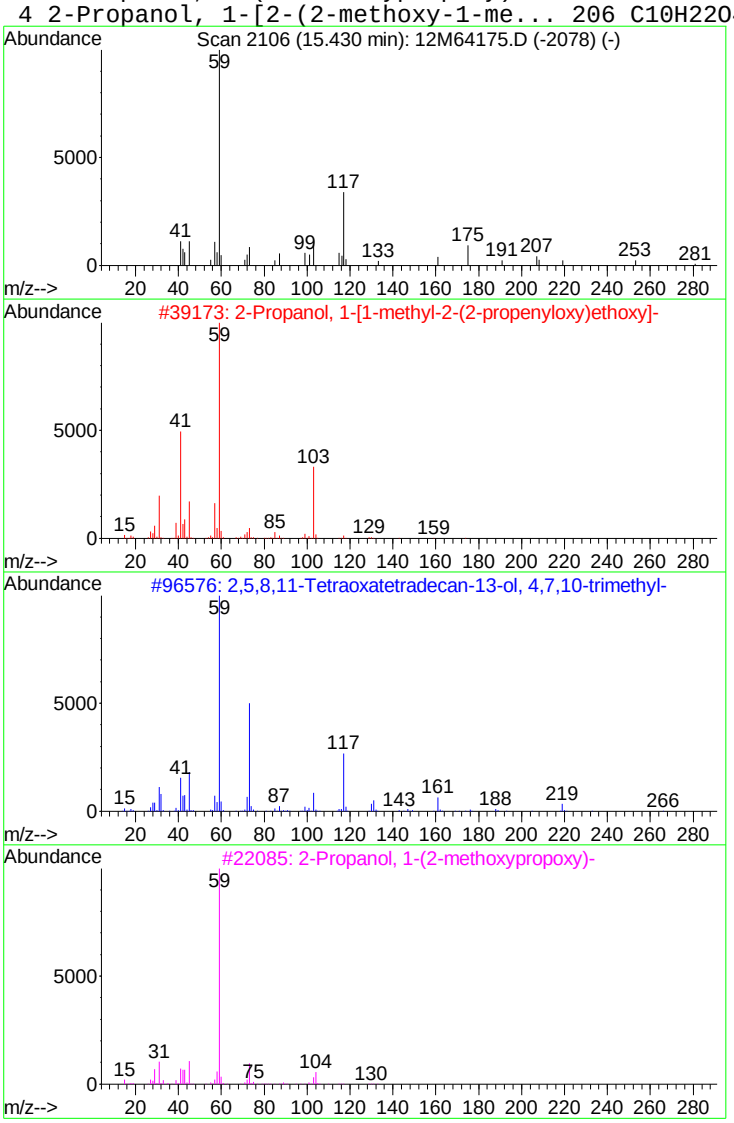
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

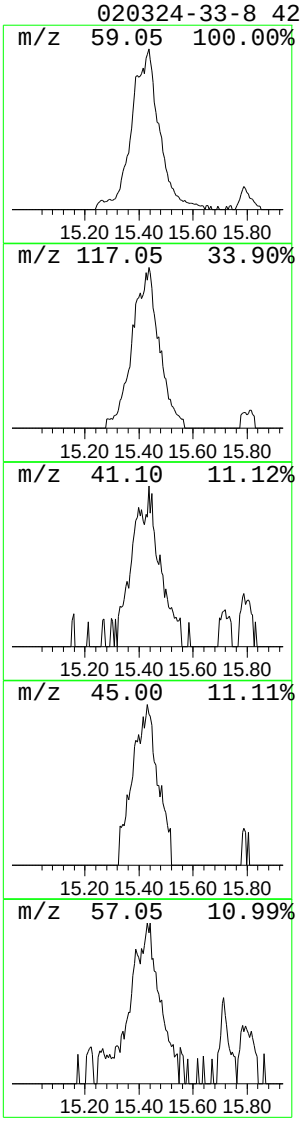
**********

Peak Number 2 2-Propanol, 1-[1-methyl-2-(... Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 15.43 | 13.98 ug/ml | 428403 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 2-Propanol, 1-[1-methyl-2-(2-pro... | 174 | C9H18O3 | 055956-25-7 | 47 |
| 2 | 2,5,8,11-Tetraoxatetradecan-13-o... | 264 | C13H28O5 | 020324-34-9 | 45 |
| 3 | 2-Propanol, 1-(2-methoxypropoxy)- | 148 | C7H16O3 | 013429-07-7 | 43 |
| 4 | 2-Propanol, 1-[2-(2-methoxy-1-me... | 206 | C10H22O4 | 020324-33-8 | 42 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

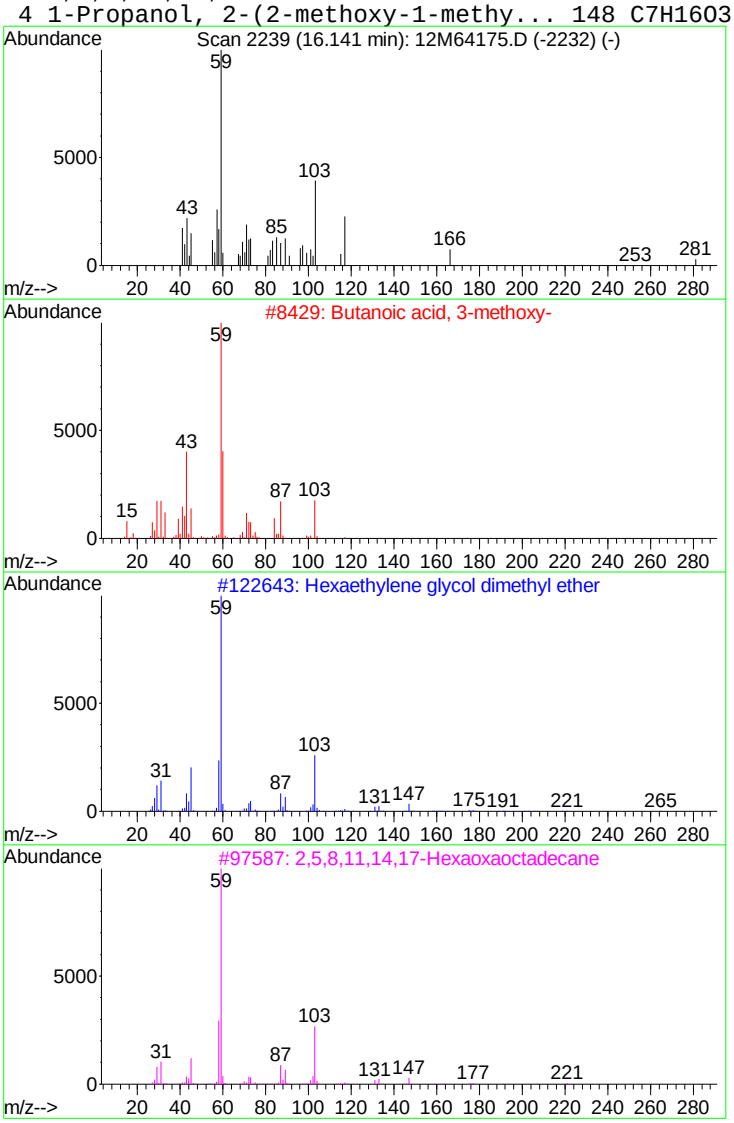
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

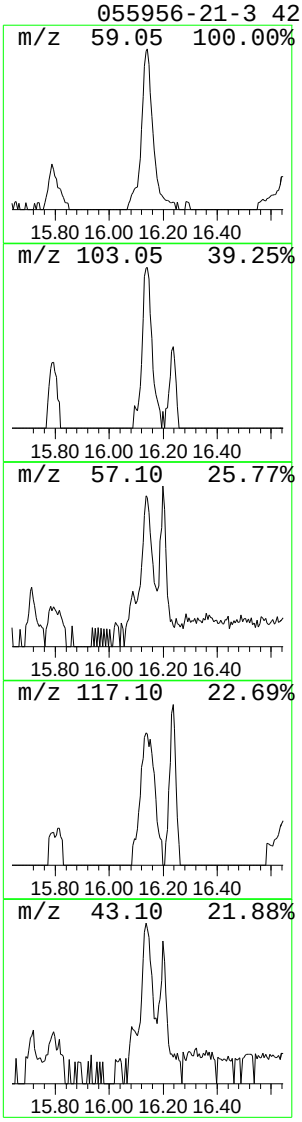
**********

Peak Number 3 Butanoic acid, 3-methoxy- Concentration Rank 10

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.14 | 5.39 ug/ml | 165032 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Butanoic acid, 3-methoxy- | 118 | C5H10O3 | 010024-70-1 | 53 |
| 2 | Hexaethylene glycol dimethyl ether | 310 | C14H30O7 | 001072-40-8 | 45 |
| 3 | 2,5,8,11,14,17-Hexaoxaoctadecane | 266 | C12H26O6 | 001191-87-3 | 42 |
| 4 | 1-Propanol, 2-(2-methoxy-1-methy... | 148 | C7H16O3 | 055956-21-3 | 42 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

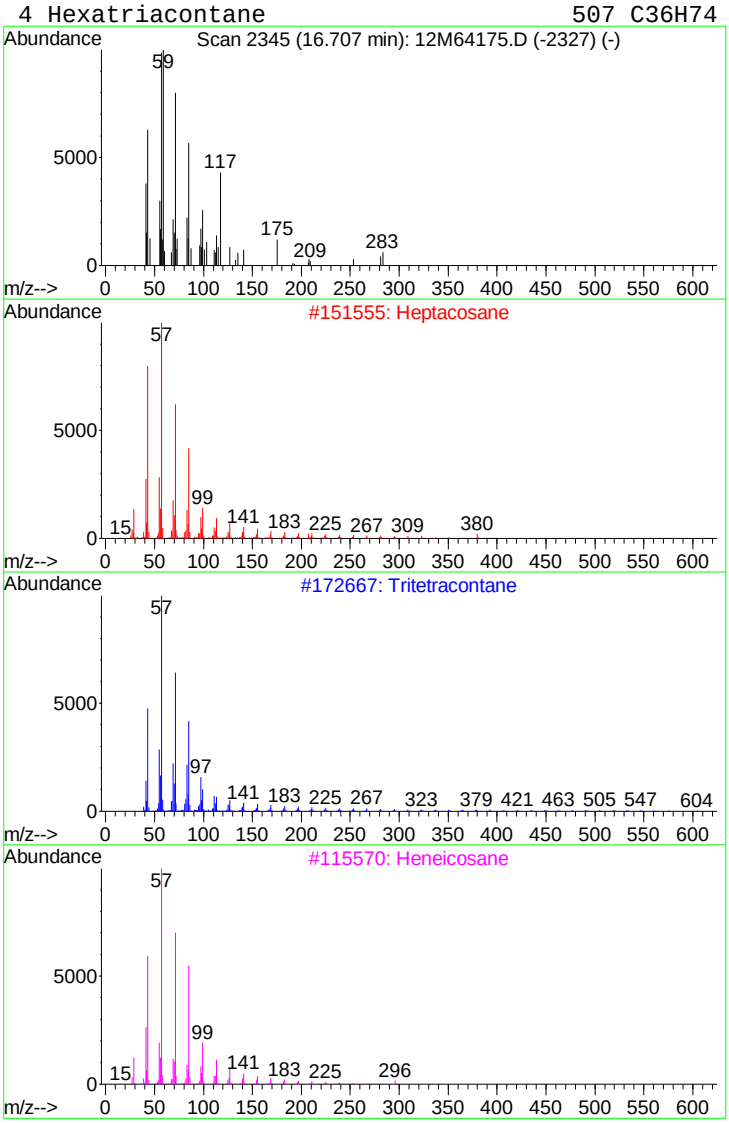
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

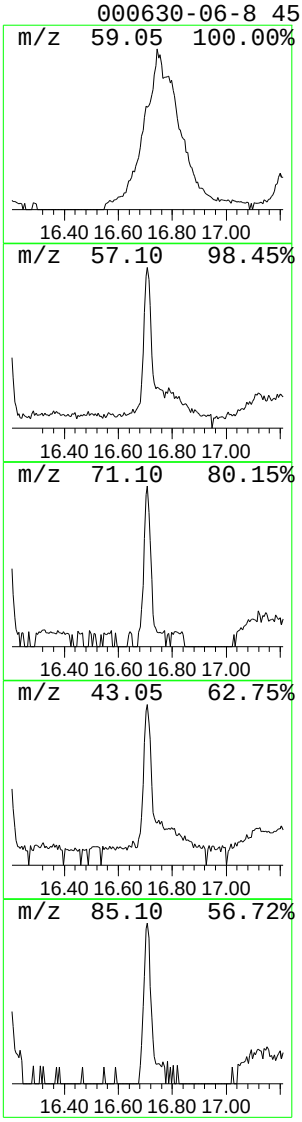
**********

Peak Number 4 Heptacosane Concentration Rank 7

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.71 | 6.74 ug/ml | 206672 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Heptacosane | 380 | C27H56 | 000593-49-7 | 45 |
| 2 | Tritetracontane | 605 | C43H88 | 007098-21-7 | 45 |
| 3 | Heneicosane | 296 | C21H44 | 000629-94-7 | 45 |
| 4 | Hexatriacontane | 507 | C36H74 | 000630-06-8 | 45 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

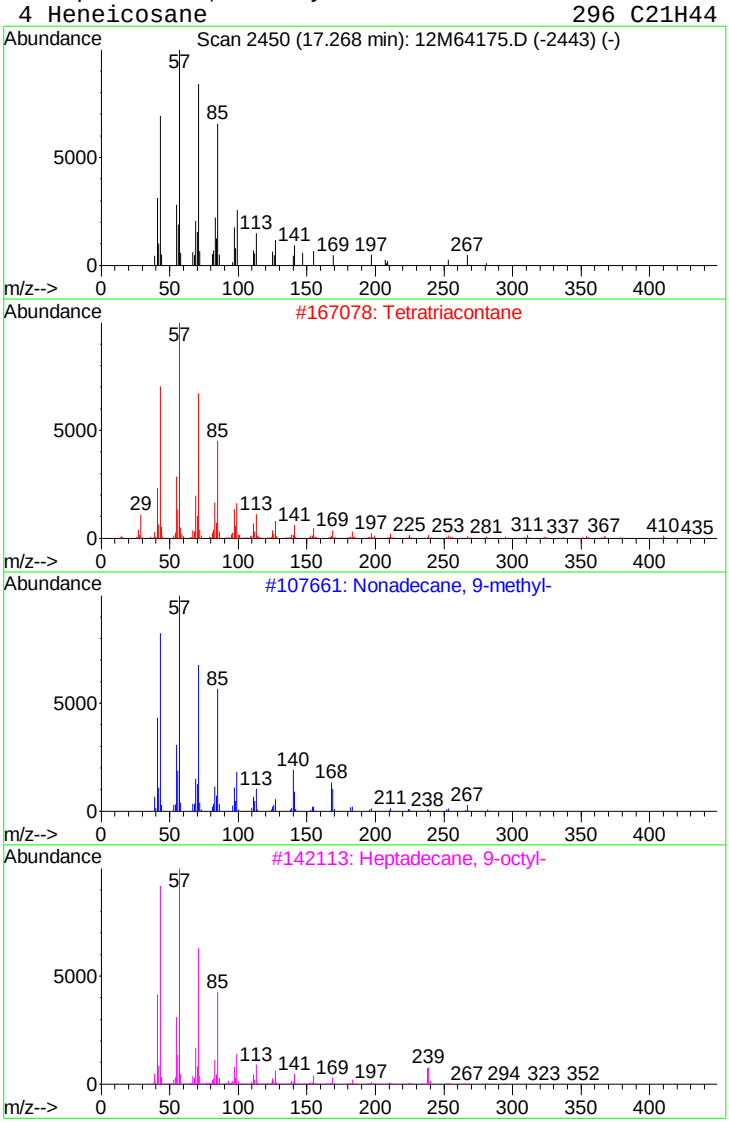
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

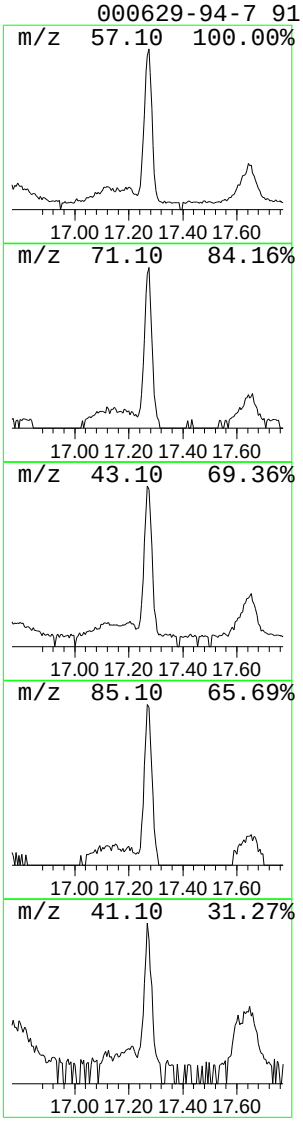
**********

Peak Number 5 Tetratriacontane Concentration Rank 9

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.27 | 5.59 ug/ml | 171146 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 2 | Nonadecane, 9-methyl- | 282 | C20H42 | 013287-24-6 | 91 |
| 3 | Heptadecane, 9-octyl- | 352 | C25H52 | 007225-64-1 | 91 |
| 4 | Heneicosane | 296 | C21H44 | 000629-94-7 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

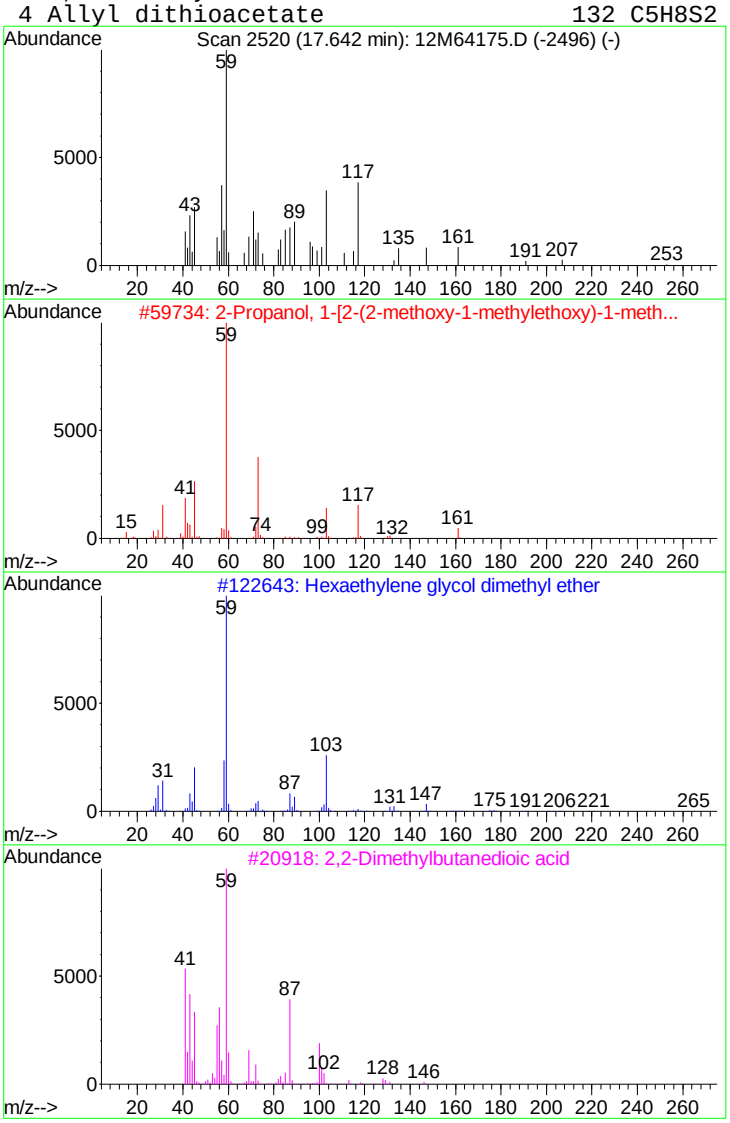
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

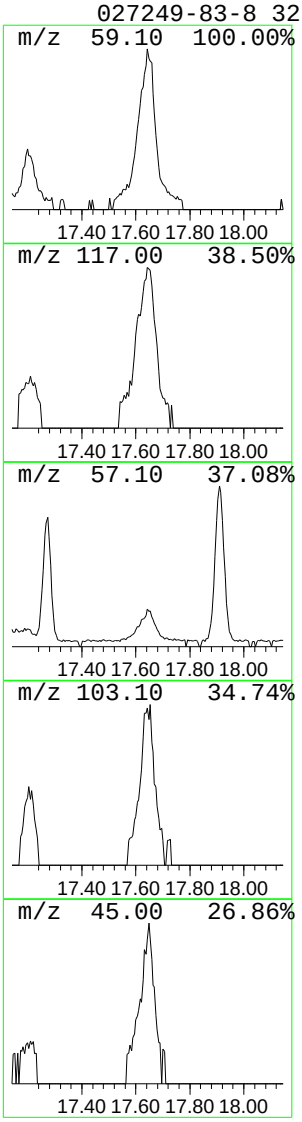
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Peak Number 6 2-Propanol, 1-[2-(2-methoxy... Concentration Rank 5

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.64 | 8.02 ug/ml | 245766 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 2-Propanol, 1-[2-(2-methoxy-1-me... | 206 | C10H22O4 | 020324-33-8 | 50 |
| 2 | Hexaethylene glycol dimethyl ether | 310 | C14H30O7 | 001072-40-8 | 37 |
| 3 | 2,2-Dimethylbutanedioic acid | 146 | C6H10O4 | 000597-43-3 | 35 |
| 4 | Allyl dithioacetate | 132 | C5H8S2 | 027249-83-8 | 32 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

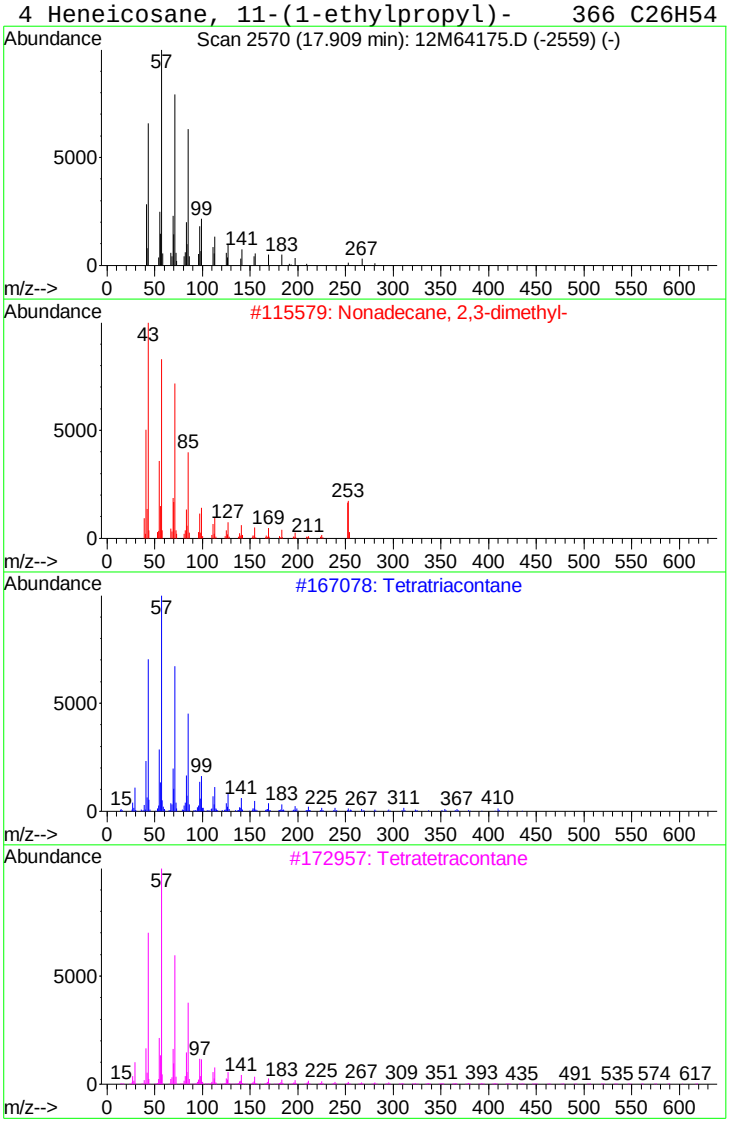
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

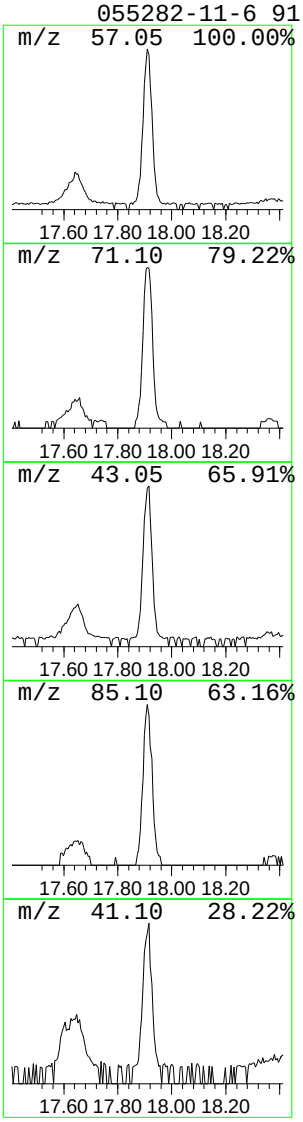
**********

Peak Number 7 Nonadecane, 2,3-dimethyl- Concentration Rank 4

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.91 | 8.16 ug/ml | 242967 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Nonadecane, 2,3-dimethyl- | 296 | C21H44 | 075163-99-4 | 91 |
| 2 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 3 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 91 |
| 4 | Heneicosane, 11-(1-ethylpropyl)- | 366 | C26H54 | 055282-11-6 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

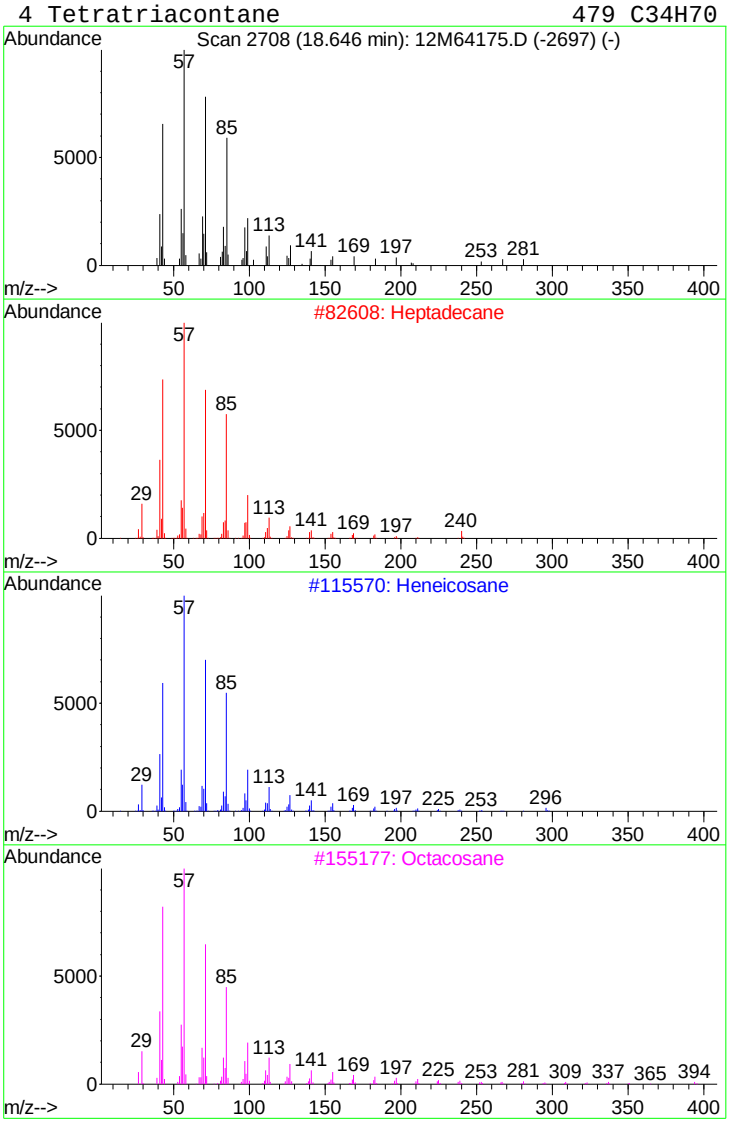
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

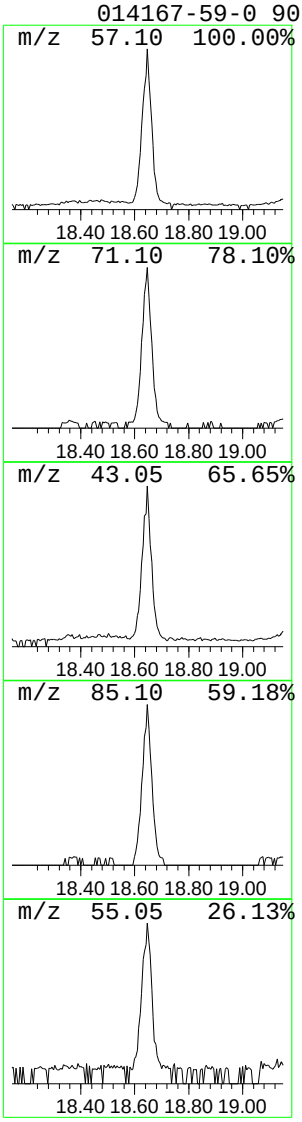
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Peak Number 8 Heptadecane Concentration Rank 2

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 18.65 | 11.34 ug/ml | 337955 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Heptadecane | 240 | C17H36 | 000629-78-7 | 91 |
| 2 | Heneicosane | 296 | C21H44 | 000629-94-7 | 91 |
| 3 | Octacosane | 394 | C28H58 | 000630-02-4 | 91 |
| 4 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 90 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

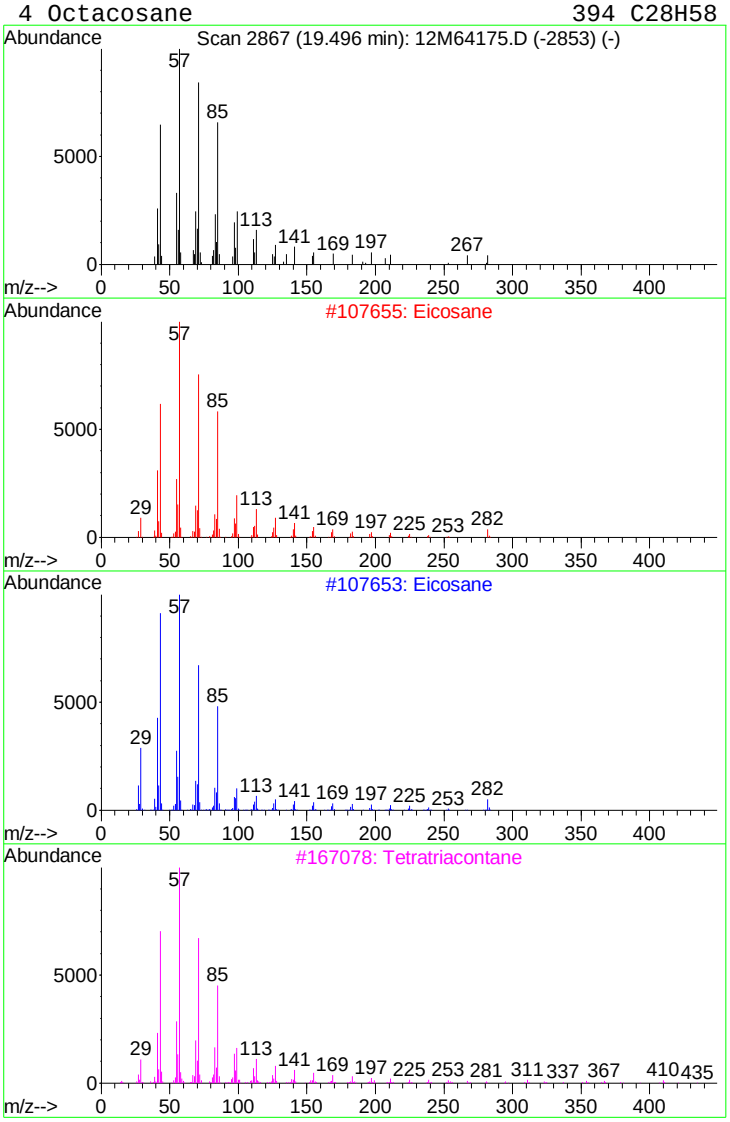
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

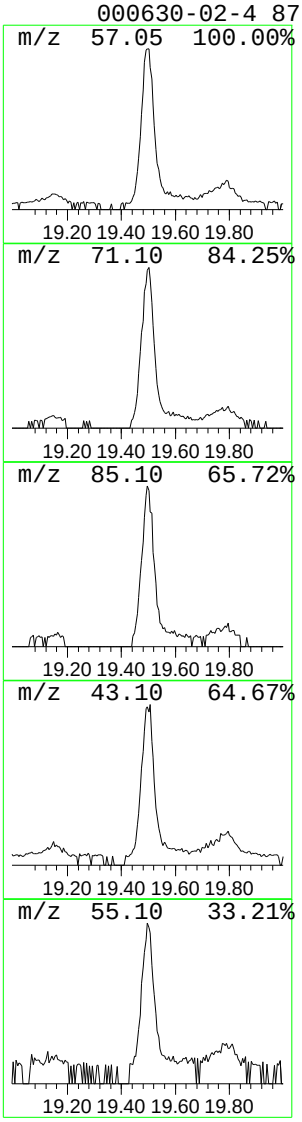
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Peak Number 9 Eicosane Concentration Rank 3

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 19.50 | 10.16 ug/ml | 302641 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Eicosane | 282 | C20H42 | 000112-95-8 | 97 |
| 2 | Eicosane | 282 | C20H42 | 000112-95-8 | 94 |
| 3 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 90 |
| 4 | Octacosane | 394 | C28H58 | 000630-02-4 | 87 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

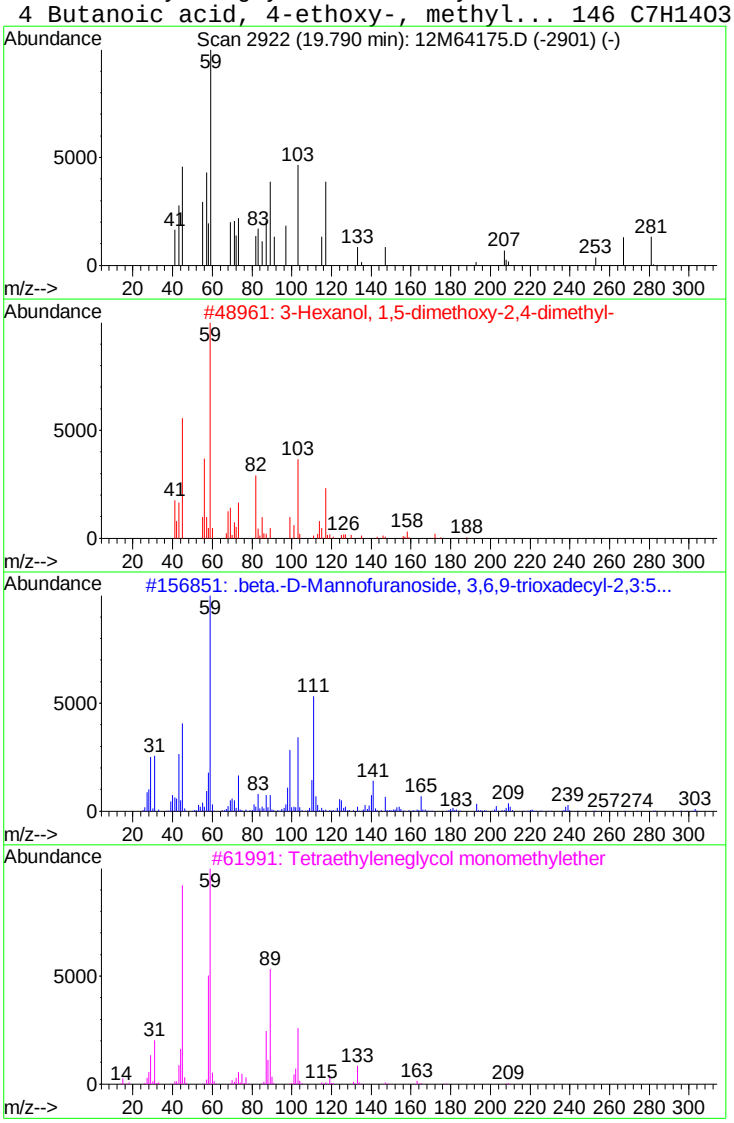
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

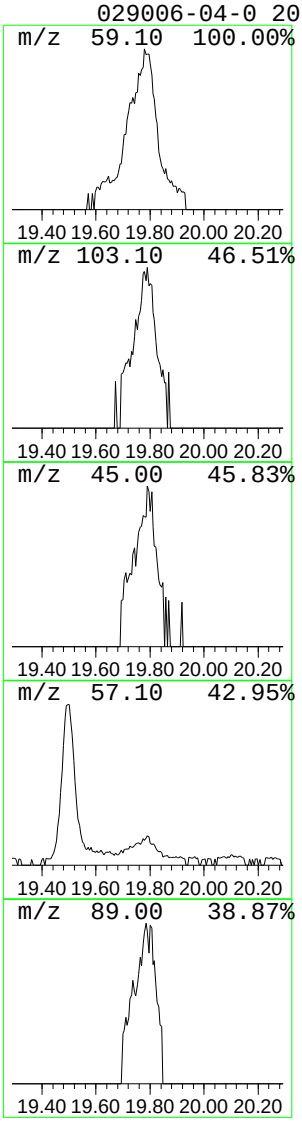
**********

Peak Number 10 3-Hexanol, 1,5-dimethoxy-2,... Concentration Rank 8

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 19.79 | 5.77 ug/ml | 171771 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 3-Hexanol, 1,5-dimethoxy-2,4-dim... | 190 | C10H22O3 | 013897-22-8 | 42 |
| 2 | .beta.-D-Mannofuranoside, 3,6,9-... | 402 | C17H32B2O9 | 1000155-77-2 | 38 |
| 3 | Tetraethyleneglycol monomethylether | 208 | C9H20O5 | 023783-42-8 | 23 |
| 4 | Butanoic acid, 4-ethoxy-, methyl... | 146 | C7H14O3 | 029006-04-0 | 20 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

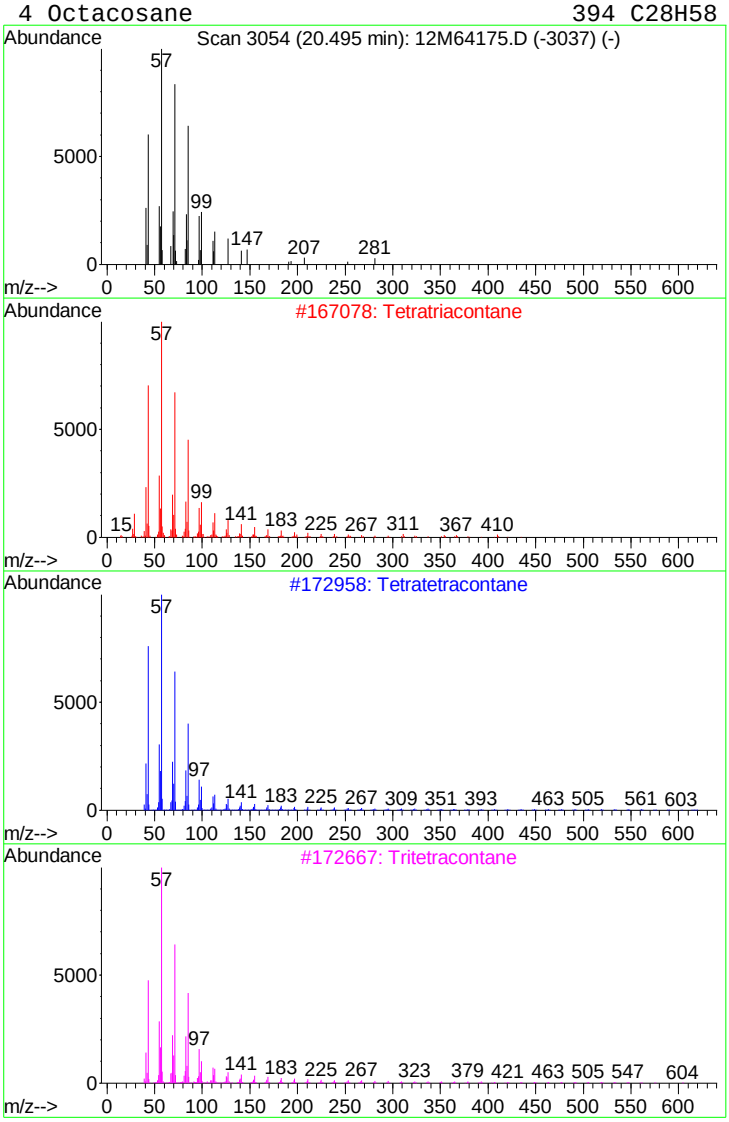
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

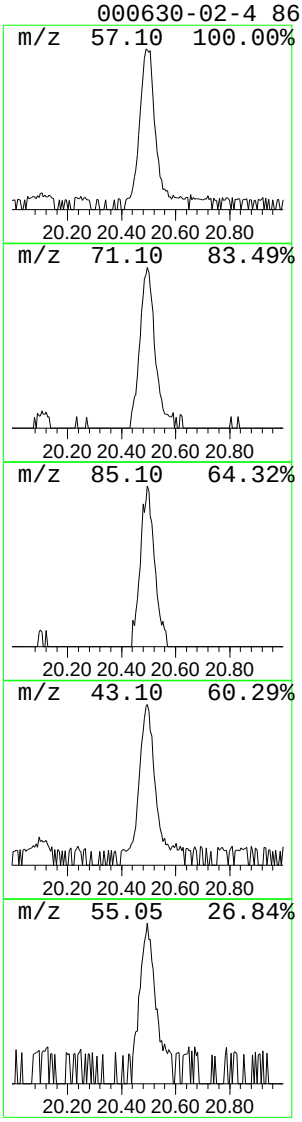
**********

Peak Number 11 Tetratriacontane Concentration Rank 6

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 20.49 | 6.76 ug/ml | 201435 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 2 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 90 |
| 3 | Tritetracontane | 605 | C43H88 | 007098-21-7 | 86 |
| 4 | Octacosane | 394 | C28H58 | 000630-02-4 | 86 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64175.D Vial: 12
Acq On : 31 Aug 2017 3:04 pm Operator: SCB
Sample : L17081498-09 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: LSCINT.P

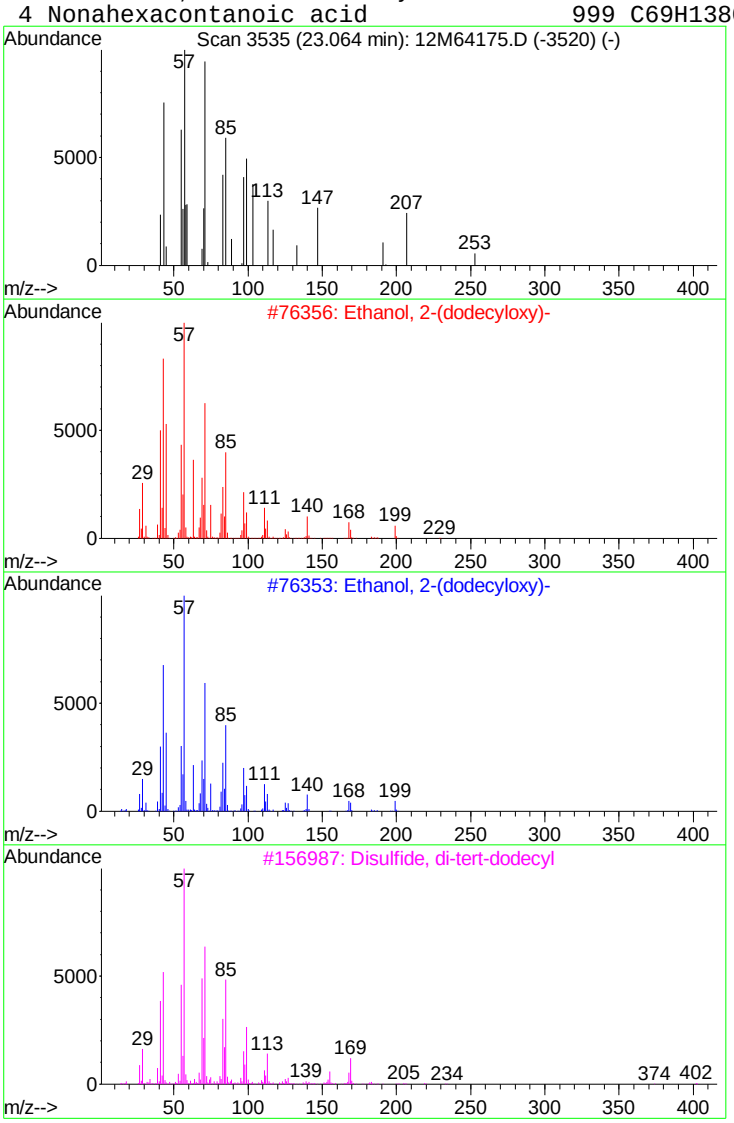
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

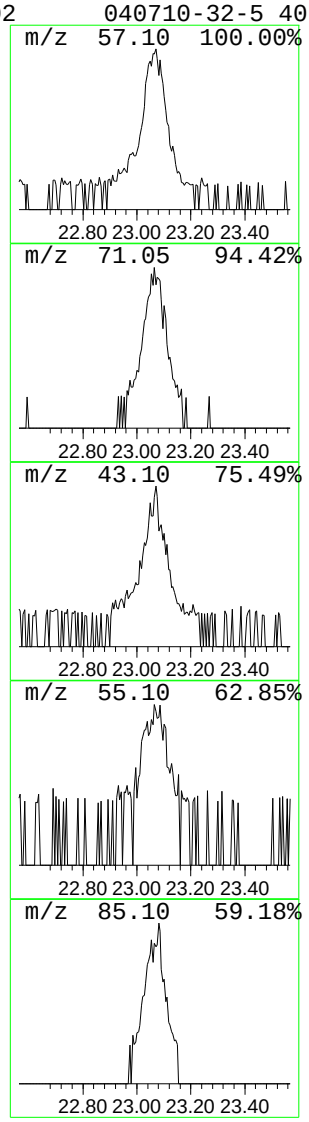
**********

Peak Number 12 Ethanol, 2-(dodecyloxy)- Concentration Rank 11

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 23.06 | 5.01 ug/ml | 149314 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Ethanol, 2-(dodecyloxy)- | 230 | C14H30O2 | 004536-30-5 | 50 |
| 2 | Ethanol, 2-(dodecyloxy)- | 230 | C14H30O2 | 004536-30-5 | 50 |
| 3 | Disulfide, di-tert-dodecyl | 402 | C24H50S2 | 027458-90-8 | 40 |
| 4 | Nonahexacontanoic acid | 999 | C69H138O2 | 040710-32-5 | 40 |



Tentatively Identified Compound (LSC) summary

Operator ID: SCB  Date Acquired: 31 Aug 2017  3:04 pm
Data File: I:\MSDCHEM\1\DATA\083117\12M64175.D
Name: L17081498-09
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

| | | | | | Internal Standard | | | |
|---|---|---|---|---|---|---|---|---|
| TIC Top Hit name | RT | EstConc | Units | Response | # | RT | Resp | Conc |
| Propanoic acid, 3... | 14.05 | 4.5 | ug/ml | 125734 | 4 | 12.55 | 1122640 | 40.0 |
| 2-Propanol, 1-[1-... | 15.43 | 14.0 | ug/ml | 428403 | 5 | 16.24 | 1225680 | 40.0 |
| Butanoic acid, 3-... | 16.14 | 5.4 | ug/ml | 165032 | 5 | 16.24 | 1225680 | 40.0 |
| Heptacosane | 16.71 | 6.7 | ug/ml | 206672 | 5 | 16.24 | 1225680 | 40.0 |
| Tetratriacontane | 17.27 | 5.6 | ug/ml | 171146 | 5 | 16.24 | 1225680 | 40.0 |
| 2-Propanol, 1-[2-... | 17.64 | 8.0 | ug/ml | 245766 | 5 | 16.24 | 1225680 | 40.0 |
| Nonadecane, 2,3-d... | 17.91 | 8.2 | ug/ml | 242967 | 6 | 19.08 | 1191650 | 40.0 |
| Heptadecane | 18.65 | 11.3 | ug/ml | 337955 | 6 | 19.08 | 1191650 | 40.0 |
| Eicosane | 19.50 | 10.2 | ug/ml | 302641 | 6 | 19.08 | 1191650 | 40.0 |
| 3-Hexanol, 1,5-di... | 19.79 | 5.8 | ug/ml | 171771 | 6 | 19.08 | 1191650 | 40.0 |
| Tetratriacontane | 20.49 | 6.8 | ug/ml | 201435 | 6 | 19.08 | 1191650 | 40.0 |
| Ethanol, 2-(dodec... | 23.06 | 5.0 | ug/ml | 149314 | 6 | 19.08 | 1191650 | 40.0 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000549.D Vial: 11
Acq On : 13 Sep 2017 6:29 pm Operator: SCB
Sample : L17081498-09 RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:11:21 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

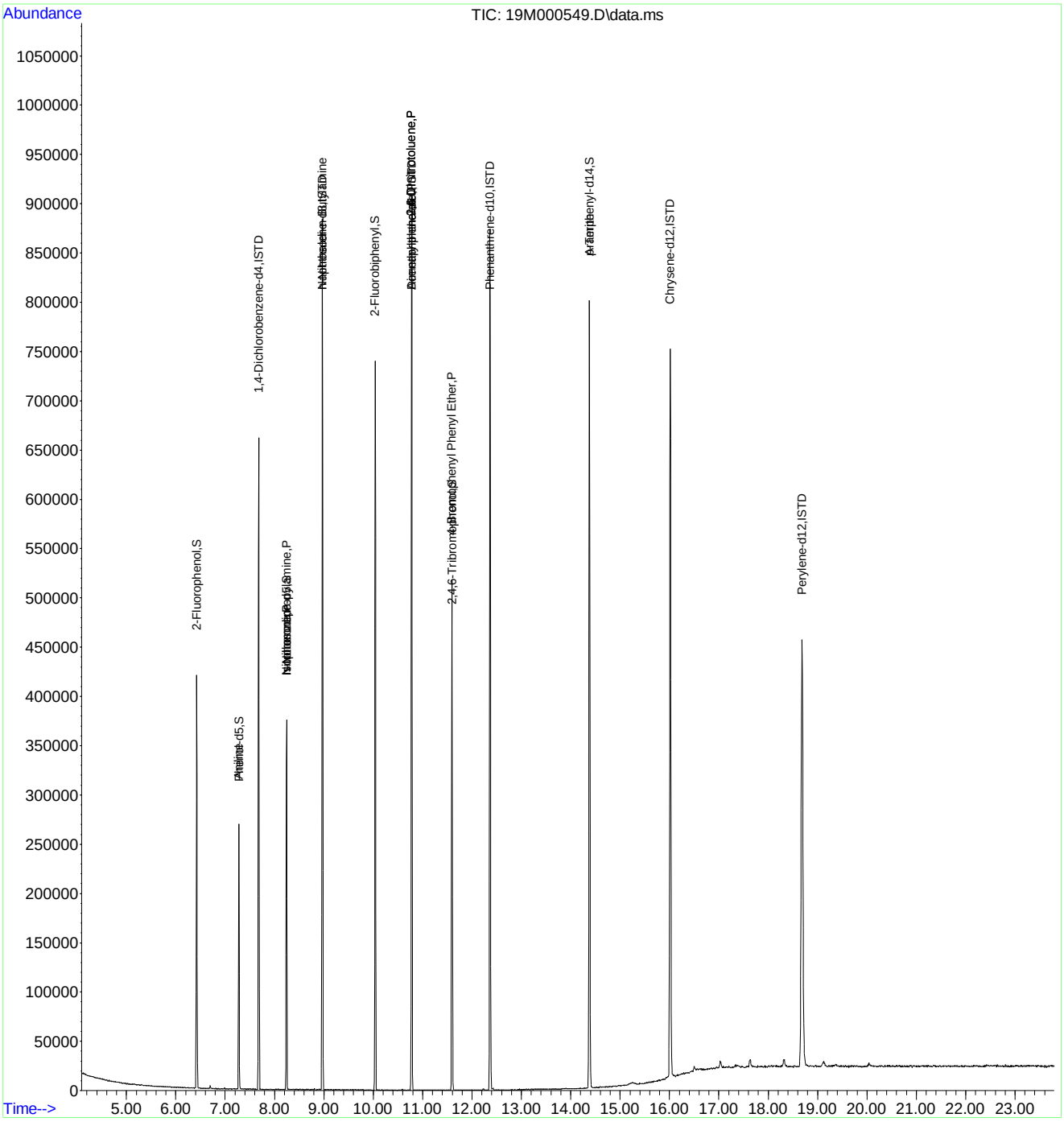
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 117682 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.969 | 136 | 467895 | 40.0000 | ug/mL | -0.0118 |
| 54) Acenaphthene-d10 | 10.780 | 164 | 232799 | 40.0000 | ug/mL | -0.0118 |
| 87) Phenanthrene-d10 | 12.363 | 188 | 439483 | 40.0000 | ug/mL | -0.0177 |
| 113) Chrysene-d12 | 16.015 | 240 | 422530 | 40.0000 | ug/mL | -0.0236 |
| 128) Perylene-d12 | 18.686 | 264 | 411441 | 40.0000 | ug/mL | -0.0295 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.422 | 112 | 142300 | 37.2162 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.281 | 99 | 110212 | 24.5322 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.245 | 82 | 130485 | 33.7056 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.039 | 172 | 271618 | 33.6371 | ug/mL | -0.0118 |
| 86) 2,4,6-Tribromophenol | 11.598 | 330 | 64564 | 67.7251 | ug/mL | -0.0118 |
| 117) p-Terphenyl-d14 | 14.380 | 244 | 369569 | 43.2421 | ug/mL | -0.0118 |
| Target Compounds | | | | | | Qvalue |
| 11) Aniline | 7.275 | 66 | 5267 | 2.291 | ug/mL# | 1 |
| 25) n-Nitrosodipropylamine | 8.245 | 70 | 17577 | 6.950 | ug/mL# | 48 |
| 27) n-Nitrosomorpholine | 8.245 | 56 | 195 | Below Cal | # | 35 |
| 34) Isophorone | 8.245 | 82 | 130485 | 17.773 | ug/mL# | 61 |
| 48) n-Nitrosodi-n-Butylamine | 8.969 | 84 | 10270 | 3.141 | ug/mL# | 17 |
| 65) Dimethylphthalate | 10.780 | 163 | 65892 | 7.803 | ug/mL# | 1 |
| 67) 2,6-Dinitrotoluene | 10.775 | 165 | 29863 | 15.160 | ug/mL# | 24 |
| 73) 2,4-Dinitrotoluene | 10.775 | 165 | 29863 | 11.765 | ug/mL# | 12 |
| 95) 4-Bromophenyl Phenyl E... | 11.592 | 248 | 3842 | 1.701 | ug/mL# | 1 |
| 116) Aramite | 14.380 | 185 | 673 | 2.866 | ug/mL# | 33 |

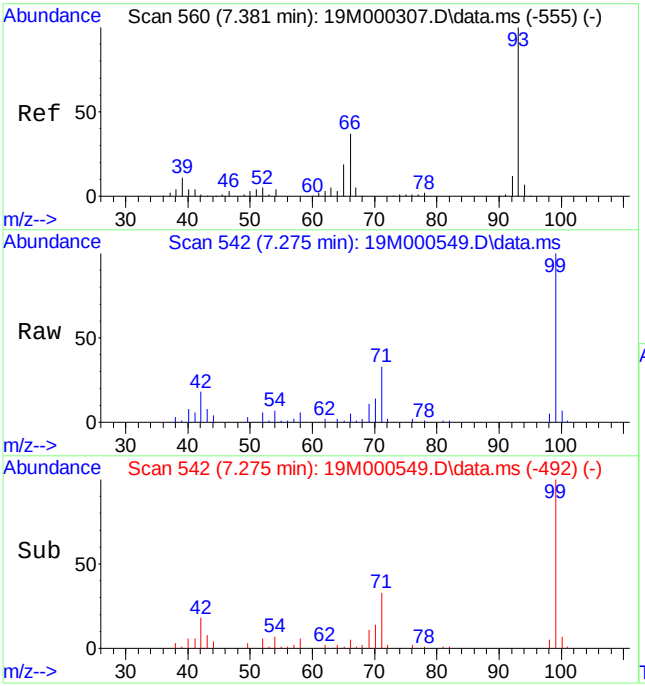
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000549.D Vial: 11
Acq On : 13 Sep 2017 6:29 pm Operator: SCB
Sample : L17081498-09 RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:11:21 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

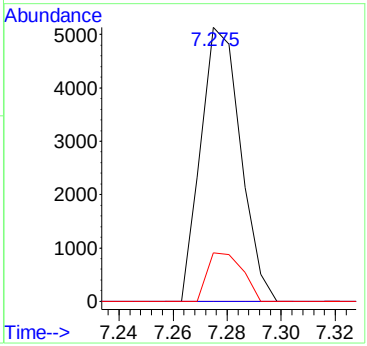


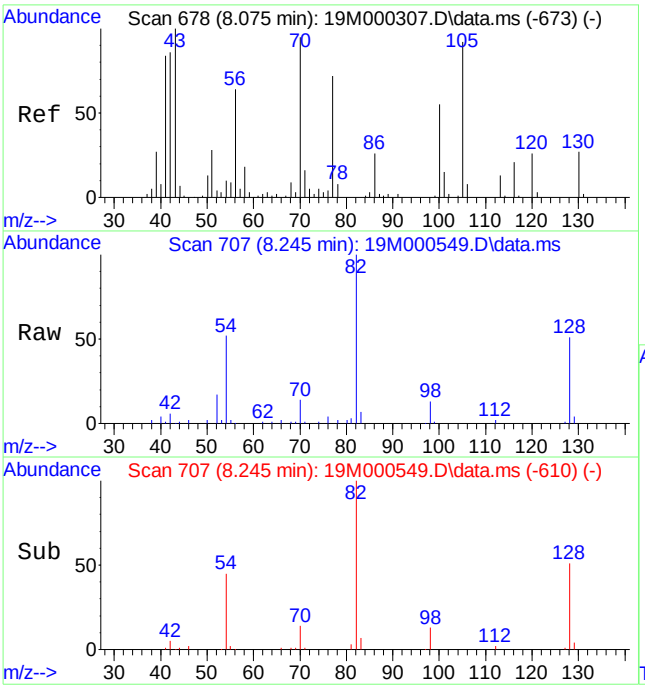



#11
Aniline
Concen: 2.29 ug/mL
RT: 7.275 min Scan# 542
Delta R.T. -0.106 min
Lab File: 19M000549.D
Acq: 13 Sep 2017 6:29 pm

Tgt Ion: 66 Resp: 5267

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 66 | 100 | | |
| 93 | 0.0 | 161.8 | 377.6# |
| 65 | 15.6 | 31.4 | 73.4# |

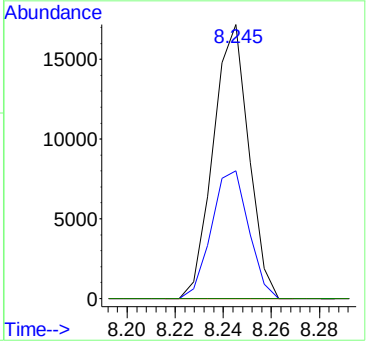


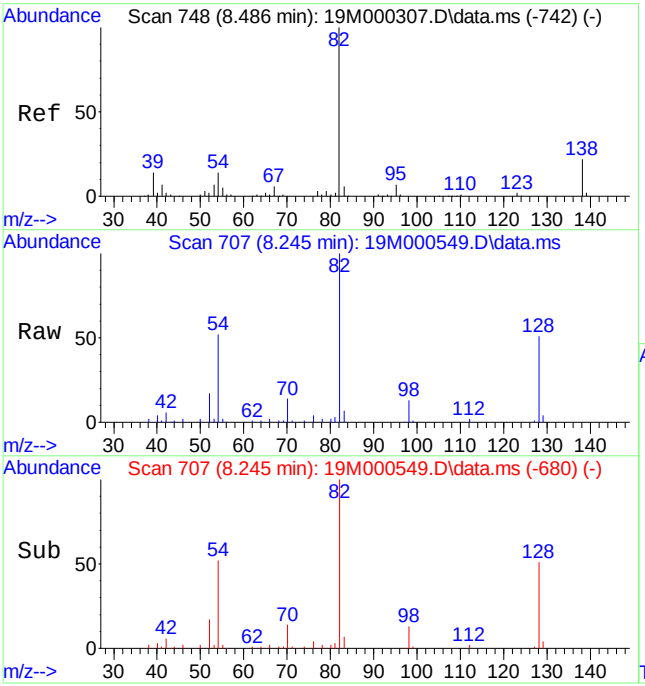




#25
n-Nitrosodipropylamine
Concen: 6.95 ug/mL
RT: 8.245 min Scan# 707
Delta R.T. 0.171 min
Lab File: 19M000549.D
Acq: 13 Sep 2017 6:29 pm

Tgt Ion: 70 Resp: 17577

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 70 | 100 | | |
| 42 | 48.8 | 61.9 | 144.3# |
| 101 | 0.0 | 9.7 | 22.5# |
| 130 | 0.0 | 17.3 | 40.5# |

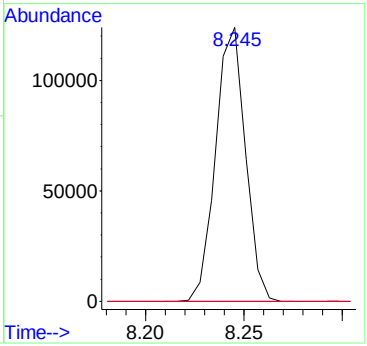


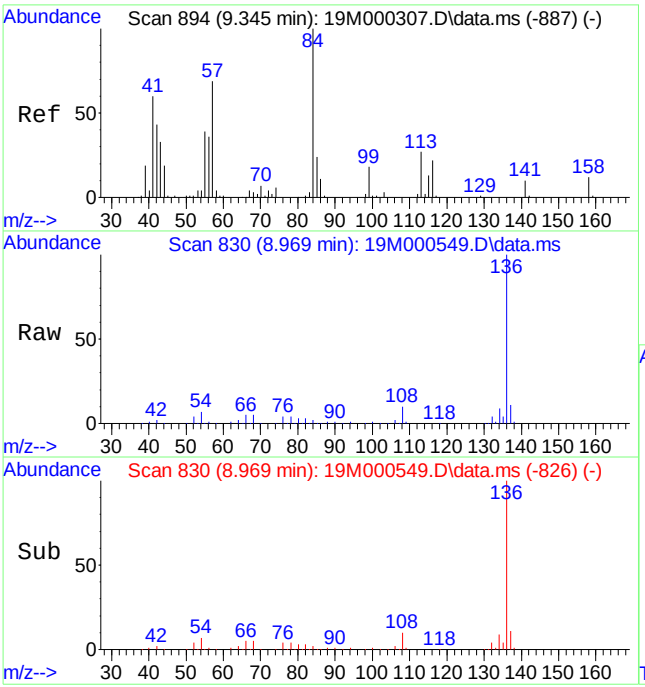



#34
Isophorone
Concen: 17.77 ug/mL
RT: 8.245 min Scan# 707
Delta R.T. -0.241 min
Lab File: 19M000549.D
Acq: 13 Sep 2017 6:29 pm

Tgt Ion: 82 Resp: 130485

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 82 | 100 | | |
| 95 | 0.0 | 4.3 | 9.9# |
| 138 | 0.0 | 12.8 | 29.8# |

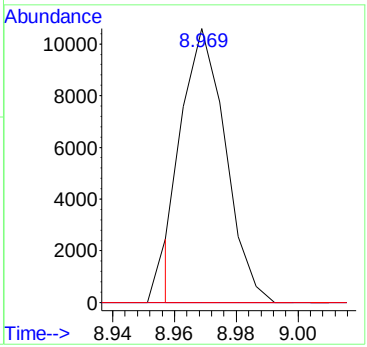


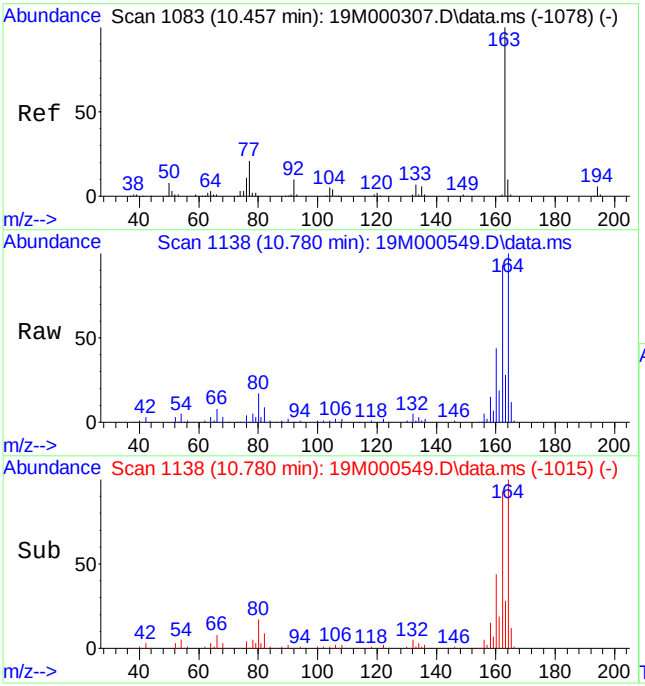




#48
n-Nitrosodi-n-Butylamine
Concen: 3.14 ug/mL
RT: 8.969 min Scan# 830
Delta R.T. -0.376 min
Lab File: 19M000549.D
Acq: 13 Sep 2017 6:29 pm

Tgt Ion: 84 Resp: 10270

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 57 | 0.0 | 52.2 | 78.2# |
| 41 | 0.0 | 54.5 | 81.7# |

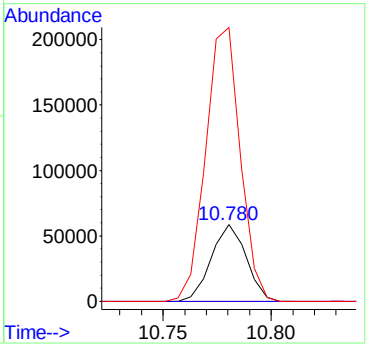


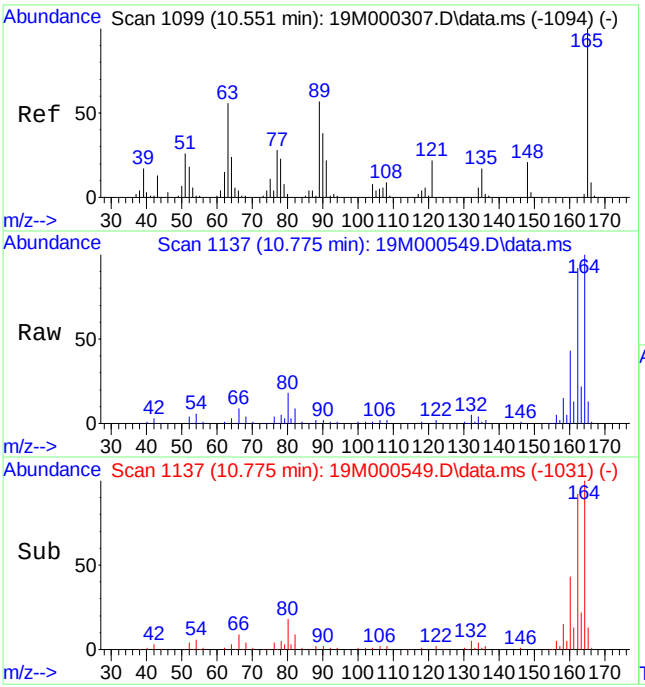



#65
Dimethylphthalate
Concen: 7.80 ug/mL
RT: 10.780 min Scan# 1138
Delta R.T. 0.323 min
Lab File: 19M000549.D
Acq: 13 Sep 2017 6:29 pm

Tgt Ion:163 Resp: 65892

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 163 | 100 | | |
| 194 | 0.0 | 3.6 | 8.4# |
| 164 | 353.3 | 6.1 | 14.1# |

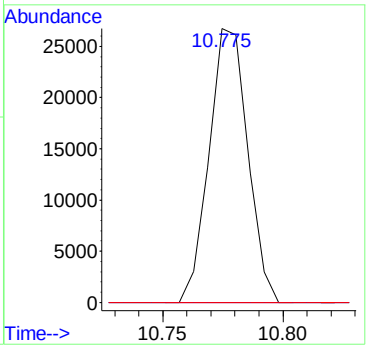


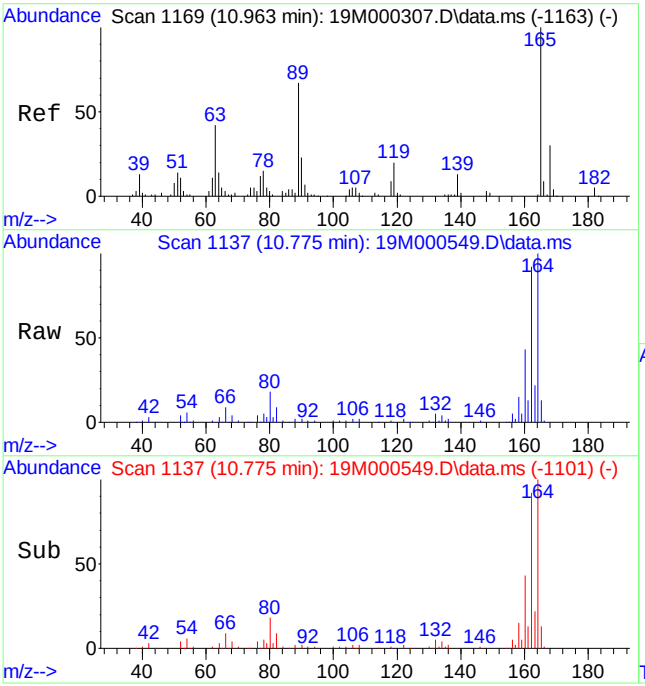




#67
2,6-Dinitrotoluene
Concen: 15.16 ug/mL
RT: 10.775 min Scan# 1137
Delta R.T. 0.223 min
Lab File: 19M000549.D
Acq: 13 Sep 2017 6:29 pm

Tgt Ion:165 Resp: 29863

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 165 | 100 | | |
| 63 | 0.0 | 33.3 | 77.7# |
| 89 | 0.0 | 33.2 | 77.6# |

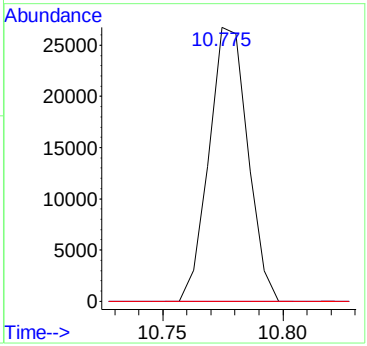


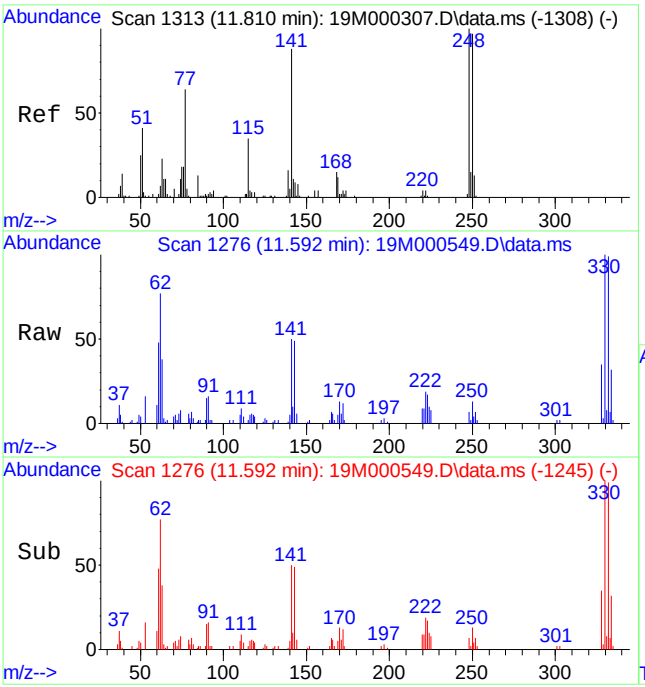



#73
2,4-Dinitrotoluene
Concen: 11.76 ug/mL
RT: 10.775 min Scan# 1137
Delta R.T. -0.188 min
Lab File: 19M000549.D
Acq: 13 Sep 2017 6:29 pm

Tgt Ion:165 Resp: 29863

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 165 | 100 | | |
| 63 | 0.0 | 37.6 | 87.6# |
| 89 | 0.0 | 50.2 | 117.0# |

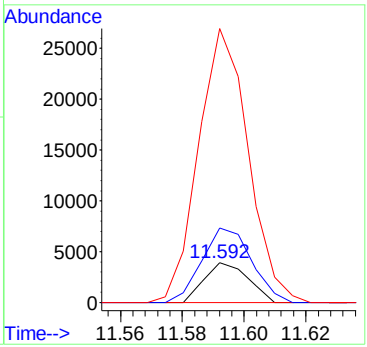


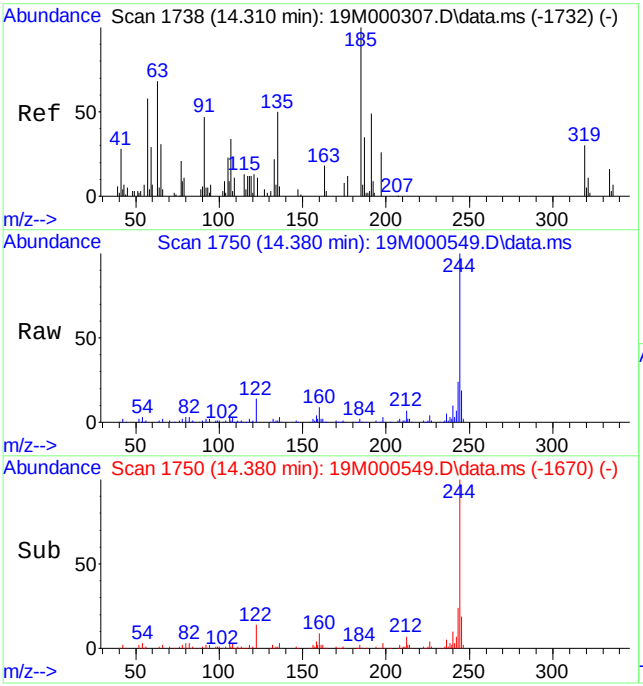




#95
4-Bromophenyl Phenyl Ether
Concen: 1.70 ug/mL
RT: 11.592 min Scan# 1276
Delta R.T. -0.218 min
Lab File: 19M000549.D
Acq: 13 Sep 2017 6:29 pm

Tgt Ion:248 Resp: 3842

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 248 | 100 | | |
| 250 | 212.8 | 58.0 | 135.2# |
| 141 | 783.7 | 51.6 | 120.4# |

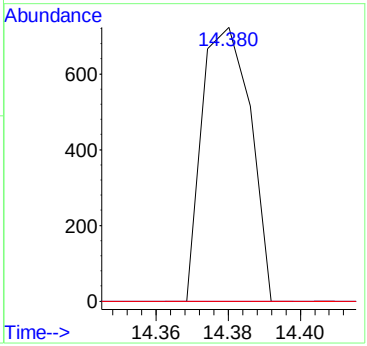





#116
Aramite
Concen: 2.87 ug/mL
RT: 14.380 min Scan# 1750
Delta R.T. 0.071 min
Lab File: 19M000549.D
Acq: 13 Sep 2017 6:29 pm

Tgt Ion:185 Resp: 673

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 185 | 100 | | |
| 191 | 0.0 | 41.6 | 62.4# |
| 319 | 0.0 | 24.2 | 36.2# |



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000549.D Vial: 11
Acq On : 13 Sep 2017 6:29 pm Operator: SCB
Sample : L17081498-09 RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:06:22 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

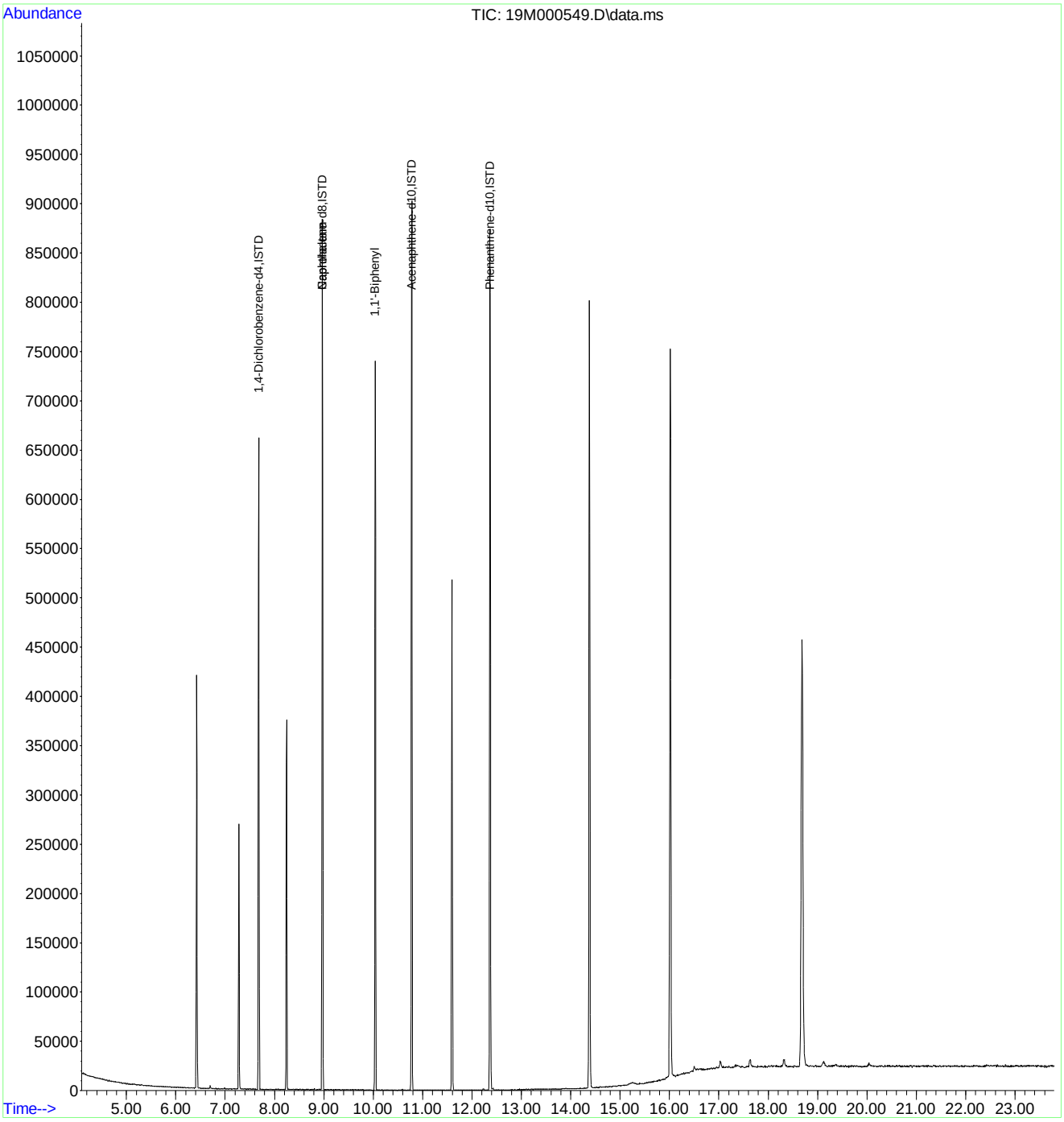
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 117682 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.969 | 136 | 467895 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.780 | 164 | 232799 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.363 | 188 | 439483 | 40.0000 | ug/mL | -0.0118 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 5) Caprolactam | 8.969 | 55 | 963 | 1.991 | ug/mL# | 1 |
| 7) 1,1'-Biphenyl | 10.039 | 154 | 191 | 0.020 | ug/mL# | 1 |

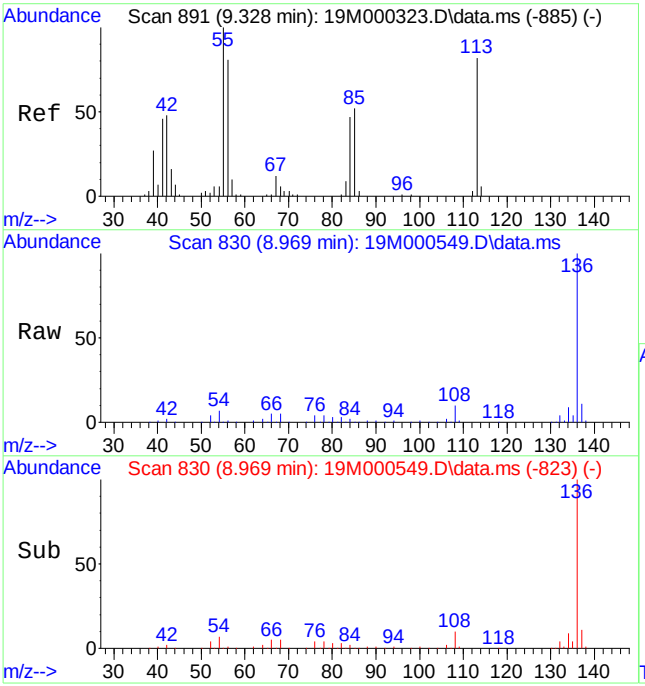
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000549.D Vial: 11
Acq On : 13 Sep 2017 6:29 pm Operator: SCB
Sample : L17081498-09 RE Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 14 09:06:22 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

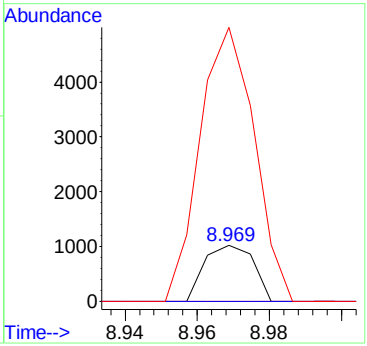


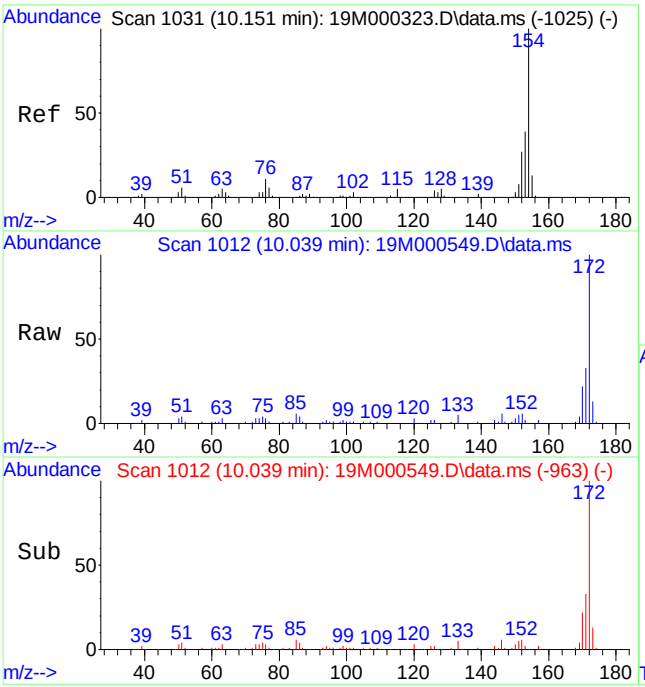



#5
Caprolactam
Concen: 1.99 ug/mL
RT: 8.969 min Scan# 830
Delta R.T. -0.359 min
Lab File: 19M000549.D
Acq: 13 Sep 2017 6:29 pm

Tgt Ion: 55 Resp: 963

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 55 | 100 | | |
| 113 | 0.0 | 63.4 | 95.0# |
| 56 | 543.9 | 64.3 | 96.5# |

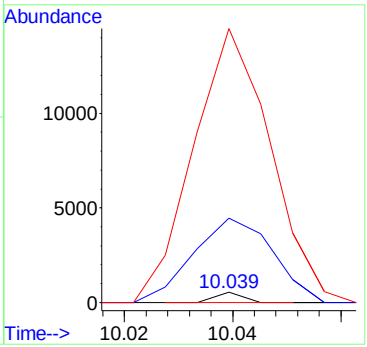



#7
1,1'-Biphenyl
Concen: 0.02 ug/mL
RT: 10.039 min Scan# 1012
Delta R.T. -0.112 min
Lab File: 19M000549.D
Acq: 13 Sep 2017 6:29 pm

Tgt Ion:154 Resp: 191

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 154 | 100 | | |
| 153 | 2395.8 | 31.2 | 46.8# |
| 152 | 7529.8 | 21.5 | 32.3# |



# 2.2.1.4 Standards Data

Quantitation Report (Not Reviewed)

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 |

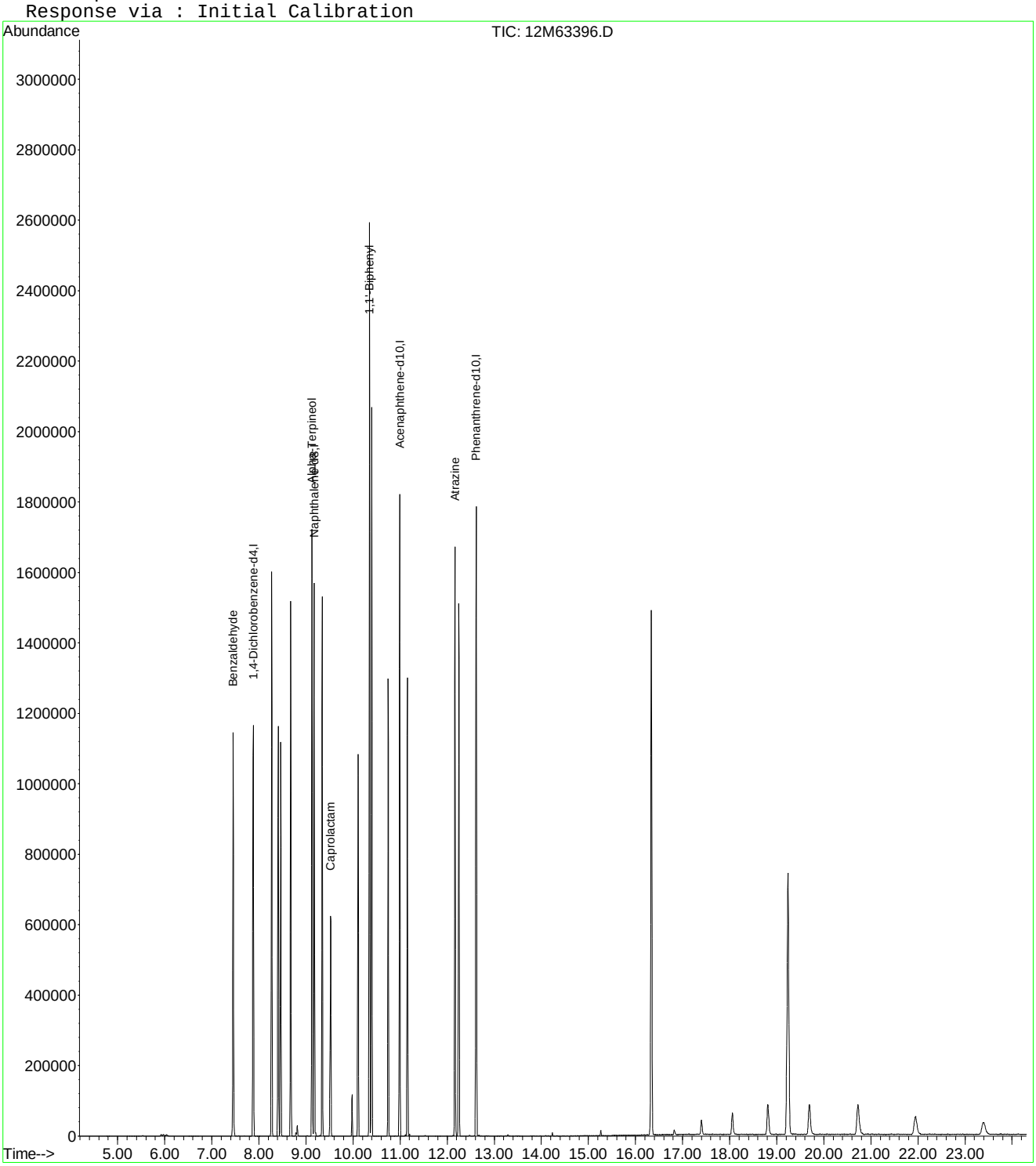
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Benzaldehyde | 7.45 | 105 | 259821 | 52.5820 | ug/L | 100 |
| 4) Alpha-Terpineol | 9.13 | 59 | 227514 | 48.2944 | ug/L | 100 |
| 5) Caprolactam | 9.52 | 55 | 107659 | 42.3758 | ug/L | 100 |
| 7) 1,1'-Biphenyl | 10.35 | 154 | 857851 | 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

Quantitation Report (Not Reviewed)

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



Quantitation Report (Not Reviewed)

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

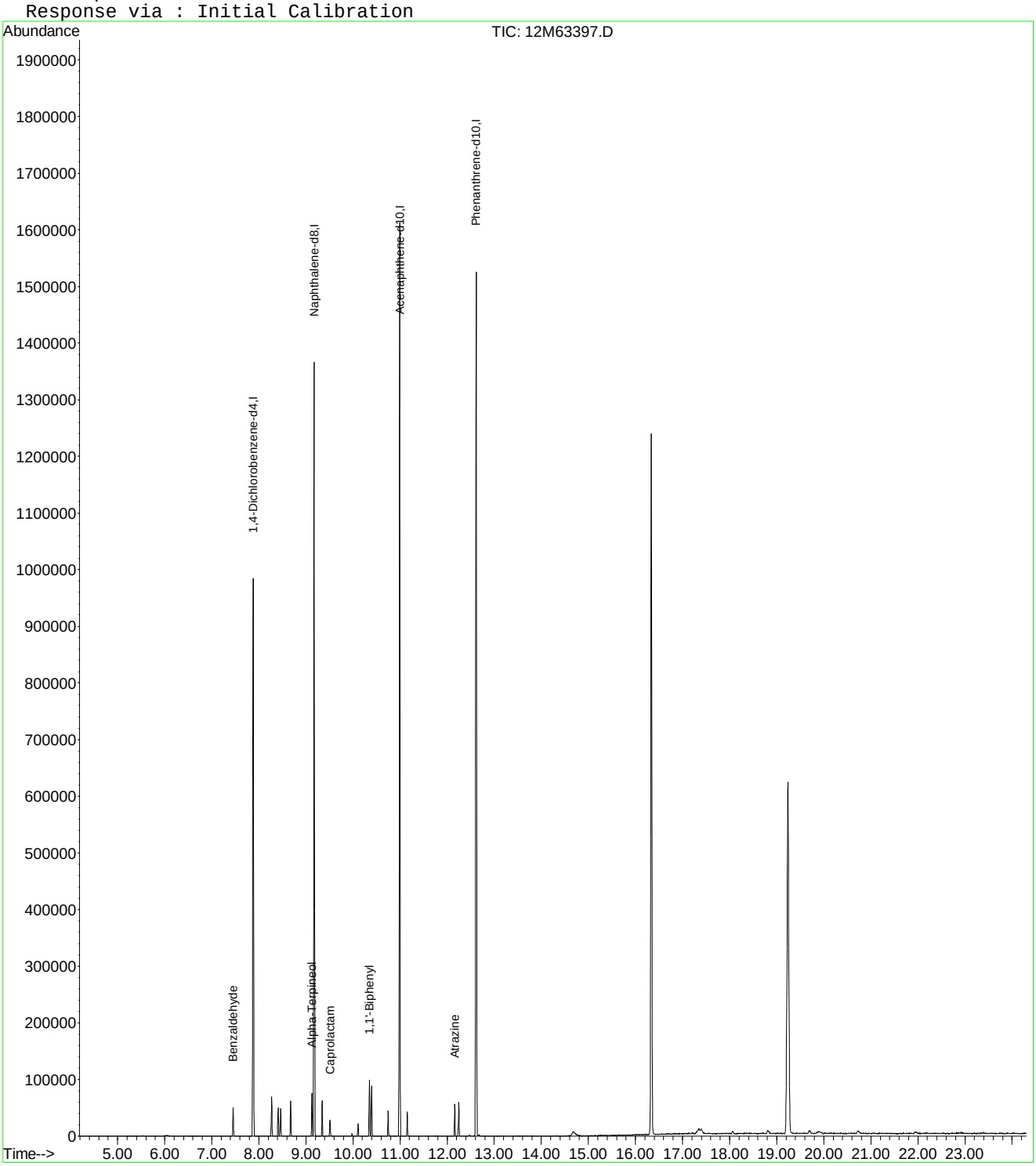
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.882 | 152 | 175455 | 40.0000 | ug/mL | 0.000 |
| 3) Naphthalene-d8 | 9.175 | 136 | 669500 | 40.0000 | ug/mL | 0.000 |
| 6) Acenaphthene-d10 | 10.991 | 164 | 356473 | 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

Quantitation Report (Not Reviewed)

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



Quantitation Report (Not Reviewed)

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

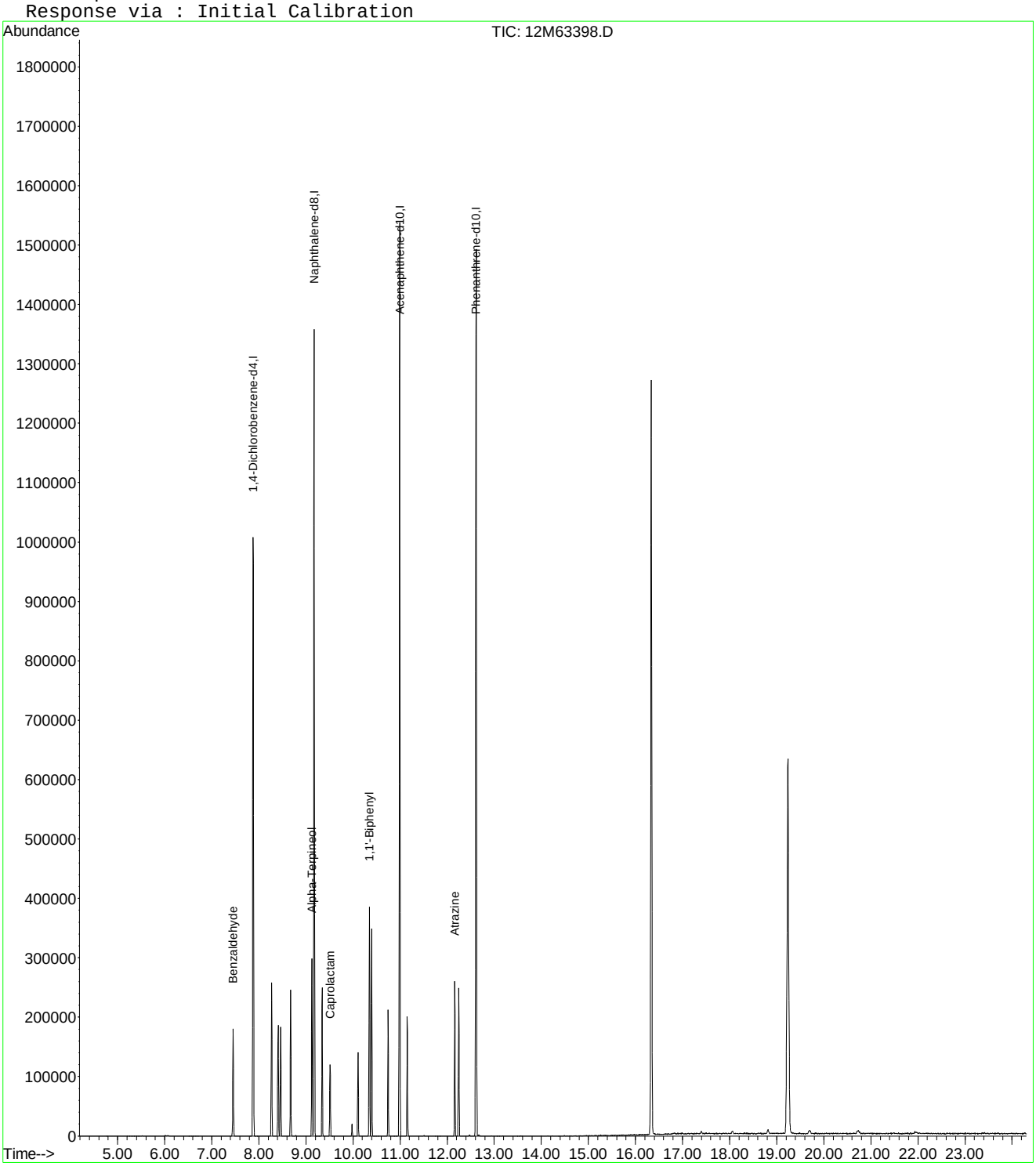
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.882 | 152 | 176891 | 40.0000 | ug/mL | 0.000 |
| 3) Naphthalene-d8 | 9.175 | 136 | 662921 | 40.0000 | ug/mL | 0.000 |
| 6) Acenaphthene-d10 | 10.991 | 164 | 350518 | 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

Quantitation Report (Not Reviewed)

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



Quantitation Report (Not Reviewed)

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

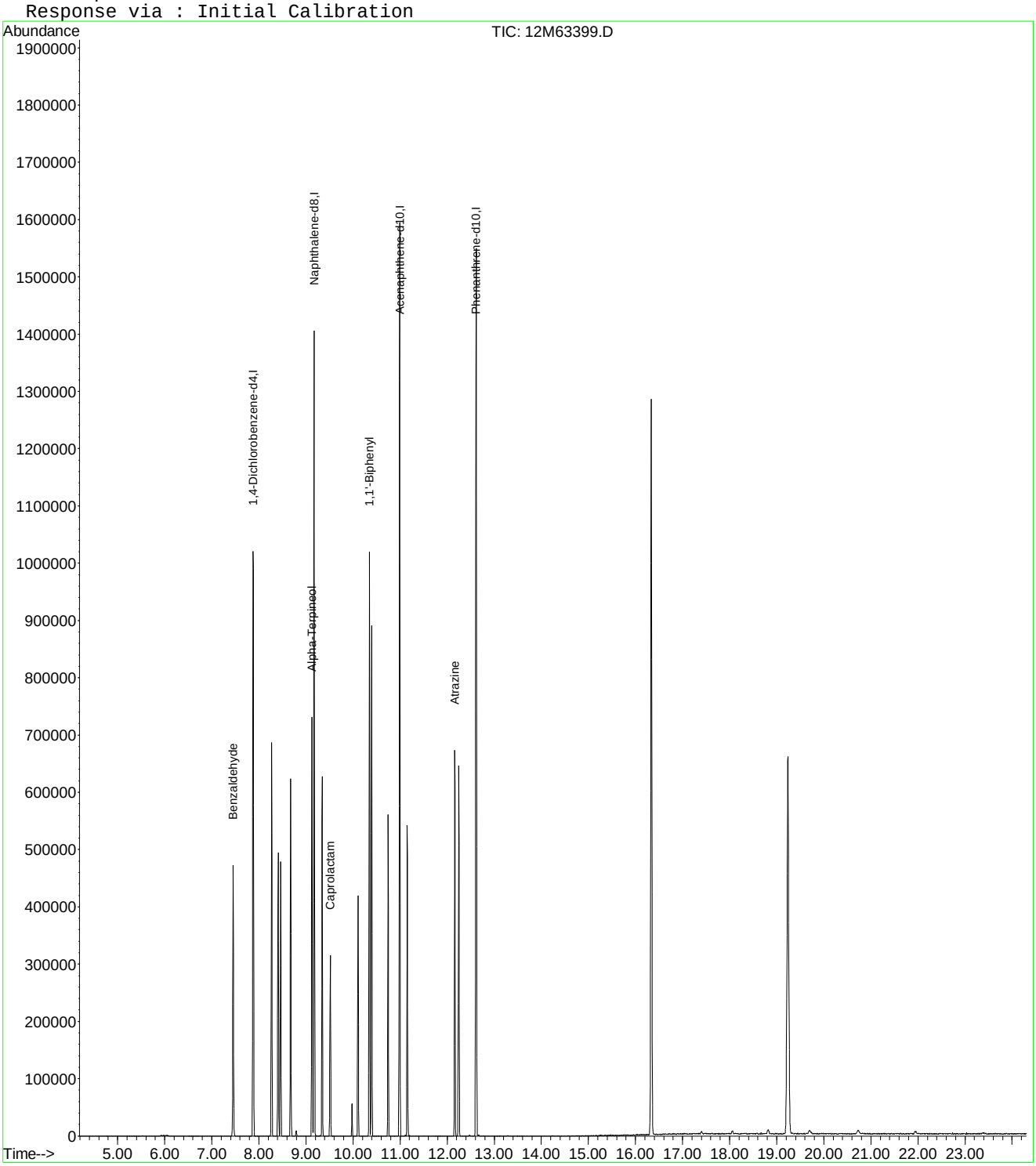
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.882 | 152 | 180106 | 40.0000 | ug/mL | 0.000 |
| 3) Naphthalene-d8 | 9.175 | 136 | 678191 | 40.0000 | ug/mL | 0.000 |
| 6) Acenaphthene-d10 | 10.991 | 164 | 361273 | 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

Quantitation Report (Not Reviewed)

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



Quantitation Report (Not Reviewed)

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 |

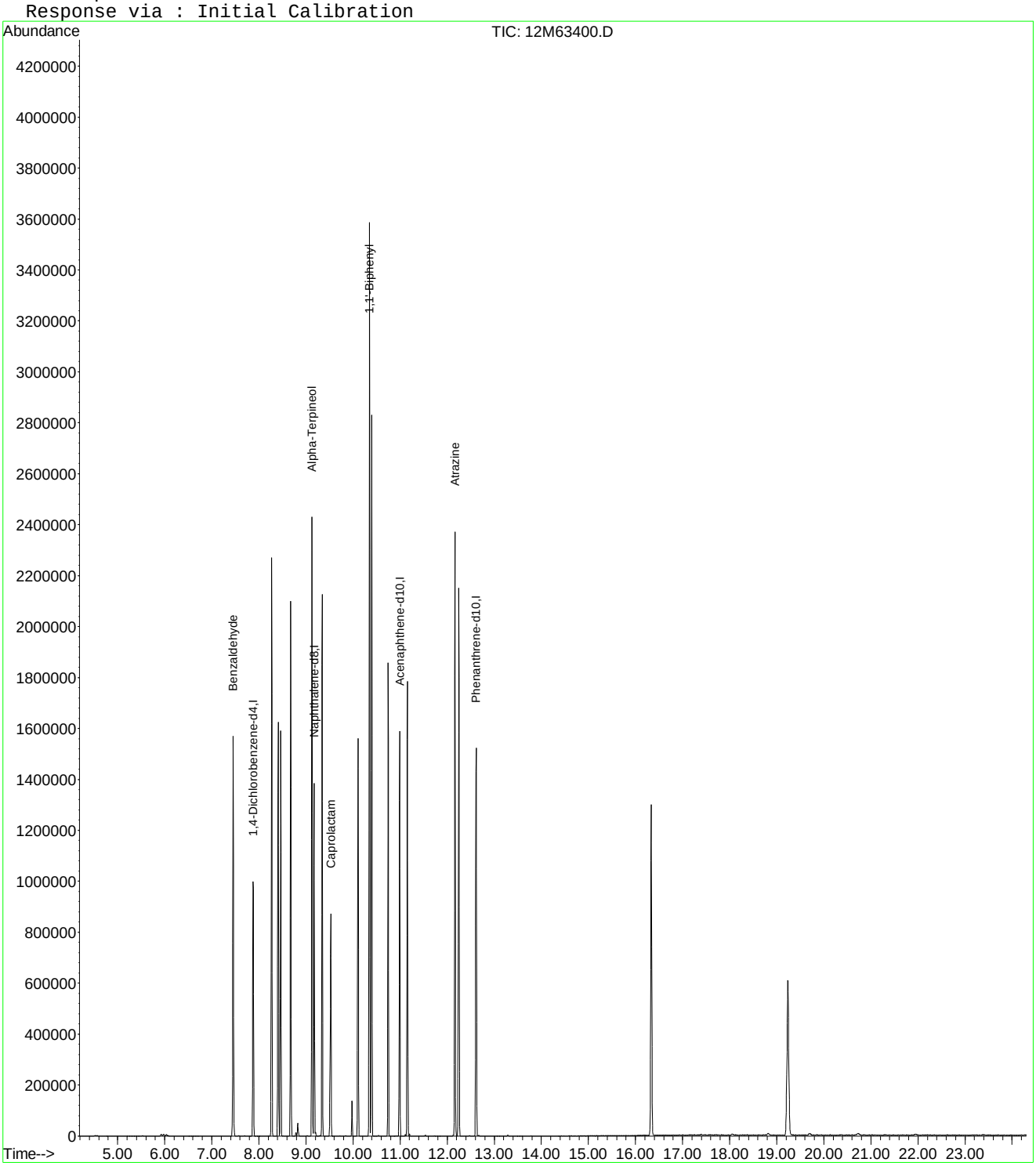
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Benzaldehyde | 7.45 | 105 | 370937 | 87.7504 | ug/L | 99 |
| 4) Alpha-Terpineol | 9.13 | 59 | 321611 | 83.5256 | ug/L | 99 |
| 5) Caprolactam | 9.53 | 55 | 154855 | 77.7957 | ug/L | 99 |
| 7) 1,1'-Biphenyl | 10.35 | 154 | 1231389 | 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

Quantitation Report (Not Reviewed)

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



Quantitation Report (Not Reviewed)

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

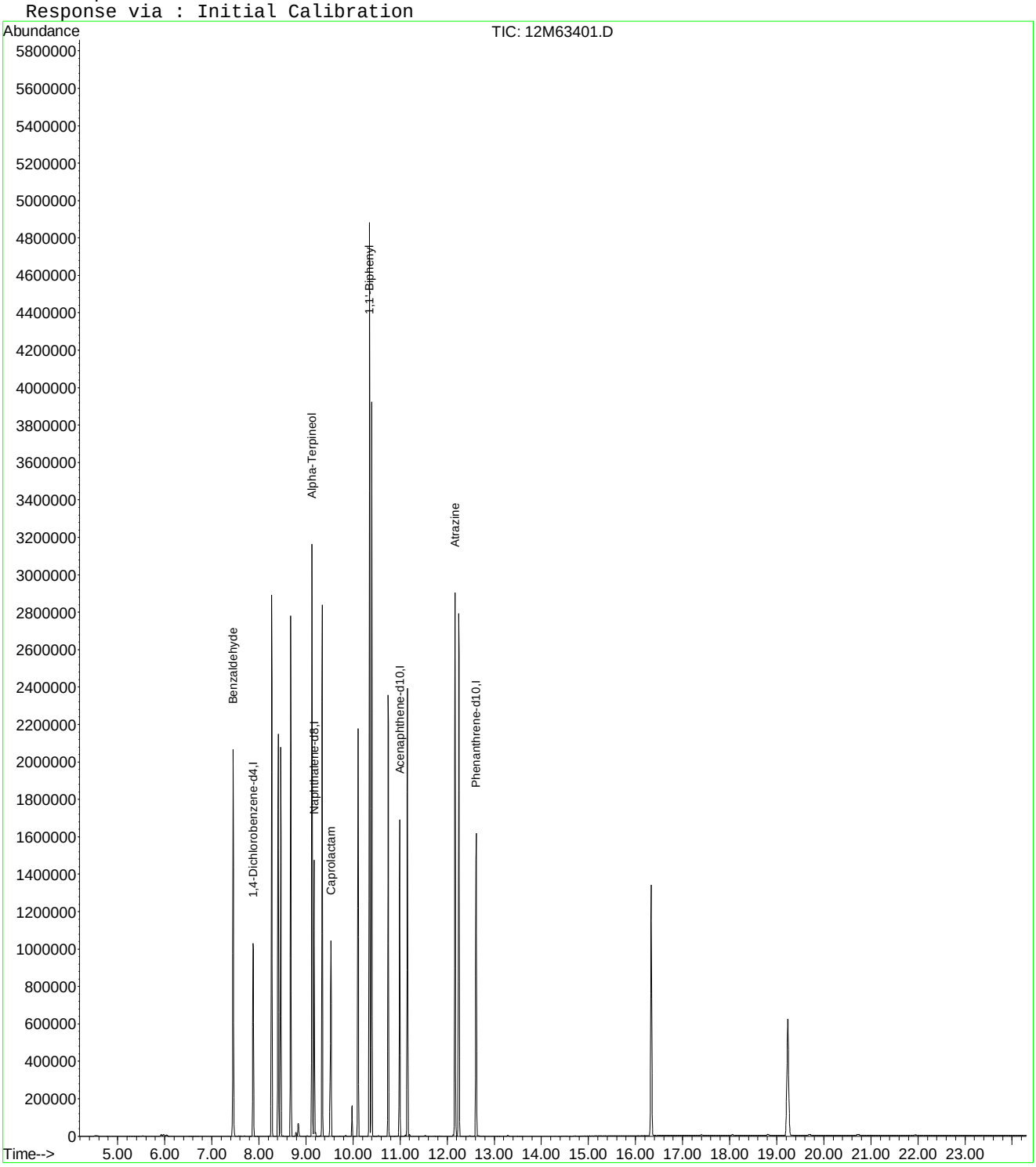
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.882 | 152 | 185820 | 40.0000 | ug/mL | 0.000 |
| 3) Naphthalene-d8 | 9.175 | 136 | 692172 | 40.0000 | ug/mL | 0.000 |
| 6) Acenaphthene-d10 | 10.991 | 164 | 374164 | 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

Quantitation Report (Not Reviewed)

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



Quantitation Report (Not Reviewed)

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 |

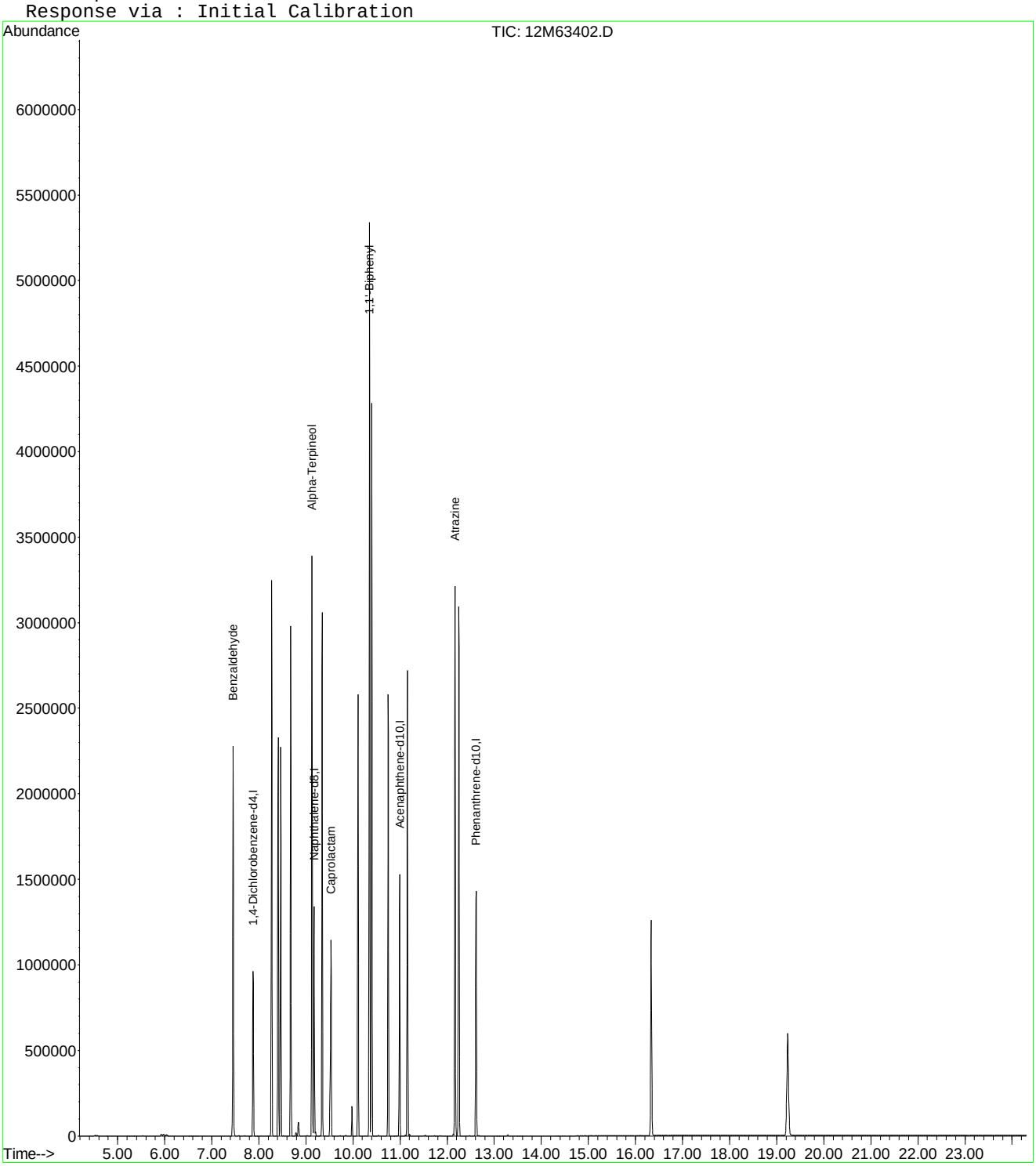
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Benzaldehyde | 7.45 | 105 | 543928 | 131.0505 | ug/L | 99 |
| 4) Alpha-Terpineol | 9.13 | 59 | 462412 | 126.4070 | ug/L | 98 |
| 5) Caprolactam | 9.53 | 55 | 225881 | 127.0530 | ug/L | 99 |
| 7) 1,1'-Biphenyl | 10.35 | 154 | 1846850 | 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

Quantitation Report (Not Reviewed)

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



Quantitation Report (Not Reviewed)

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 |

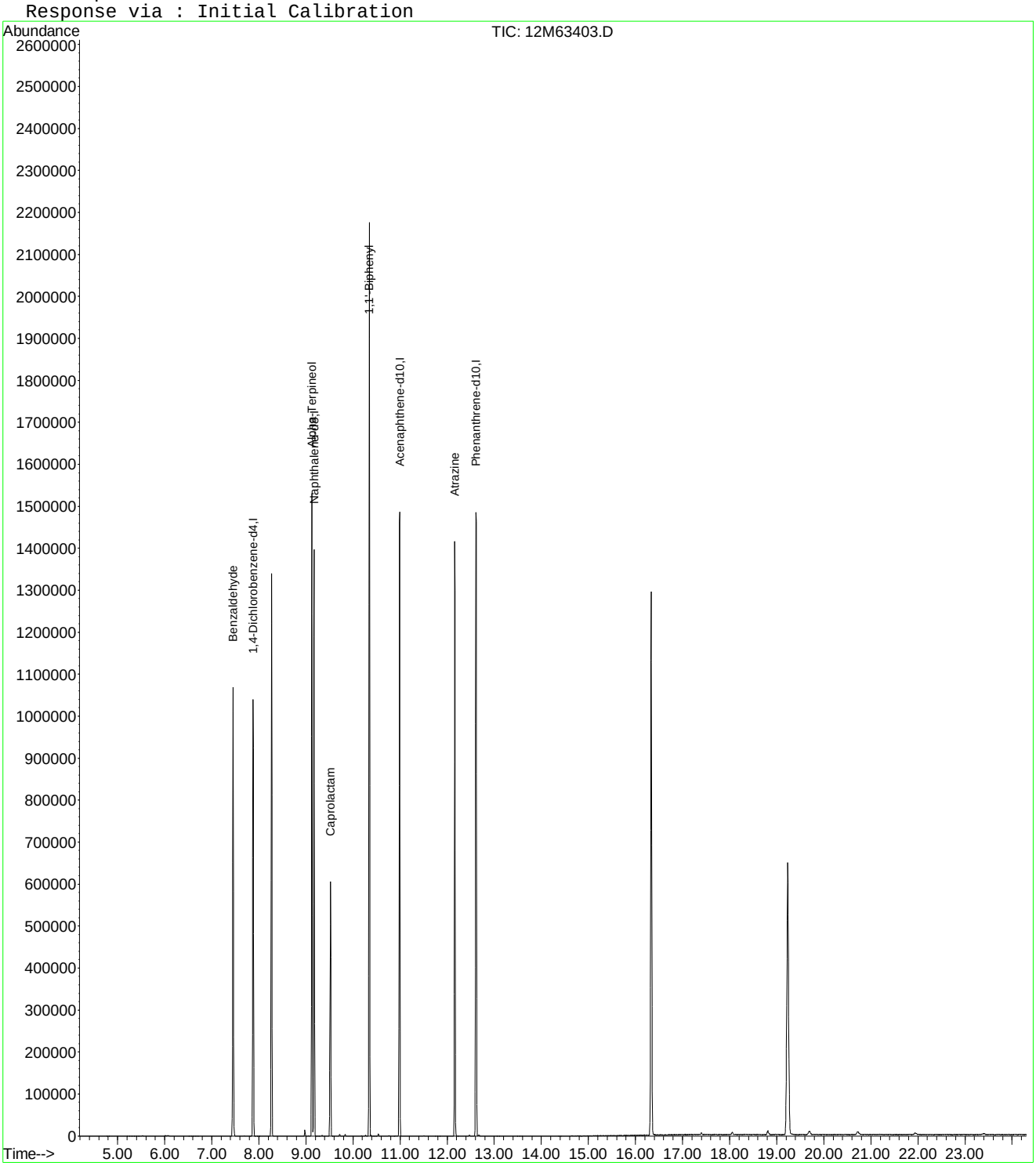
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Benzaldehyde | 7.45 | 105 | 250794 | 55.0034 | ug/L | 99 |
| 4) Alpha-Terpineol | 9.13 | 59 | 195450 | 48.9015 | ug/L | 98 |
| 5) Caprolactam | 9.52 | 55 | 97729 | 52.1395 | ug/L | 98 |
| 7) 1,1'-Biphenyl | 10.34 | 154 | 748834 | 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

Quantitation Report (Not Reviewed)

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



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 Page 1

Quantitation Report (QT Reviewed)

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

Quantitation Report (QT Reviewed)

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 Ethe | 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) | Sulfotepp | 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

Quantitation Report (QT Reviewed)

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

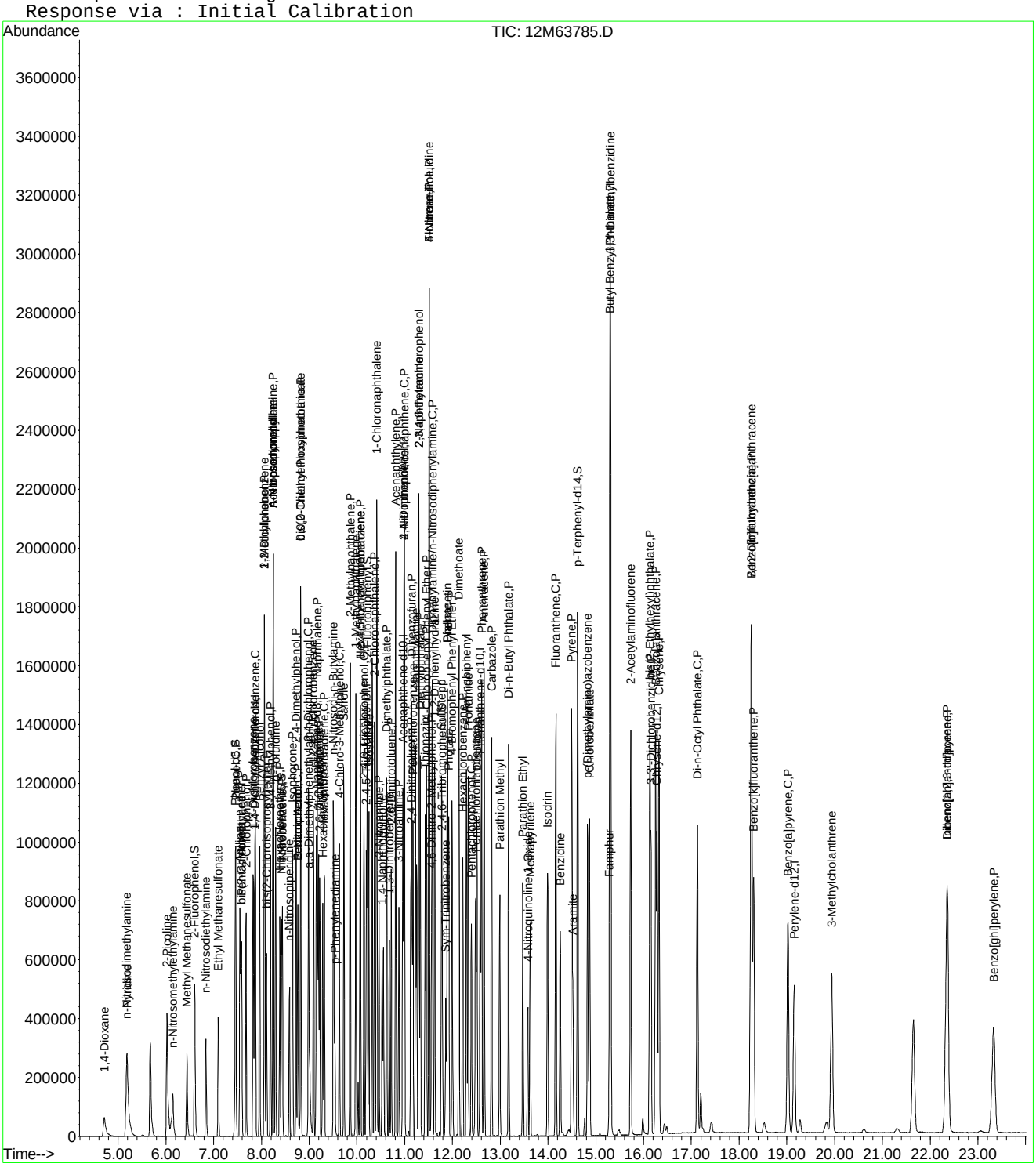
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 97) | Dimethoate | 12.13 | 87 | 191655 | 51.7206 | ug/ml | 99 |
| 98) | 4-Aminobiphenyl | 12.29 | 169 | 546930 | 47.8000 | ug/ml | 99 |
| 99) | Pentachlorophenol | 12.40 | 266 | 91214 | 45.8381 | ug/ml | 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

Quantitation Report (QT Reviewed)

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: MEGAMIX.RES

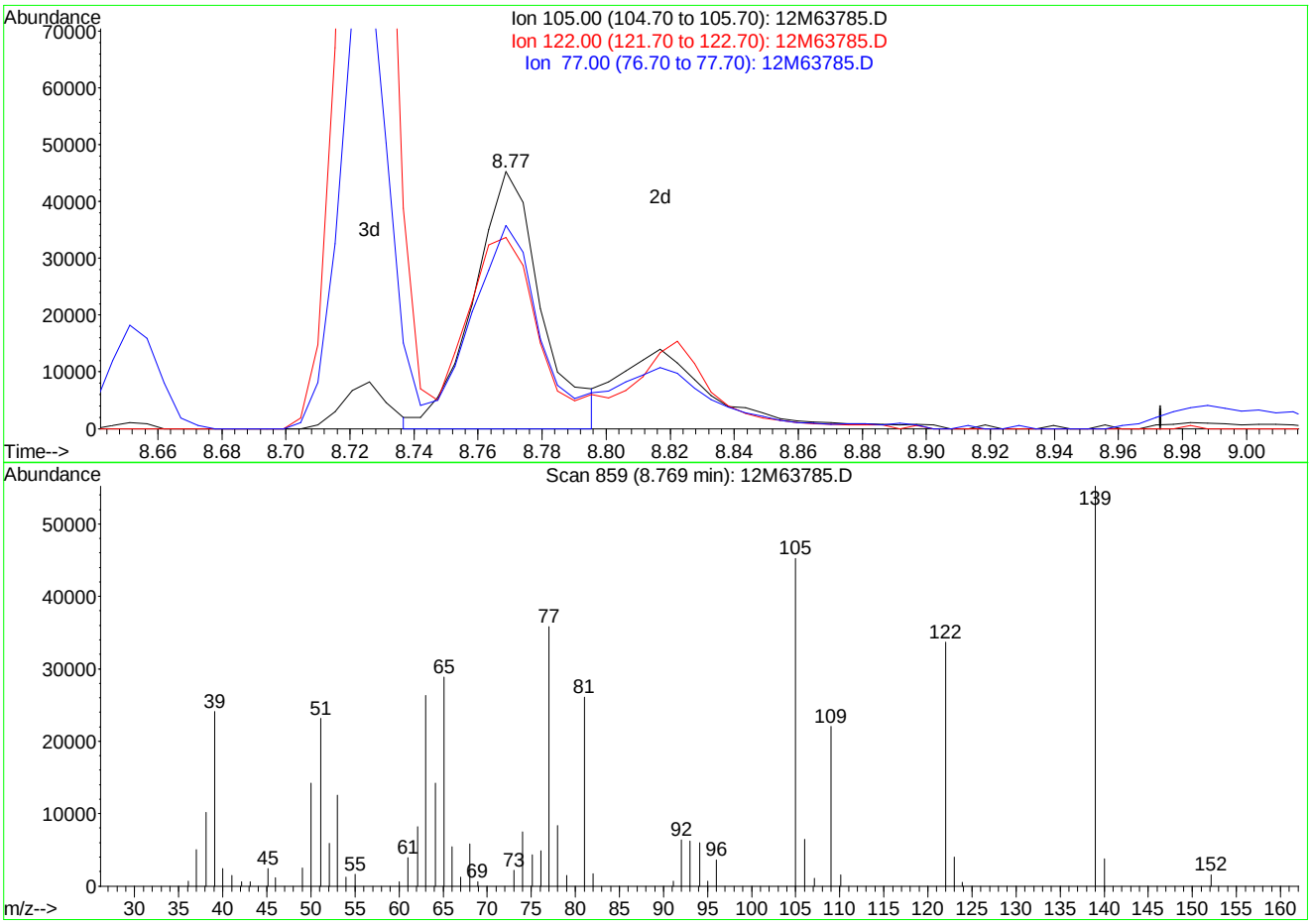
Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Last Update : Thu Aug 03 13:11:55 2017
Response via : Initial Calibration



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

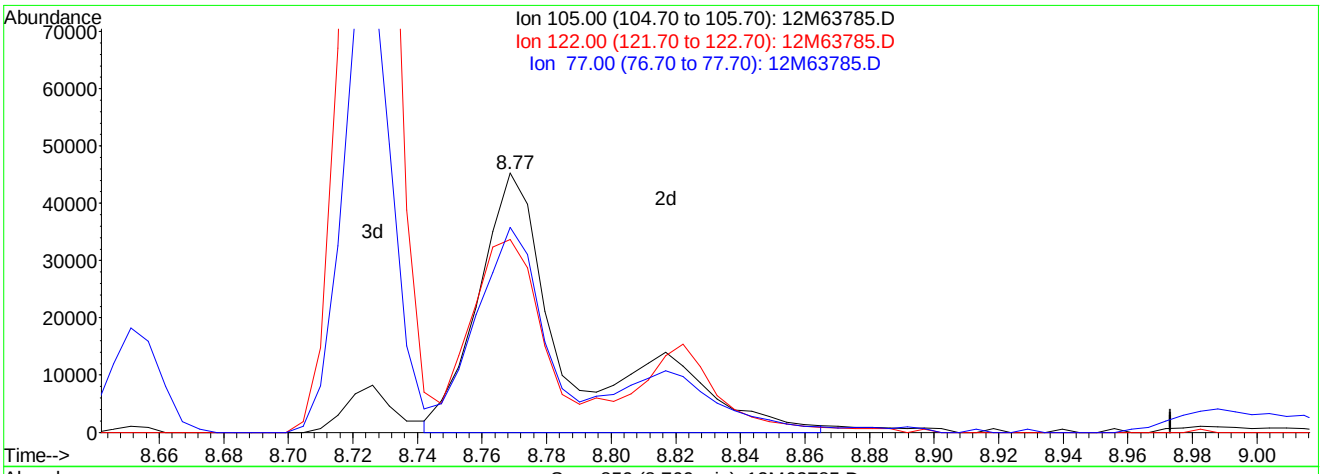
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 58.00 | 76.11 |
| 77.00 | 53.80 | 75.49# |
| 0.00 | 0.00 | 0.00 |

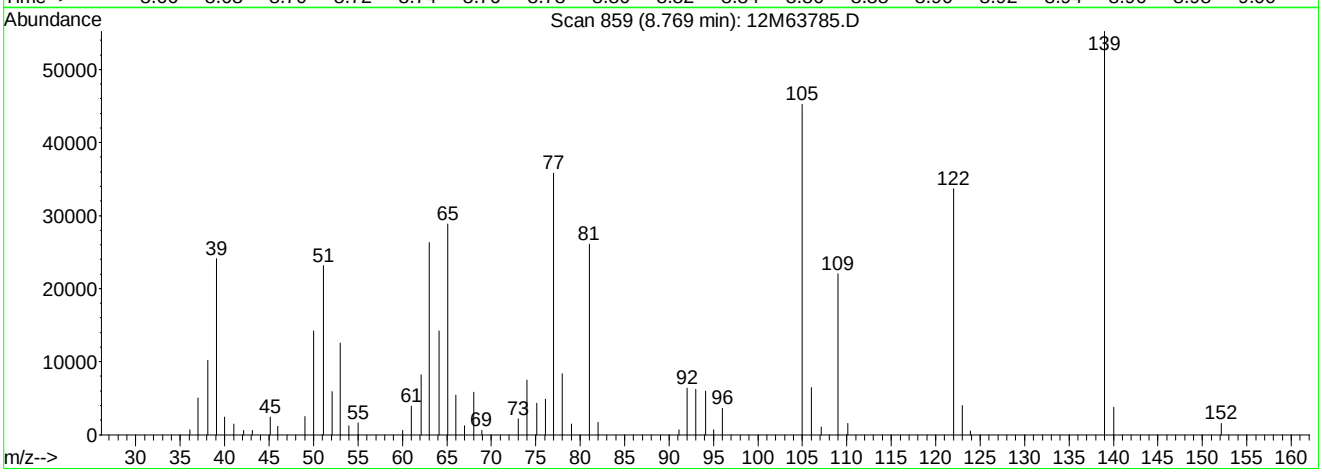
12M63785.D MEGAMIX.M Thu Aug 03 13:11:20 2017

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 [illegible]017

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 (Not Reviewed)

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

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 Ethe | 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) | Diallate | 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

Quantitation Report (Not Reviewed)

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

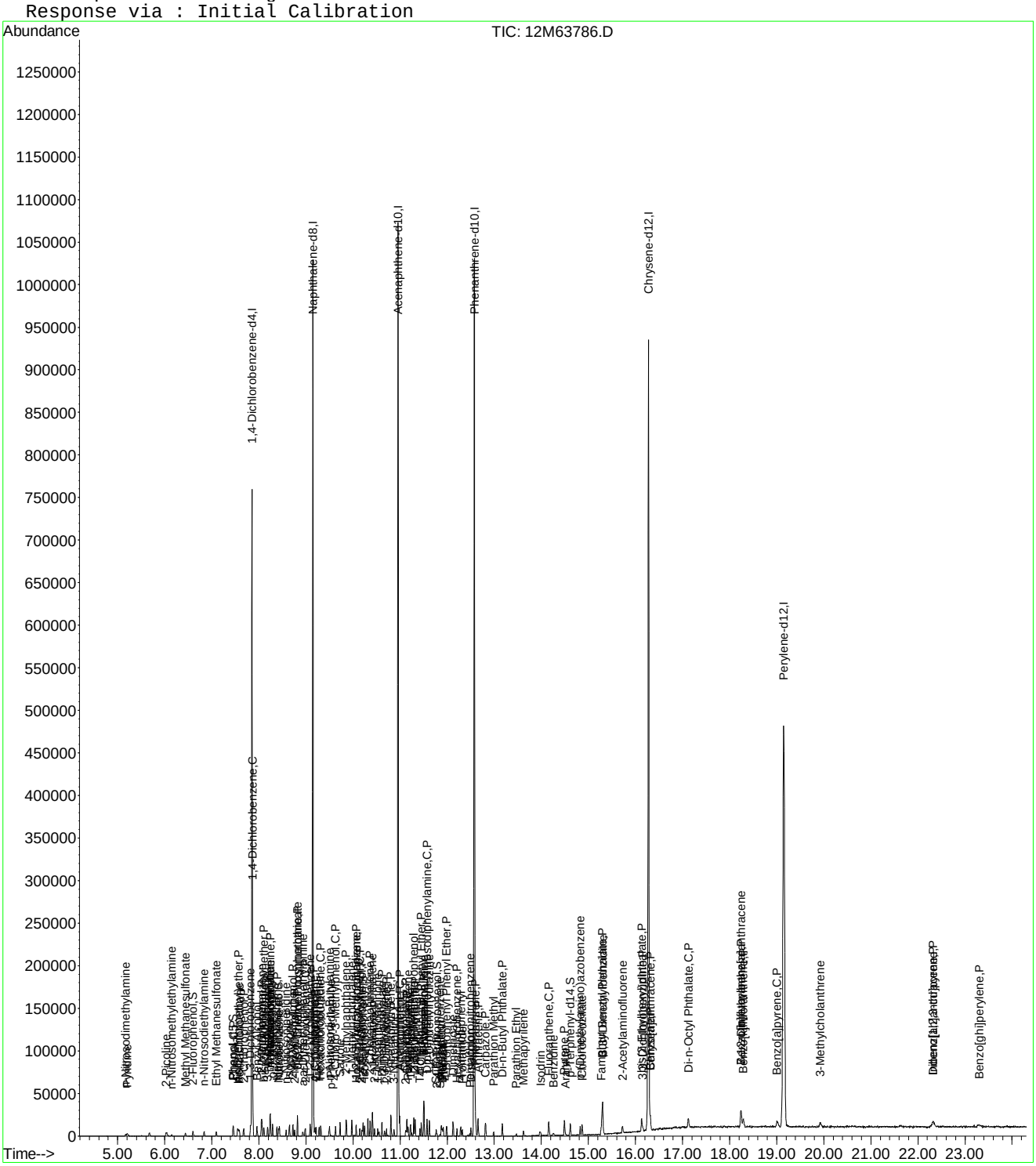
| Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|
| 102) Disulfoton | 12.50 | 88 | 3705 | 0.7431 ug/ml | 94 |
| 103) Phenanthrene | 12.60 | 178 | 13003 | 0.8580 ug/ml | 94 |
| 104) Anthracene | 12.66 | 178 | 12501 | 0.7938 ug/ml | 95 |
| 105) Carbazole | 12.81 | 167 | 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

Quantitation Report (Not Reviewed)

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



Quantitation Report (Not Reviewed)

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 | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 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 Page 1

Quantitation Report (Not Reviewed)

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 Ethe | 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) | Sulfotepp | 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

Quantitation Report (Not Reviewed)

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

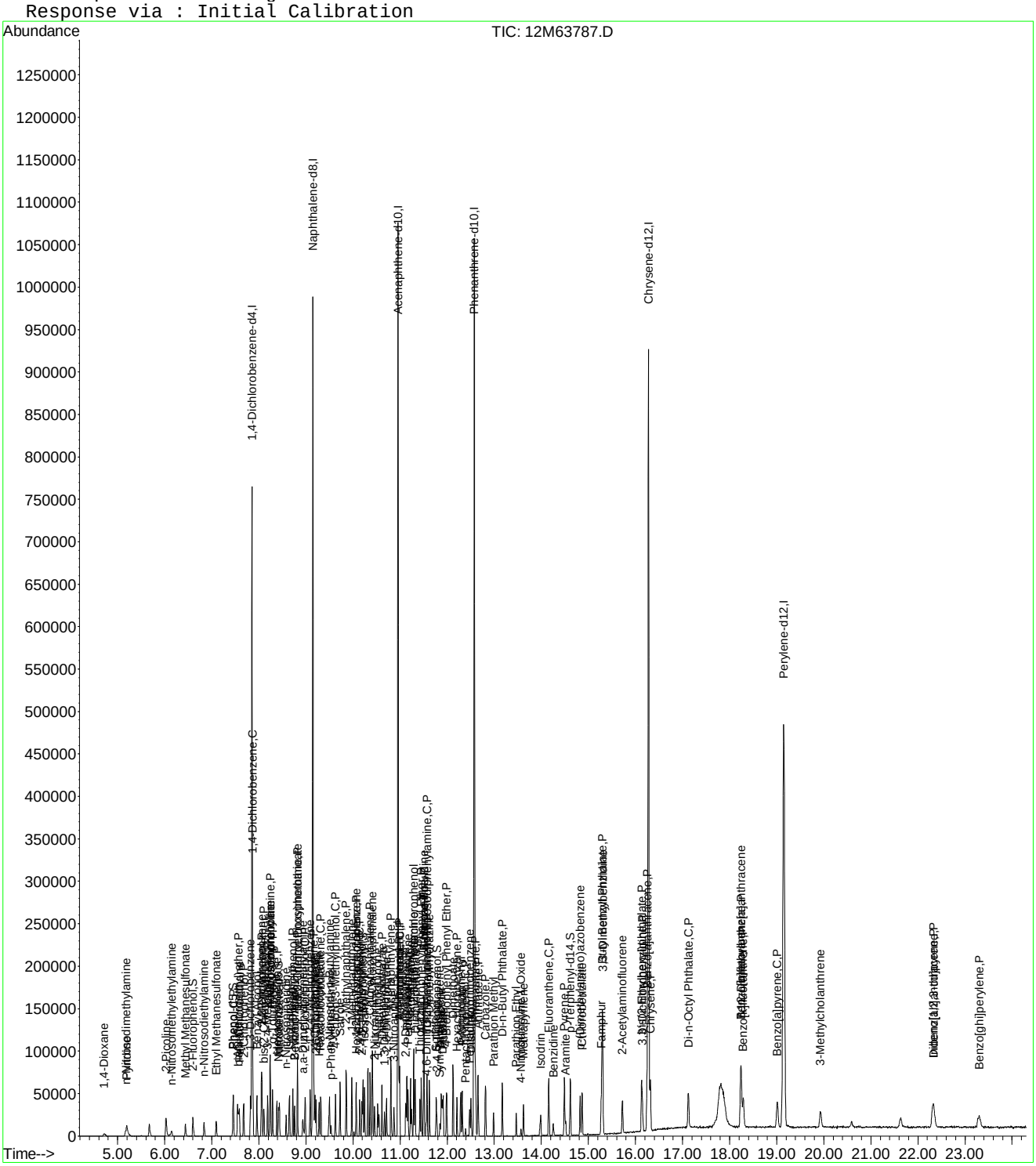
| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 97) | Dimethoate | 12.13 | 87 | 10306 | 3.0537 ug/ml | 99 |
| 98) | 4-Aminobiphenyl | 12.29 | 169 | 26865 | 2.6897 ug/ml | 97 |
| 99) | Pentachlorophenol | 12.39 | 266 | 2336 | 4.4172 ug/ml | 93 |
| 100) | Pronamide | 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 Page 3

Quantitation Report (Not Reviewed)

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 4 7:10 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 : Tue Aug 08 12:31:59 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

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

Quantitation Report (QT Reviewed)

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 Ethe | 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) | Sulfotepp | 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

Quantitation Report (QT Reviewed)

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

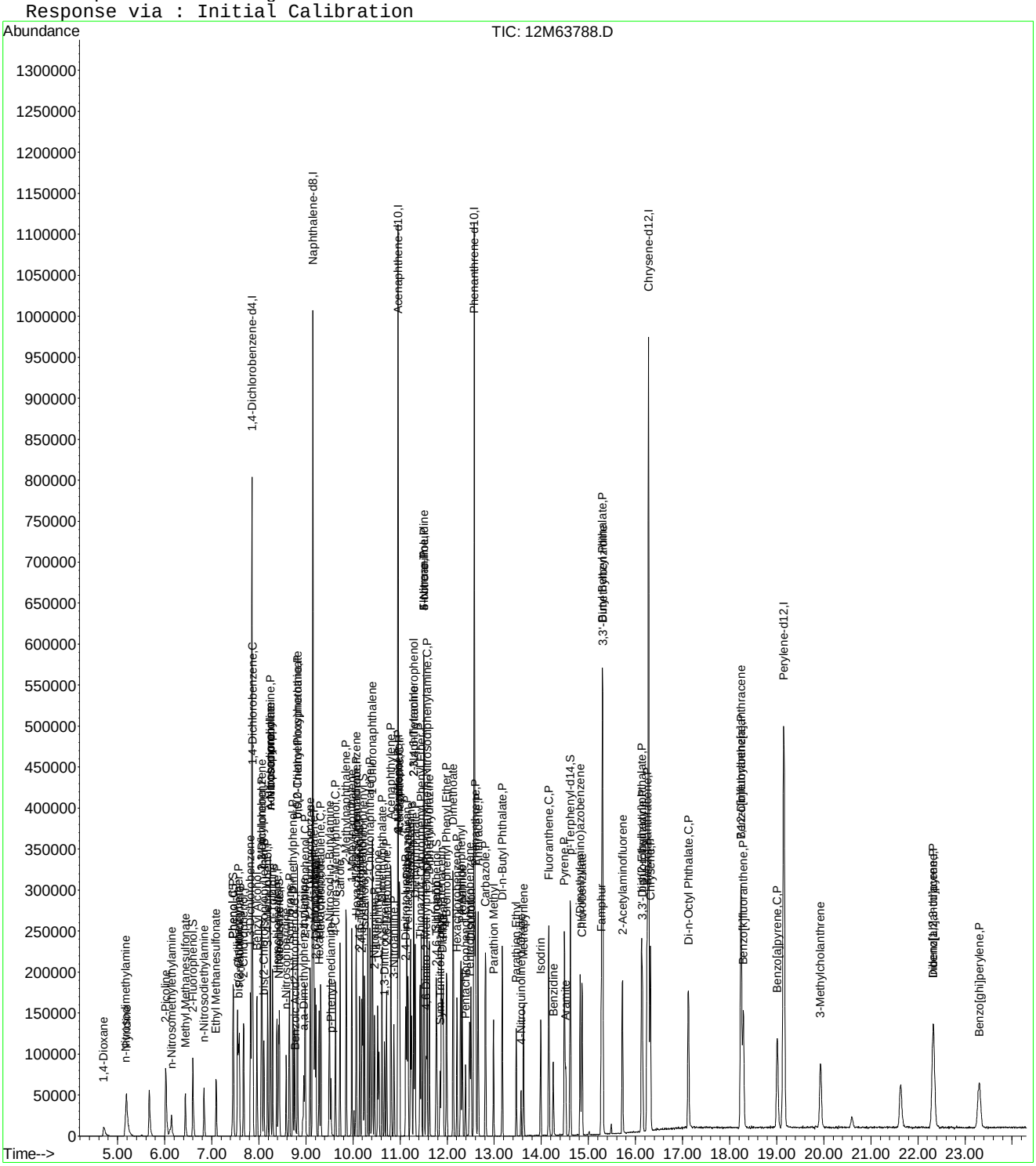
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 97) | Dimethoate | 12.13 | 87 | 37758 | 10.2658 | ug/ml | 98 |
| 98) | 4-Aminobiphenyl | 12.29 | 169 | 91971 | 8.1294 | ug/ml | 99 |
| 99) | Pentachlorophenol | 12.39 | 266 | 12346 | 6.2994 | ug/ml | 99 |
| 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

Quantitation Report (QT Reviewed)

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 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 13:15:47 2017
Response via : Initial Calibration




12M63788.D MEGAMIX.M Thu Aug 03 13:16:25 2017 Page 4

Quantitation Report (QT Reviewed)

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** | | | | | | Qvalue |
| 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

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 Ethe | 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) | Sulfotepp | 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

Quantitation Report (QT Reviewed)

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

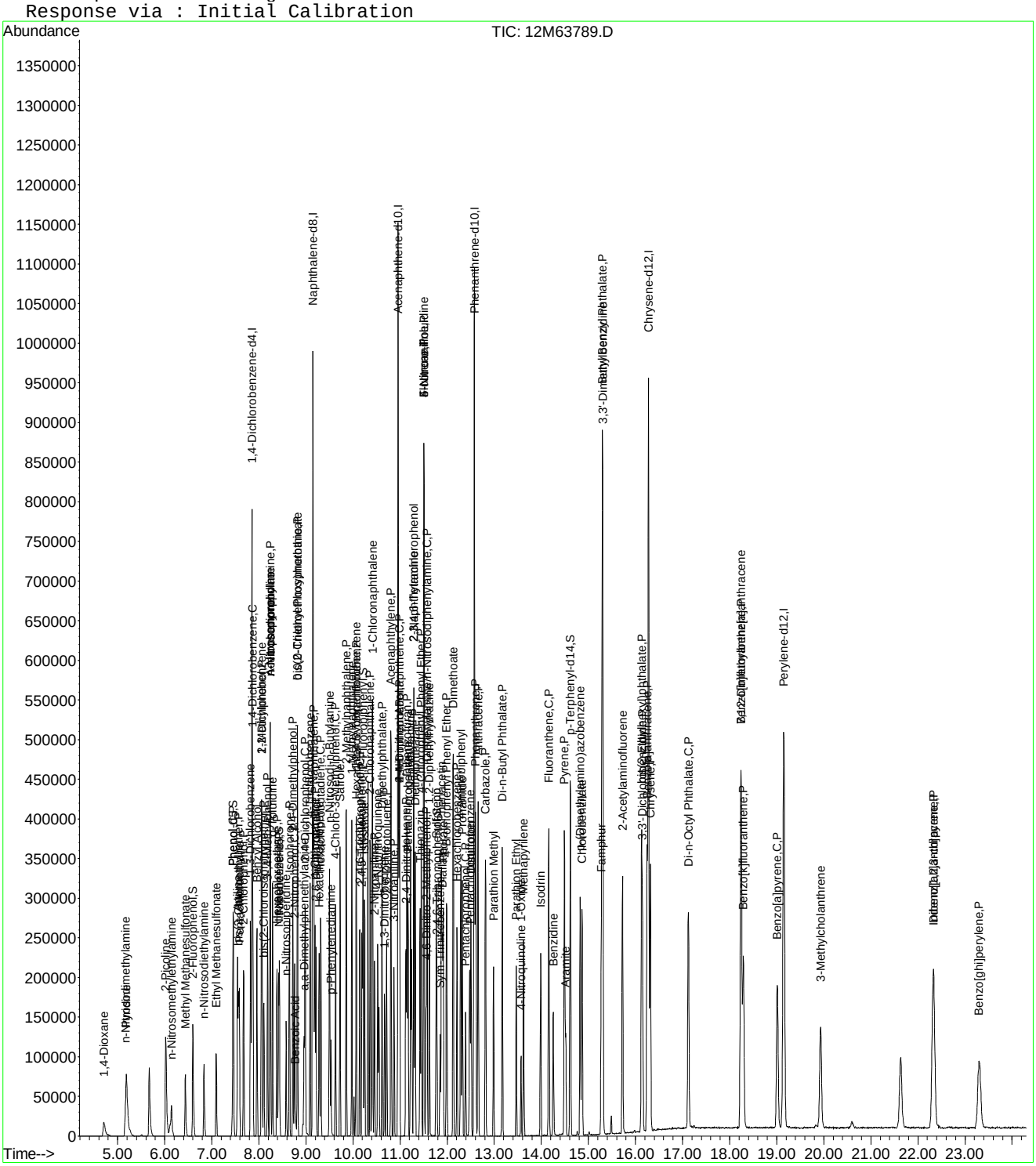
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 97) | Dimethoate | 12.13 | 87 | 55920 | 16.4085 | ug/ml | 99 |
| 98) | 4-Aminobiphenyl | 12.29 | 169 | 143218 | 13.5282 | ug/ml | 100 |
| 99) | Pentachlorophenol | 12.39 | 266 | 20576 | 11.2148 | ug/ml | 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

Quantitation Report (QT Reviewed)

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 3 13:16 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 13:18:35 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

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

Quantitation Report (QT Reviewed)

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 Ethe | 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) | Sulfotepp | 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

Quantitation Report (QT Reviewed)

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

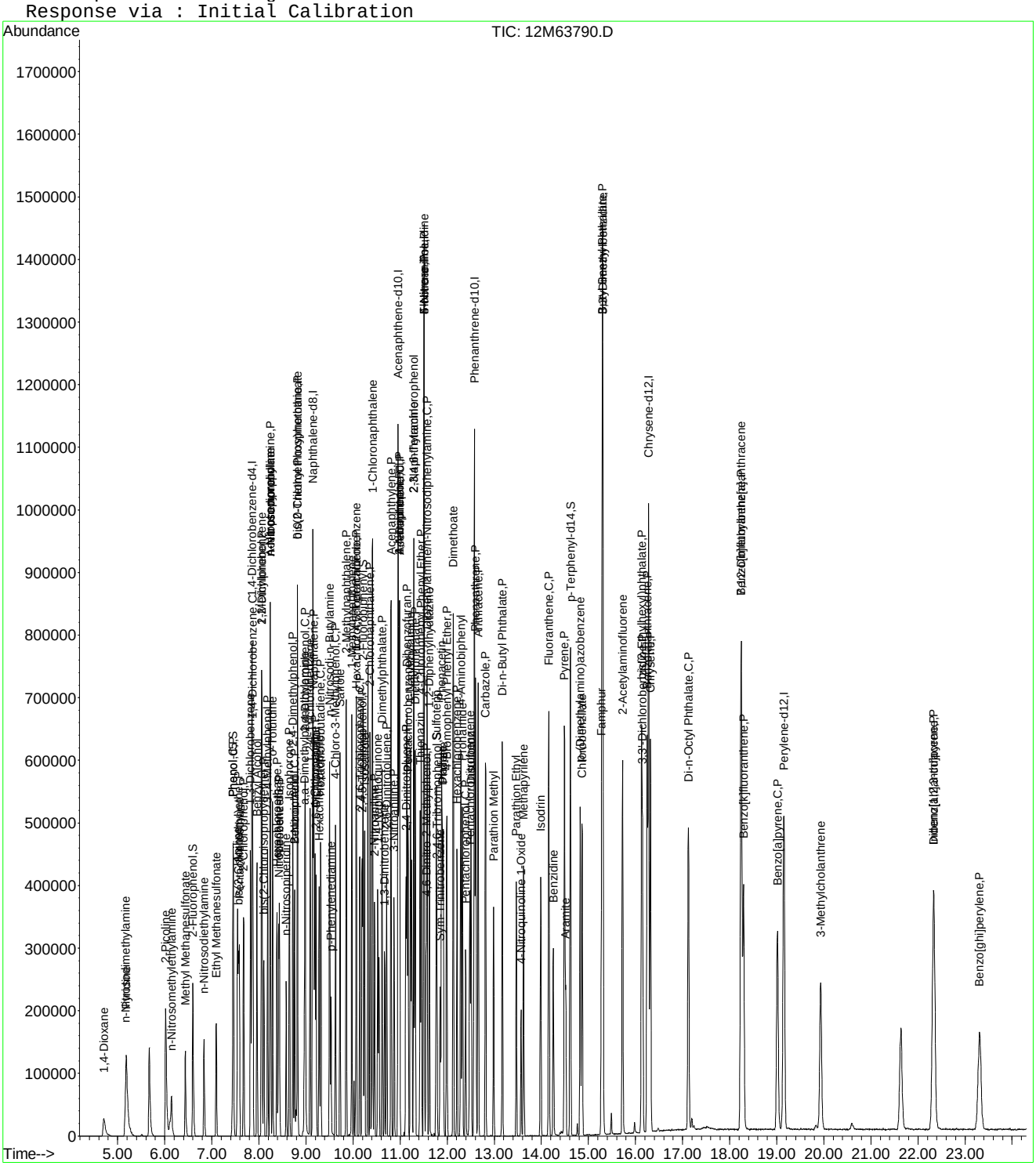
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 97) | Dimethoate | 12.13 | 87 | 93440 | 28.0951 | ug/ml | 98 |
| 98) | 4-Aminobiphenyl | 12.29 | 169 | 248352 | 23.8937 | ug/ml | 100 |
| 99) | Pentachlorophenol | 12.39 | 266 | 38379 | 21.5154 | ug/ml | 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 (QT Reviewed)

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: MEGAMIX.RES

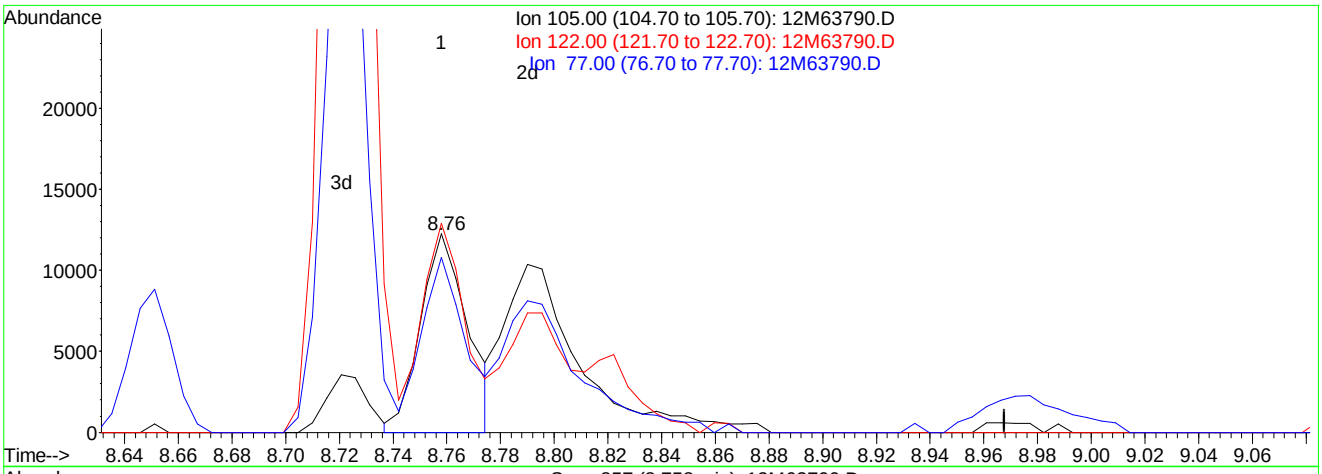
Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Last Update : Thu Aug 03 13:16:59 2017
Response via : Initial Calibration

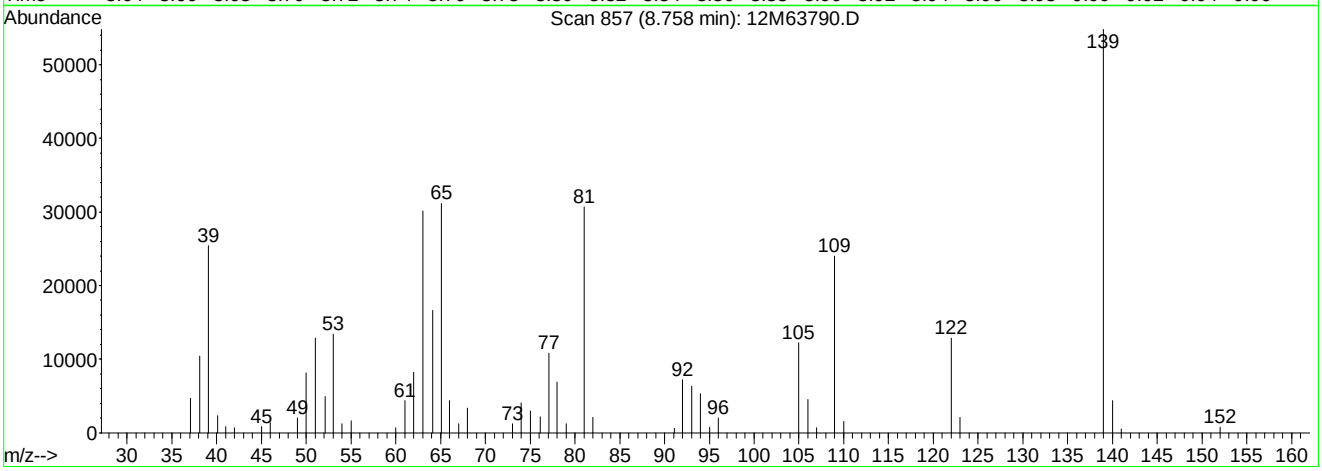


Quantitation Report (Qedit)

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

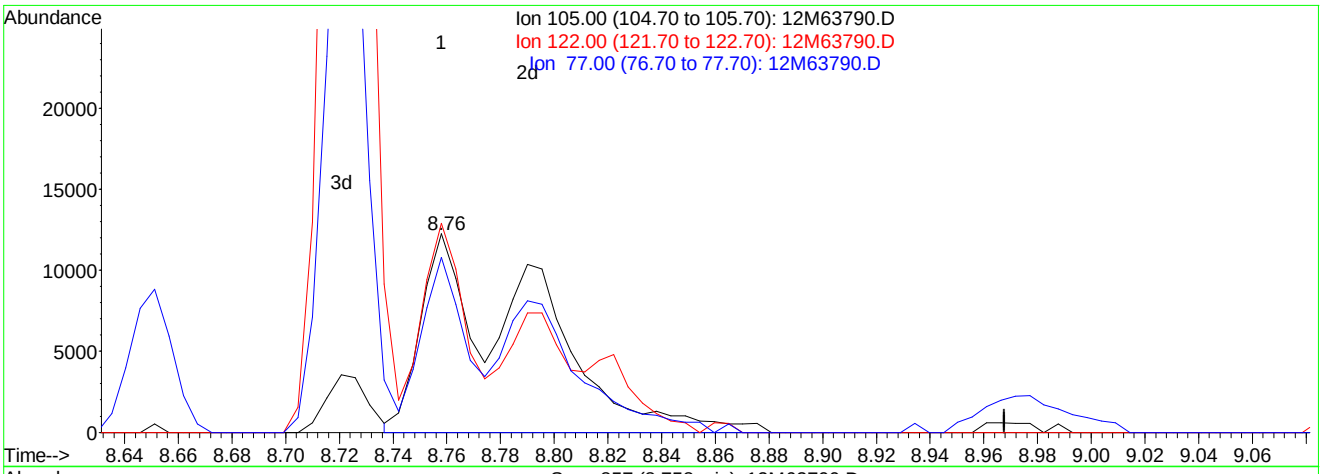
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 54.20 | 73.96 |
| 77.00 | 53.80 | 82.20# |
| 0.00 | 0.00 | 0.00 |

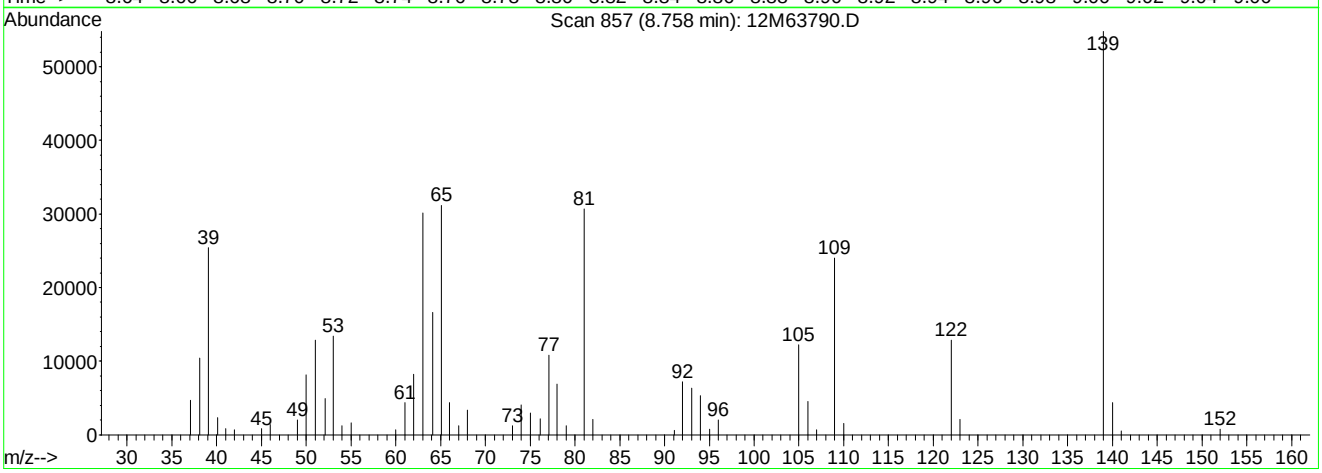
12M63790.D MEGAMIX.M Thu Aug 03 13:17:19 2017

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 [illegible]017

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 (QT Reviewed)

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

Quantitation Report (QT Reviewed)

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 Ethe | 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) | Sulfotepp | 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

Quantitation Report (QT Reviewed)

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

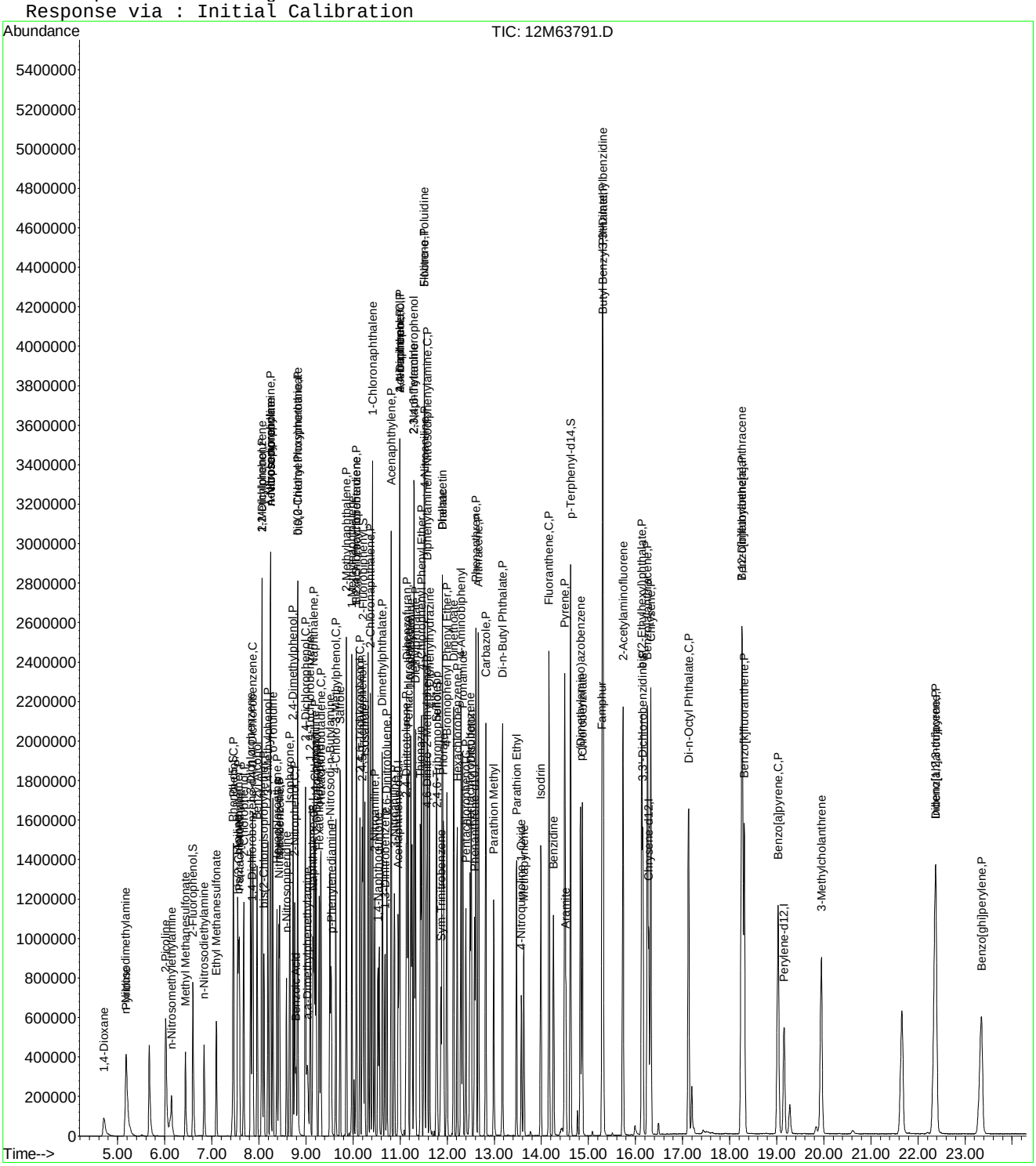
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 97) | Dimethoate | 12.14 | 87 | 264445 | 76.8949 | ug/ml | 98 |
| 98) | 4-Aminobiphenyl | 12.29 | 169 | 896331 | 83.3281 | ug/ml | 99 |
| 99) | Pentachlorophenol | 12.40 | 266 | 154762 | 84.2856 | ug/ml | 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 (QT Reviewed)

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: MEGAMIX.RES

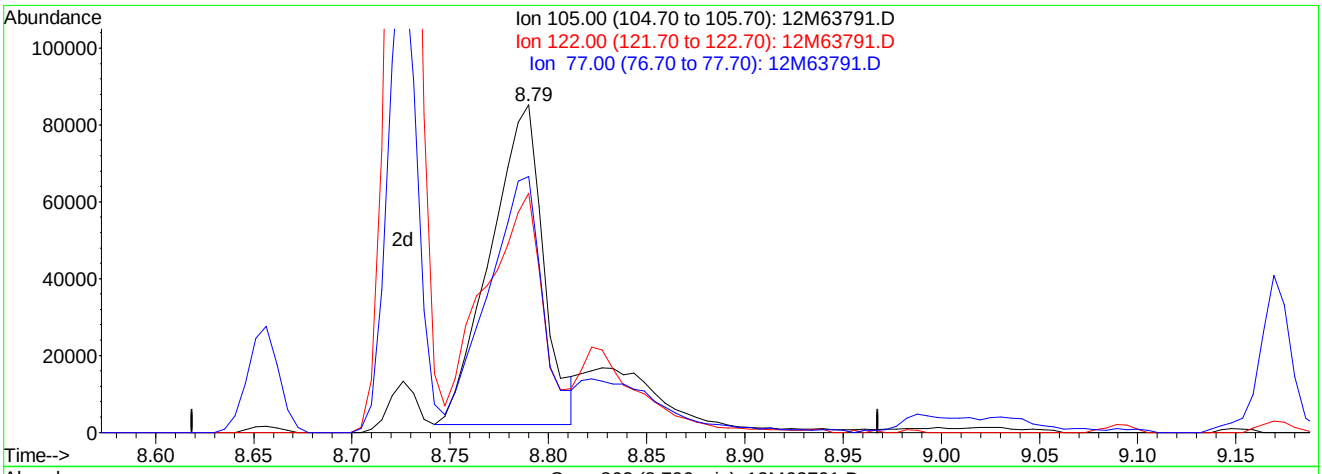
Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Last Update : Thu Aug 03 13:17:43 2017
Response via : Initial Calibration

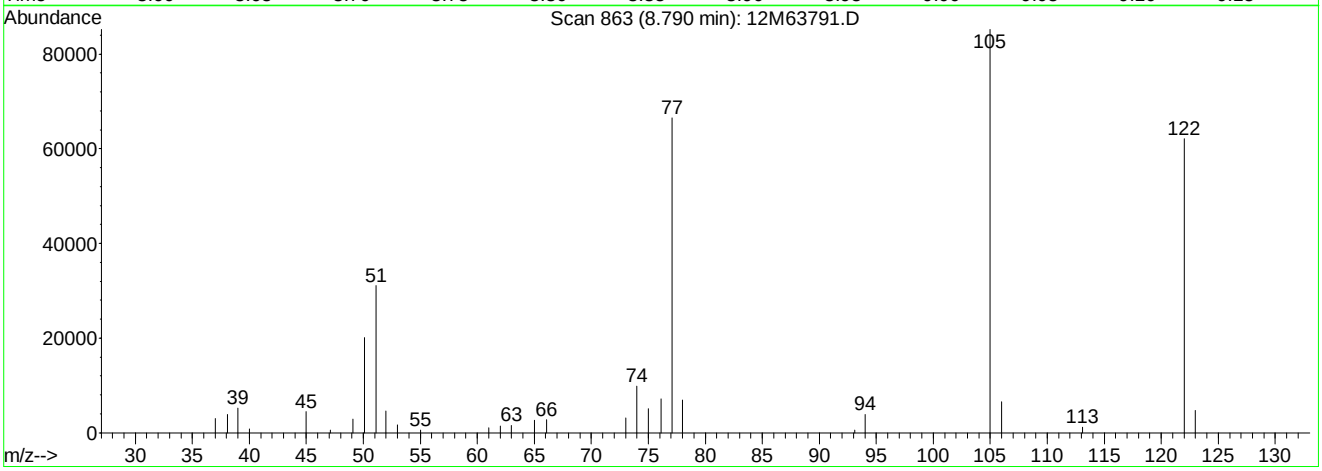


Quantitation Report (Qedit)

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

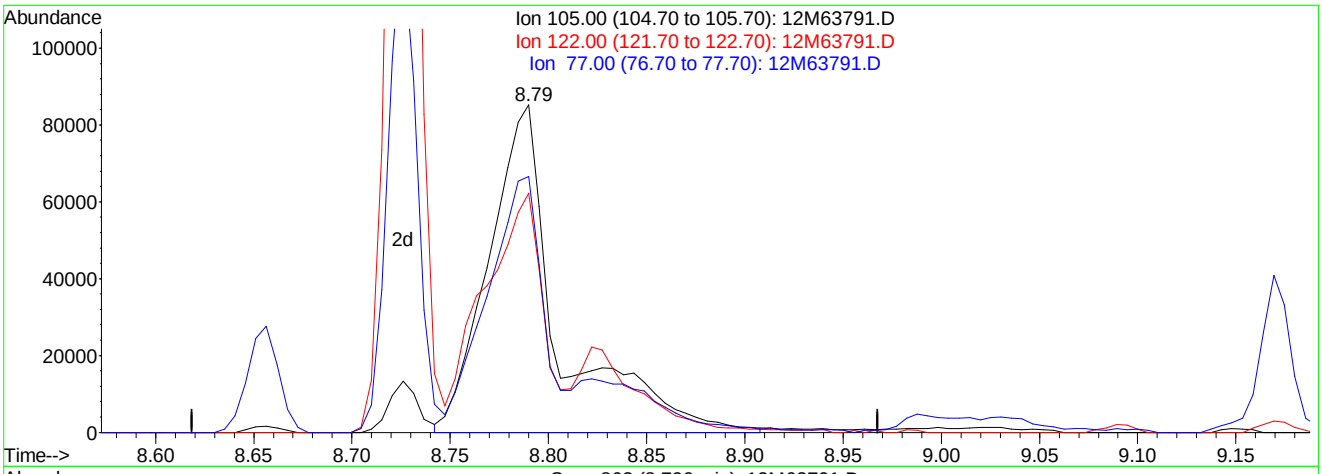
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 54.20 | 80.87# |
| 77.00 | 53.80 | 82.53# |
| 0.00 | 0.00 | 0.00 |

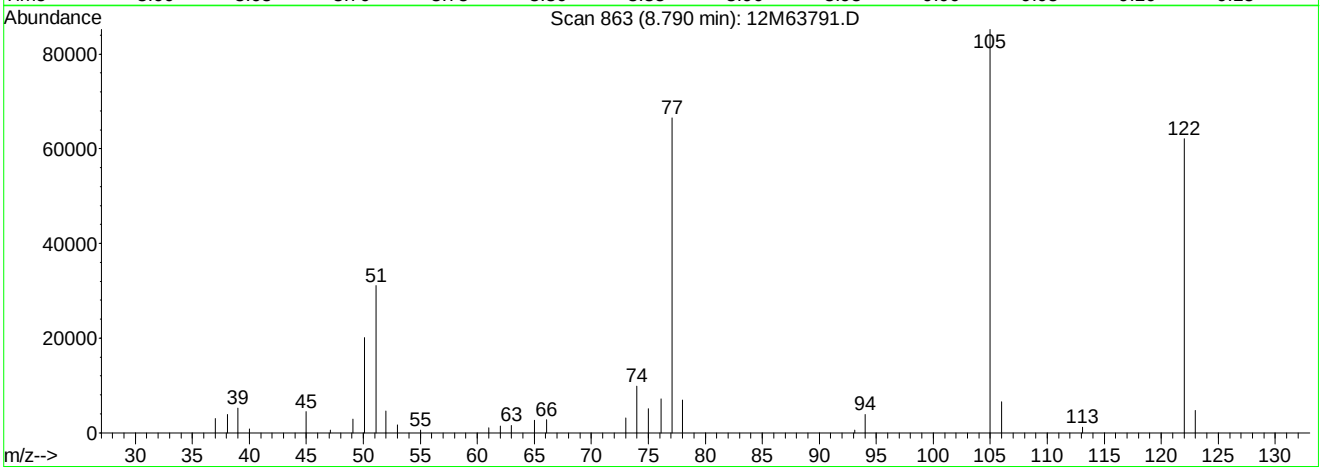
12M63791.D MEGAMIX.M Thu Aug 03 13:18:00 2017

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 [illegible]017

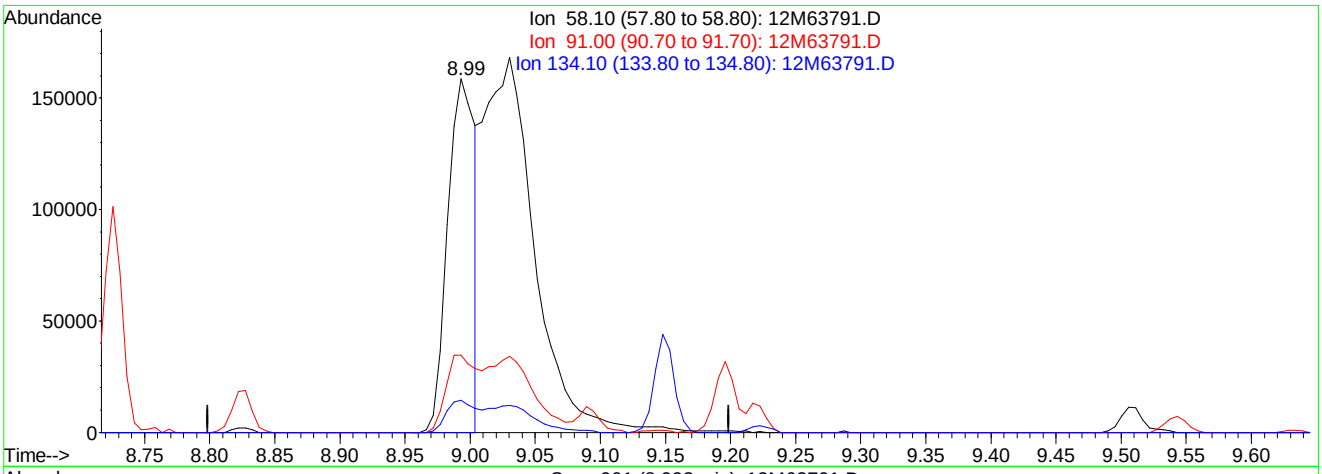
Analyst: 08/04/2017 09:07 Supervisor: 08/07/2017 16:22

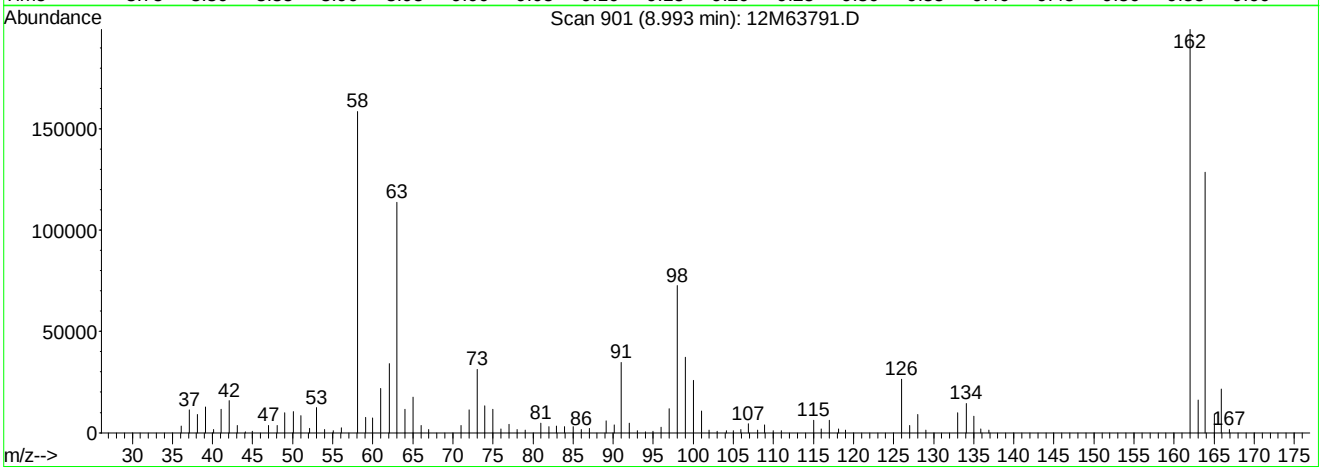
#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

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

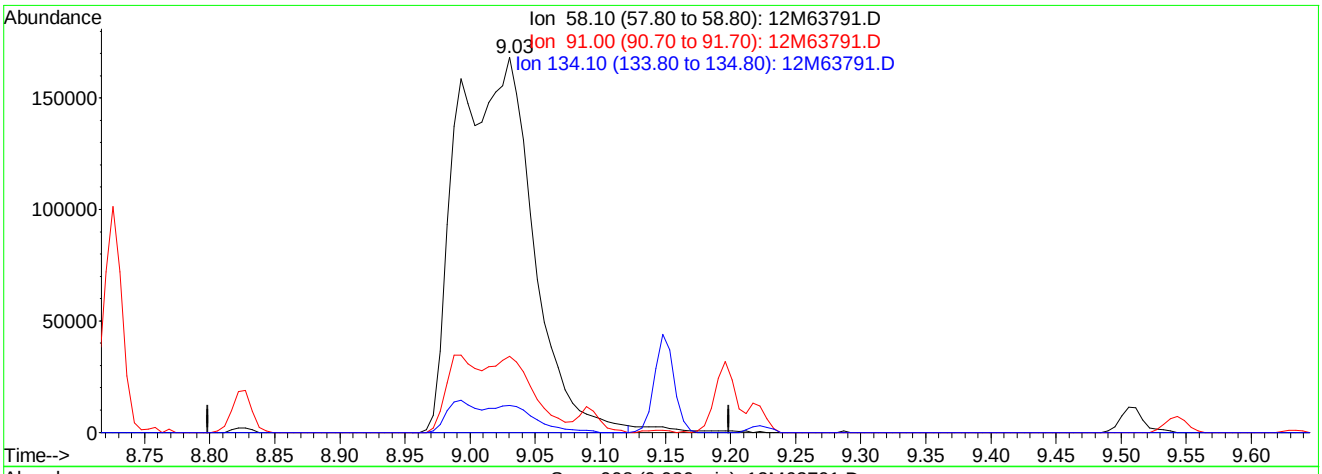
| Ion | Exp% | Act% |
|---|---|---|
| 58.10 | 100 | 100 |
| 91.00 | 20.00 | 26.40# |
| 134.10 | 7.70 | 10.42# |
| 0.00 | 0.00 | 0.00 |

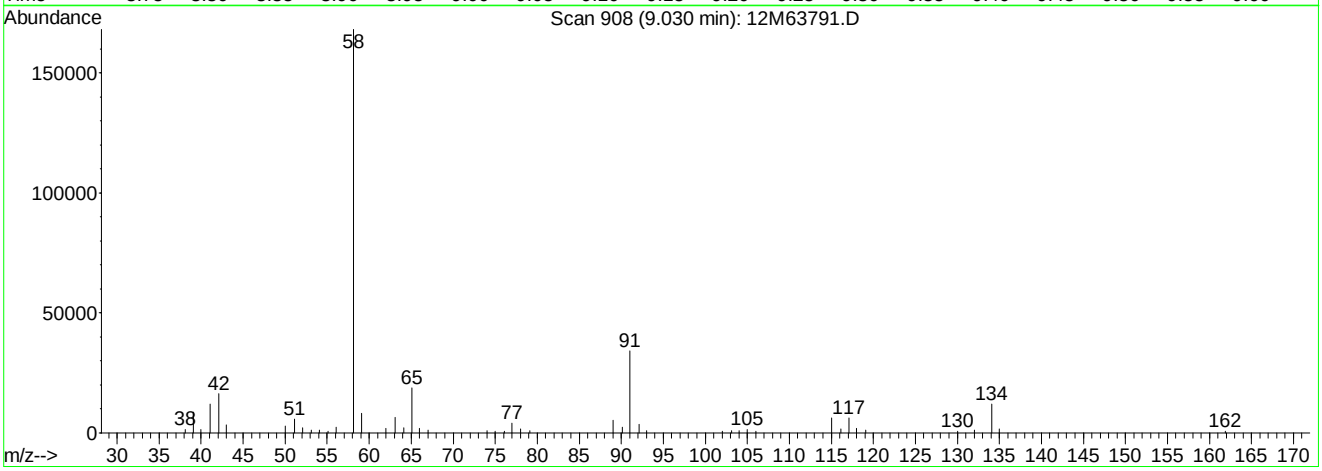
12M63791.D MEGAMIX.M Thu Aug 03 13:18:11 2017

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 [illegible] 017

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 (QT Reviewed)

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

Quantitation Report (QT Reviewed)

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 Ethe | 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) | Sulfotepp | 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

Quantitation Report (QT Reviewed)

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

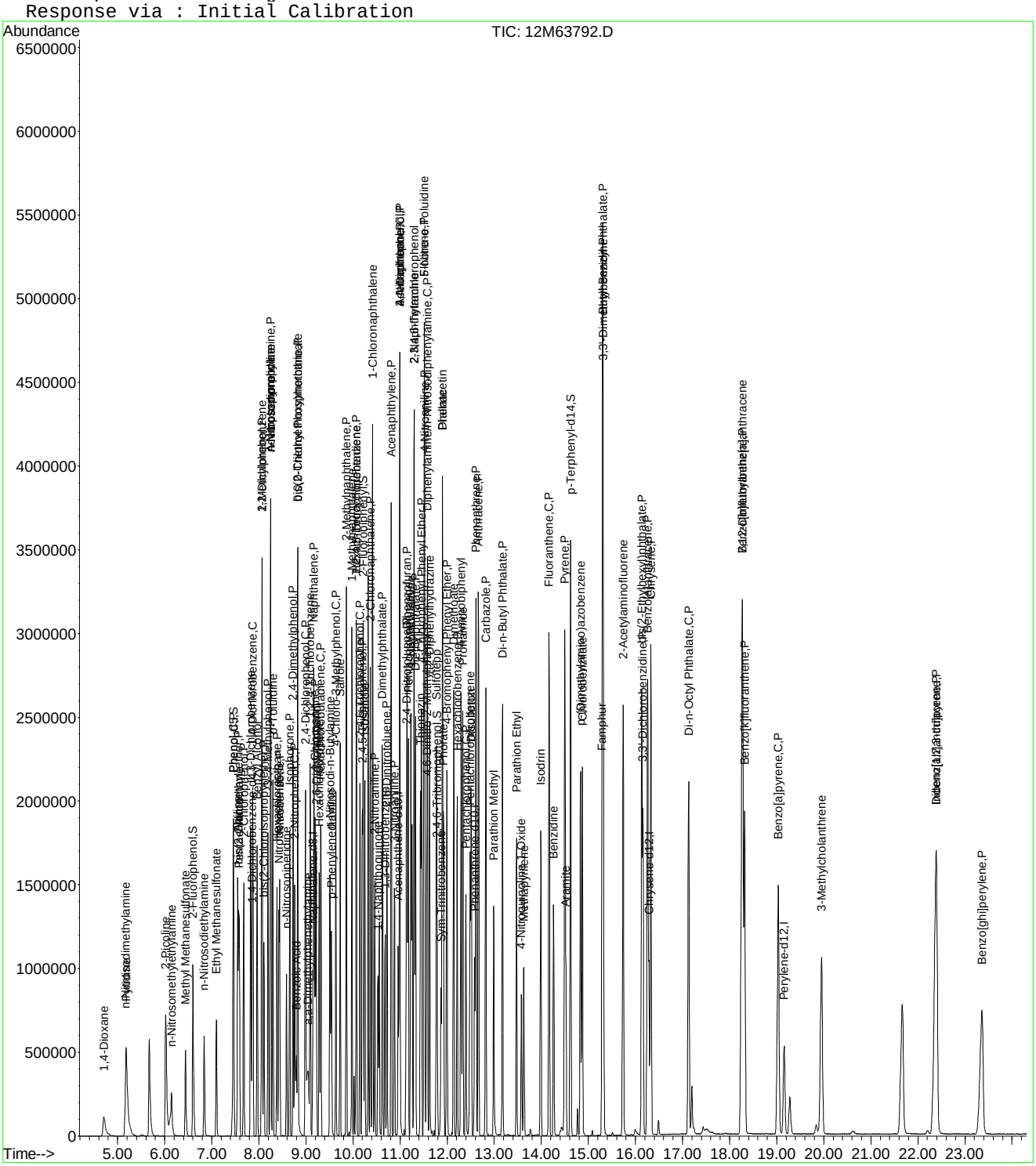
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 97) | Dimethoate | 12.15 | 87 | 308365 | 90.5609 | ug/ml | 98 |
| 98) | 4-Aminobiphenyl | 12.29 | 169 | 1131416 | 107.2730 | ug/ml | 99 |
| 99) | Pentachlorophenol | 12.40 | 266 | 205896 | 115.3974 | ug/ml | 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

Quantitation Report (QT Reviewed)

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: MEGAMIX.RES

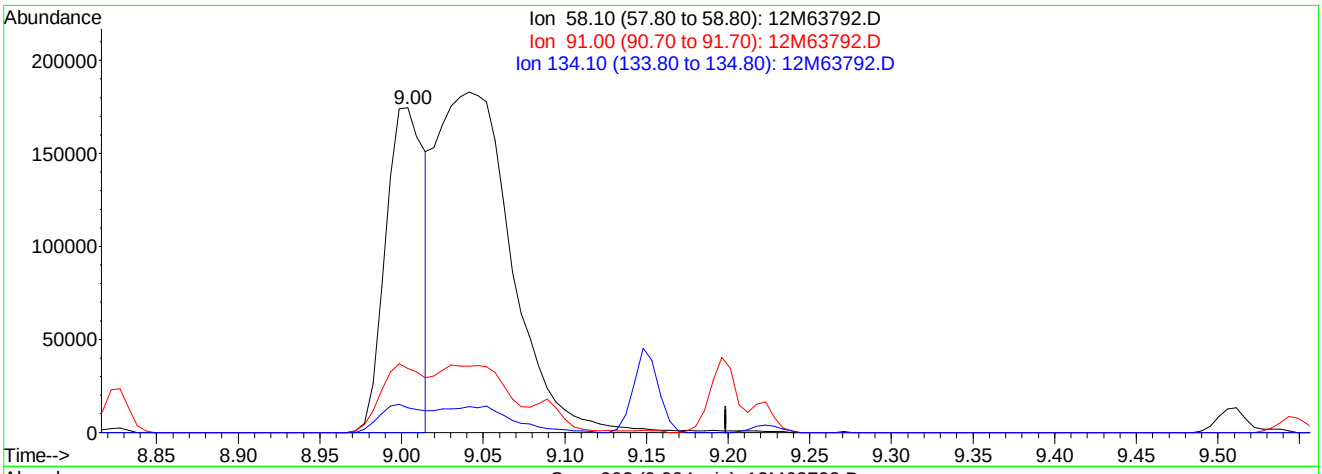
Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Last Update : Thu Aug 03 13:47:54 2017
Response via : Initial Calibration

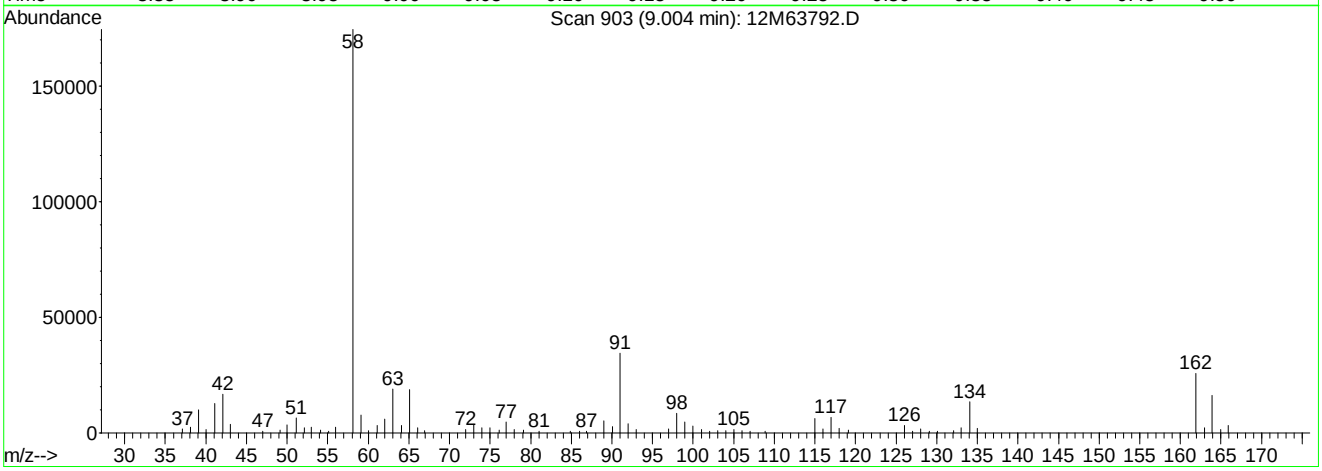


Quantitation Report (Qedit)

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

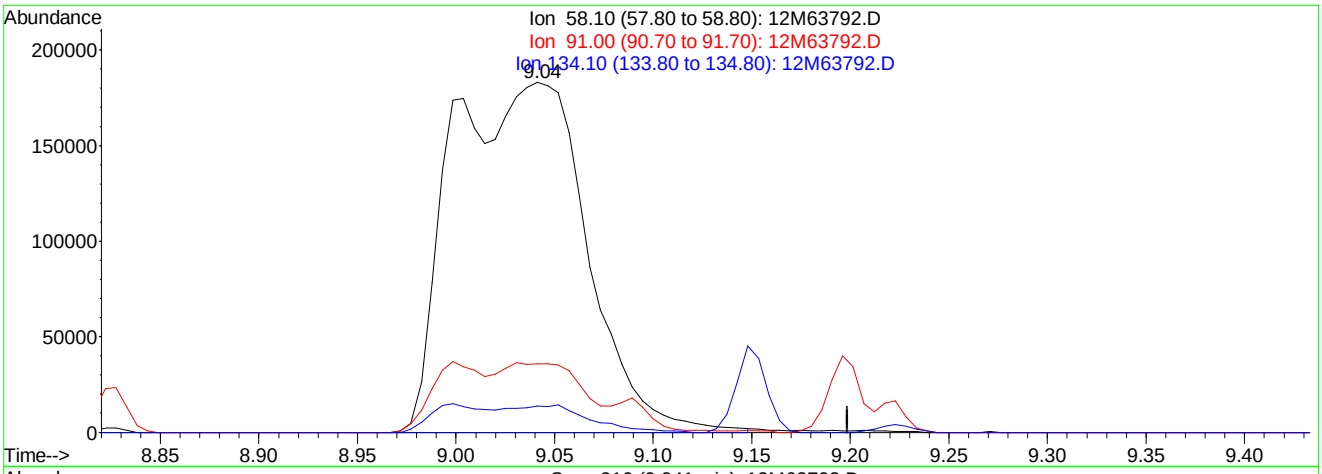
| Ion | Exp% | Act% |
|---|---|---|
| 58.10 | 100 | 100 |
| 91.00 | 20.00 | 22.63 |
| 134.10 | 7.70 | 10.53# |
| 0.00 | 0.00 | 0.00 |

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 [illegible]017

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 (QT Reviewed)

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 Ethe | 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) | Sulfotepp | 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

Quantitation Report (QT Reviewed)

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

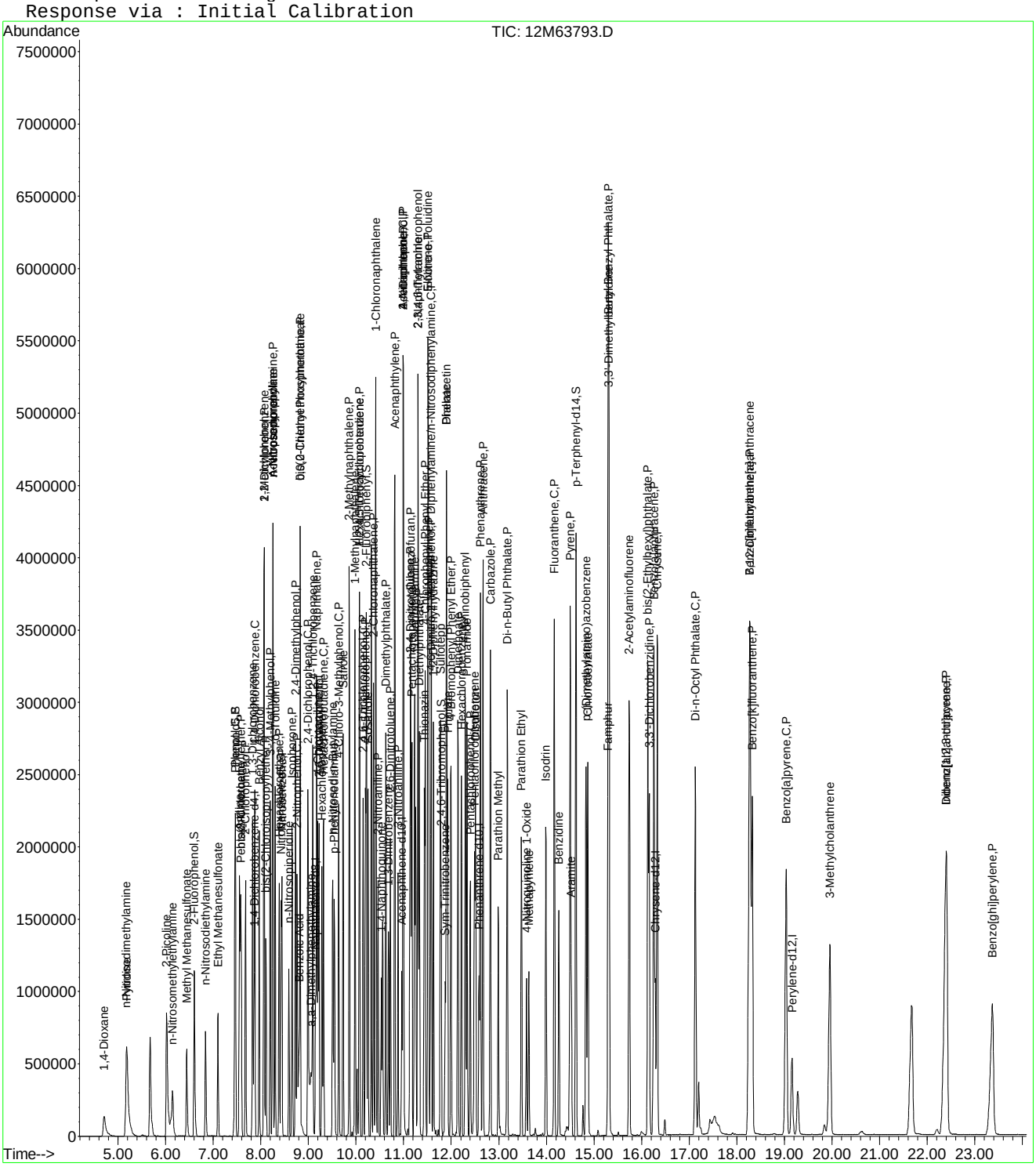
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 97) | Dimethoate | 12.14 | 87 | 351712 | 101.4171 | ug/ml | 98 |
| 98) | 4-Aminobiphenyl | 12.29 | 169 | 1374811 | 129.7306 | ug/ml | 99 |
| 99) | Pentachlorophenol | 12.40 | 266 | 255209 | 143.2951 | ug/ml | 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 (QT Reviewed)

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: MEGAMIX.RES

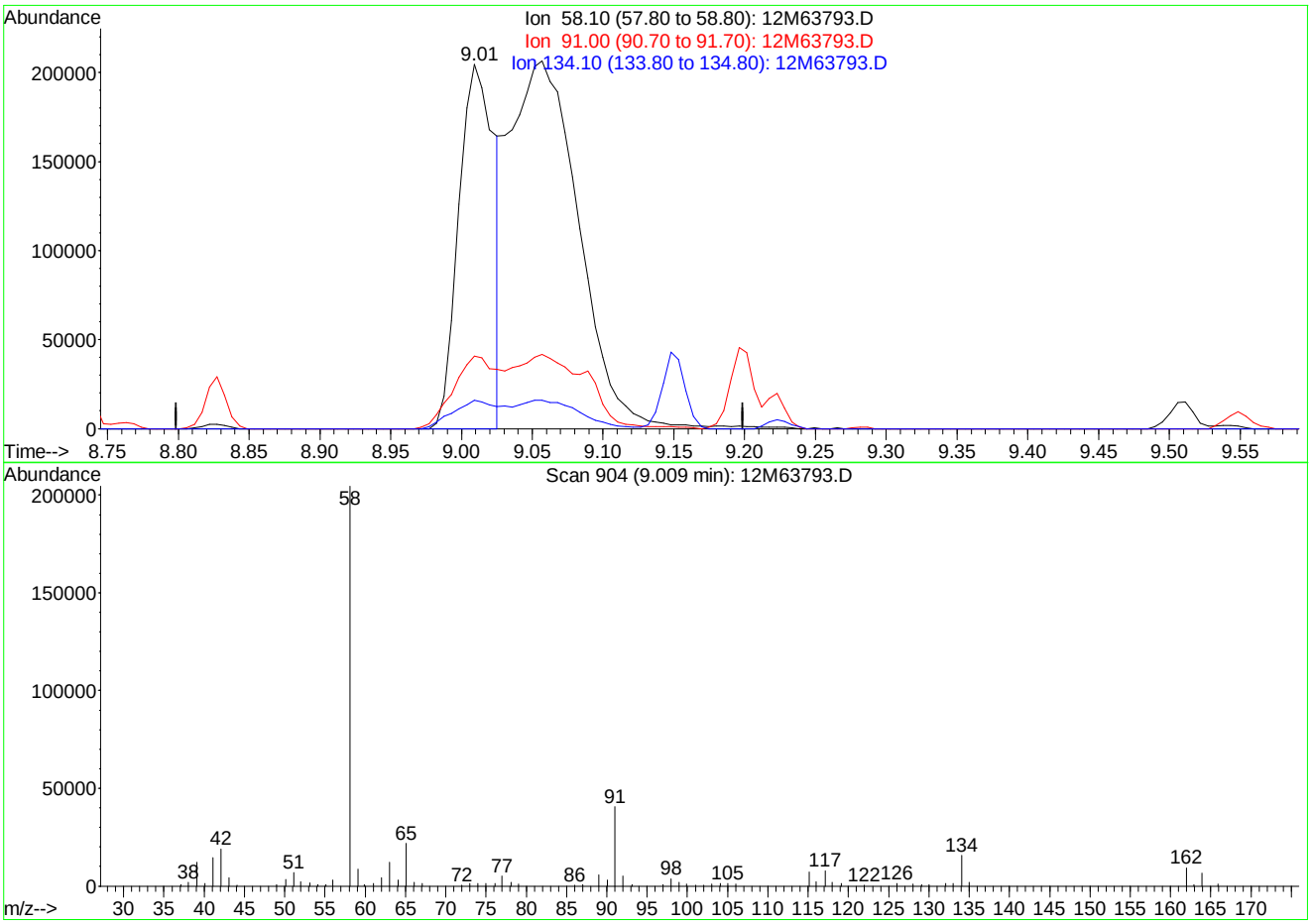
Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Last Update : Thu Aug 03 13:49:29 2017
Response via : Initial Calibration



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

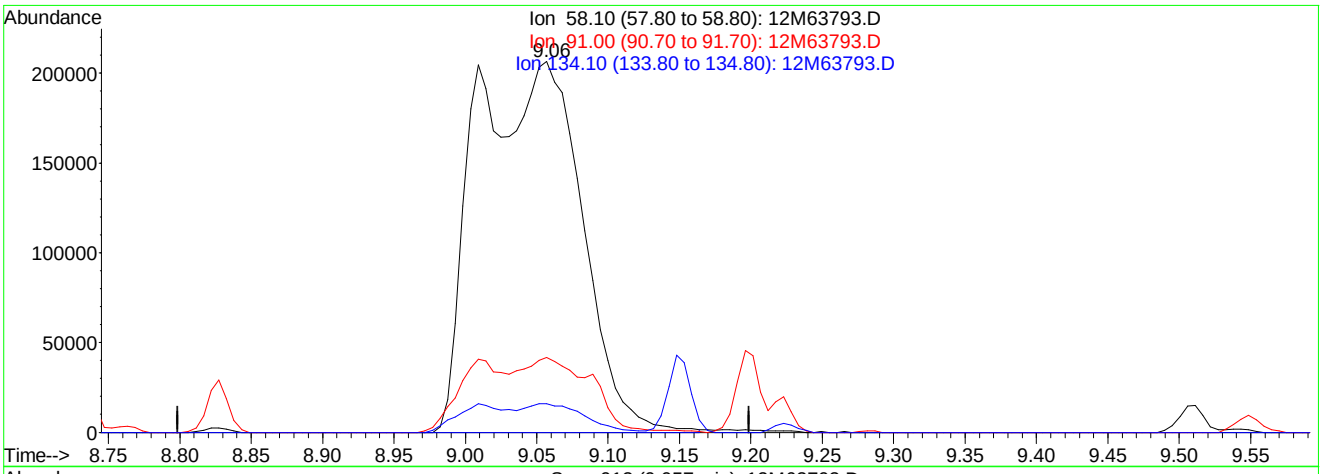
| Ion | Exp% | Act% |
|---|---|---|
| 58.10 | 100 | 100 |
| 91.00 | 20.00 | 25.92# |
| 134.10 | 7.70 | 11.29# |
| 0.00 | 0.00 | 0.00 |

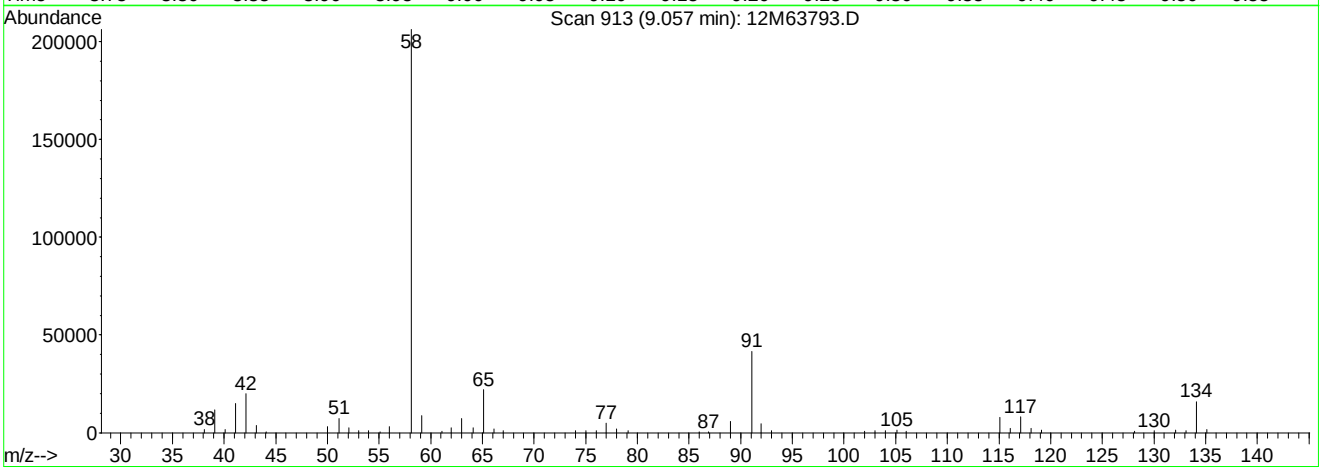
12M63793.D MEGAMIX.M Thu Aug 03 14:05:38 2017

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

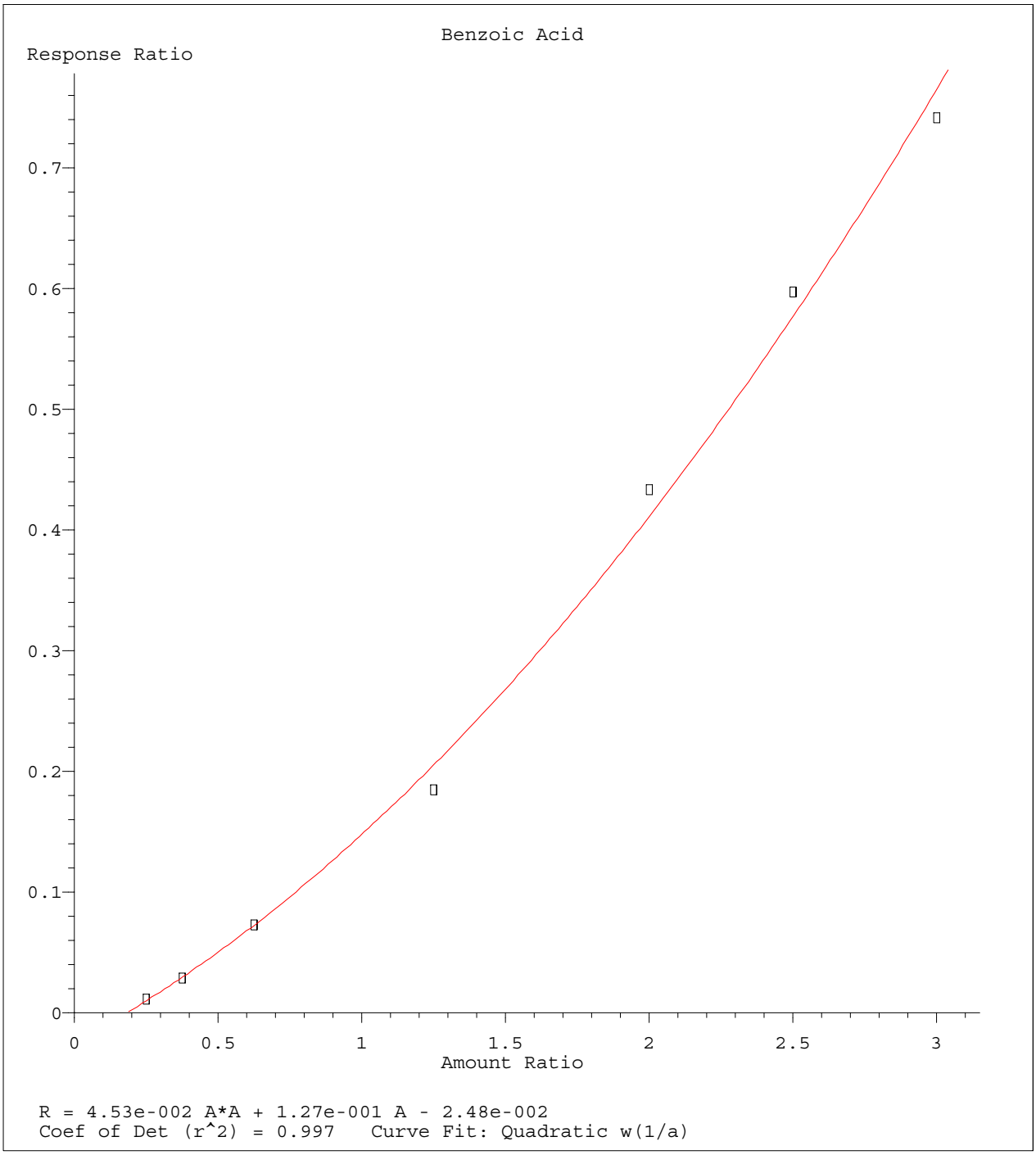
response 1056969

| 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 |

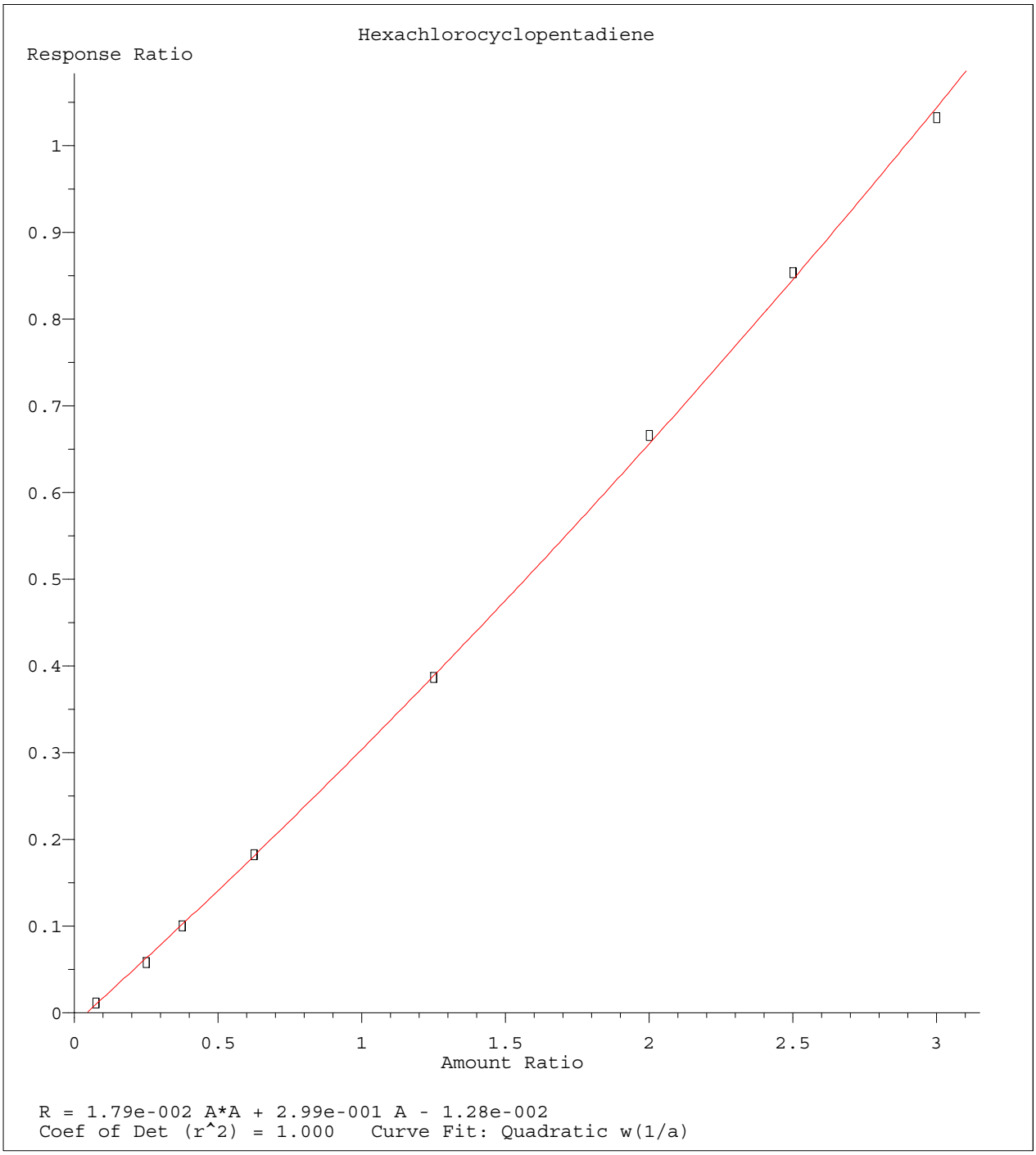
12M63793.D MEGAMIX.M Thu Aug 03 [illegible]017

Analyst: 08/04/2017 09:08 Supervisor: 08/07/2017 16:22

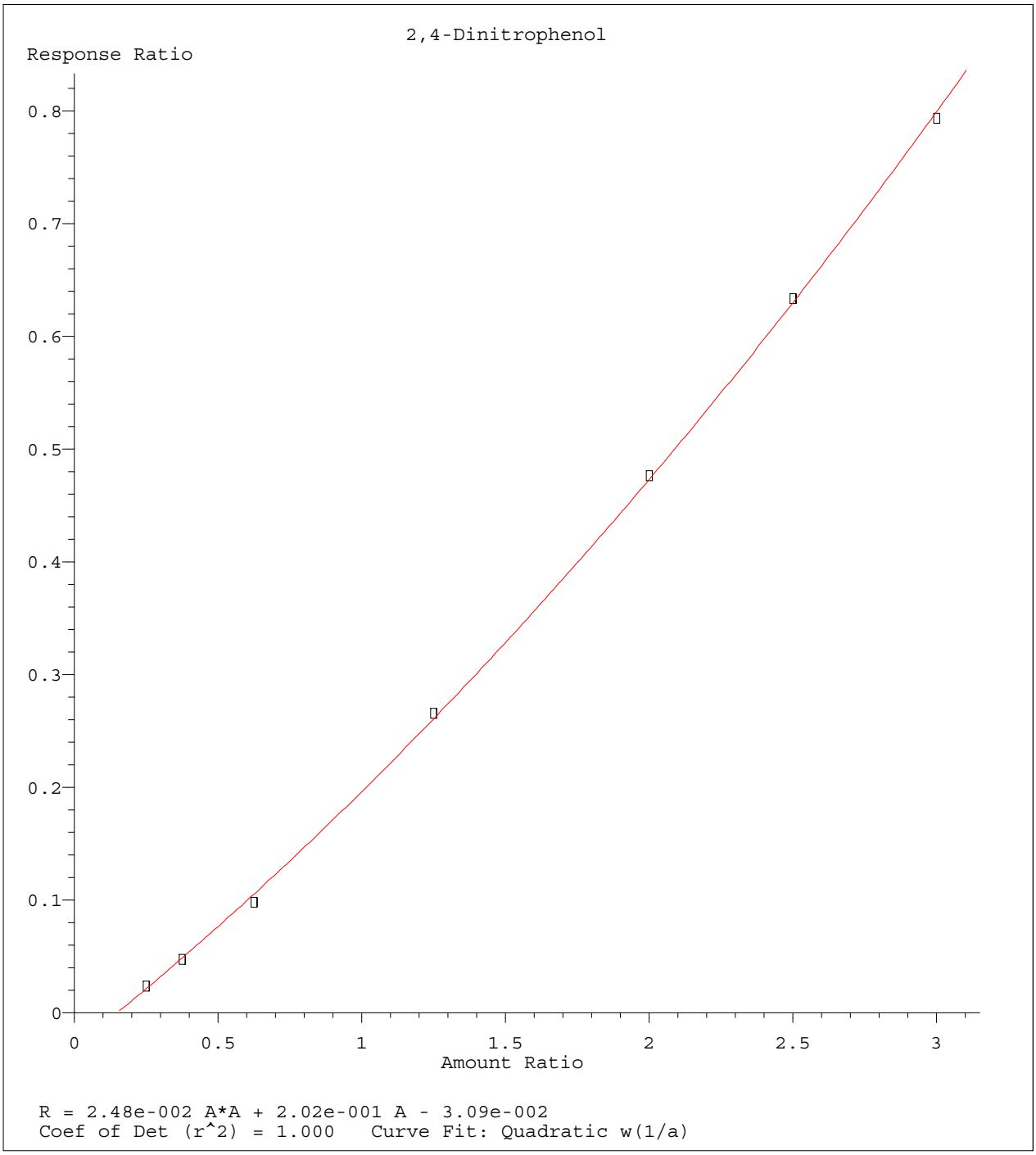
#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak



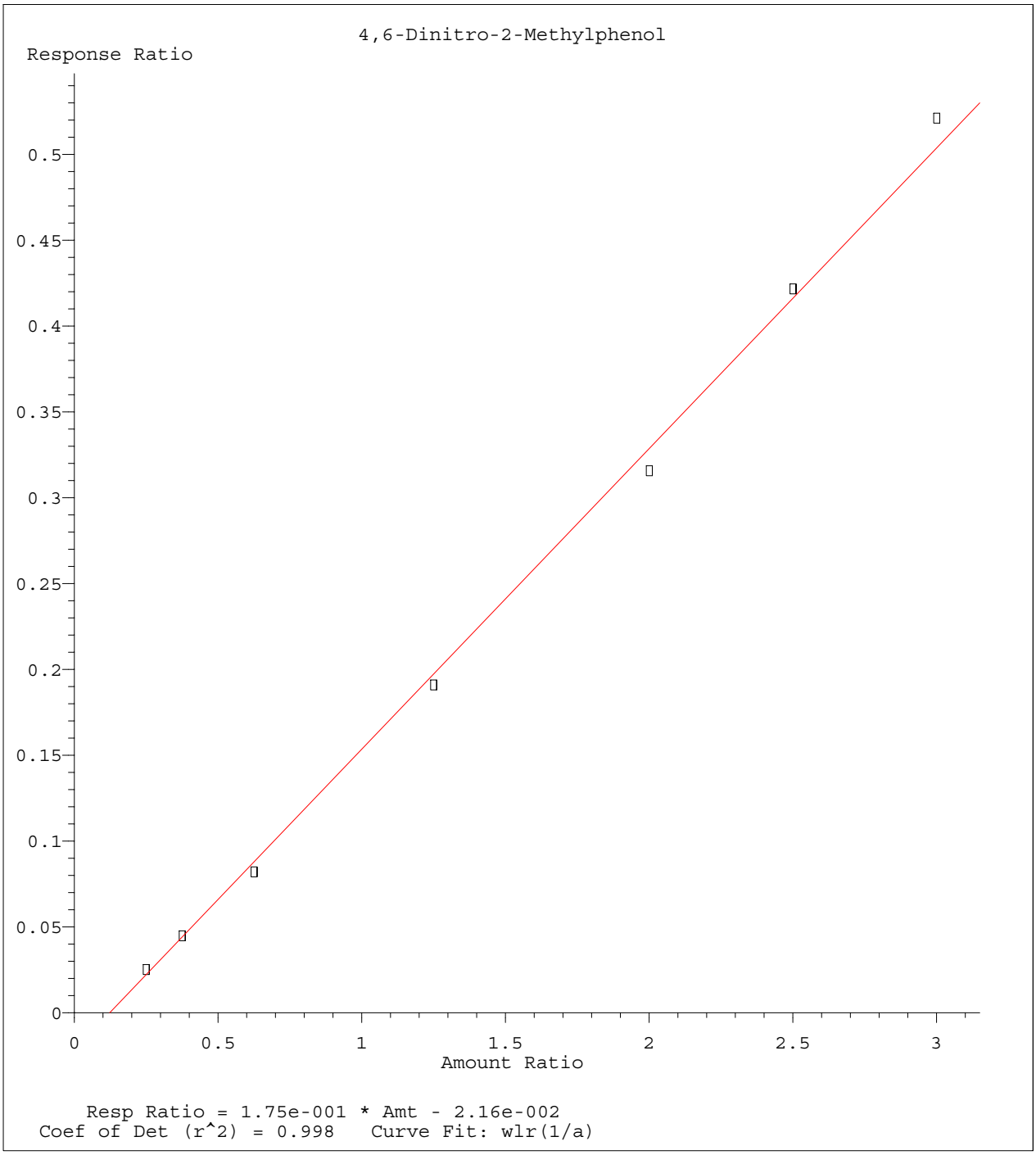

Method Name:  I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017



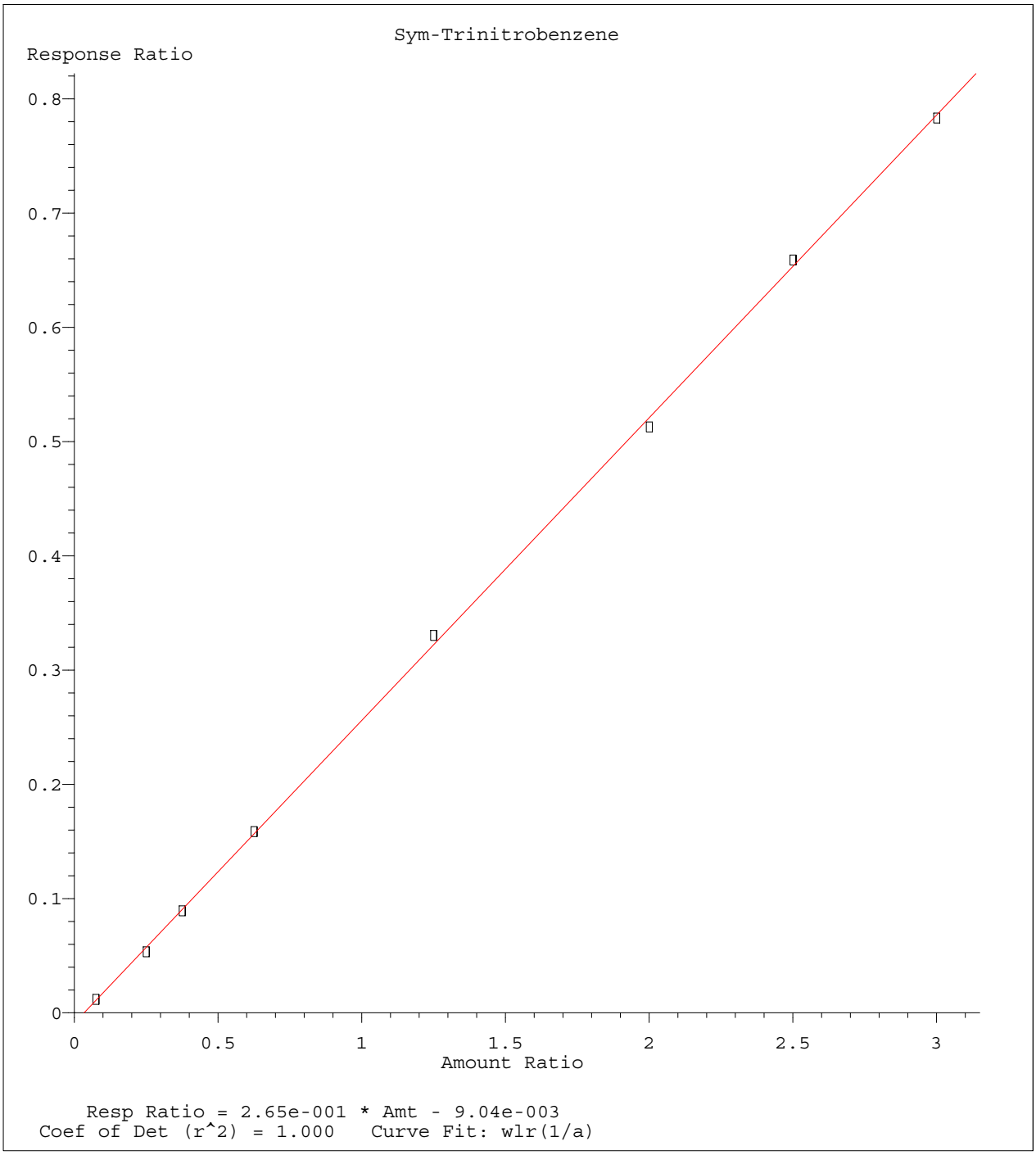

Method Name:  I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017



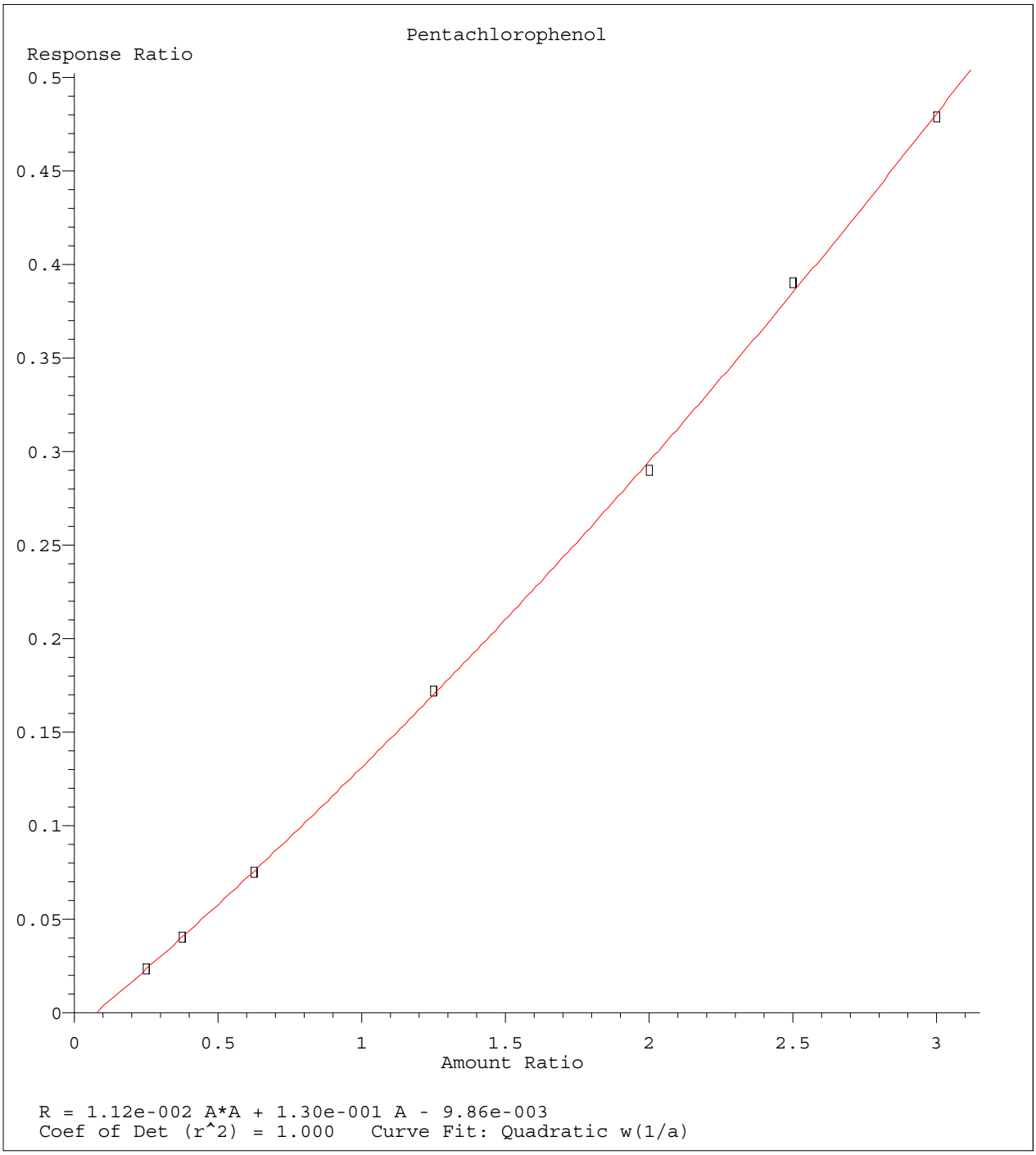

Method Name:  I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017



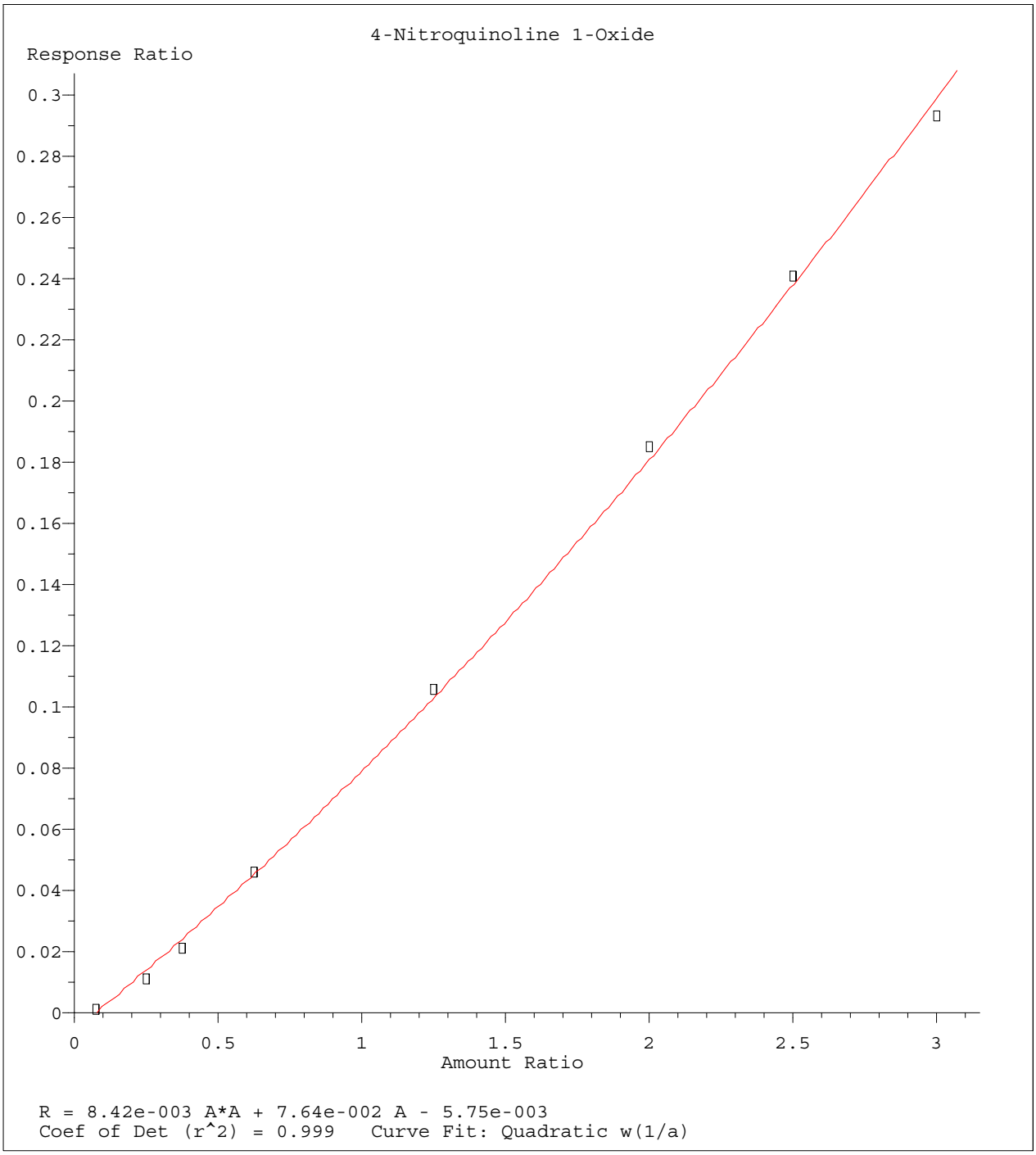

Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017



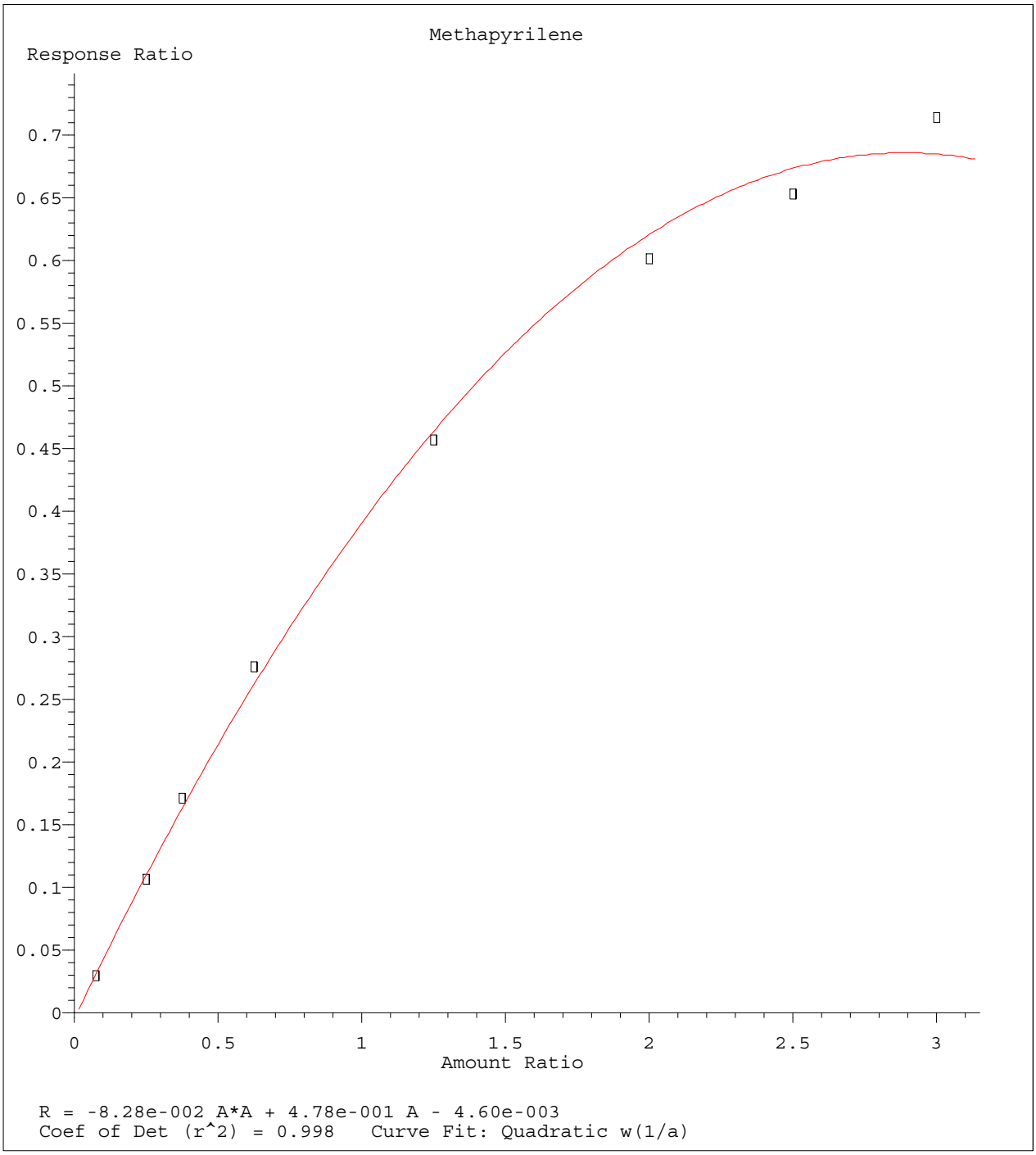

Method Name: I:\MSDCHEM\1\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 04 07:07:19 2017




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

Quantitation Report (Not Reviewed)

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 | | | | | | |
|---|---|---|---|---|---|---|
| 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%# | | |

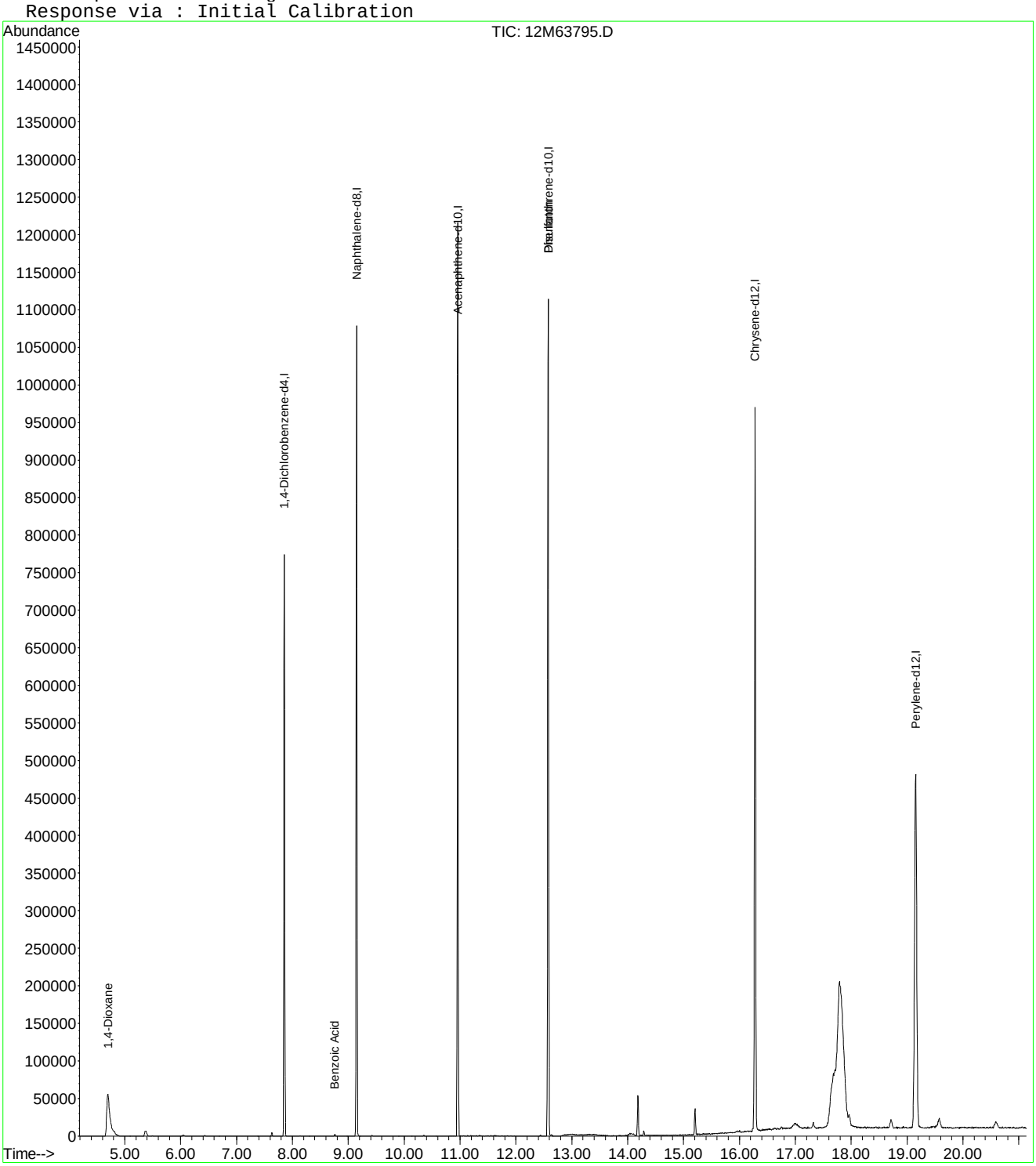
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) 1,4-Dioxane | 4.70 | 88 | 97186 | 55.0150 | ug/ml | 98 |
| 39) Benzoic Acid | 8.76 | 105 | 1056 | 7.8811 | ug/ml# | 73 |
| 102) Disulfoton | 12.57 | 88 | 7760 | 1.6532 | ug/ml# | 41 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed
12M63795.D MEGAMIX.M Fri Aug 04 07:11:26 2017 Page 1

Quantitation Report (Not Reviewed)

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



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 | | Sulfotepp | 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

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

Quantitation Report (Not Reviewed)

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

Quantitation Report (Not Reviewed)

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) | Sulfotepp | 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

Quantitation Report (Not Reviewed)

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

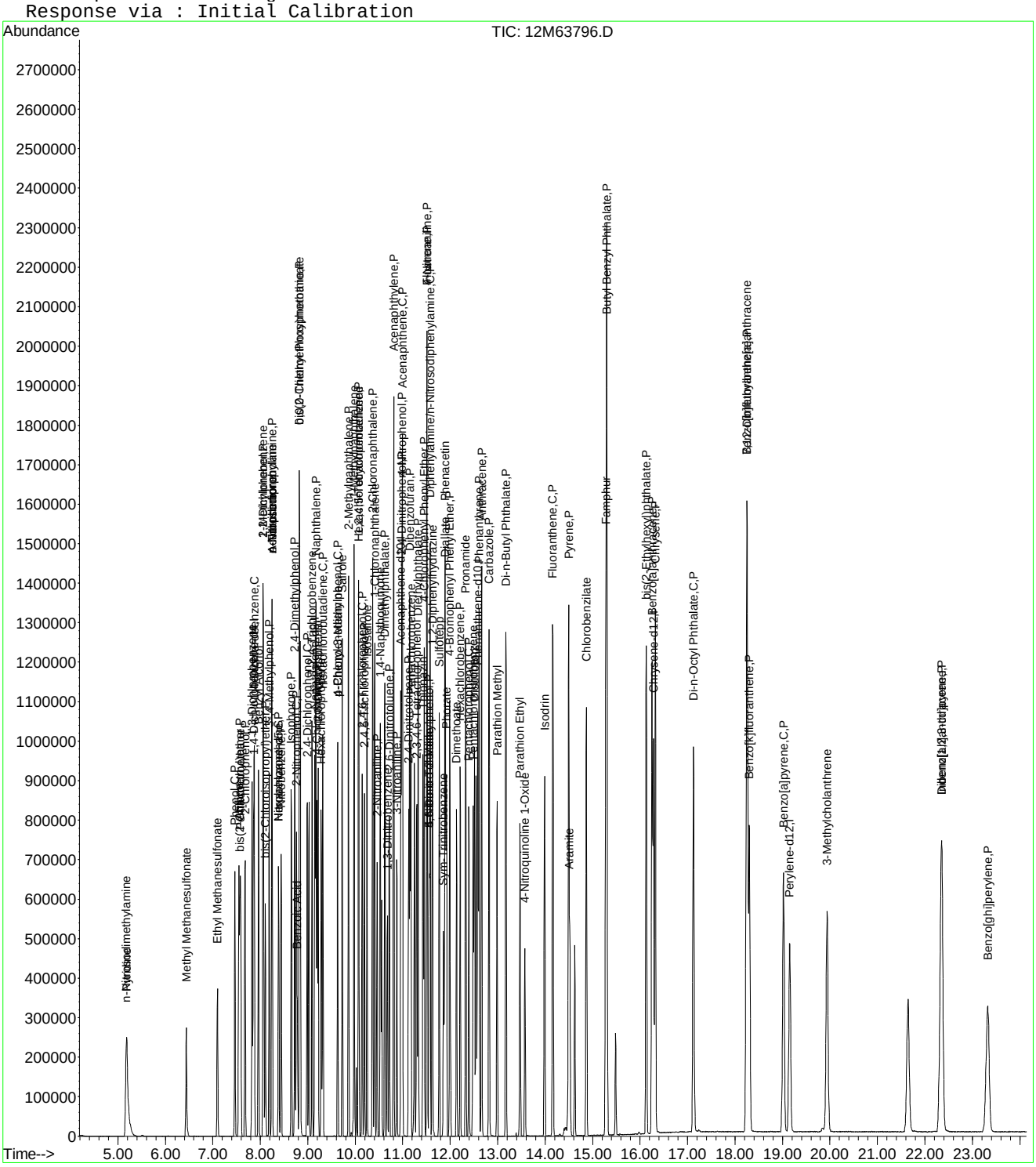
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 108) | Parathion Ethyl | 13.47 | 97 | 106360 | 52.5347 | ug/ml | 99 |
| 109) | 4-Nitroquinoline 1-Oxide | 13.58 | 190 | 63341 | 59.6907 | ug/ml | 97 |
| 111) | Isodrin | 13.99 | 193 | 85851 | 54.4861 | 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

Quantitation Report (Not Reviewed)

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 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




12M63796.D MEGAMIX.M Fri Aug 04 07:11:35 2017 Page 4

Evaluate Continuing Calibration Report

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 | | Sulfotepp | 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

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 Page 3

Quantitation Report (Not Reviewed)

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%# | | |

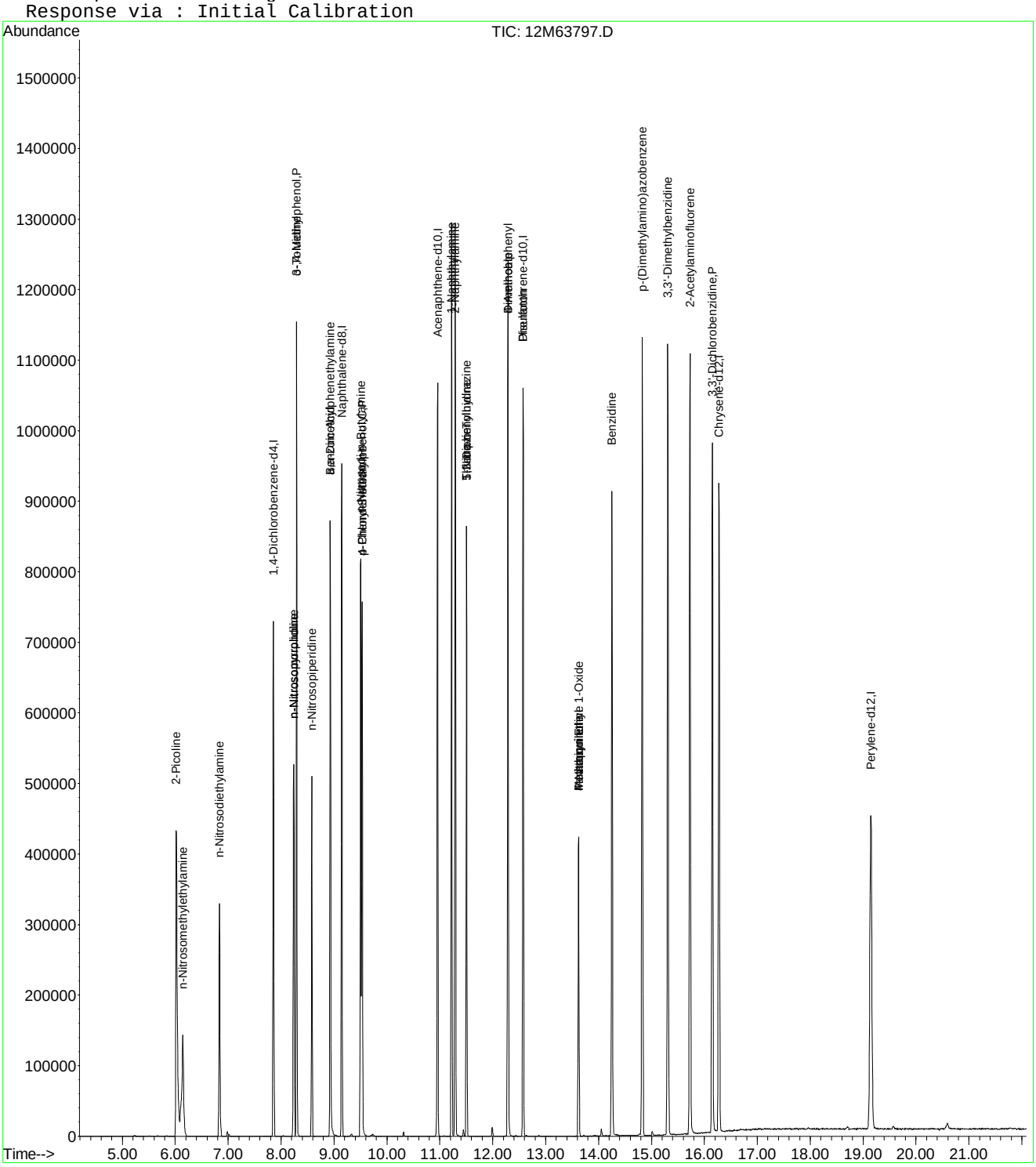
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 5) 2-Picoline | 6.02 | 93 | 241569 | 53.6281 | ug/ml | 99 |
| 6) n-Nitrosomethylethylamine | 6.14 | 88 | 101406 | 55.8893 | ug/ml | 98 |
| 9) n-Nitrosodiethylamine | 6.83 | 102 | 104068 | 54.3080 | ug/ml | 98 |
| 23) 3-,4-Methylphenol | 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

Quantitation Report (Not Reviewed)

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 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



Evaluate Continuing Calibration Report

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 | | Sulfotepp | 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

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 Page 3

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000307.D Vial: 2
Acq On : 15 Aug 2017 4:29 pm Operator: SCB
Sample : WG625881-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:06:04 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 10:39:53 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 118138 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.981 | 136 | 485498 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.792 | 164 | 234820 | 40.0000 | ug/mL | 0.0000 |
| 87) Phenanthrene-d10 | 12.380 | 188 | 444874 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.039 | 240 | 436818 | 40.0000 | ug/mL | 0.0000 |
| 128) Perylene-d12 | 18.715 | 264 | 456062 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.428 | 112 | 195090 | 50.8256 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.287 | 99 | 229709 | 50.9339 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.251 | 82 | 206268 | 51.3492 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.051 | 172 | 407755 | 50.0617 | ug/mL | 0.0000 |
| 86) 2,4,6-Tribromophenol | 11.610 | 330 | 50498 | 52.5146 | ug/mL | 0.0000 |
| 117) p-Terphenyl-d14 | 14.392 | 244 | 437057 | 49.4660 | ug/mL | 0.0000 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.504 | 88 | 86076 | 50.160 | ug/mL | 100 |
| 3) n-Nitrosodimethylamine | 4.963 | 74 | 124830 | 51.423 | ug/mL | 100 |
| 4) Pyridine | 4.987 | 79 | 220511 | 51.234 | ug/mL | 100 |
| 5) 2-Picoline | 5.840 | 93 | 231805 | 51.305 | ug/mL | 100 |
| 6) n-Nitrosomethylethylamine | 5.963 | 88 | 98881 | 51.224 | ug/mL | 100 |
| 7) Methyl Methanesulfonate | 6.269 | 80 | 119279 | 51.147 | ug/mL | 100 |
| 9) n-Nitrosodiethylamine | 6.663 | 102 | 99014 | 50.865 | ug/mL | 100 |
| 10) Ethyl Methanesulfonate | 6.928 | 79 | 150643 | 50.357 | ug/mL | 100 |
| 11) Aniline | 7.381 | 66 | 116884 | 50.634 | ug/mL | 100 |
| 13) Phenol | 7.298 | 94 | 243434 | 50.463 | ug/mL | 100 |
| 14) bis(2-Chloroethyl)ether | 7.404 | 63 | 153297 | 50.067 | ug/mL | 100 |
| 15) Pentachloroethane | 7.416 | 167 | 73065 | 51.048 | ug/mL | 100 |
| 16) 2-Chlorophenol | 7.510 | 128 | 212760 | 51.254 | ug/mL | 100 |
| 17) 1,3-Dichlorobenzene | 7.657 | 146 | 225361 | 50.265 | ug/mL | 100 |
| 18) 1,4-Dichlorobenzene | 7.704 | 146 | 225050 | 50.258 | ug/mL | 100 |
| 19) Benzyl Alcohol | 7.798 | 108 | 137299 | 51.522 | ug/mL | 100 |
| 20) 1,2-Dichlorobenzene | 7.898 | 146 | 200533 | 49.734 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.892 | 107 | 149301 | 50.480 | ug/mL | 100 |
| 22) bis(2-Chloroisopropyl)... | 7.945 | 45 | 240557 | 48.790 | ug/mL | 100 |
| 23) 3-,4-Methylphenol | 8.028 | 107 | 209416 | 51.116 | ug/mL | 100 |
| 24) n-Nitrosopyrrolidine | 8.069 | 100 | 91061 | 50.997 | ug/mL | 100 |
| 25) n-Nitrosodipropylamine | 8.075 | 70 | 127824 | 50.345 | ug/mL | 100 |
| 26) Acetophenone | 8.086 | 105 | 253073 | 50.495 | ug/mL | 100 |
| 27) n-Nitrosomorpholine | 8.081 | 56 | 107796 | 50.484 | ug/mL | 100 |
| 28) o-Toluidine | 8.128 | 106 | 324182 | 52.245 | ug/mL | 100 |
| 29) Hexachloroethane | 8.216 | 117 | 89952 | 52.452 | ug/mL | 100 |
| 32) Nitrobenzene | 8.269 | 77 | 212927 | 50.785 | ug/mL | 100 |
| 33) n-Nitrosopiperidine | 8.416 | 114 | 110361 | 51.803 | ug/mL | 100 |
| 34) Isophorone | 8.486 | 82 | 390325 | 51.238 | ug/mL | 100 |
| 35) 2-Nitrophenol | 8.592 | 139 | 115041 | 52.317 | ug/mL | 100 |
| 36) 2,4-Dimethylphenol | 8.563 | 122 | 191562 | 51.264 | ug/mL | 100 |
| 37) 0,0,0-Triethyl Phospho... | 8.663 | 198 | 92957 | 49.670 | ug/mL | 100 |
| 38) bis(2-Chloroethoxy)met... | 8.663 | 93 | 291615 | 49.922 | ug/mL | 100 |
| 39) Benzoic Acid | 8.634 | 105 | 90098m | 45.561 | ug/mL | |
| 40) 2,4-Dichlorophenol | 8.816 | 162 | 161539 | 50.782 | ug/mL | 100 |
| 41) a,a-Dimethylphenethyla... | 8.810 | 58 | 523760 | 49.828 | ug/mL | 100 |
| 42) 1,2,4-Trichlorobenzene | 8.922 | 180 | 179842 | 49.824 | ug/mL | 100 |
| 43) Naphthalene | 8.998 | 128 | 635125 | 49.708 | ug/mL | 100 |

Data File : C:\msdchem\4\DATA\081517\19M000307.D Vial: 2
Acq On : 15 Aug 2017 4:29 pm Operator: SCB
Sample : WG625881-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:06:04 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 10:39:53 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 44) 4-Chloroaniline | 9.028 | 65 | 77976 | 52.018 | ug/mL | 100 |
| 45) 2,6-Dichlorophenol | 8.816 | 162 | 161539 | 50.782 | ug/mL | 100 |
| 46) Hexachloropropene | 9.116 | 213 | 111690 | 52.355 | ug/mL | 100 |
| 47) Hexachlorobutadiene | 9.151 | 225 | 90961 | 50.110 | ug/mL | 100 |
| 48) n-Nitrosodi-n-Butylamine | 9.345 | 84 | 175009 | 51.587 | ug/mL | 100 |
| 49) p-Phenylenediamine | 9.369 | 108 | 181744 | 53.306 | ug/mL | 100 |
| 50) 4-Chloro-3-Methylphenol | 9.469 | 107 | 183285 | 52.464 | ug/mL | 100 |
| 51) Safrole | 9.563 | 162 | 164849 | 50.733 | ug/mL | 100 |
| 52) 2-Methylnaphthalene | 9.692 | 142 | 420981 | 49.405 | ug/mL | 100 |
| 53) 1-Methylnaphthalene | 9.810 | 142 | 387433 | 49.387 | ug/mL | 100 |
| 55) 1,2,4,5-Tetrachloroben... | 9.898 | 216 | 163208 | 49.442 | ug/mL | 100 |
| 56) Hexachlorocyclopentadiene | 9.910 | 237 | 73140 | 55.828 | ug/mL | 100 |
| 57) 2,4,6-Trichlorophenol | 9.980 | 196 | 118127 | 52.503 | ug/mL | 100 |
| 58) 2,4,5-Trichlorophenol | 10.022 | 196 | 122894 | 53.067 | ug/mL | 100 |
| 60) Isosafrole | 10.086 | 162 | 164393 | 51.002 | ug/mL | 100 |
| 61) 2-Chloronaphthalene | 10.198 | 162 | 374509 | 49.542 | ug/mL | 100 |
| 62) 1-Chloronaphthalene | 10.239 | 162 | 340157 | 49.561 | ug/mL | 100 |
| 63) 2-Nitroaniline | 10.292 | 65 | 111402 | 51.159 | ug/mL | 100 |
| 64) 1,4-Naphthoquinone | 10.357 | 158 | 129295 | 54.274 | ug/mL | 100 |
| 65) Dimethylphthalate | 10.457 | 163 | 428108 | 50.260 | ug/mL | 100 |
| 66) 1,3-Dinitrobenzene | 10.510 | 168 | 78248 | 53.368 | ug/mL | 100 |
| 67) 2,6-Dinitrotoluene | 10.551 | 165 | 101957 | 51.314 | ug/mL | 100 |
| 68) Acenaphthylene | 10.639 | 152 | 585835 | 50.254 | ug/mL | 100 |
| 69) 3-Nitroaniline | 10.710 | 138 | 120595 | 51.424 | ug/mL | 100 |
| 70) 2,4-Dinitrophenol | 10.810 | 184 | 42427 | 48.651 | ug/mL | 100 |
| 71) Acenaphthene | 10.822 | 154 | 358371 | 50.217 | ug/mL | 100 |
| 72) 4-Nitrophenol | 10.810 | 65 | 78549 | 53.613 | ug/mL | 100 |
| 73) 2,4-Dinitrotoluene | 10.963 | 165 | 135994 | 53.115 | ug/mL | 100 |
| 74) Pentachlorobenzene | 11.004 | 250 | 139731 | 49.705 | ug/mL | 100 |
| 75) Dibenzofuran | 10.980 | 168 | 525331 | 49.777 | ug/mL | 100 |
| 76) 2,3,4,6-Tetrachlorophenol | 11.127 | 232 | 90110 | 52.624 | ug/mL | 100 |
| 77) 1-Naphthylamine | 11.057 | 143 | 409426 | 51.265 | ug/mL | 100 |
| 78) 2-Naphthylamine | 11.122 | 143 | 384443 | 49.129 | ug/mL | 100 |
| 79) Diethylphthalate | 11.163 | 149 | 441506 | 50.463 | ug/mL | 100 |
| 80) Thionazin | 11.263 | 107 | 71355 | 52.058 | ug/mL | 100 |
| 81) Fluorene | 11.333 | 166 | 395361 | 49.127 | ug/mL | 100 |
| 82) 4-Chlorophenyl Phenyl ... | 11.286 | 204 | 206135 | 49.928 | ug/mL | 100 |
| 83) 4-Nitroaniline | 11.345 | 138 | 110681 | 50.577 | ug/mL | 100 |
| 84) 5-Nitro-o-Toluidine | 11.339 | 152 | 118401 | 51.151 | ug/mL | 100 |
| 85) 1,2-Diphenylhydrazine | 11.451 | 77 | 438916 | 50.762 | ug/mL | 100 |
| 88) 4,6-Dinitro-2-Methylph... | 11.386 | 198 | 72404 | 49.275 | ug/mL | 100 |
| 89) Diphenylamine/n-Nitros... | 11.404 | 169 | 379679 | 49.582 | ug/mL | 100 |
| 90) Sulfotepp | 11.604 | 322 | 64847 | 50.616 | ug/mL | 100 |
| 91) Sym-Trinitrobenzene | 11.680 | 75 | 104956 | 49.391 | ug/mL | 100 |
| 92) Diallate | 11.727 | 86 | 169758 | 50.470 | ug/mL | 100 |
| 93) Phenacetin | 11.710 | 108 | 222252 | 54.638 | ug/mL | 100 |
| 94) Phorate | 11.745 | 75 | 260428 | 50.294 | ug/mL# | 100 |
| 95) 4-Bromophenyl Phenyl E... | 11.810 | 248 | 114289 | 49.992 | ug/mL | 100 |
| 96) Hexachlorobenzene | 12.022 | 284 | 118995 | 49.912 | ug/mL | 100 |
| 97) Dimethoate | 11.951 | 87 | 150189 | 49.254 | ug/mL | 100 |
| 98) 4-Aminobiphenyl | 12.104 | 169 | 494281 | 52.251 | ug/mL | 100 |
| 99) Pentachlorophenol | 12.204 | 266 | 70894 | 50.461 | ug/mL | 100 |
| 100) Pronamide | 12.145 | 173 | 191481 | 53.057 | ug/mL | 100 |
| 101) Pentachloronitrobenzene | 12.292 | 237 | 46242 | 53.508 | ug/mL | 100 |
| 102) Disulfoton | 12.322 | 88 | 227675 | 51.872 | ug/mL | 100 |

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000307.D Vial: 2
Acq On : 15 Aug 2017 4:29 pm Operator: SCB
Sample : WG625881-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:06:04 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 10:39:53 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

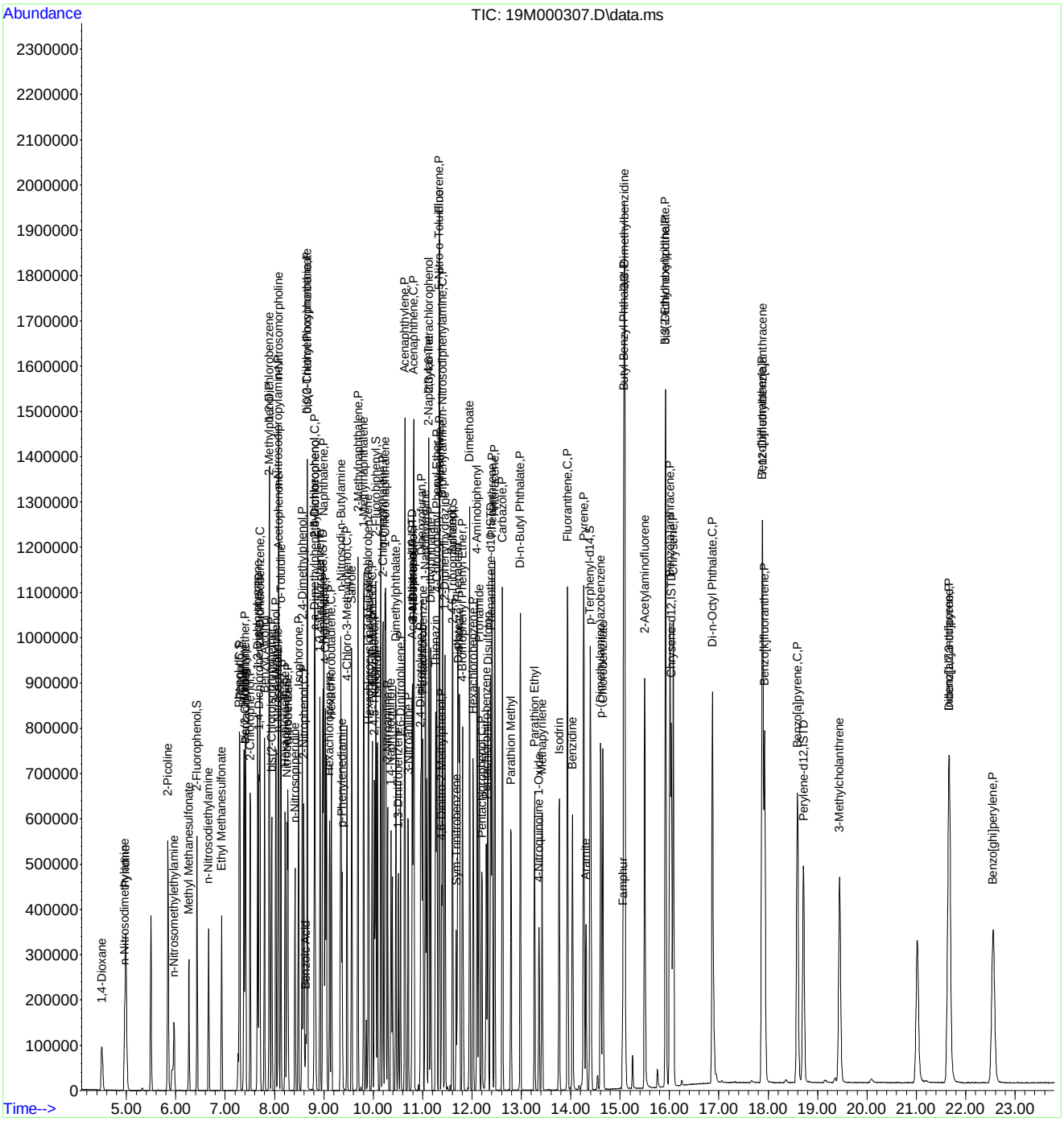
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 103) Phenanthrene | 12.410 | 178 | 627565 | 49.770 ug/mL | 100 |
| 104) Anthracene | 12.463 | 178 | 657464 | 50.728 ug/mL | 100 |
| 105) Carbazole | 12.616 | 167 | 609038 | 51.180 ug/mL# | 100 |
| 106) Parathion Methyl | 12.786 | 109 | 142301 | 55.407 ug/mL | 100 |
| 107) Di-n-Butyl Phthalate | 12.980 | 149 | 783963 | 52.956 ug/mL | 100 |
| 108) Parathion Ethyl | 13.269 | 97 | 90015 | 52.760 ug/mL | 100 |
| 109) 4-Nitroquinoline 1-Oxide | 13.357 | 190 | 41865 | 48.416 ug/mL | 100 |
| 110) Methapyrilene | 13.416 | 58 | 255666 | 49.813 ug/mL | 100 |
| 111) Isodrin | 13.768 | 193 | 71471 | 50.832 ug/mL | 100 |
| 112) Fluoranthene | 13.933 | 202 | 695741 | 50.738 ug/mL | 100 |
| 114) Benzidine | 14.033 | 184 | 351625 | 53.729 ug/mL | 100 |
| 115) Pyrene | 14.263 | 202 | 722814 | 50.046 ug/mL | 100 |
| 116) Aramite | 14.310 | 185 | 43702 | 50.533 ug/mL | 100 |
| 118) p-(Dimethylamino)azobe... | 14.610 | 225 | 142644 | 53.787 ug/mL | 100 |
| 119) Chlorobenzilate | 14.651 | 251 | 183163 | 53.007 ug/mL | 100 |
| 120) Famphur | 15.057 | 218 | 84269 | 50.000 ug/mL | 100 |
| 121) Butyl Benzyl Phthalate | 15.074 | 149 | 329213 | 51.465 ug/mL | 100 |
| 122) 3,3'-Dimethylbenzidine | 15.086 | 212 | 550765 | 53.587 ug/mL | 100 |
| 123) 2-Acetylaminofluorene | 15.498 | 181 | 285133 | 51.111 ug/mL# | 100 |
| 124) bis(2-Ethylhexyl)phtha... | 15.921 | 149 | 467962 | 54.474 ug/mL | 100 |
| 125) 3,3'-Dichlorobenzidine | 15.921 | 252 | 216683 | 52.555 ug/mL | 100 |
| 126) Benzo[a]anthracene | 16.010 | 228 | 645088 | 50.607 ug/mL | 100 |
| 127) Chrysene | 16.080 | 228 | 596956 | 49.975 ug/mL | 100 |
| 129) Di-n-Octyl Phthalate | 16.868 | 149 | 869473 | 52.833 ug/mL | 100 |
| 130) 7,12-Dimethylbenz[a]an... | 17.886 | 256 | 297525 | 50.366 ug/mL | 100 |
| 131) Benzo[b]fluoranthene | 17.880 | 252 | 666796 | 50.712 ug/mL | 100 |
| 132) Benzo[k]fluoranthene | 17.927 | 252 | 658547 | 51.942 ug/mL | 100 |
| 133) Benzo[a]pyrene | 18.592 | 252 | 650040 | 53.497 ug/mL | 100 |
| 134) 3-Methylcholanthrene | 19.445 | 268 | 325083 | 55.961 ug/mL | 100 |
| 135) Indeno[1,2,3-cd]pyrene | 21.662 | 276 | 696835 | 55.490 ug/mL | 100 |
| 136) Dibenz[ah]anthracene | 21.662 | 278 | 590228 | 55.723 ug/mL | 100 |
| 137) Benzo[ghi]perylene | 22.556 | 276 | 592378 | 56.500 ug/mL | 100 |

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000307.D Vial: 2
Acq On : 15 Aug 2017 4:29 pm Operator: SCB
Sample : WG625881-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:06:04 2017
Quant Results File: MEGAMIX.RES

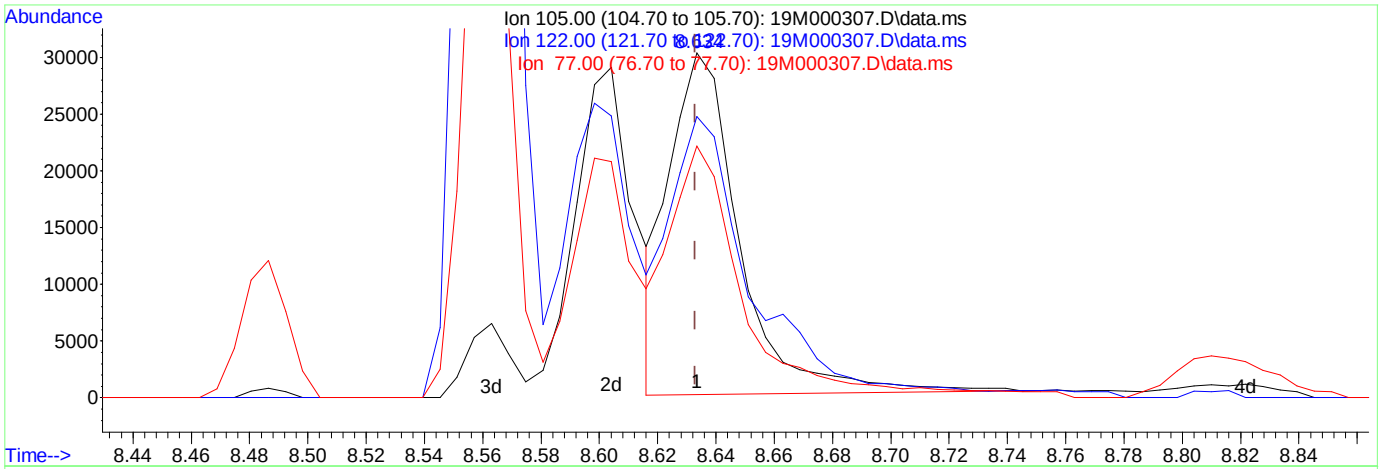
Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 10:39:53 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

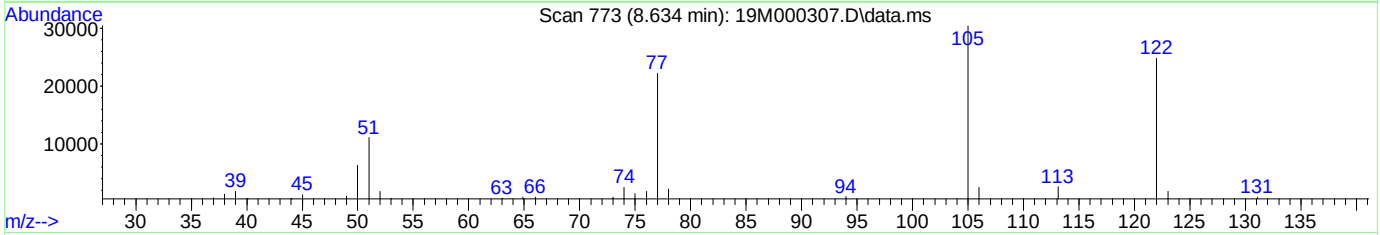

Abundance
TIC: 19M000307.D\data.ms
Time-->
1,4-Dioxane
n-Nitrosodimethylamine
2-Picoline
n-Nitrosomethylethylamine
Methyl Methanesulfonate
2-Fluorophenol,S
n-Nitrosodiethylamine
Ethyl Methanesulfonate
Benzoic Acid
Hexachloroethane
Naphthalene,P
4-Chloro-3-Methylphenol
Isophorone,P
2-Nitrophenol,C,P
2,4-Dimethylphenol,P
Dimethylphthalate,P
Acenaphthylene,P
Acenaphthene,C,P
2,6-Dinitrotoluene
2-Nitroaniline
Dibenzofuran,P
2,4-Dinitrotoluene
Diethylphthalate,P
4-Chlorophenyl-phenylether,P
Fluorene,P
4-Nitroaniline
4,6-Dinitro-2-methylphenol
n-Nitrosodiphenylamine,C
4-Bromophenyl-phenylether,P
Hexachlorobenzene
Pentachlorophenol
Phenanthrene,P
Anthracene,P
Carbazole,P
Di-n-Butyl Phthalate,P
Fluoranthene,C,P
Pyrene,P
Butyl Benzyl Phthalate,P
3,3'-Dimethylbenzidine
Benzo[a]anthracene,P
Chrysene-d12,IS
Chrysene,P
Bis(2-Ethylhexyl)phthalate,P
Di-n-Octyl Phthalate,C,P
Benzo[b]fluoranthene,P
Benzo[k]fluoranthene,P
Benzo[a]pyrene,C,P
Perylene-d12,IS
Benzo[a]pyrene,P
Indeno[1,2,3-cd]pyrene,P
Dibenz[a,h]anthracene,P
Benzo[ghi]perylene,P
3-Methylcholanthrene
Benzidine
Isodrin
Aramite
Famphur
Parathion Methyl
Parathion Ethyl
4-Nitroquinoline 1-Oxide
Methapyrilene
p-Terphenyl-d14,S
2-Acetylaminofluorene
Dimethoate
4-Aminobiphenyl
Azobenzene
Sym-Trinitrobenzene
Safrole
Diphenylamine,C
Diallate(cis or trans),P
Diallate(cis or trans),P
Phenacetin
Pentachlorobenzene
Pentachloronitrobenzene
Isosafrole(cis or trans),P
Isosafrole(cis or trans),P
Methyl Parathion
Ethyl Parathion
Phorate,P
Disulfoton,P
Diphenylamine-d10,IS
Hexachlorocyclopentadiene
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Hexachloropropene
Tetraethyldithiopyrophosphate
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Famphur
Famphur
Famphur

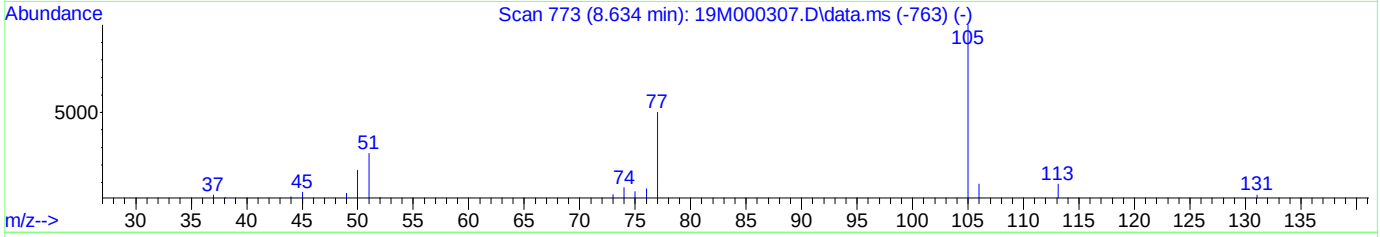
Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081517\19M000307.D  Vial: 2
Acq On : 15 Aug 2017 4:29 pm  Operator: SCB
Sample : WG625881-02 50PPM 8270 STD  Inst : HPMS19NEW
Misc : 1,1 STD81744  Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:04:58 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 10:39:53 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




TIC: 19M000307.D\data.ms

(39) Benzoic Acid

8.634min (+0.001) 30.653 ug/mL

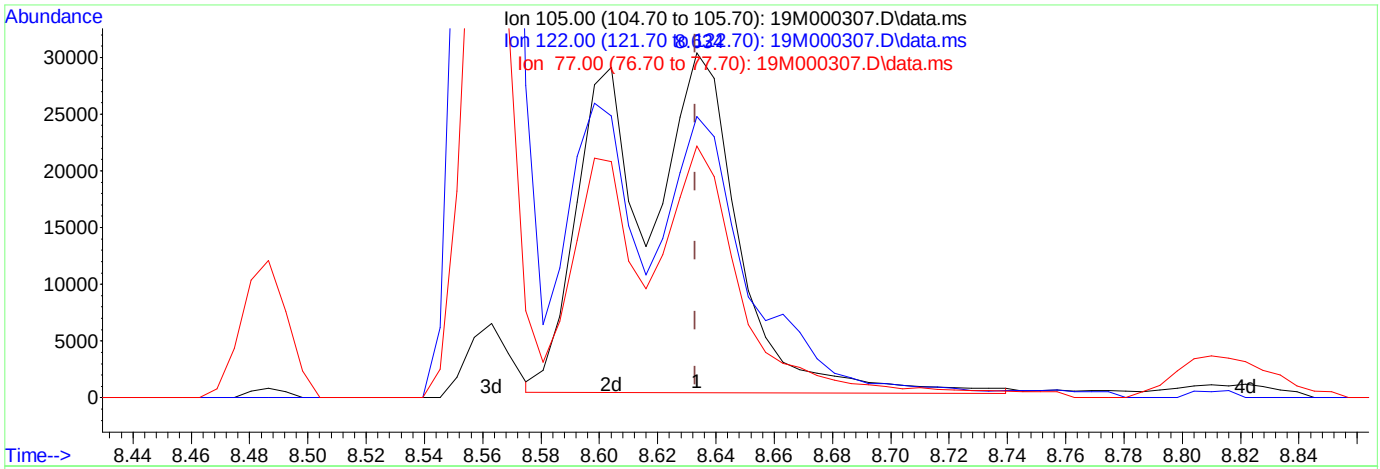
response 50875

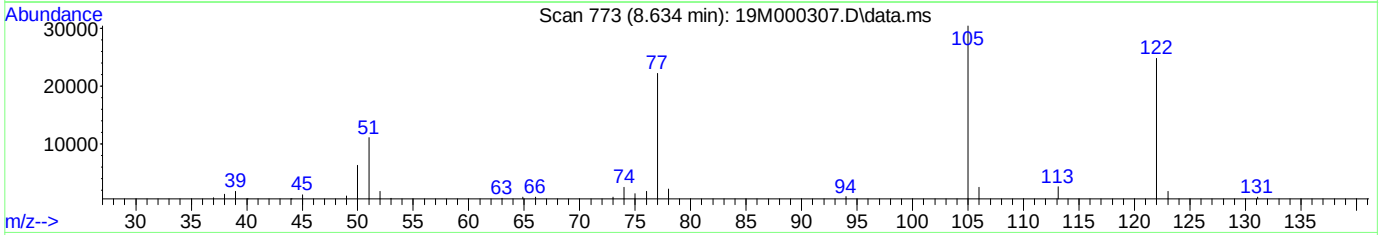
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 50.70 | 91.68# |
| 77.00 | 43.70 | 79.00# |
| 0.00 | 0.00 | 0.00 |

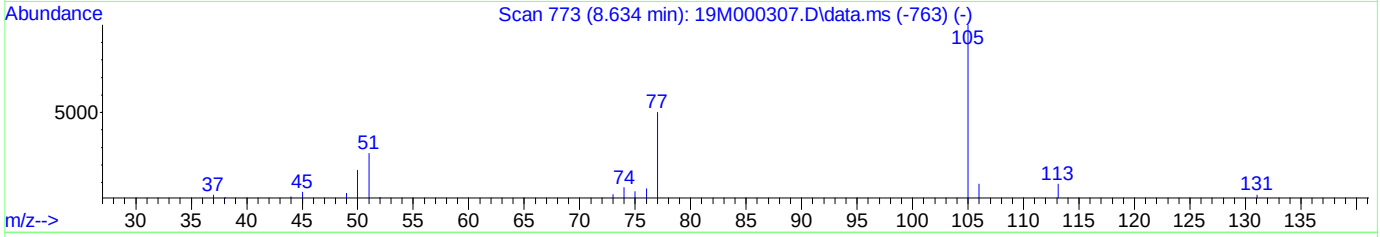
Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081517\19M000307.D  Vial: 2
Acq On : 15 Aug 2017 4:29 pm  Operator: SCB
Sample : WG625881-02 50PPM 8270 STD  Inst : HPMS19NEW
Misc : 1,1 STD81744  Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:04:58 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 10:39:53 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




TIC: 19M000307.D\data.ms

(39) Benzoic Acid

8.634min (+0.001) 45.561 ug/mL mint

response 90098

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 50.70 | 51.77 |
| 77.00 | 43.70 | 44.61 |
| 0.00 | 0.00 | 0.00 |

Analyst: 08/18/2017 15:03 Supervisor: 08/18/2017 15:58

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000308.D Vial: 3
Acq On : 15 Aug 2017 4:59 pm Operator: SCB
Sample : WG625881-03 1PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:07:18 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:06:57 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 119178 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.981 | 136 | 460349 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.786 | 164 | 229245 | 40.0000 | ug/mL | 0.0000 |
| 87) Phenanthrene-d10 | 12.374 | 188 | 415804 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.039 | 240 | 396540 | 40.0000 | ug/mL | 0.0000 |
| 128) Perylene-d12 | 18.709 | 264 | 390991 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.434 | 112 | 3152 | 0.8140 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.287 | 99 | 3953 | 0.8689 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.251 | 82 | 3383 | 0.8882 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.051 | 172 | 8345 | 1.0495 | ug/mL | 0.0000 |
| 86) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.0000 | ug/mL | |
| 117) p-Terphenyl-d14 | 14.392 | 244 | 7442 | 0.9278 | ug/mL | 0.0000 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.516 | 88 | 1471 | 0.850 | ug/mL# | 48 |
| 3) n-Nitrosodimethylamine | 4.975 | 74 | 2156 | 0.880 | ug/mL# | 94 |
| 4) Pyridine | 5.010 | 79 | 3838 | 0.884 | ug/mL | 94 |
| 5) 2-Picoline | 5.857 | 93 | 4270 | 0.937 | ug/mL# | 84 |
| 6) n-Nitrosomethylethylamine | 5.969 | 88 | 1034 | 0.531 | ug/mL# | 64 |
| 7) Methyl Methanesulfonate | 6.269 | 80 | 2105 | 0.895 | ug/mL# | 90 |
| 9) n-Nitrosodiethylamine | 6.669 | 102 | 1430 | 0.728 | ug/mL# | 64 |
| 10) Ethyl Methanesulfonate | 6.934 | 79 | 2744 | 0.909 | ug/mL# | 88 |
| 11) Aniline | 7.381 | 66 | 1689 | 0.725 | ug/mL | 70 |
| 13) Phenol | 7.298 | 94 | 4588 | 0.943 | ug/mL | 84 |
| 14) bis(2-Chloroethyl)ether | 7.404 | 63 | 2827 | 0.915 | ug/mL | 84 |
| 15) Pentachloroethane | 7.416 | 167 | 1153 | 0.799 | ug/mL | 99 |
| 16) 2-Chlorophenol | 7.510 | 128 | 3686 | 0.880 | ug/mL | 89 |
| 17) 1,3-Dichlorobenzene | 7.657 | 146 | 4718 | 1.043 | ug/mL | 95 |
| 18) 1,4-Dichlorobenzene | 7.704 | 146 | 4730 | 1.047 | ug/mL# | 79 |
| 19) Benzyl Alcohol | 7.798 | 108 | 1814 | 0.675 | ug/mL | 82 |
| 20) 1,2-Dichlorobenzene | 7.898 | 146 | 4318 | 1.062 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.892 | 107 | 2424 | 0.812 | ug/mL | 89 |
| 22) bis(2-Chloroisopropyl)... | 7.945 | 45 | 4858 | 0.977 | ug/mL | 87 |
| 23) 3-,4-Methylphenol | 8.022 | 107 | 3194 | 0.773 | ug/mL | 92 |
| 24) n-Nitrosopyrrolidine | 8.069 | 100 | 1383 | 0.768 | ug/mL# | 74 |
| 25) n-Nitrosodipropylamine | 8.075 | 70 | 2439 | 0.952 | ug/mL# | 86 |
| 26) Acetophenone | 8.081 | 105 | 5312 | 1.051 | ug/mL | 98 |
| 27) n-Nitrosomorpholine | 8.075 | 56 | 2193 | 0.629 | ug/mL# | 91 |
| 28) o-Toluidine | 8.128 | 106 | 5333 | 0.852 | ug/mL | 94 |
| 29) Hexachloroethane | 8.216 | 117 | 1213 | 0.701 | ug/mL | 90 |
| 32) Nitrobenzene | 8.269 | 77 | 3550 | 0.893 | ug/mL# | 88 |
| 33) n-Nitrosopiperidine | 8.416 | 114 | 1428 | 0.707 | ug/mL | 84 |
| 34) Isophorone | 8.486 | 82 | 6424 | 0.889 | ug/mL# | 89 |
| 35) 2-Nitrophenol | 8.592 | 139 | 1165 | 0.559 | ug/mL# | 70 |
| 36) 2,4-Dimethylphenol | 8.563 | 122 | 2702 | 0.763 | ug/mL | 90 |
| 37) 0,0,0-Triethyl Phospho... | 8.663 | 198 | 1809 | 1.019 | ug/mL | 87 |
| 38) bis(2-Chloroethoxy)met... | 8.663 | 93 | 6011 | 1.085 | ug/mL# | 89 |
| 40) 2,4-Dichlorophenol | 8.816 | 162 | 2275 | 0.754 | ug/mL# | 85 |
| 41) a,a-Dimethylphenethyla... | 8.769 | 58 | 6350 | 1.410 | ug/mL# | 78 |
| 42) 1,2,4-Trichlorobenzene | 8.922 | 180 | 3652 | 1.067 | ug/mL | 97 |
| 43) Naphthalene | 8.998 | 128 | 12289 | 1.014 | ug/mL | 96 |
| 44) 4-Chloroaniline | 9.028 | 65 | 991 | 0.697 | ug/mL | 69 |

Data File : C:\msdchem\4\DATA\081517\19M000308.D Vial: 3
Acq On : 15 Aug 2017 4:59 pm Operator: SCB
Sample : WG625881-03 1PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:07:18 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:06:57 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 45) | 2,6-Dichlorophenol | 8.816 | 162 | 2275 | 0.754 ug/mL# | 85 |
| 46) | Hexachloropropene | 9.116 | 213 | 1439 | 0.711 ug/mL | 94 |
| 47) | Hexachlorobutadiene | 9.151 | 225 | 1479 | 0.859 ug/mL | 97 |
| 48) | n-Nitrosodi-n-Butylamine | 9.345 | 84 | 2226 | 0.692 ug/mL# | 88 |
| 50) | 4-Chloro-3-Methylphenol | 9.463 | 107 | 2311 | 0.698 ug/mL | 91 |
| 51) | Safrole | 9.563 | 162 | 2623 | 0.851 ug/mL | 96 |
| 52) | 2-Methylnaphthalene | 9.692 | 142 | 8225 | 1.018 ug/mL | 95 |
| 53) | 1-Methylnaphthalene | 9.810 | 142 | 7581 | 1.019 ug/mL | 99 |
| 55) | 1,2,4,5-Tetrachloroben... | 9.898 | 216 | 3232 | 1.003 ug/mL# | 96 |
| 56) | Hexachlorocyclopentadiene | 9.910 | 237 | 413 | 0.323 ug/mL# | 27 |
| 57) | 2,4,6-Trichlorophenol | 9.980 | 196 | 1236 | 0.563 ug/mL# | 92 |
| 58) | 2,4,5-Trichlorophenol | 10.022 | 196 | 1369 | 0.606 ug/mL# | 85 |
| 60) | Isosafrole | 10.081 | 162 | 2776 | 0.882 ug/mL# | 81 |
| 61) | 2-Chloronaphthalene | 10.198 | 162 | 7634 | 1.034 ug/mL | 94 |
| 62) | 1-Chloronaphthalene | 10.239 | 162 | 7080 | 1.057 ug/mL | 96 |
| 63) | 2-Nitroaniline | 10.292 | 65 | 1115 | 0.524 ug/mL | 88 |
| 64) | 1,4-Naphthoquinone | 10.357 | 158 | 1045 | 0.449 ug/mL# | 88 |
| 65) | Dimethylphthalate | 10.457 | 163 | 7910 | 0.951 ug/mL# | 79 |
| 66) | 1,3-Dinitrobenzene | 10.510 | 168 | 492 | 0.344 ug/mL | 90 |
| 67) | 2,6-Dinitrotoluene | 10.551 | 165 | 1220 | 0.629 ug/mL | 81 |
| 68) | Acenaphthylene | 10.639 | 152 | 11017 | 0.968 ug/mL | 97 |
| 69) | 3-Nitroaniline | 10.704 | 138 | 1403 | 0.613 ug/mL# | 90 |
| 71) | Acenaphthene | 10.822 | 154 | 7124 | 1.023 ug/mL | 92 |
| 72) | 4-Nitrophenol | 10.792 | 65 | 1071 | 0.749 ug/mL# | 12 |
| 73) | 2,4-Dinitrotoluene | 10.957 | 165 | 1124 | 0.450 ug/mL | 87 |
| 74) | Pentachlorobenzene | 10.998 | 250 | 2694 | 0.982 ug/mL# | 89 |
| 75) | Dibenzofuran | 10.975 | 168 | 10925 | 1.060 ug/mL | 100 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.127 | 232 | 822 | 0.492 ug/mL# | 72 |
| 77) | 1-Naphthylamine | 11.051 | 143 | 6346 | 0.814 ug/mL# | 92 |
| 78) | 2-Naphthylamine | 11.122 | 143 | 6924 | 0.906 ug/mL | 92 |
| 79) | Diethylphthalate | 11.163 | 149 | 8220 | 0.962 ug/mL | 95 |
| 80) | Thionazin | 11.263 | 107 | 634 | 0.474 ug/mL# | 62 |
| 81) | Fluorene | 11.333 | 166 | 8483 | 1.080 ug/mL | 97 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.286 | 204 | 4197 | 1.041 ug/mL | 91 |
| 83) | 4-Nitroaniline | 11.333 | 138 | 1303 | 0.610 ug/mL | 86 |
| 84) | 5-Nitro-o-Toluidine | 11.333 | 152 | 1335 | 0.591 ug/mL | 90 |
| 85) | 1,2-Diphenylhydrazine | 11.451 | 77 | 7770 | 0.920 ug/mL | 93 |
| 89) | Diphenylamine/n-Nitros... | 11.404 | 169 | 6833 | 0.955 ug/mL | 97 |
| 90) | Sulfotepp | 11.604 | 322 | 753 | 0.629 ug/mL# | 76 |
| 91) | Sym-Trinitrobenzene | 11.675 | 75 | 211 | 2.276 ug/mL# | 25 |
| 92) | Diallate | 11.722 | 86 | 2796 | 0.889 ug/mL | 92 |
| 93) | Phenacetin | 11.704 | 108 | 1739 | 0.457 ug/mL | 84 |
| 94) | Phorate | 11.745 | 75 | 4053 | 0.837 ug/mL# | 95 |
| 95) | 4-Bromophenyl Phenyl E... | 11.810 | 248 | 2004 | 0.938 ug/mL | 99 |
| 96) | Hexachlorobenzene | 12.022 | 284 | 2449 | 1.099 ug/mL# | 80 |
| 97) | Dimethoate | 11.945 | 87 | 1769 | 1.004 ug/mL# | 86 |
| 98) | 4-Aminobiphenyl | 12.104 | 169 | 6037 | 0.683 ug/mL | 93 |
| 100) | Pronamide | 12.139 | 173 | 2041 | 0.605 ug/mL# | 92 |
| 102) | Disulfoton | 12.322 | 88 | 2903 | 0.708 ug/mL# | 82 |
| 103) | Phenanthrene | 12.404 | 178 | 13093 | 1.111 ug/mL | 97 |
| 104) | Anthracene | 12.457 | 178 | 11599 | 0.958 ug/mL | 94 |
| 105) | Carbazole | 12.616 | 167 | 9514 | 0.855 ug/mL# | 100 |
| 106) | Parathion Methyl | 12.786 | 109 | 755 | 0.626 ug/mL# | 54 |
| 107) | Di-n-Butyl Phthalate | 12.980 | 149 | 10029 | 0.725 ug/mL# | 91 |
| 108) | Parathion Ethyl | 13.421 | 97 | 754 | 2.071 ug/mL# | 7 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000308.D Vial: 3
Acq On : 15 Aug 2017 4:59 pm Operator: SCB
Sample : WG625881-03 1PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:07:18 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:06:57 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

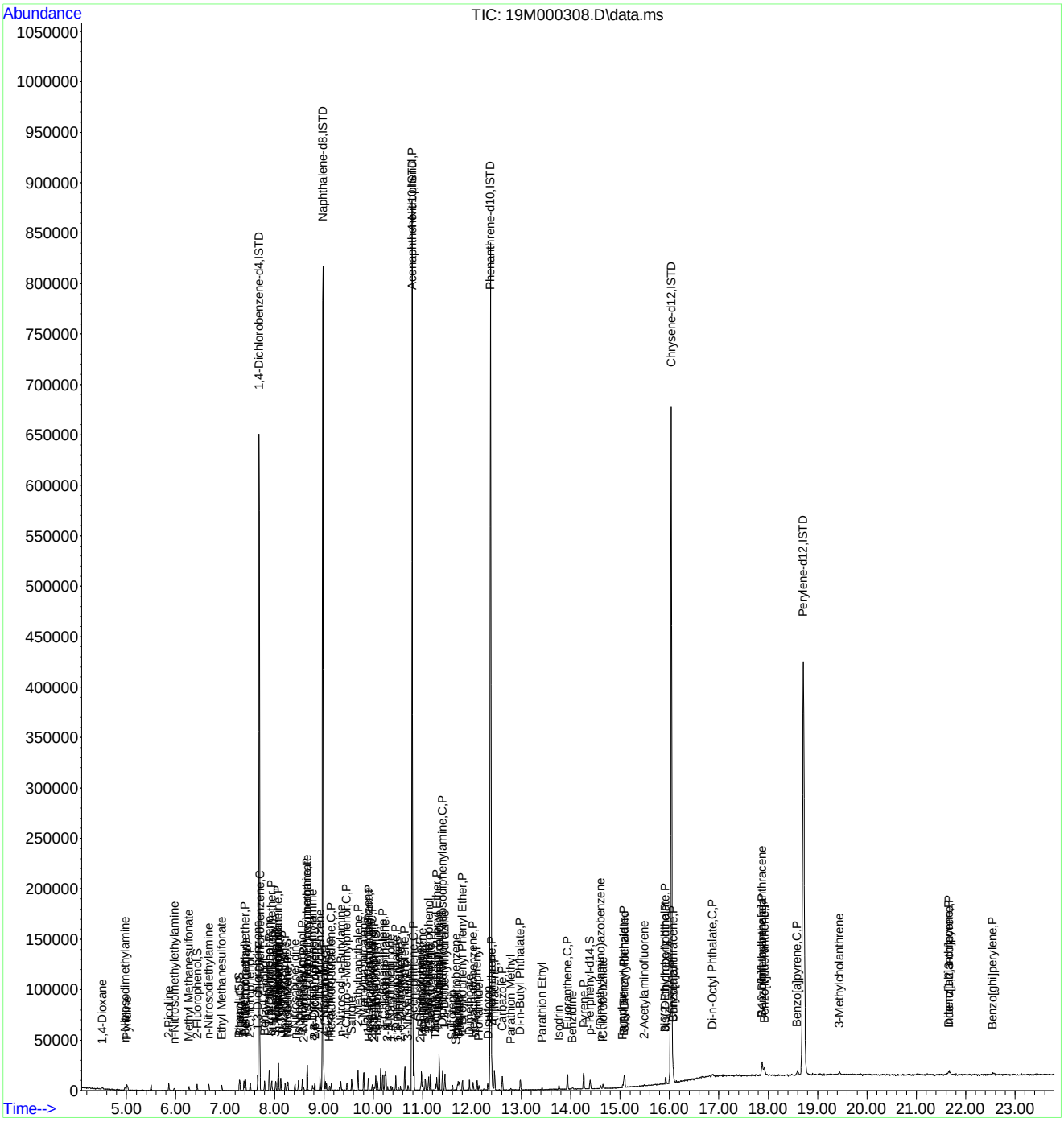
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 110) Methapyrilene | 13.416 | 58 | 1239 | Below Cal # | 83 |
| 111) Isodrin | 13.763 | 193 | 1008 | 0.767 ug/mL# | 27 |
| 112) Fluoranthene | 13.933 | 202 | 11199 | 0.874 ug/mL | 98 |
| 114) Benzidine | 14.033 | 184 | 1578 | 0.266 ug/mL | 100 |
| 115) Pyrene | 14.263 | 202 | 11417 | 0.871 ug/mL | 94 |
| 118) p-(Dimethylamino)azobe... | 14.610 | 225 | 561 | 0.233 ug/mL# | 47 |
| 119) Chlorobenzilate | 14.651 | 251 | 1271 | 0.405 ug/mL# | 78 |
| 120) Famphur | 15.051 | 218 | 1819 | 1.189 ug/mL# | 75 |
| 121) Butyl Benzyl Phthalate | 15.074 | 149 | 3902 | 0.672 ug/mL# | 93 |
| 122) 3,3'-Dimethylbenzidine | 15.086 | 212 | 5703 | 0.611 ug/mL# | 85 |
| 123) 2-Acetylaminofluorene | 15.492 | 181 | 563 | 2.667 ug/mL# | 42 |
| 124) bis(2-Ethylhexyl)phtha... | 15.921 | 149 | 3442 | 0.836 ug/mL# | 71 |
| 125) 3,3'-Dichlorobenzidine | 15.921 | 252 | 1746 | 0.466 ug/mL# | 83 |
| 126) Benzo[a]anthracene | 16.074 | 228 | 10583 | 0.915 ug/mL | 96 |
| 127) Chrysene | 16.074 | 228 | 10583 | 0.976 ug/mL | 95 |
| 129) Di-n-Octyl Phthalate | 16.868 | 149 | 4585 | 0.325 ug/mL# | 79 |
| 130) 7,12-Dimethylbenz[a]an... | 17.880 | 256 | 3849 | 0.760 ug/mL# | 78 |
| 131) Benzo[b]fluoranthene | 17.874 | 252 | 10867 | 0.964 ug/mL# | 88 |
| 132) Benzo[k]fluoranthene | 17.921 | 252 | 8478 | 0.780 ug/mL# | 93 |
| 133) Benzo[a]pyrene | 18.586 | 252 | 6217 | 0.597 ug/mL# | 84 |
| 134) 3-Methylcholanthrene | 19.439 | 268 | 2180 | 0.438 ug/mL# | 35 |
| 135) Indeno[1,2,3-cd]pyrene | 21.662 | 276 | 5446 | 0.506 ug/mL# | 53 |
| 136) Dibenz[ah]anthracene | 21.656 | 278 | 3987 | 0.439 ug/mL# | 53 |
| 137) Benzo[ghi]perylene | 22.544 | 276 | 5013 | 0.558 ug/mL# | 50 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000308.D Vial: 3
Acq On : 15 Aug 2017 4:59 pm Operator: SCB
Sample : WG625881-03 1PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:07:18 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:06:57 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000309.D Vial: 4
Acq On : 15 Aug 2017 5:30 pm Operator: SCB
Sample : WG625881-04 3PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:08:14 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:07:28 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.686 | 152 | 124752 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.981 | 136 | 477707 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.786 | 164 | 239831 | 40.0000 | ug/mL | 0.0000 |
| 87) Phenanthrene-d10 | 12.374 | 188 | 438420 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.033 | 240 | 421802 | 40.0000 | ug/mL | 0.0000 |
| 128) Perylene-d12 | 18.709 | 264 | 425324 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.434 | 112 | 11596 | 2.8609 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.287 | 99 | 13586 | 2.8527 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.251 | 82 | 11216 | 2.8377 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.051 | 172 | 27848 | 3.3476 | ug/mL | 0.0000 |
| 86) 2,4,6-Tribromophenol | 11.610 | 330 | 2109 | 2.1474 | ug/mL | 0.0000 |
| 117) p-Terphenyl-d14 | 14.392 | 244 | 27544 | 3.2284 | ug/mL | 0.0000 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.504 | 88 | 5585 | 3.082 | ug/mL | 89 |
| 3) n-Nitrosodimethylamine | 4.975 | 74 | 7164 | 2.795 | ug/mL# | 98 |
| 4) Pyridine | 5.004 | 79 | 13403 | 2.949 | ug/mL | 96 |
| 5) 2-Picoline | 5.851 | 93 | 14342 | 3.006 | ug/mL | 97 |
| 6) n-Nitrosomethylethylamine | 5.969 | 88 | 5464 | 2.680 | ug/mL | 97 |
| 7) Methyl Methanesulfonate | 6.269 | 80 | 7480 | 3.037 | ug/mL | 96 |
| 9) n-Nitrosodiethylamine | 6.669 | 102 | 5636 | 2.742 | ug/mL# | 87 |
| 10) Ethyl Methanesulfonate | 6.934 | 79 | 9218 | 2.918 | ug/mL | 97 |
| 11) Aniline | 7.381 | 66 | 7140 | 2.929 | ug/mL | 99 |
| 13) Phenol | 7.298 | 94 | 15783 | 3.098 | ug/mL | 97 |
| 14) bis(2-Chloroethyl)ether | 7.404 | 63 | 10700 | 3.309 | ug/mL | 95 |
| 15) Pentachloroethane | 7.416 | 167 | 4644 | 3.073 | ug/mL | 98 |
| 16) 2-Chlorophenol | 7.510 | 128 | 12531 | 2.859 | ug/mL | 98 |
| 17) 1,3-Dichlorobenzene | 7.657 | 146 | 15018 | 3.172 | ug/mL | 98 |
| 18) 1,4-Dichlorobenzene | 7.704 | 146 | 15382 | 3.253 | ug/mL | 95 |
| 19) Benzyl Alcohol | 7.798 | 108 | 7856 | 2.792 | ug/mL | 97 |
| 20) 1,2-Dichlorobenzene | 7.898 | 146 | 14117 | 3.315 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.892 | 107 | 9636 | 3.085 | ug/mL | 99 |
| 22) bis(2-Chloroisopropyl)... | 7.945 | 45 | 16771 | 3.221 | ug/mL | 96 |
| 23) 3-,4-Methylphenol | 8.022 | 107 | 12352 | 2.855 | ug/mL | 97 |
| 24) n-Nitrosopyrrolidine | 8.069 | 100 | 5598 | 2.969 | ug/mL | 83 |
| 25) n-Nitrosodipropylamine | 8.075 | 70 | 8842 | 3.298 | ug/mL | 97 |
| 26) Acetophenone | 8.081 | 105 | 18192 | 3.437 | ug/mL | 98 |
| 27) n-Nitrosomorpholine | 8.075 | 56 | 8008 | 2.868 | ug/mL | 96 |
| 28) o-Toluidine | 8.128 | 106 | 19324 | 2.949 | ug/mL | 99 |
| 29) Hexachloroethane | 8.216 | 117 | 5373 | 2.967 | ug/mL | 97 |
| 32) Nitrobenzene | 8.269 | 77 | 12832 | 3.110 | ug/mL | 95 |
| 33) n-Nitrosopiperidine | 8.416 | 114 | 6010 | 2.867 | ug/mL | 93 |
| 34) Isophorone | 8.486 | 82 | 22617 | 3.017 | ug/mL | 99 |
| 35) 2-Nitrophenol | 8.592 | 139 | 5375 | 2.484 | ug/mL | 93 |
| 36) 2,4-Dimethylphenol | 8.563 | 122 | 10829 | 2.945 | ug/mL | 96 |
| 37) 0,0,0-Triethyl Phospho... | 8.663 | 198 | 6054 | 3.288 | ug/mL | 100 |
| 38) bis(2-Chloroethoxy)met... | 8.663 | 93 | 19987 | 3.477 | ug/mL | 97 |
| 39) Benzoic Acid | 8.598 | 105 | 187 | 8.649 | ug/mL# | 1 |
| 40) 2,4-Dichlorophenol | 8.816 | 162 | 8873 | 2.835 | ug/mL | 98 |
| 41) a,a-Dimethylphenethyla... | 8.769 | 58 | 17659 | 2.464 | ug/mL# | 93 |
| 42) 1,2,4-Trichlorobenzene | 8.922 | 180 | 11630 | 3.275 | ug/mL | 98 |
| 43) Naphthalene | 8.998 | 128 | 41231 | 3.280 | ug/mL | 98 |

Data File : C:\msdchem\4\DATA\081517\19M000309.D Vial: 4
Acq On : 15 Aug 2017 5:30 pm Operator: SCB
Sample : WG625881-04 3PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:08:14 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:07:28 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 44) | 4-Chloroaniline | 9.028 | 65 | 4228 | 2.866 | ug/mL | 89 |
| 45) | 2,6-Dichlorophenol | 8.816 | 162 | 8873 | 2.835 | ug/mL | 98 |
| 46) | Hexachloropropene | 9.116 | 213 | 5504 | 2.622 | ug/mL | 99 |
| 47) | Hexachlorobutadiene | 9.151 | 225 | 5786 | 3.239 | ug/mL | 98 |
| 48) | n-Nitrosodi-n-Butylamine | 9.345 | 84 | 9965 | 2.985 | ug/mL | 97 |
| 49) | p-Phenylenediamine | 9.369 | 108 | 6115 | 1.823 | ug/mL# | 91 |
| 50) | 4-Chloro-3-Methylphenol | 9.463 | 107 | 9783 | 2.846 | ug/mL | 98 |
| 51) | Safrole | 9.563 | 162 | 9974 | 3.120 | ug/mL | 99 |
| 52) | 2-Methylnaphthalene | 9.692 | 142 | 28431 | 3.391 | ug/mL | 100 |
| 53) | 1-Methylnaphthalene | 9.804 | 142 | 25664 | 3.325 | ug/mL | 99 |
| 55) | 1,2,4,5-Tetrachloroben... | 9.898 | 216 | 11280 | 3.346 | ug/mL | 99 |
| 56) | Hexachlorocyclopentadiene | 9.910 | 237 | 2915 | 2.179 | ug/mL# | 88 |
| 57) | 2,4,6-Trichlorophenol | 9.980 | 196 | 5947 | 2.588 | ug/mL | 96 |
| 58) | 2,4,5-Trichlorophenol | 10.022 | 196 | 6215 | 2.628 | ug/mL | 96 |
| 60) | Isosafrole | 10.080 | 162 | 9904 | 3.008 | ug/mL | 95 |
| 61) | 2-Chloronaphthalene | 10.192 | 162 | 25715 | 3.331 | ug/mL | 98 |
| 62) | 1-Chloronaphthalene | 10.233 | 162 | 23938 | 3.415 | ug/mL | 99 |
| 63) | 2-Nitroaniline | 10.292 | 65 | 5296 | 2.381 | ug/mL | 92 |
| 64) | 1,4-Naphthoquinone | 10.357 | 158 | 5919 | 2.433 | ug/mL | 98 |
| 65) | Dimethylphthalate | 10.457 | 163 | 27739 | 3.189 | ug/mL# | 82 |
| 66) | 1,3-Dinitrobenzene | 10.504 | 168 | 3225 | 2.154 | ug/mL | 91 |
| 67) | 2,6-Dinitrotoluene | 10.551 | 165 | 5391 | 2.657 | ug/mL | 97 |
| 68) | Acenaphthylene | 10.639 | 152 | 38681 | 3.249 | ug/mL | 99 |
| 69) | 3-Nitroaniline | 10.704 | 138 | 6105 | 2.549 | ug/mL | 97 |
| 71) | Acenaphthene | 10.822 | 154 | 24151 | 3.313 | ug/mL | 95 |
| 72) | 4-Nitrophenol | 10.810 | 65 | 3600 | 2.406 | ug/mL# | 63 |
| 73) | 2,4-Dinitrotoluene | 10.957 | 165 | 6188 | 2.366 | ug/mL | 93 |
| 74) | Pentachlorobenzene | 10.998 | 250 | 9623 | 3.352 | ug/mL | 98 |
| 75) | Dibenzofuran | 10.975 | 168 | 36300 | 3.368 | ug/mL | 98 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.127 | 232 | 4399 | 2.515 | ug/mL | 98 |
| 77) | 1-Naphthylamine | 11.051 | 143 | 23357 | 2.863 | ug/mL | 98 |
| 78) | 2-Naphthylamine | 11.122 | 143 | 25253 | 3.160 | ug/mL | 98 |
| 79) | Diethylphthalate | 11.163 | 149 | 27174 | 3.041 | ug/mL | 99 |
| 80) | Thionazin | 11.263 | 107 | 3683 | 2.631 | ug/mL | 98 |
| 81) | Fluorene | 11.333 | 166 | 28022 | 3.409 | ug/mL | 100 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.286 | 204 | 13737 | 3.258 | ug/mL | 97 |
| 83) | 4-Nitroaniline | 11.333 | 138 | 6491 | 2.904 | ug/mL | 96 |
| 84) | 5-Nitro-o-Toluidine | 11.333 | 152 | 6690 | 2.830 | ug/mL | 95 |
| 85) | 1,2-Diphenylhydrazine | 11.451 | 77 | 27124 | 3.071 | ug/mL | 98 |
| 88) | 4,6-Dinitro-2-Methylph... | 11.380 | 198 | 839 | 6.084 | ug/mL# | 1 |
| 89) | Diphenylamine/n-Nitros... | 11.404 | 169 | 24163 | 3.202 | ug/mL | 98 |
| 90) | Sulfotepp | 11.604 | 322 | 3458 | 2.739 | ug/mL | 90 |
| 91) | Sym-Trinitrobenzene | 11.674 | 75 | 2204 | 3.181 | ug/mL | 88 |
| 92) | Diallate | 11.722 | 86 | 10582 | 3.192 | ug/mL | 98 |
| 93) | Phenacetin | 11.704 | 108 | 8844 | 2.206 | ug/mL | 92 |
| 94) | Phorate | 11.739 | 75 | 15260 | 2.990 | ug/mL# | 100 |
| 95) | 4-Bromophenyl Phenyl E... | 11.810 | 248 | 7241 | 3.214 | ug/mL | 98 |
| 96) | Hexachlorobenzene | 12.022 | 284 | 7550 | 3.213 | ug/mL | 98 |
| 97) | Dimethoate | 11.945 | 87 | 8612 | 2.861 | ug/mL | 95 |
| 98) | 4-Aminobiphenyl | 12.104 | 169 | 25543 | 2.740 | ug/mL | 97 |
| 99) | Pentachlorophenol | 12.198 | 266 | 1304 | 5.341 | ug/mL | 87 |
| 100) | Pronamide | 12.139 | 173 | 9197 | 2.586 | ug/mL | 97 |
| 101) | Pentachloronitrobenzene | 12.286 | 237 | 2187 | 2.568 | ug/mL# | 83 |
| 102) | Disulfoton | 12.321 | 88 | 11949 | 2.762 | ug/mL | 98 |
| 103) | Phenanthrene | 12.404 | 178 | 41420 | 3.333 | ug/mL | 98 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000309.D Vial: 4
Acq On : 15 Aug 2017 5:30 pm Operator: SCB
Sample : WG625881-04 3PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:08:14 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:07:28 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

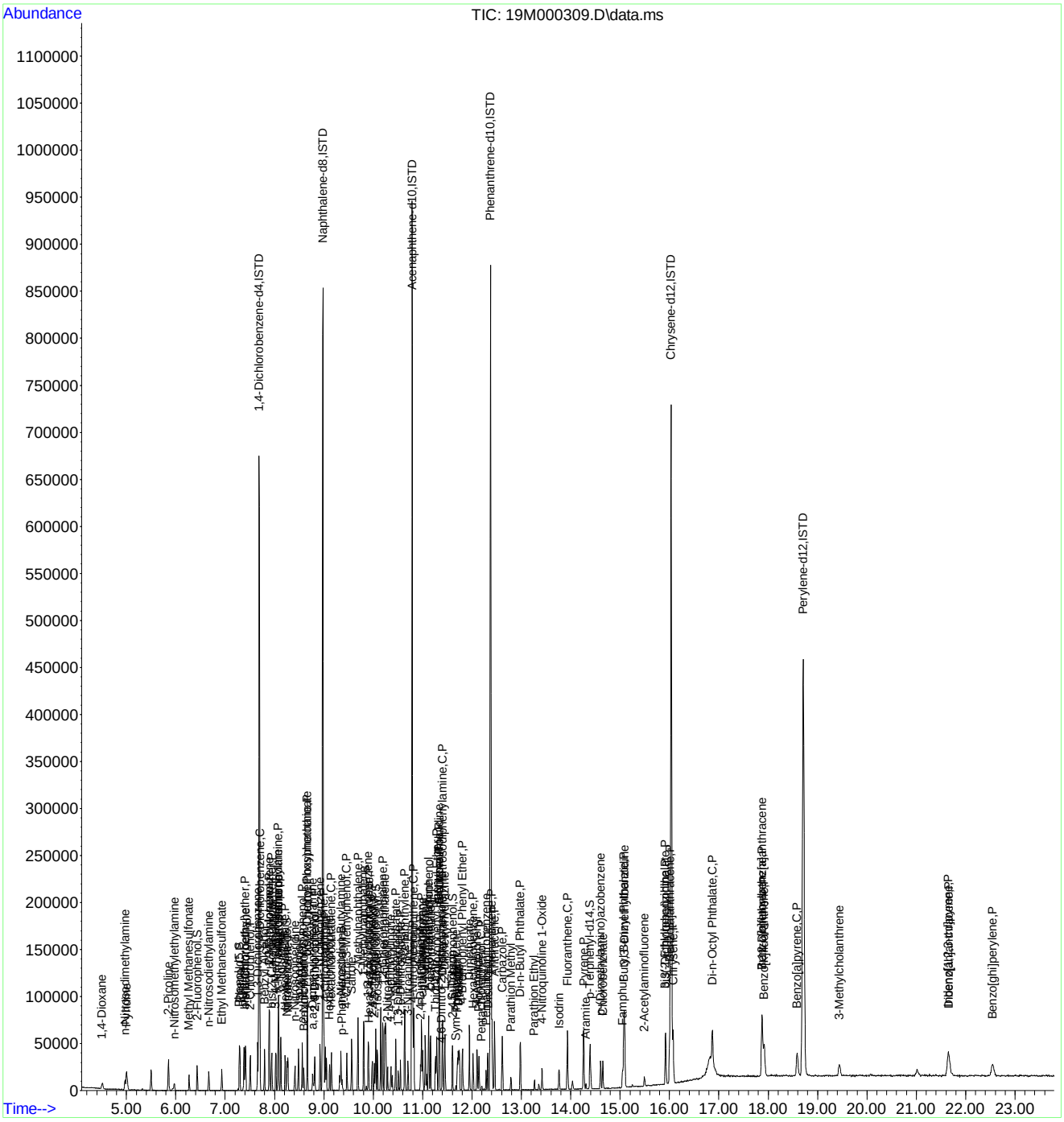
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 104) Anthracene | 12.457 | 178 | 40131 | 3.142 | ug/mL | 98 |
| 105) Carbazole | 12.616 | 167 | 35676 | 3.042 | ug/mL# | 100 |
| 106) Parathion Methyl | 12.786 | 109 | 4695 | 2.158 | ug/mL | 94 |
| 107) Di-n-Butyl Phthalate | 12.980 | 149 | 39750 | 2.725 | ug/mL | 99 |
| 108) Parathion Ethyl | 13.263 | 97 | 2320 | 2.950 | ug/mL# | 91 |
| 109) 4-Nitroquinoline 1-Oxide | 13.416 | 190 | 432 | 7.980 | ug/mL# | 17 |
| 111) Isodrin | 13.768 | 193 | 4212 | 3.040 | ug/mL# | 73 |
| 112) Fluoranthene | 13.933 | 202 | 41077 | 3.040 | ug/mL | 100 |
| 115) Pyrene | 14.263 | 202 | 42599 | 3.054 | ug/mL | 99 |
| 116) Aramite | 14.310 | 185 | 902 | 3.130 | ug/mL# | 59 |
| 118) p-(Dimethylamino)azobe... | 14.604 | 225 | 5321 | 2.078 | ug/mL | 95 |
| 119) Chlorobenzilate | 14.651 | 251 | 7581 | 2.272 | ug/mL | 95 |
| 120) Famphur | 15.051 | 218 | 10053 | 6.177 | ug/mL | 92 |
| 121) Butyl Benzyl Phthalate | 15.074 | 149 | 17643 | 2.856 | ug/mL | 99 |
| 122) 3,3'-Dimethylbenzidine | 15.086 | 212 | 23715 | 2.390 | ug/mL | 99 |
| 123) 2-Acetylaminofluorene | 15.492 | 181 | 5041 | 3.450 | ug/mL# | 92 |
| 124) bis(2-Ethylhexyl)phtha... | 15.921 | 149 | 18812 | 2.649 | ug/mL# | 96 |
| 125) 3,3'-Dichlorobenzidine | 15.921 | 252 | 9684 | 2.432 | ug/mL | 99 |
| 126) Benzo[a]anthracene | 16.009 | 228 | 37369 | 3.036 | ug/mL | 99 |
| 127) Chrysene | 16.074 | 228 | 36914 | 3.200 | ug/mL | 97 |
| 129) Di-n-Octyl Phthalate | 16.868 | 149 | 43518 | 2.835 | ug/mL# | 97 |
| 130) 7,12-Dimethylbenz[a]an... | 17.874 | 256 | 15574 | 2.827 | ug/mL | 97 |
| 131) Benzo[b]fluoranthene | 17.874 | 252 | 38662 | 3.153 | ug/mL | 98 |
| 132) Benzo[k]fluoranthene | 17.915 | 252 | 34909 | 2.952 | ug/mL | 99 |
| 133) Benzo[a]pyrene | 18.586 | 252 | 28426 | 2.508 | ug/mL | 95 |
| 134) 3-Methylcholanthrene | 19.445 | 268 | 11226 | 2.072 | ug/mL | 92 |
| 135) Indeno[1,2,3-cd]pyrene | 21.650 | 276 | 28295 | 2.416 | ug/mL | 95 |
| 136) Dibenz[ah]anthracene | 21.656 | 278 | 23403 | 2.369 | ug/mL | 92 |
| 137) Benzo[ghi]perylene | 22.544 | 276 | 23491 | 2.402 | ug/mL | 93 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000309.D Vial: 4
Acq On : 15 Aug 2017 5:30 pm Operator: SCB
Sample : WG625881-04 3PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:08:14 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:07:28 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




19M000309.D MEGAMIX.M Fri Aug 18 14:17:13 2017 SVOA1 Page: 4

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000310.D Vial: 5
Acq On : 15 Aug 2017 6:00 pm Operator: SCB
Sample : WG625881-05 10PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:08:50 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:08:32 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.686 | 152 | 126749 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.975 | 136 | 508870 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.786 | 164 | 246411 | 40.0000 | ug/mL | 0.0000 |
| 87) Phenanthrene-d10 | 12.374 | 188 | 457810 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.033 | 240 | 447580 | 40.0000 | ug/mL | 0.0000 |
| 128) Perylene-d12 | 18.709 | 264 | 445239 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.428 | 112 | 40876 | 9.9257 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.287 | 99 | 47979 | 9.9157 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.251 | 82 | 40949 | 9.7258 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.051 | 172 | 89090 | 10.4234 | ug/mL | 0.0000 |
| 86) 2,4,6-Tribromophenol | 11.604 | 330 | 9832 | 9.7437 | ug/mL | 0.0000 |
| 117) p-Terphenyl-d14 | 14.392 | 244 | 95104 | 10.5050 | ug/mL | 0.0000 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.510 | 88 | 17912 | 9.729 | ug/mL | 99 |
| 3) n-Nitrosodimethylamine | 4.969 | 74 | 25644 | 9.846 | ug/mL | 99 |
| 4) Pyridine | 4.993 | 79 | 46614 | 10.095 | ug/mL | 99 |
| 5) 2-Picoline | 5.845 | 93 | 48246 | 9.953 | ug/mL | 99 |
| 6) n-Nitrosomethylethylamine | 5.969 | 88 | 19567 | 9.448 | ug/mL | 100 |
| 7) Methyl Methanesulfonate | 6.269 | 80 | 25052 | 10.013 | ug/mL | 99 |
| 9) n-Nitrosodiethylamine | 6.669 | 102 | 20459 | 9.796 | ug/mL | 97 |
| 10) Ethyl Methanesulfonate | 6.928 | 79 | 32063 | 9.990 | ug/mL | 99 |
| 11) Aniline | 7.381 | 66 | 24262 | 9.796 | ug/mL | 95 |
| 13) Phenol | 7.298 | 94 | 52196 | 10.085 | ug/mL | 98 |
| 14) bis(2-Chloroethyl)ether | 7.404 | 63 | 34332 | 10.451 | ug/mL | 99 |
| 15) Pentachloroethane | 7.416 | 167 | 15607 | 10.163 | ug/mL | 99 |
| 16) 2-Chlorophenol | 7.510 | 128 | 44163 | 9.916 | ug/mL | 99 |
| 17) 1,3-Dichlorobenzene | 7.657 | 146 | 48737 | 10.132 | ug/mL | 99 |
| 18) 1,4-Dichlorobenzene | 7.704 | 146 | 48891 | 10.176 | ug/mL | 98 |
| 19) Benzyl Alcohol | 7.798 | 108 | 27507 | 9.621 | ug/mL | 99 |
| 20) 1,2-Dichlorobenzene | 7.898 | 146 | 47484 | 10.976 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.892 | 107 | 34273 | 10.801 | ug/mL | 98 |
| 22) bis(2-Chloroisopropyl)... | 7.945 | 45 | 56472 | 10.676 | ug/mL | 96 |
| 23) 3-,4-Methylphenol | 8.022 | 107 | 44349 | 10.090 | ug/mL | 99 |
| 24) n-Nitrosopyrrolidine | 8.063 | 100 | 19996 | 10.438 | ug/mL | 91 |
| 25) n-Nitrosodipropylamine | 8.075 | 70 | 31053 | 11.400 | ug/mL | 99 |
| 26) Acetophenone | 8.081 | 105 | 59273 | 11.023 | ug/mL | 99 |
| 27) n-Nitrosomorpholine | 8.075 | 56 | 26393 | 10.089 | ug/mL | 98 |
| 28) o-Toluidine | 8.128 | 106 | 68491 | 10.288 | ug/mL | 98 |
| 29) Hexachloroethane | 8.216 | 117 | 18311 | 9.952 | ug/mL | 97 |
| 32) Nitrobenzene | 8.269 | 77 | 44194 | 10.056 | ug/mL | 99 |
| 33) n-Nitrosopiperidine | 8.416 | 114 | 21929 | 9.821 | ug/mL | 96 |
| 34) Isophorone | 8.486 | 82 | 80863 | 10.127 | ug/mL | 100 |
| 35) 2-Nitrophenol | 8.592 | 139 | 21875 | 9.491 | ug/mL | 98 |
| 36) 2,4-Dimethylphenol | 8.563 | 122 | 39442 | 10.070 | ug/mL | 99 |
| 37) 0,0,0-Triethyl Phospho... | 8.663 | 198 | 21181 | 10.798 | ug/mL | 99 |
| 38) bis(2-Chloroethoxy)met... | 8.663 | 93 | 67806 | 11.075 | ug/mL | 98 |
| 39) Benzoic Acid | 8.604 | 105 | 5556 | 11.080 | ug/mL# | 42 |
| 40) 2,4-Dichlorophenol | 8.816 | 162 | 33753 | 10.123 | ug/mL | 99 |
| 41) a,a-Dimethylphenethyla... | 8.775 | 58 | 101227 | 9.827 | ug/mL | 99 |
| 42) 1,2,4-Trichlorobenzene | 8.922 | 180 | 39810 | 10.522 | ug/mL | 99 |
| 43) Naphthalene | 8.998 | 128 | 141926 | 10.598 | ug/mL | 98 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000310.D Vial: 5
Acq On : 15 Aug 2017 6:00 pm Operator: SCB
Sample : WG625881-05 10PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:08:50 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:08:32 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 44) | 4-Chloroaniline | 9.028 | 65 | 16312 | 10.382 | ug/mL | 98 |
| 45) | 2,6-Dichlorophenol | 8.816 | 162 | 33753 | 10.123 | ug/mL | 99 |
| 46) | Hexachloropropene | 9.116 | 213 | 22158 | 9.910 | ug/mL | 96 |
| 47) | Hexachlorobutadiene | 9.151 | 225 | 20298 | 10.669 | ug/mL | 97 |
| 48) | n-Nitrosodi-n-Butylamine | 9.345 | 84 | 36367 | 10.227 | ug/mL | 98 |
| 49) | p-Phenylenediamine | 9.363 | 108 | 35499 | 9.934 | ug/mL | 98 |
| 50) | 4-Chloro-3-Methylphenol | 9.463 | 107 | 35436 | 9.677 | ug/mL | 100 |
| 51) | Safrole | 9.563 | 162 | 34547 | 10.144 | ug/mL | 98 |
| 52) | 2-Methylnaphthalene | 9.686 | 142 | 92087 | 10.311 | ug/mL | 100 |
| 53) | 1-Methylnaphthalene | 9.804 | 142 | 85245 | 10.367 | ug/mL | 98 |
| 55) | 1,2,4,5-Tetrachloroben... | 9.898 | 216 | 36558 | 10.554 | ug/mL | 99 |
| 56) | Hexachlorocyclopentadiene | 9.910 | 237 | 12555 | 9.132 | ug/mL | 99 |
| 57) | 2,4,6-Trichlorophenol | 9.980 | 196 | 22916 | 9.706 | ug/mL | 99 |
| 58) | 2,4,5-Trichlorophenol | 10.022 | 196 | 23511 | 9.675 | ug/mL | 99 |
| 60) | Isosafrole | 10.080 | 162 | 34120 | 10.088 | ug/mL | 98 |
| 61) | 2-Chloronaphthalene | 10.192 | 162 | 83444 | 10.519 | ug/mL | 98 |
| 62) | 1-Chloronaphthalene | 10.233 | 162 | 76363 | 10.603 | ug/mL | 99 |
| 63) | 2-Nitroaniline | 10.286 | 65 | 21650 | 9.475 | ug/mL | 97 |
| 64) | 1,4-Naphthoquinone | 10.357 | 158 | 25371 | 10.149 | ug/mL | 99 |
| 65) | Dimethylphthalate | 10.457 | 163 | 91708 | 10.260 | ug/mL | 100 |
| 66) | 1,3-Dinitrobenzene | 10.504 | 168 | 14400 | 9.359 | ug/mL | 99 |
| 67) | 2,6-Dinitrotoluene | 10.551 | 165 | 20418 | 9.793 | ug/mL | 99 |
| 68) | Acenaphthylene | 10.639 | 152 | 129772 | 10.608 | ug/mL | 99 |
| 69) | 3-Nitroaniline | 10.704 | 138 | 23231 | 9.440 | ug/mL | 98 |
| 70) | 2,4-Dinitrophenol | 10.810 | 184 | 3566 | 11.004 | ug/mL# | 1 |
| 71) | Acenaphthene | 10.822 | 154 | 82085 | 10.961 | ug/mL | 97 |
| 72) | 4-Nitrophenol | 10.810 | 65 | 14495 | 9.428 | ug/mL | 93 |
| 73) | 2,4-Dinitrotoluene | 10.957 | 165 | 26949 | 10.030 | ug/mL | 99 |
| 74) | Pentachlorobenzene | 10.998 | 250 | 30752 | 10.425 | ug/mL | 99 |
| 75) | Dibenzofuran | 10.975 | 168 | 119186 | 10.762 | ug/mL | 99 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.127 | 232 | 18754 | 10.437 | ug/mL | 98 |
| 77) | 1-Naphthylamine | 11.051 | 143 | 88520 | 10.562 | ug/mL | 98 |
| 78) | 2-Naphthylamine | 11.122 | 143 | 92720 | 11.292 | ug/mL | 98 |
| 79) | Diethylphthalate | 11.163 | 149 | 95968 | 10.453 | ug/mL | 100 |
| 80) | Thionazin | 11.257 | 107 | 14631 | 10.172 | ug/mL | 99 |
| 81) | Fluorene | 11.333 | 166 | 92932 | 11.004 | ug/mL | 99 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.286 | 204 | 45967 | 10.610 | ug/mL | 98 |
| 83) | 4-Nitroaniline | 11.333 | 138 | 23570 | 10.264 | ug/mL | 96 |
| 84) | 5-Nitro-o-Toluidine | 11.333 | 152 | 25659 | 10.564 | ug/mL | 99 |
| 85) | 1,2-Diphenylhydrazine | 11.451 | 77 | 94054 | 10.366 | ug/mL | 100 |
| 88) | 4,6-Dinitro-2-Methylph... | 11.380 | 198 | 8180 | 10.369 | ug/mL# | 51 |
| 89) | Diphenylamine/n-Nitros... | 11.404 | 169 | 84480 | 10.720 | ug/mL | 97 |
| 90) | Sulfotepp | 11.604 | 322 | 13546 | 10.275 | ug/mL | 97 |
| 91) | Sym-Trinitrobenzene | 11.674 | 75 | 14025 | 8.306 | ug/mL | 98 |
| 92) | Diallate | 11.722 | 86 | 36705 | 10.604 | ug/mL | 95 |
| 93) | Phenacetin | 11.704 | 108 | 41933 | 10.017 | ug/mL | 98 |
| 94) | Phorate | 11.739 | 75 | 57155 | 10.726 | ug/mL# | 98 |
| 95) | 4-Bromophenyl Phenyl E... | 11.810 | 248 | 24077 | 10.234 | ug/mL | 99 |
| 96) | Hexachlorobenzene | 12.022 | 284 | 25908 | 10.560 | ug/mL | 98 |
| 97) | Dimethoate | 11.945 | 87 | 35272 | 10.021 | ug/mL | 97 |
| 98) | 4-Aminobiphenyl | 12.098 | 169 | 99238 | 10.194 | ug/mL | 100 |
| 99) | Pentachlorophenol | 12.198 | 266 | 9291 | 10.202 | ug/mL | 99 |
| 100) | Pronamide | 12.139 | 173 | 37591 | 10.122 | ug/mL | 100 |
| 101) | Pentachloronitrobenzene | 12.286 | 237 | 8709 | 9.793 | ug/mL | 98 |
| 102) | Disulfoton | 12.316 | 88 | 46654 | 10.329 | ug/mL | 96 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000310.D Vial: 5
Acq On : 15 Aug 2017 6:00 pm Operator: SCB
Sample : WG625881-05 10PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:08:50 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:08:32 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

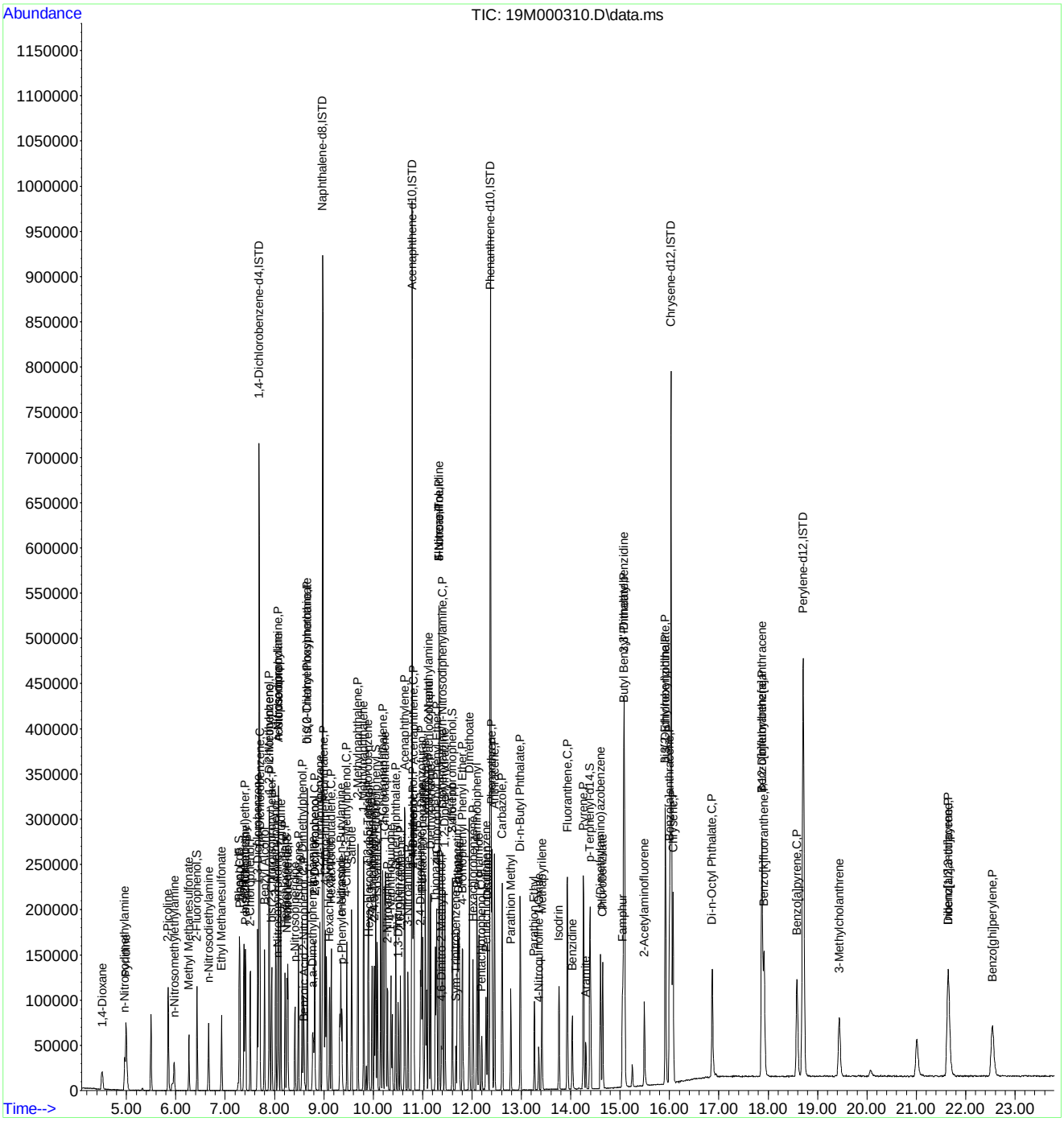
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 103) Phenanthrene | 12.404 | 178 | 138049 | 10.639 ug/mL | 99 |
| 104) Anthracene | 12.457 | 178 | 139607 | 10.467 ug/mL | 99 |
| 105) Carbazole | 12.610 | 167 | 126051 | 10.293 ug/mL# | 100 |
| 106) Parathion Methyl | 12.786 | 109 | 25832 | 10.032 ug/mL | 99 |
| 107) Di-n-Butyl Phthalate | 12.974 | 149 | 154633 | 10.150 ug/mL | 100 |
| 108) Parathion Ethyl | 13.263 | 97 | 14215 | 9.461 ug/mL | 98 |
| 109) 4-Nitroquinoline 1-Oxide | 13.351 | 190 | 3074 | 10.559 ug/mL# | 80 |
| 110) Methapyrilene | 13.416 | 58 | 60849 | 9.333 ug/mL | 98 |
| 111) Isodrin | 13.763 | 193 | 14773 | 10.210 ug/mL | 98 |
| 112) Fluoranthene | 13.933 | 202 | 146526 | 10.384 ug/mL | 99 |
| 114) Benzidine | 14.033 | 184 | 52962 | 7.898 ug/mL | 100 |
| 115) Pyrene | 14.257 | 202 | 152959 | 10.336 ug/mL | 100 |
| 116) Aramite | 14.304 | 185 | 6943 | 9.605 ug/mL | 94 |
| 118) p-(Dimethylamino)azobe... | 14.604 | 225 | 25485 | 9.379 ug/mL | 99 |
| 119) Chlorobenzilate | 14.645 | 251 | 33805 | 9.548 ug/mL | 99 |
| 120) Famphur | 15.051 | 218 | 44879 | 25.988 ug/mL | 93 |
| 121) Butyl Benzyl Phthalate | 15.074 | 149 | 72885 | 11.120 ug/mL | 99 |
| 122) 3,3'-Dimethylbenzidine | 15.080 | 212 | 103850 | 9.861 ug/mL | 99 |
| 123) 2-Acetylaminofluorene | 15.492 | 181 | 37568 | 8.804 ug/mL# | 98 |
| 124) bis(2-Ethylhexyl)phtha... | 15.915 | 149 | 88740 | 10.406 ug/mL | 99 |
| 125) 3,3'-Dichlorobenzidine | 15.915 | 252 | 42785 | 10.128 ug/mL | 99 |
| 126) Benzo[a]anthracene | 16.004 | 228 | 135384 | 10.366 ug/mL | 99 |
| 127) Chrysene | 16.074 | 228 | 127322 | 10.403 ug/mL | 99 |
| 129) Di-n-Octyl Phthalate | 16.862 | 149 | 127108 | 7.911 ug/mL | 100 |
| 130) 7,12-Dimethylbenz[a]an... | 17.874 | 256 | 58922 | 10.217 ug/mL | 97 |
| 131) Benzo[b]fluoranthene | 17.874 | 252 | 130926 | 10.199 ug/mL | 100 |
| 132) Benzo[k]fluoranthene | 17.915 | 252 | 121756 | 9.837 ug/mL | 99 |
| 133) Benzo[a]pyrene | 18.586 | 252 | 113675 | 9.583 ug/mL | 100 |
| 134) 3-Methylcholanthrene | 19.439 | 268 | 51299 | 9.046 ug/mL | 98 |
| 135) Indeno[1,2,3-cd]pyrene | 21.644 | 276 | 121010 | 9.870 ug/mL | 98 |
| 136) Dibenz[ah]anthracene | 21.650 | 278 | 101289 | 9.795 ug/mL | 99 |
| 137) Benzo[ghi]perylene | 22.538 | 276 | 99708 | 9.741 ug/mL | 98 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000310.D Vial: 5
Acq On : 15 Aug 2017 6:00 pm Operator: SCB
Sample : WG625881-05 10PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:08:50 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:08:32 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000311.D Vial: 6
Acq On : 15 Aug 2017 6:30 pm Operator: SCB
Sample : WG625881-06 15PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:09:20 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:09:03 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 127077 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.975 | 136 | 503935 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.787 | 164 | 237477 | 40.0000 | ug/mL | 0.0000 |
| 87) Phenanthrene-d10 | 12.375 | 188 | 448183 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.033 | 240 | 441337 | 40.0000 | ug/mL | 0.0000 |
| 128) Perylene-d12 | 18.710 | 264 | 432113 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.428 | 112 | 62564 | 15.1529 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.287 | 99 | 77126 | 15.8984 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.251 | 82 | 64325 | 15.4275 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.045 | 172 | 133906 | 16.2562 | ug/mL | 0.0000 |
| 86) 2,4,6-Tribromophenol | 11.604 | 330 | 15476 | 15.9139 | ug/mL | 0.0000 |
| 117) p-Terphenyl-d14 | 14.392 | 244 | 141332 | 15.8321 | ug/mL | 0.0000 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.510 | 88 | 30285 | 16.407 | ug/mL | 92 |
| 3) n-Nitrosodimethylamine | 4.969 | 74 | 40039 | 15.334 | ug/mL | 98 |
| 4) Pyridine | 4.993 | 79 | 70059 | 15.133 | ug/mL | 98 |
| 5) 2-Picoline | 5.846 | 93 | 73640 | 15.152 | ug/mL | 100 |
| 6) n-Nitrosomethylethylamine | 5.969 | 88 | 31862 | 15.345 | ug/mL | 97 |
| 7) Methyl Methanesulfonate | 6.269 | 80 | 37588 | 14.984 | ug/mL | 96 |
| 9) n-Nitrosodiethylamine | 6.663 | 102 | 31706 | 15.142 | ug/mL | 97 |
| 10) Ethyl Methanesulfonate | 6.928 | 79 | 49667 | 15.435 | ug/mL | 98 |
| 11) Aniline | 7.381 | 66 | 39436 | 15.882 | ug/mL | 98 |
| 13) Phenol | 7.299 | 94 | 83112 | 16.017 | ug/mL | 98 |
| 14) bis(2-Chloroethyl)ether | 7.404 | 63 | 54185 | 16.452 | ug/mL | 98 |
| 15) Pentachloroethane | 7.416 | 167 | 24609 | 15.984 | ug/mL | 100 |
| 16) 2-Chlorophenol | 7.504 | 128 | 69697 | 15.609 | ug/mL | 99 |
| 17) 1,3-Dichlorobenzene | 7.657 | 146 | 76890 | 15.943 | ug/mL | 99 |
| 18) 1,4-Dichlorobenzene | 7.704 | 146 | 76411 | 15.864 | ug/mL | 99 |
| 19) Benzyl Alcohol | 7.793 | 108 | 44488 | 15.520 | ug/mL | 98 |
| 20) 1,2-Dichlorobenzene | 7.898 | 146 | 71235 | 16.424 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.893 | 107 | 52397 | 16.470 | ug/mL | 98 |
| 22) bis(2-Chloroisopropyl)... | 7.940 | 45 | 85289 | 16.082 | ug/mL | 97 |
| 23) 3-,4-Methylphenol | 8.022 | 107 | 68685 | 15.586 | ug/mL | 99 |
| 24) n-Nitrosopyrrolidine | 8.063 | 100 | 31299 | 16.295 | ug/mL | 92 |
| 25) n-Nitrosodipropylamine | 8.075 | 70 | 46767 | 17.124 | ug/mL | 100 |
| 26) Acetophenone | 8.081 | 105 | 90928 | 16.866 | ug/mL | 99 |
| 27) n-Nitrosomorpholine | 8.075 | 56 | 39605 | 15.453 | ug/mL | 98 |
| 28) o-Toluidine | 8.128 | 106 | 105247 | 15.768 | ug/mL | 100 |
| 29) Hexachloroethane | 8.216 | 117 | 28494 | 15.446 | ug/mL | 98 |
| 32) Nitrobenzene | 8.269 | 77 | 67381 | 15.483 | ug/mL | 100 |
| 33) n-Nitrosopiperidine | 8.416 | 114 | 33385 | 15.097 | ug/mL | 99 |
| 34) Isophorone | 8.481 | 82 | 122301 | 15.467 | ug/mL | 98 |
| 35) 2-Nitrophenol | 8.593 | 139 | 34256 | 15.008 | ug/mL | 99 |
| 36) 2,4-Dimethylphenol | 8.557 | 122 | 59733 | 15.400 | ug/mL | 99 |
| 37) 0,0,0-Triethyl Phospho... | 8.663 | 198 | 31497 | 16.214 | ug/mL | 98 |
| 38) bis(2-Chloroethoxy)met... | 8.663 | 93 | 99680 | 16.440 | ug/mL | 99 |
| 39) Benzoic Acid | 8.610 | 105 | 14390 | 15.043 | ug/mL# | 63 |
| 40) 2,4-Dichlorophenol | 8.816 | 162 | 51947 | 15.733 | ug/mL | 98 |
| 41) a,a-Dimethylphenethyla... | 8.787 | 58 | 158977 | 15.125 | ug/mL | 99 |
| 42) 1,2,4-Trichlorobenzene | 8.922 | 180 | 58561 | 15.630 | ug/mL | 99 |
| 43) Naphthalene | 8.998 | 128 | 211995 | 15.985 | ug/mL | 98 |

Data File : C:\msdchem\4\DATA\081517\19M000311.D Vial: 6
Acq On : 15 Aug 2017 6:30 pm Operator: SCB
Sample : WG625881-06 15PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:09:20 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:09:03 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 44) | 4-Chloroaniline | 9.028 | 65 | 24654 | 15.845 | ug/mL | 98 |
| 45) | 2,6-Dichlorophenol | 8.816 | 162 | 51947 | 15.733 | ug/mL | 98 |
| 46) | Hexachloropropene | 9.116 | 213 | 33572 | 15.161 | ug/mL | 100 |
| 47) | Hexachlorobutadiene | 9.151 | 225 | 29486 | 15.650 | ug/mL | 99 |
| 48) | n-Nitrosodi-n-Butylamine | 9.340 | 84 | 56934 | 16.168 | ug/mL | 98 |
| 49) | p-Phenylenediamine | 9.363 | 108 | 59476 | 16.806 | ug/mL | 97 |
| 50) | 4-Chloro-3-Methylphenol | 9.463 | 107 | 56479 | 15.575 | ug/mL | 99 |
| 51) | Safrole | 9.563 | 162 | 53246 | 15.787 | ug/mL | 99 |
| 52) | 2-Methylnaphthalene | 9.687 | 142 | 141704 | 16.022 | ug/mL | 99 |
| 53) | 1-Methylnaphthalene | 9.804 | 142 | 130440 | 16.019 | ug/mL | 99 |
| 55) | 1,2,4,5-Tetrachloroben... | 9.898 | 216 | 55900 | 16.745 | ug/mL | 99 |
| 56) | Hexachlorocyclopentadiene | 9.910 | 237 | 20948 | 15.811 | ug/mL | 98 |
| 57) | 2,4,6-Trichlorophenol | 9.975 | 196 | 36276 | 15.943 | ug/mL | 99 |
| 58) | 2,4,5-Trichlorophenol | 10.022 | 196 | 36905 | 15.758 | ug/mL | 100 |
| 60) | Isosafrole | 10.081 | 162 | 52153 | 15.999 | ug/mL | 99 |
| 61) | 2-Chloronaphthalene | 10.192 | 162 | 124239 | 16.251 | ug/mL | 99 |
| 62) | 1-Chloronaphthalene | 10.234 | 162 | 114124 | 16.442 | ug/mL | 99 |
| 63) | 2-Nitroaniline | 10.287 | 65 | 33644 | 15.277 | ug/mL | 99 |
| 64) | 1,4-Naphthoquinone | 10.357 | 158 | 41307 | 17.145 | ug/mL | 98 |
| 65) | Dimethylphthalate | 10.457 | 163 | 137955 | 16.015 | ug/mL | 100 |
| 66) | 1,3-Dinitrobenzene | 10.504 | 168 | 22724 | 15.325 | ug/mL | 98 |
| 67) | 2,6-Dinitrotoluene | 10.551 | 165 | 31486 | 15.669 | ug/mL | 97 |
| 68) | Acenaphthylene | 10.639 | 152 | 195625 | 16.593 | ug/mL | 99 |
| 69) | 3-Nitroaniline | 10.704 | 138 | 36636 | 15.447 | ug/mL | 99 |
| 70) | 2,4-Dinitrophenol | 10.810 | 184 | 7316 | 14.779 | ug/mL# | 1 |
| 71) | Acenaphthene | 10.822 | 154 | 119698 | 16.585 | ug/mL | 98 |
| 72) | 4-Nitrophenol | 10.810 | 65 | 23202 | 15.659 | ug/mL | 95 |
| 73) | 2,4-Dinitrotoluene | 10.957 | 165 | 40454 | 15.623 | ug/mL | 98 |
| 74) | Pentachlorobenzene | 10.998 | 250 | 45334 | 15.946 | ug/mL | 99 |
| 75) | Dibenzofuran | 10.975 | 168 | 174239 | 16.325 | ug/mL | 98 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.122 | 232 | 28724 | 16.587 | ug/mL | 98 |
| 77) | 1-Naphthylamine | 11.051 | 143 | 133417 | 16.519 | ug/mL | 99 |
| 78) | 2-Naphthylamine | 11.122 | 143 | 135460 | 17.117 | ug/mL | 98 |
| 79) | Diethylphthalate | 11.163 | 149 | 145072 | 16.396 | ug/mL | 99 |
| 80) | Thionazin | 11.257 | 107 | 23174 | 16.718 | ug/mL | 97 |
| 81) | Fluorene | 11.334 | 166 | 140949 | 17.318 | ug/mL | 99 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.287 | 204 | 68495 | 16.404 | ug/mL | 99 |
| 83) | 4-Nitroaniline | 11.334 | 138 | 37105 | 16.766 | ug/mL | 98 |
| 84) | 5-Nitro-o-Toluidine | 11.334 | 152 | 40346 | 17.235 | ug/mL | 100 |
| 85) | 1,2-Diphenylhydrazine | 11.451 | 77 | 146114 | 16.709 | ug/mL | 99 |
| 88) | 4,6-Dinitro-2-Methylph... | 11.381 | 198 | 16134 | 15.237 | ug/mL | 70 |
| 89) | Diphenylamine/n-Nitros... | 11.404 | 169 | 127004 | 16.463 | ug/mL | 99 |
| 90) | Sulfotepp | 11.604 | 322 | 20559 | 15.929 | ug/mL | 94 |
| 91) | Sym-Trinitrobenzene | 11.675 | 75 | 25862 | 13.723 | ug/mL | 97 |
| 92) | Diallate | 11.722 | 86 | 58938 | 17.393 | ug/mL | 98 |
| 93) | Phenacetin | 11.704 | 108 | 67970 | 16.586 | ug/mL | 99 |
| 94) | Phorate | 11.739 | 75 | 88091 | 16.886 | ug/mL# | 98 |
| 95) | 4-Bromophenyl Phenyl E... | 11.810 | 248 | 37342 | 16.213 | ug/mL | 99 |
| 96) | Hexachlorobenzene | 12.022 | 284 | 37936 | 15.795 | ug/mL | 99 |
| 97) | Dimethoate | 11.945 | 87 | 53641 | 15.603 | ug/mL | 97 |
| 98) | 4-Aminobiphenyl | 12.098 | 169 | 152425 | 15.994 | ug/mL | 100 |
| 99) | Pentachlorophenol | 12.198 | 266 | 16253 | 14.713 | ug/mL | 100 |
| 100) | Pronamide | 12.139 | 173 | 57756 | 15.885 | ug/mL | 100 |
| 101) | Pentachloronitrobenzene | 12.286 | 237 | 13603 | 15.624 | ug/mL | 99 |
| 102) | Disulfoton | 12.316 | 88 | 71232 | 16.109 | ug/mL | 98 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000311.D Vial: 6
Acq On : 15 Aug 2017 6:30 pm Operator: SCB
Sample : WG625881-06 15PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:09:20 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:09:03 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

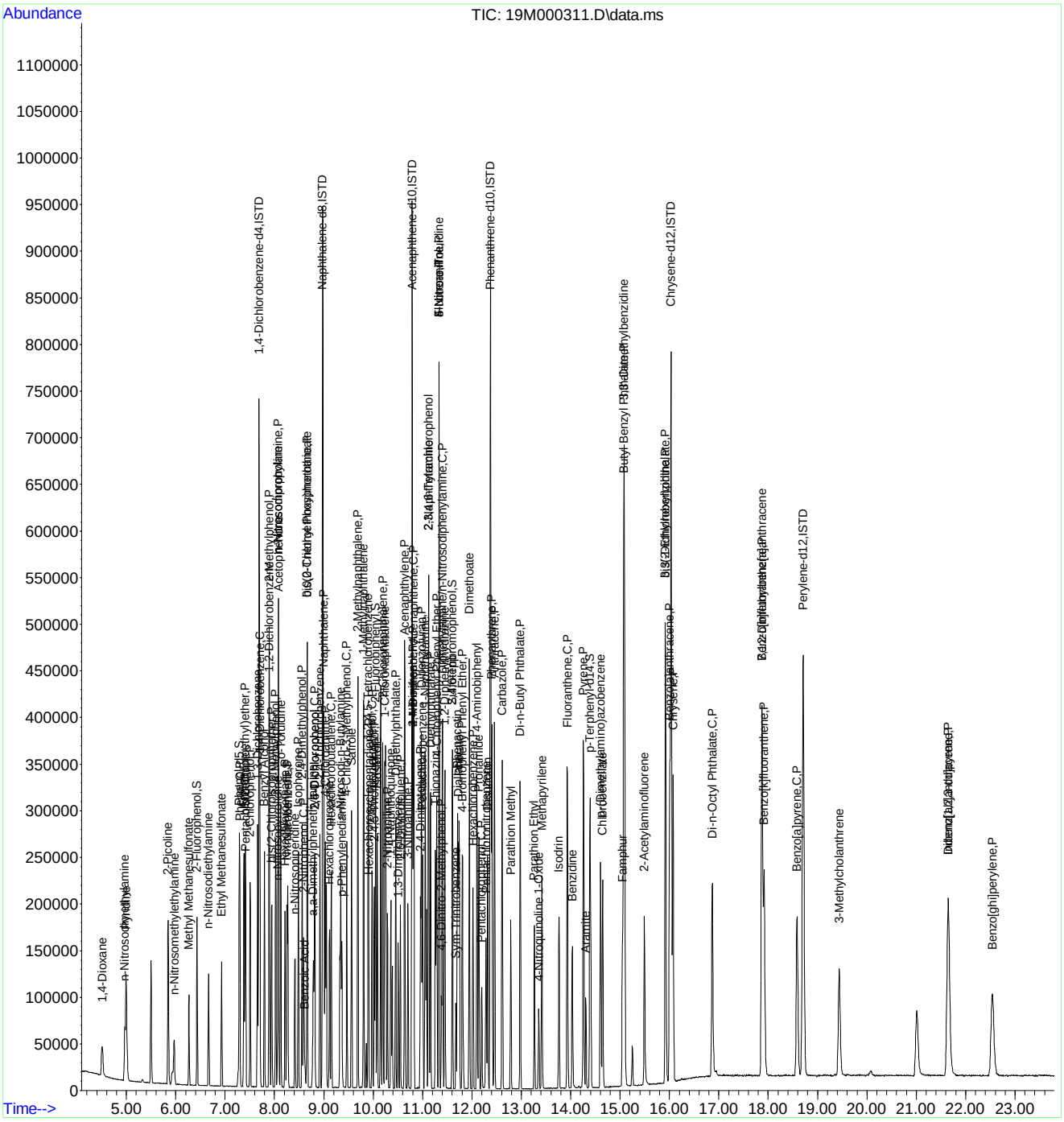
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 103) Phenanthrene | 12.404 | 178 | 202889 | 15.972 | ug/mL | 99 |
| 104) Anthracene | 12.457 | 178 | 209698 | 16.060 | ug/mL | 100 |
| 105) Carbazole | 12.610 | 167 | 190084 | 15.855 | ug/mL# | 100 |
| 106) Parathion Methyl | 12.786 | 109 | 41872 | 16.405 | ug/mL | 99 |
| 107) Di-n-Butyl Phthalate | 12.975 | 149 | 238276 | 15.977 | ug/mL | 100 |
| 108) Parathion Ethyl | 13.263 | 97 | 23713 | 14.987 | ug/mL | 100 |
| 109) 4-Nitroquinoline 1-Oxide | 13.357 | 190 | 6651 | 14.194 | ug/mL# | 87 |
| 110) Methapyrilene | 13.416 | 58 | 94553 | 15.468 | ug/mL | 100 |
| 111) Isodrin | 13.763 | 193 | 22050 | 15.567 | ug/mL | 99 |
| 112) Fluoranthene | 13.933 | 202 | 218768 | 15.836 | ug/mL | 99 |
| 114) Benzidine | 14.033 | 184 | 92253 | 13.952 | ug/mL | 100 |
| 115) Pyrene | 14.257 | 202 | 231929 | 15.894 | ug/mL | 100 |
| 116) Aramite | 14.304 | 185 | 11491 | 14.700 | ug/mL | 98 |
| 118) p-(Dimethylamino)azobe... | 14.604 | 225 | 41280 | 15.406 | ug/mL | 100 |
| 119) Chlorobenzilate | 14.645 | 251 | 53271 | 15.259 | ug/mL | 98 |
| 120) Famphur | 15.051 | 218 | 66307 | 38.940 | ug/mL | 93 |
| 121) Butyl Benzyl Phthalate | 15.074 | 149 | 109754 | 16.982 | ug/mL | 100 |
| 122) 3,3'-Dimethylbenzidine | 15.080 | 212 | 176828 | 17.029 | ug/mL | 99 |
| 123) 2-Acetylaminofluorene | 15.492 | 181 | 67926 | 14.009 | ug/mL# | 99 |
| 124) bis(2-Ethylhexyl)phtha... | 15.916 | 149 | 141763 | 16.612 | ug/mL | 100 |
| 125) 3,3'-Dichlorobenzidine | 15.916 | 252 | 67918 | 16.305 | ug/mL | 100 |
| 126) Benzo[a]anthracene | 16.004 | 228 | 204349 | 15.867 | ug/mL | 99 |
| 127) Chrysene | 16.074 | 228 | 191109 | 15.835 | ug/mL | 99 |
| 129) Di-n-Octyl Phthalate | 16.868 | 149 | 218357 | 14.004 | ug/mL | 99 |
| 130) 7,12-Dimethylbenz[a]an... | 17.874 | 256 | 89986 | 16.077 | ug/mL | 98 |
| 131) Benzo[b]fluoranthene | 17.874 | 252 | 194178 | 15.586 | ug/mL | 96 |
| 132) Benzo[k]fluoranthene | 17.915 | 252 | 183966 | 15.314 | ug/mL | 100 |
| 133) Benzo[a]pyrene | 18.586 | 252 | 176975 | 15.372 | ug/mL | 99 |
| 134) 3-Methylcholanthrene | 19.439 | 268 | 83905 | 15.244 | ug/mL | 99 |
| 135) Indeno[1,2,3-cd]pyrene | 21.651 | 276 | 191637 | 16.106 | ug/mL | 99 |
| 136) Dibenz[ah]anthracene | 21.651 | 278 | 160352 | 15.978 | ug/mL | 99 |
| 137) Benzo[ghi]perylene | 22.545 | 276 | 158805 | 15.986 | ug/mL | 99 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000311.D Vial: 6
Acq On : 15 Aug 2017 6:30 pm Operator: SCB
Sample : WG625881-06 15PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:09:20 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:09:03 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000312.D Vial: 7
Acq On : 15 Aug 2017 7:00 pm Operator: SCB
Sample : WG625881-07 25PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:09:56 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:09:36 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 130759 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.975 | 136 | 516641 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.786 | 164 | 253924 | 40.0000 | ug/mL | 0.0000 |
| 87) Phenanthrene-d10 | 12.375 | 188 | 466592 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.033 | 240 | 456416 | 40.0000 | ug/mL | 0.0000 |
| 128) Perylene-d12 | 18.709 | 264 | 464785 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.428 | 112 | 108470 | 25.5314 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.287 | 99 | 131755 | 26.3945 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.251 | 82 | 112533 | 26.3257 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.051 | 172 | 232855 | 26.4377 | ug/mL | 0.0000 |
| 86) 2,4,6-Tribromophenol | 11.604 | 330 | 27262 | 26.2177 | ug/mL | 0.0000 |
| 117) p-Terphenyl-d14 | 14.392 | 244 | 240688 | 26.0713 | ug/mL | 0.0000 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.504 | 88 | 46240 | 24.345 | ug/mL | 99 |
| 3) n-Nitrosodimethylamine | 4.963 | 74 | 68179 | 25.375 | ug/mL | 98 |
| 4) Pyridine | 4.993 | 79 | 119506 | 25.086 | ug/mL | 98 |
| 5) 2-Picoline | 5.840 | 93 | 125510 | 25.098 | ug/mL | 100 |
| 6) n-Nitrosomethylethylamine | 5.969 | 88 | 53646 | 25.108 | ug/mL | 98 |
| 7) Methyl Methanesulfonate | 6.269 | 80 | 65187 | 25.254 | ug/mL | 98 |
| 9) n-Nitrosodiethylamine | 6.663 | 102 | 55548 | 25.781 | ug/mL | 99 |
| 10) Ethyl Methanesulfonate | 6.928 | 79 | 84333 | 25.470 | ug/mL | 99 |
| 11) Aniline | 7.381 | 66 | 66676 | 26.096 | ug/mL | 98 |
| 13) Phenol | 7.298 | 94 | 139713 | 26.167 | ug/mL | 98 |
| 14) bis(2-Chloroethyl)ether | 7.404 | 63 | 89514 | 26.414 | ug/mL | 98 |
| 15) Pentachloroethane | 7.416 | 167 | 41331 | 26.090 | ug/mL | 99 |
| 16) 2-Chlorophenol | 7.504 | 128 | 119874 | 26.090 | ug/mL | 100 |
| 17) 1,3-Dichlorobenzene | 7.657 | 146 | 128452 | 25.885 | ug/mL | 99 |
| 18) 1,4-Dichlorobenzene | 7.704 | 146 | 127275 | 25.679 | ug/mL | 100 |
| 19) Benzyl Alcohol | 7.798 | 108 | 77520 | 26.282 | ug/mL | 98 |
| 20) 1,2-Dichlorobenzene | 7.898 | 146 | 117607 | 26.352 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.892 | 107 | 87173 | 26.629 | ug/mL | 99 |
| 22) bis(2-Chloroisopropyl)... | 7.945 | 45 | 142837 | 26.174 | ug/mL | 98 |
| 23) 3-,4-Methylphenol | 8.022 | 107 | 118523 | 26.138 | ug/mL | 99 |
| 24) n-Nitrosopyrrolidine | 8.069 | 100 | 53938 | 27.291 | ug/mL | 99 |
| 25) n-Nitrosodipropylamine | 8.075 | 70 | 76932 | 27.376 | ug/mL | 100 |
| 26) Acetophenone | 8.081 | 105 | 149785 | 27.001 | ug/mL | 99 |
| 27) n-Nitrosomorpholine | 8.081 | 56 | 65356 | 25.645 | ug/mL | 99 |
| 28) o-Toluidine | 8.128 | 106 | 179224 | 26.096 | ug/mL | 99 |
| 29) Hexachloroethane | 8.216 | 117 | 49193 | 25.916 | ug/mL | 99 |
| 32) Nitrobenzene | 8.269 | 77 | 116411 | 26.091 | ug/mL | 99 |
| 33) n-Nitrosopiperidine | 8.416 | 114 | 59925 | 26.433 | ug/mL | 99 |
| 34) Isophorone | 8.487 | 82 | 214400 | 26.448 | ug/mL | 100 |
| 35) 2-Nitrophenol | 8.592 | 139 | 62827 | 26.849 | ug/mL | 99 |
| 36) 2,4-Dimethylphenol | 8.563 | 122 | 105582 | 26.552 | ug/mL | 99 |
| 37) 0,0,0-Triethyl Phospho... | 8.663 | 198 | 54002 | 27.116 | ug/mL | 98 |
| 38) bis(2-Chloroethoxy)met... | 8.663 | 93 | 170426 | 27.417 | ug/mL | 99 |
| 39) Benzoic Acid | 8.616 | 105 | 41396 | 25.950 | ug/mL# | 76 |
| 40) 2,4-Dichlorophenol | 8.816 | 162 | 91431 | 27.010 | ug/mL | 100 |
| 41) a,a-Dimethylphenethyla... | 8.798 | 58 | 290977 | 26.388 | ug/mL | 99 |
| 42) 1,2,4-Trichlorobenzene | 8.922 | 180 | 100538 | 26.174 | ug/mL | 100 |
| 43) Naphthalene | 8.998 | 128 | 354206 | 26.051 | ug/mL | 99 |

Data File : C:\msdchem\4\DATA\081517\19M000312.D Vial: 7
Acq On : 15 Aug 2017 7:00 pm Operator: SCB
Sample : WG625881-07 25PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:09:56 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:09:36 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 44) | 4-Chloroaniline | 9.028 | 65 | 41975 | 26.313 | ug/mL | 96 |
| 45) | 2,6-Dichlorophenol | 8.816 | 162 | 91431 | 27.010 | ug/mL | 100 |
| 46) | Hexachloropropene | 9.116 | 213 | 60232 | 26.532 | ug/mL | 99 |
| 47) | Hexachlorobutadiene | 9.151 | 225 | 50512 | 26.150 | ug/mL | 99 |
| 48) | n-Nitrosodi-n-Butylamine | 9.345 | 84 | 98869 | 27.386 | ug/mL | 99 |
| 49) | p-Phenylenediamine | 9.363 | 108 | 103385 | 28.495 | ug/mL | 98 |
| 50) | 4-Chloro-3-Methylphenol | 9.463 | 107 | 99107 | 26.659 | ug/mL | 99 |
| 51) | Safrole | 9.563 | 162 | 91674 | 26.513 | ug/mL | 98 |
| 52) | 2-Methylnaphthalene | 9.686 | 142 | 240481 | 26.521 | ug/mL | 99 |
| 53) | 1-Methylnaphthalene | 9.804 | 142 | 222645 | 26.670 | ug/mL | 99 |
| 55) | 1,2,4,5-Tetrachloroben... | 9.898 | 216 | 94205 | 26.391 | ug/mL | 99 |
| 56) | Hexachlorocyclopentadiene | 9.910 | 237 | 39304 | 27.744 | ug/mL | 99 |
| 57) | 2,4,6-Trichlorophenol | 9.981 | 196 | 65769 | 27.033 | ug/mL | 99 |
| 58) | 2,4,5-Trichlorophenol | 10.022 | 196 | 67517 | 26.961 | ug/mL | 99 |
| 60) | Isosafrole | 10.081 | 162 | 92928 | 26.661 | ug/mL | 98 |
| 61) | 2-Chloronaphthalene | 10.192 | 162 | 217415 | 26.597 | ug/mL | 98 |
| 62) | 1-Chloronaphthalene | 10.233 | 162 | 197833 | 26.656 | ug/mL | 99 |
| 63) | 2-Nitroaniline | 10.286 | 65 | 61593 | 26.157 | ug/mL | 99 |
| 64) | 1,4-Naphthoquinone | 10.357 | 158 | 75234 | 29.205 | ug/mL | 98 |
| 65) | Dimethylphthalate | 10.457 | 163 | 244487 | 26.544 | ug/mL | 100 |
| 66) | 1,3-Dinitrobenzene | 10.504 | 168 | 42689 | 26.925 | ug/mL | 98 |
| 67) | 2,6-Dinitrotoluene | 10.551 | 165 | 57433 | 26.731 | ug/mL | 96 |
| 68) | Acenaphthylene | 10.639 | 152 | 339271 | 26.914 | ug/mL | 100 |
| 69) | 3-Nitroaniline | 10.704 | 138 | 65577 | 25.859 | ug/mL | 99 |
| 70) | 2,4-Dinitrophenol | 10.810 | 184 | 18719 | 24.616 | ug/mL | 41 |
| 71) | Acenaphthene | 10.822 | 154 | 207188 | 26.848 | ug/mL | 99 |
| 72) | 4-Nitrophenol | 10.810 | 65 | 42619 | 26.901 | ug/mL | 97 |
| 73) | 2,4-Dinitrotoluene | 10.957 | 165 | 75172 | 27.151 | ug/mL | 99 |
| 74) | Pentachlorobenzene | 10.998 | 250 | 79333 | 26.097 | ug/mL | 100 |
| 75) | Dibenzofuran | 10.975 | 168 | 302517 | 26.508 | ug/mL | 98 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.122 | 232 | 50097 | 27.055 | ug/mL | 100 |
| 77) | 1-Naphthylamine | 11.051 | 143 | 230905 | 26.737 | ug/mL | 98 |
| 78) | 2-Naphthylamine | 11.122 | 143 | 226755 | 26.798 | ug/mL | 98 |
| 79) | Diethylphthalate | 11.163 | 149 | 249700 | 26.393 | ug/mL | 99 |
| 80) | Thionazin | 11.263 | 107 | 40049 | 27.020 | ug/mL | 100 |
| 81) | Fluorene | 11.333 | 166 | 233387 | 26.818 | ug/mL | 100 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.286 | 204 | 118156 | 26.465 | ug/mL | 99 |
| 83) | 4-Nitroaniline | 11.339 | 138 | 63331 | 26.763 | ug/mL | 98 |
| 84) | 5-Nitro-o-Toluidine | 11.333 | 152 | 69109 | 27.610 | ug/mL | 99 |
| 85) | 1,2-Diphenylhydrazine | 11.451 | 77 | 243378 | 26.030 | ug/mL | 99 |
| 88) | 4,6-Dinitro-2-Methylph... | 11.380 | 198 | 34092 | 25.191 | ug/mL | 89 |
| 89) | Diphenylamine/n-Nitros... | 11.404 | 169 | 213187 | 26.544 | ug/mL | 99 |
| 90) | Sulfotepp | 11.604 | 322 | 35139 | 26.151 | ug/mL | 95 |
| 91) | Sym-Trinitrobenzene | 11.675 | 75 | 51656 | 24.331 | ug/mL | 99 |
| 92) | Diallate | 11.722 | 86 | 95378 | 27.037 | ug/mL | 95 |
| 93) | Phenacetin | 11.704 | 108 | 118708 | 27.825 | ug/mL | 99 |
| 94) | Phorate | 11.739 | 75 | 147518 | 27.162 | ug/mL# | 98 |
| 95) | 4-Bromophenyl Phenyl E... | 11.810 | 248 | 63146 | 26.335 | ug/mL | 99 |
| 96) | Hexachlorobenzene | 12.022 | 284 | 65197 | 26.074 | ug/mL | 100 |
| 97) | Dimethoate | 11.945 | 87 | 90526 | 25.976 | ug/mL | 97 |
| 98) | 4-Aminobiphenyl | 12.098 | 169 | 267319 | 26.943 | ug/mL | 100 |
| 99) | Pentachlorophenol | 12.198 | 266 | 33400 | 24.789 | ug/mL | 99 |
| 100) | Pronamide | 12.139 | 173 | 102445 | 27.065 | ug/mL | 99 |
| 101) | Pentachloronitrobenzene | 12.286 | 237 | 24190 | 26.688 | ug/mL | 98 |
| 102) | Disulfoton | 12.322 | 88 | 126228 | 27.421 | ug/mL | 98 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000312.D Vial: 7
Acq On : 15 Aug 2017 7:00 pm Operator: SCB
Sample : WG625881-07 25PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:09:56 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:09:36 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

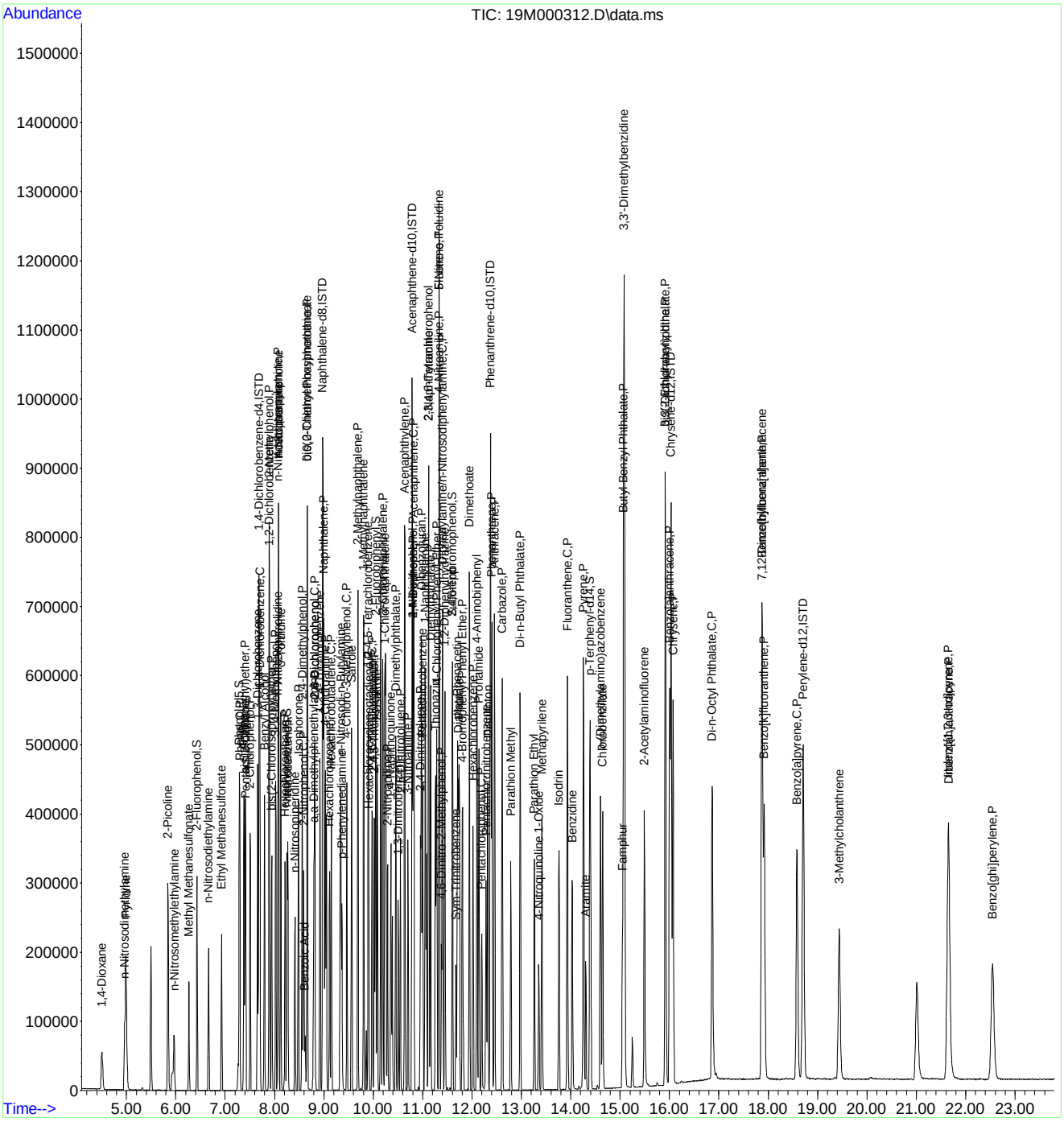
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 103) Phenanthrene | 12.404 | 178 | 348397 | 26.344 ug/mL | 100 |
| 104) Anthracene | 12.457 | 178 | 362095 | 26.638 ug/mL | 100 |
| 105) Carbazole | 12.610 | 167 | 330797 | 26.504 ug/mL# | 100 |
| 106) Parathion Methyl | 12.786 | 109 | 77562 | 28.945 ug/mL | 99 |
| 107) Di-n-Butyl Phthalate | 12.974 | 149 | 416737 | 26.840 ug/mL | 100 |
| 108) Parathion Ethyl | 13.263 | 97 | 45188 | 26.094 ug/mL | 99 |
| 109) 4-Nitroquinoline 1-Oxide | 13.351 | 190 | 18435 | 25.080 ug/mL | 95 |
| 110) Methapyrilene | 13.416 | 58 | 160262 | 26.689 ug/mL | 100 |
| 111) Isodrin | 13.763 | 193 | 38634 | 26.199 ug/mL | 98 |
| 112) Fluoranthene | 13.933 | 202 | 377135 | 26.223 ug/mL | 99 |
| 114) Benzidine | 14.033 | 184 | 176030 | 25.743 ug/mL | 100 |
| 115) Pyrene | 14.257 | 202 | 393698 | 26.088 ug/mL | 99 |
| 116) Aramite | 14.304 | 185 | 21698 | 25.111 ug/mL | 97 |
| 118) p-(Dimethylamino)azobe... | 14.604 | 225 | 75954 | 27.410 ug/mL | 99 |
| 119) Chlorobenzilate | 14.645 | 251 | 96779 | 26.805 ug/mL | 99 |
| 120) Famphur | 15.051 | 218 | 90998 | 51.674 ug/mL | 93 |
| 121) Butyl Benzyl Phthalate | 15.068 | 149 | 184748 | 27.641 ug/mL | 99 |
| 122) 3,3'-Dimethylbenzidine | 15.080 | 212 | 319259 | 29.729 ug/mL | 100 |
| 123) 2-Acetylaminofluorene | 15.492 | 181 | 138604 | 25.148 ug/mL# | 99 |
| 124) bis(2-Ethylhexyl)phtha... | 15.915 | 149 | 250175 | 28.066 ug/mL | 100 |
| 125) 3,3'-Dichlorobenzidine | 15.915 | 252 | 121174 | 28.128 ug/mL | 99 |
| 126) Benzo[a]anthracene | 16.004 | 228 | 346044 | 25.982 ug/mL | 100 |
| 127) Chrysene | 16.074 | 228 | 328248 | 26.300 ug/mL | 100 |
| 129) Di-n-Octyl Phthalate | 16.862 | 149 | 439639 | 26.213 ug/mL | 100 |
| 130) 7,12-Dimethylbenz[a]an... | 17.880 | 256 | 157361 | 26.139 ug/mL | 99 |
| 131) Benzo[b]fluoranthene | 17.874 | 252 | 364263 | 27.183 ug/mL | 100 |
| 132) Benzo[k]fluoranthene | 17.915 | 252 | 327986 | 25.384 ug/mL | 100 |
| 133) Benzo[a]pyrene | 18.580 | 252 | 326083 | 26.332 ug/mL | 99 |
| 134) 3-Methylcholanthrene | 19.439 | 268 | 156034 | 26.356 ug/mL | 99 |
| 135) Indeno[1,2,3-cd]pyrene | 21.650 | 276 | 351203 | 27.442 ug/mL | 100 |
| 136) Dibenz[ah]anthracene | 21.656 | 278 | 296414 | 27.459 ug/mL | 100 |
| 137) Benzo[ghi]perylene | 22.544 | 276 | 290870 | 27.222 ug/mL | 99 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000312.D Vial: 7
Acq On : 15 Aug 2017 7:00 pm Operator: SCB
Sample : WG625881-07 25PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:09:56 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:09:36 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M


Abundance
TIC: 19M000312.D\data.ms
Time-->
1,4-Dioxane
n-Nitrosodimethylamine
2-Picoline
n-Nitrosomethylethylamine
Methyl Methanesulfonate
2-Fluorophenol,S
n-Nitrosodiethylamine
Ethyl Methanesulfonate
Pyridine
Benzaldehyde,P
Phenol-d6,ISTD
Aniline
Bis(2-Chloroethyl)Ether,P
1,4-Dichlorobenzene-d4,ISTD
1,2-Dichlorobenzene-C
2-Chlorophenol,P
n-Nitrosopyrrolidine
Hexachloroethane,P
Benzyl Alcohol,P
2-Methylphenol,P
bis(2-Chloroisopropyl)Ether,P
n-Nitrosopiperidine
Isophorone,P
2-Nitrophenol,P
2,4-Dimethylphenol,P
Benzoic Acid
bis(2-Chloroethoxy)Methane,P
2,4-Dichlorophenol,C,P
Hexachlorobutadiene,P
Naphthalene,P
Naphthalene-d8,ISTD
p-Phenylenediamine
n-Nitrosodi-n-Propylamine
4-Chloro-3-Methylphenol,C,P
Hexachlorocyclopentadiene,P
2-Methylnaphthalene,P
2,4,6-Trichlorophenol,C,P
2,4,5-Trichlorophenol,C,P
1-Chloronaphthalene,P
2-Nitroaniline,P
1,3-Dinitrobenzene,P
Dimethylphthalate,P
Acenaphthylene,P
2,6-Dinitrotoluene,P
3-Nitroaniline,P
Acenaphthene,P
Acenaphthene-d10,ISTD
2,4-Dinitrophenol,P
4-Nitrophenol,P
Dibenzofuran,P
2,4-Dinitrotoluene,P
Diethylphthalate,P
4-Chlorophenyl-Phenylether,P
Fluorene,P
4-Nitroaniline,P
4,6-Dinitro-2-Methylphenol,P
n-Nitrosodiphenylamine,P
Sym.-Trinitrobenzene
4-Bromophenyl-Phenylether,P
Hexachlorobenzene,P
Pentachlorophenol,P
Phenanthrene,P
Anthracene,P
Carbazole,P
Di-n-Butyl Phthalate,P
Fluoranthene,C,P
Pyrene,P
p-Terphenyl-d14,S
Butyl Benzyl Phthalate,P
3,3'-Dimethylbenzidine
Benzo(a)anthracene,P
Chrysene,P
Chrysene-d12,ISTD
bis(2-Ethylhexyl)phthalate,P
Di-n-Octyl Phthalate,C,P
Benzo(b)fluoranthene,P
Benzo(k)fluoranthene,P
Benzo(a)pyrene,C,P
Perylene-d12,ISTD
Indeno(1,2,3-cd)pyrene,P
Dibenz(a,h)anthracene,P
Benzo(ghi)perylene,P
3-Methylcholanthrene
Phenanthrene-d10,ISTD
Dimethoate
Parathion Methyl
Parathion Ethyl
Methapyrilene
Isodrin
Benzidine
Aramite
Famphur
2-Acetylaminofluorene
4-Nitroquinoline 1-Oxide
Chlorobenzilate
4-Aminobiphenyl
Pronamide
Hexachloropropene
Pentachloronitrobenzene
Isosafrole
Safrole
Diallate
Thionazin
Phorate
Dimethoate
Sulfotepp
Dimethyl Sulfone
Hexachlorophene
Tetrachloro-m-Xylene
Pentachlorobenzene
Tetrachloro-p-Xylene
Dichlorvos
Hexachlorocyclohexane,S
Hexachlorocyclohexane,P
Hexachlorocyclohexane,P
Hexachlorocyclohexane,P

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000313.D Vial: 8
Acq On : 15 Aug 2017 7:30 pm Operator: SCB
Sample : WG625881-08 80PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:10:54 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:10:02 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 124702 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.981 | 136 | 491416 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.786 | 164 | 243789 | 40.0000 | ug/mL | 0.0000 |
| 87) Phenanthrene-d10 | 12.375 | 188 | 461225 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.033 | 240 | 445394 | 40.0000 | ug/mL | 0.0000 |
| 128) Perylene-d12 | 18.709 | 264 | 448124 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.428 | 112 | 318031 | 78.4934 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.287 | 99 | 369667 | 77.6525 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.251 | 82 | 324120 | 79.7161 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.051 | 172 | 627044 | 74.1524 | ug/mL | 0.0000 |
| 86) 2,4,6-Tribromophenol | 11.604 | 330 | 82730 | 82.8685 | ug/mL | 0.0000 |
| 117) p-Terphenyl-d14 | 14.392 | 244 | 668879 | 74.2458 | ug/mL | 0.0000 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.499 | 88 | 137803 | 76.077 | ug/mL | 99 |
| 3) n-Nitrosodimethylamine | 4.969 | 74 | 201379 | 78.591 | ug/mL | 99 |
| 4) Pyridine | 4.993 | 79 | 351378 | 77.343 | ug/mL | 99 |
| 5) 2-Picoline | 5.840 | 93 | 369902 | 77.561 | ug/mL | 100 |
| 6) n-Nitrosomethylethylamine | 5.963 | 88 | 163391 | 80.187 | ug/mL | 98 |
| 7) Methyl Methanesulfonate | 6.269 | 80 | 189796 | 77.101 | ug/mL | 98 |
| 9) n-Nitrosodiethylamine | 6.669 | 102 | 163326 | 79.486 | ug/mL | 99 |
| 10) Ethyl Methanesulfonate | 6.934 | 79 | 245529 | 77.756 | ug/mL | 99 |
| 11) Aniline | 7.381 | 66 | 190254 | 78.080 | ug/mL | 99 |
| 13) Phenol | 7.298 | 94 | 385846 | 75.775 | ug/mL | 100 |
| 14) bis(2-Chloroethyl)ether | 7.404 | 63 | 238068 | 73.661 | ug/mL# | 38 |
| 15) Pentachloroethane | 7.416 | 167 | 114598 | 75.852 | ug/mL | 99 |
| 16) 2-Chlorophenol | 7.510 | 128 | 343312 | 78.351 | ug/mL | 100 |
| 17) 1,3-Dichlorobenzene | 7.657 | 146 | 357409 | 75.522 | ug/mL | 100 |
| 18) 1,4-Dichlorobenzene | 7.704 | 146 | 354795 | 75.062 | ug/mL | 99 |
| 19) Benzyl Alcohol | 7.798 | 108 | 222510 | 79.102 | ug/mL | 100 |
| 20) 1,2-Dichlorobenzene | 7.898 | 146 | 304002 | 71.426 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.898 | 107 | 227674 | 72.926 | ug/mL | 100 |
| 22) bis(2-Chloroisopropyl)... | 7.945 | 45 | 383385 | 73.666 | ug/mL | 100 |
| 23) 3-,4-Methylphenol | 8.028 | 107 | 334135 | 77.265 | ug/mL | 99 |
| 24) n-Nitrosopyrrolidine | 8.069 | 100 | 141370 | 75.004 | ug/mL | 94 |
| 25) n-Nitrosodipropylamine | 8.081 | 70 | 186718 | 69.670 | ug/mL | 99 |
| 26) Acetophenone | 8.087 | 105 | 367427 | 69.453 | ug/mL | 99 |
| 27) n-Nitrosomorpholine | 8.081 | 56 | 157418 | 75.509 | ug/mL | 100 |
| 28) o-Toluidine | 8.128 | 106 | 494784 | 75.541 | ug/mL | 99 |
| 29) Hexachloroethane | 8.216 | 117 | 138910 | 76.736 | ug/mL | 99 |
| 32) Nitrobenzene | 8.269 | 77 | 328758 | 77.467 | ug/mL | 99 |
| 33) n-Nitrosopiperidine | 8.416 | 114 | 171739 | 79.643 | ug/mL | 100 |
| 34) Isophorone | 8.487 | 82 | 599486 | 77.746 | ug/mL | 100 |
| 35) 2-Nitrophenol | 8.592 | 139 | 184928 | 83.086 | ug/mL | 99 |
| 36) 2,4-Dimethylphenol | 8.563 | 122 | 294695 | 77.914 | ug/mL | 100 |
| 37) 0,0,0-Triethyl Phospho... | 8.663 | 198 | 139137 | 73.450 | ug/mL | 97 |
| 38) bis(2-Chloroethoxy)met... | 8.663 | 93 | 422661 | 71.484 | ug/mL | 100 |
| 39) Benzoic Acid | 8.610 | 105 | 201828m | 81.331 | ug/mL | |
| 40) 2,4-Dichlorophenol | 8.816 | 162 | 252020 | 78.271 | ug/mL | 99 |
| 41) a,a-Dimethylphenethyla... | 8.828 | 58 | 836887 | 78.206 | ug/mL | 100 |
| 42) 1,2,4-Trichlorobenzene | 8.922 | 180 | 275817 | 75.492 | ug/mL | 99 |
| 43) Naphthalene | 8.998 | 128 | 965916 | 74.687 | ug/mL | 98 |

Data File : C:\msdchem\4\DATA\081517\19M000313.D Vial: 8
Acq On : 15 Aug 2017 7:30 pm Operator: SCB
Sample : WG625881-08 80PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:10:54 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:10:02 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 44) | 4-Chloroaniline | 9.028 | 65 | 117810 | 77.644 | ug/mL | 98 |
| 45) | 2,6-Dichlorophenol | 8.816 | 162 | 252020 | 78.271 | ug/mL | 99 |
| 46) | Hexachloropropene | 9.116 | 213 | 176657 | 81.812 | ug/mL | 99 |
| 47) | Hexachlorobutadiene | 9.151 | 225 | 138819 | 75.554 | ug/mL | 99 |
| 48) | n-Nitrosodi-n-Butylamine | 9.345 | 84 | 260167 | 75.765 | ug/mL | 99 |
| 49) | p-Phenylenediamine | 9.369 | 108 | 267459 | 77.502 | ug/mL | 100 |
| 50) | 4-Chloro-3-Methylphenol | 9.469 | 107 | 280848 | 79.422 | ug/mL | 100 |
| 51) | Safrole | 9.563 | 162 | 253238 | 76.997 | ug/mL | 99 |
| 52) | 2-Methylnaphthalene | 9.687 | 142 | 646258 | 74.930 | ug/mL | 99 |
| 53) | 1-Methylnaphthalene | 9.804 | 142 | 601317 | 75.728 | ug/mL | 100 |
| 55) | 1,2,4,5-Tetrachloroben... | 9.898 | 216 | 249348 | 72.758 | ug/mL | 100 |
| 56) | Hexachlorocyclopentadiene | 9.910 | 237 | 114169 | 83.939 | ug/mL | 99 |
| 57) | 2,4,6-Trichlorophenol | 9.981 | 196 | 187757 | 80.381 | ug/mL | 99 |
| 58) | 2,4,5-Trichlorophenol | 10.022 | 196 | 194329 | 80.826 | ug/mL | 99 |
| 60) | Isosafrole | 10.081 | 162 | 259342 | 77.499 | ug/mL | 98 |
| 61) | 2-Chloronaphthalene | 10.192 | 162 | 580981 | 74.027 | ug/mL | 100 |
| 62) | 1-Chloronaphthalene | 10.239 | 162 | 520100 | 72.992 | ug/mL | 100 |
| 63) | 2-Nitroaniline | 10.292 | 65 | 180549 | 79.862 | ug/mL | 100 |
| 64) | 1,4-Naphthoquinone | 10.357 | 158 | 185519 | 75.010 | ug/mL | 99 |
| 65) | Dimethylphthalate | 10.457 | 163 | 666398 | 75.358 | ug/mL | 100 |
| 66) | 1,3-Dinitrobenzene | 10.510 | 168 | 129619 | 85.152 | ug/mL | 98 |
| 67) | 2,6-Dinitrotoluene | 10.551 | 165 | 165497 | 80.228 | ug/mL | 97 |
| 68) | Acenaphthylene | 10.639 | 152 | 892257 | 73.724 | ug/mL | 100 |
| 69) | 3-Nitroaniline | 10.710 | 138 | 194547 | 79.906 | ug/mL | 100 |
| 70) | 2,4-Dinitrophenol | 10.810 | 184 | 78859 | 79.743 | ug/mL | 64 |
| 71) | Acenaphthene | 10.822 | 154 | 541485 | 73.085 | ug/mL | 98 |
| 72) | 4-Nitrophenol | 10.810 | 65 | 121150 | 79.648 | ug/mL | 98 |
| 73) | 2,4-Dinitrotoluene | 10.957 | 165 | 217015 | 81.641 | ug/mL | 97 |
| 74) | Pentachlorobenzene | 11.004 | 250 | 215327 | 73.778 | ug/mL | 99 |
| 75) | Dibenzofuran | 10.975 | 168 | 799726 | 72.990 | ug/mL | 99 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.128 | 232 | 138873 | 78.118 | ug/mL | 99 |
| 77) | 1-Naphthylamine | 11.051 | 143 | 632533 | 76.287 | ug/mL | 99 |
| 78) | 2-Naphthylamine | 11.122 | 143 | 589249 | 72.532 | ug/mL | 99 |
| 79) | Diethylphthalate | 11.163 | 149 | 683944 | 75.297 | ug/mL | 100 |
| 80) | Thionazin | 11.263 | 107 | 111092 | 78.067 | ug/mL | 99 |
| 81) | Fluorene | 11.333 | 166 | 587154 | 70.275 | ug/mL | 100 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.286 | 204 | 316602 | 73.862 | ug/mL | 99 |
| 83) | 4-Nitroaniline | 11.345 | 138 | 170506 | 75.049 | ug/mL | 98 |
| 84) | 5-Nitro-o-Toluidine | 11.339 | 152 | 179497 | 74.692 | ug/mL | 97 |
| 85) | 1,2-Diphenylhydrazine | 11.451 | 77 | 674728 | 75.163 | ug/mL | 99 |
| 88) | 4,6-Dinitro-2-Methylph... | 11.386 | 198 | 125477 | 78.626 | ug/mL | 92 |
| 89) | Diphenylamine/n-Nitros... | 11.404 | 169 | 586027 | 73.816 | ug/mL | 100 |
| 90) | Sulfotepp | 11.604 | 322 | 102749 | 77.358 | ug/mL | 94 |
| 91) | Sym-Trinitrobenzene | 11.681 | 75 | 176517 | 78.769 | ug/mL | 99 |
| 92) | Diallate | 11.728 | 86 | 253712 | 72.756 | ug/mL | 98 |
| 93) | Phenacetin | 11.710 | 108 | 341102 | 80.883 | ug/mL | 100 |
| 94) | Phorate | 11.745 | 75 | 399454 | 74.407 | ug/mL# | 100 |
| 95) | 4-Bromophenyl Phenyl E... | 11.810 | 248 | 177824 | 75.025 | ug/mL | 99 |
| 96) | Hexachlorobenzene | 12.022 | 284 | 186209 | 75.336 | ug/mL | 99 |
| 97) | Dimethoate | 11.951 | 87 | 212924 | 75.677 | ug/mL | 100 |
| 98) | 4-Aminobiphenyl | 12.104 | 169 | 771615 | 78.676 | ug/mL | 100 |
| 99) | Pentachlorophenol | 12.198 | 266 | 117930 | 79.774 | ug/mL | 99 |
| 100) | Pronamide | 12.145 | 173 | 296721 | 79.303 | ug/mL | 100 |
| 101) | Pentachloronitrobenzene | 12.286 | 237 | 72482 | 80.898 | ug/mL | 99 |
| 102) | Disulfoton | 12.322 | 88 | 352363 | 77.435 | ug/mL | 99 |

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000313.D Vial: 8
Acq On : 15 Aug 2017 7:30 pm Operator: SCB
Sample : WG625881-08 80PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:10:54 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:10:02 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

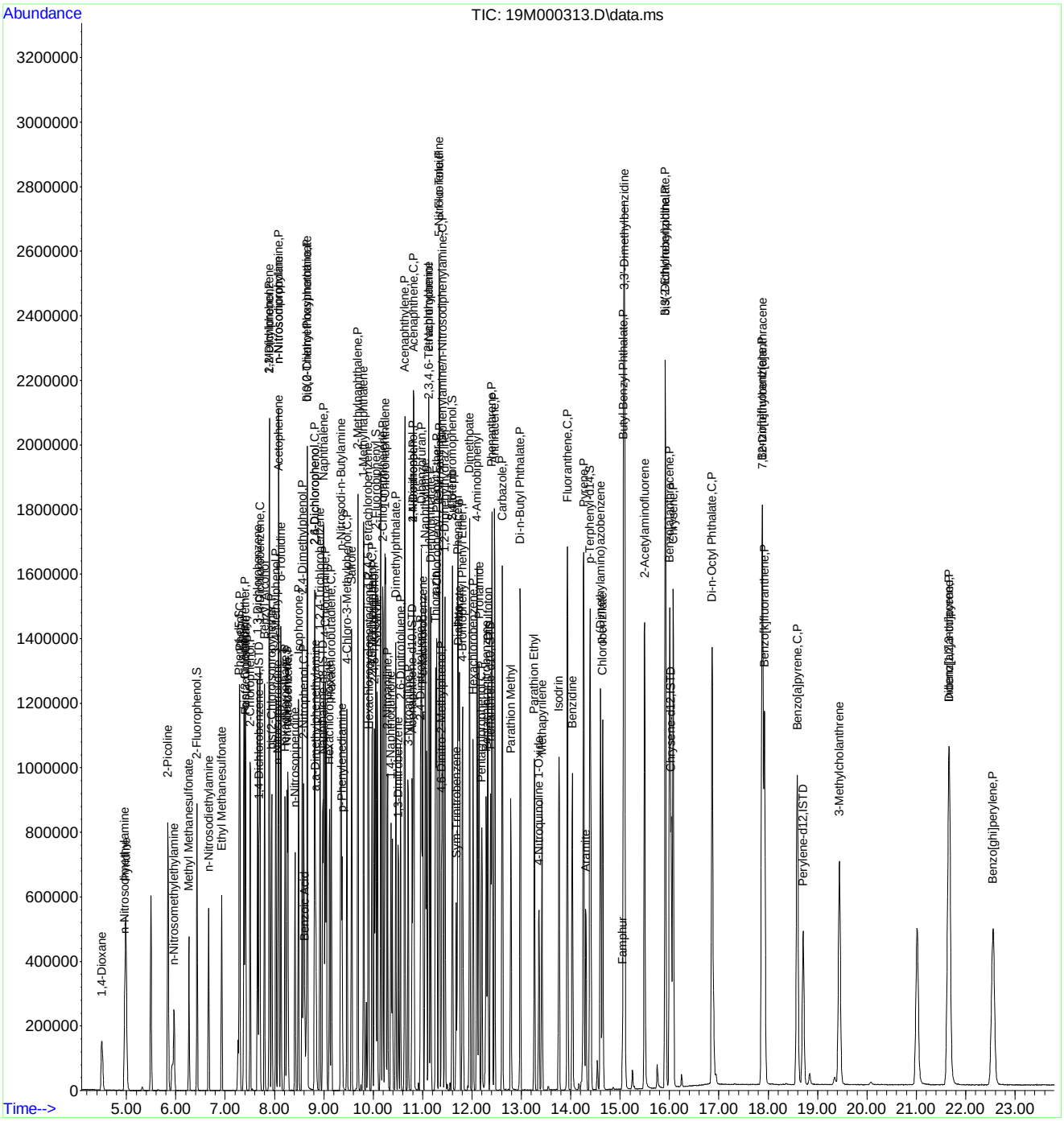
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 103) Phenanthrene | 12.404 | 178 | 967468 | 74.007 ug/mL | 100 |
| 104) Anthracene | 12.457 | 178 | 1007768 | 75.000 ug/mL | 100 |
| 105) Carbazole | 12.616 | 167 | 947101 | 76.767 ug/mL# | 100 |
| 106) Parathion Methyl | 12.786 | 109 | 217402 | 81.499 ug/mL | 99 |
| 107) Di-n-Butyl Phthalate | 12.975 | 149 | 1202279 | 78.334 ug/mL | 100 |
| 108) Parathion Ethyl | 13.263 | 97 | 143163 | 80.076 ug/mL | 98 |
| 109) 4-Nitroquinoline 1-Oxide | 13.357 | 190 | 81903 | 82.320 ug/mL | 96 |
| 110) Methapyrilene | 13.416 | 58 | 356311 | 76.675 ug/mL | 99 |
| 111) Isodrin | 13.763 | 193 | 111565 | 76.536 ug/mL | 99 |
| 112) Fluoranthene | 13.933 | 202 | 1083917 | 76.244 ug/mL | 100 |
| 114) Benzidine | 14.033 | 184 | 572638 | 85.816 ug/mL | 100 |
| 115) Pyrene | 14.263 | 202 | 1119332 | 76.008 ug/mL | 100 |
| 116) Aramite | 14.310 | 185 | 72007 | 80.369 ug/mL | 99 |
| 118) p-(Dimethylamino)azobe... | 14.604 | 225 | 225987 | 83.573 ug/mL | 99 |
| 119) Chlorobenzilate | 14.645 | 251 | 289300 | 82.112 ug/mL | 99 |
| 120) Famphur | 15.051 | 218 | 54529 | 31.731 ug/mL# | 81 |
| 121) Butyl Benzyl Phthalate | 15.069 | 149 | 479098 | 73.454 ug/mL | 99 |
| 122) 3,3'-Dimethylbenzidine | 15.086 | 212 | 817028 | 77.963 ug/mL | 99 |
| 123) 2-Acetylaminofluorene | 15.498 | 181 | 467711 | 80.666 ug/mL# | 99 |
| 124) bis(2-Ethylhexyl)phtha... | 15.916 | 149 | 701137 | 79.858 ug/mL | 99 |
| 125) 3,3'-Dichlorobenzidine | 15.916 | 252 | 331513 | 78.859 ug/mL | 100 |
| 126) Benzo[a]anthracene | 16.004 | 228 | 991993 | 76.323 ug/mL | 100 |
| 127) Chrysene | 16.074 | 228 | 918001 | 75.373 ug/mL | 100 |
| 129) Di-n-Octyl Phthalate | 16.863 | 149 | 1387156 | 85.782 ug/mL | 99 |
| 130) 7,12-Dimethylbenz[a]an... | 17.886 | 256 | 448312 | 77.237 ug/mL | 99 |
| 131) Benzo[b]fluoranthene | 17.880 | 252 | 938726 | 72.658 ug/mL | 97 |
| 132) Benzo[k]fluoranthene | 17.927 | 252 | 945314 | 75.881 ug/mL | 100 |
| 133) Benzo[a]pyrene | 18.592 | 252 | 974666 | 81.634 ug/mL | 99 |
| 134) 3-Methylcholanthrene | 19.445 | 268 | 497538 | 87.166 ug/mL | 100 |
| 135) Indeno[1,2,3-cd]pyrene | 21.662 | 276 | 1009928 | 81.847 ug/mL | 100 |
| 136) Dibenz[ah]anthracene | 21.662 | 278 | 859895 | 82.619 ug/mL | 100 |
| 137) Benzo[ghi]perylene | 22.556 | 276 | 852389 | 82.739 ug/mL | 100 |

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000313.D Vial: 8
Acq On : 15 Aug 2017 7:30 pm Operator: SCB
Sample : WG625881-08 80PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:10:54 2017
Quant Results File: MEGAMIX.RES

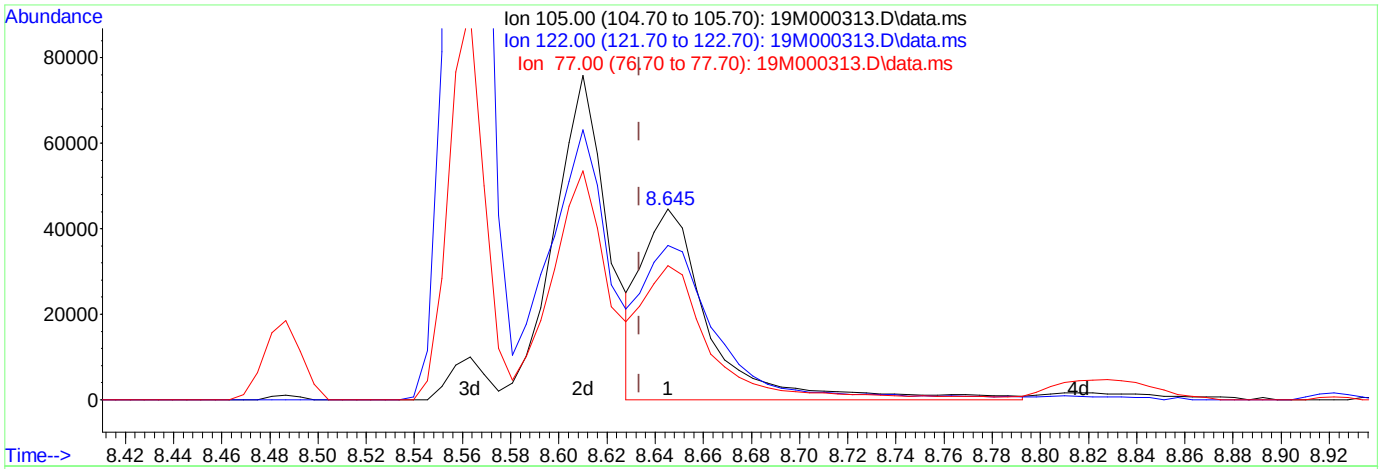
Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:10:02 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

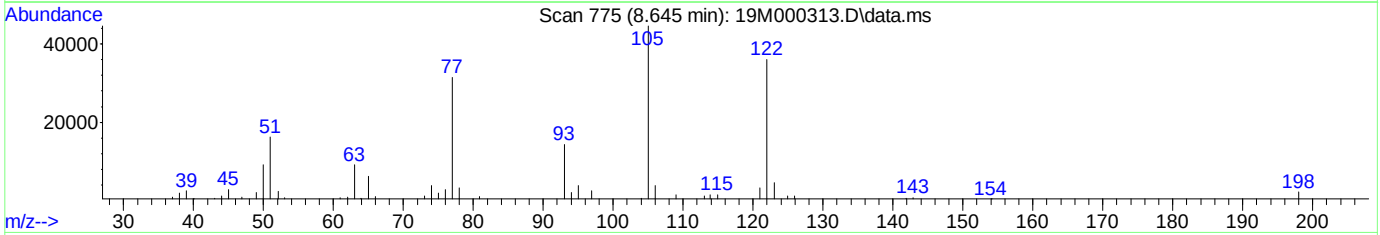


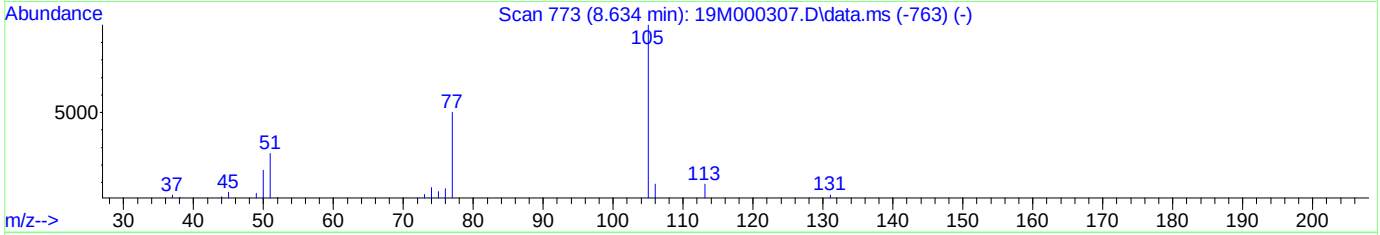
Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081517\19M000313.D  Vial: 8
Acq On : 15 Aug 2017 7:30 pm  Operator: SCB
Sample : WG625881-08 80PPM 8270 STD  Inst : HPMS19NEW
Misc : 1,1 STD81744  Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:10:17 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:10:02 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




TIC: 19M000313.D\data.ms

(39) Benzoic Acid

8.645min (+0.012) 44.448 ug/mL

response 87363

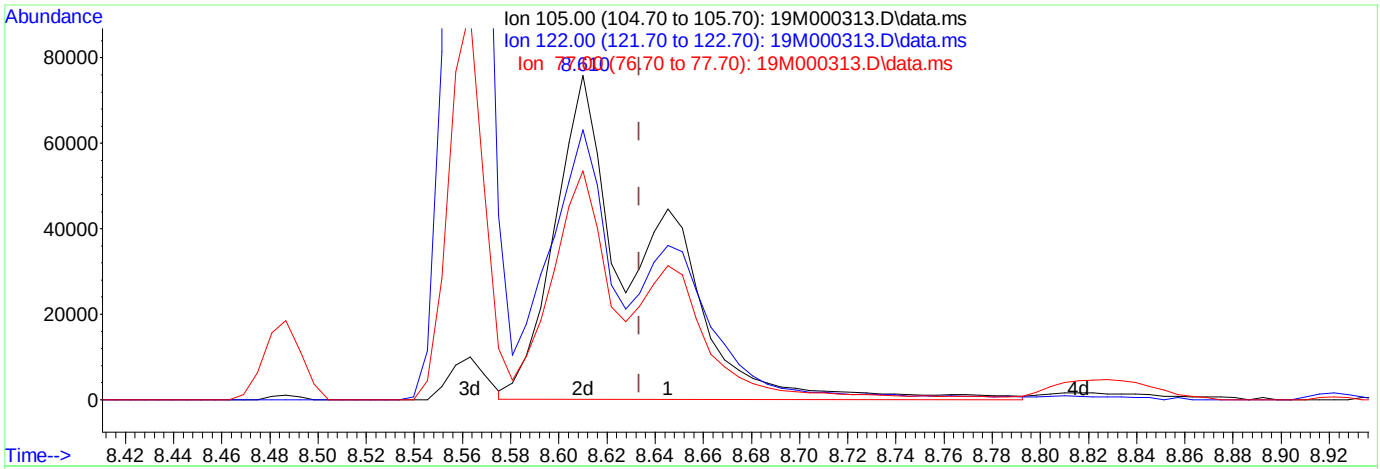
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 51.80 | 84.62# |
| 77.00 | 44.60 | 71.68# |
| 0.00 | 0.00 | 0.00 |

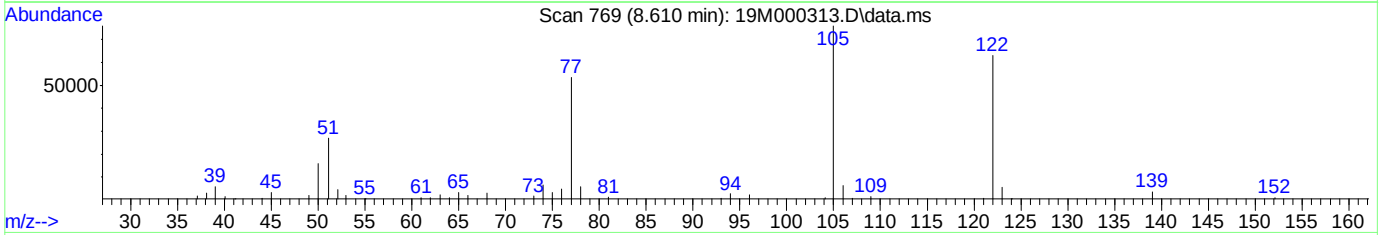
19M000313.D MEGAMIX.M Fri Aug 18 14:10:37 2017  SVOA1  Page: 1

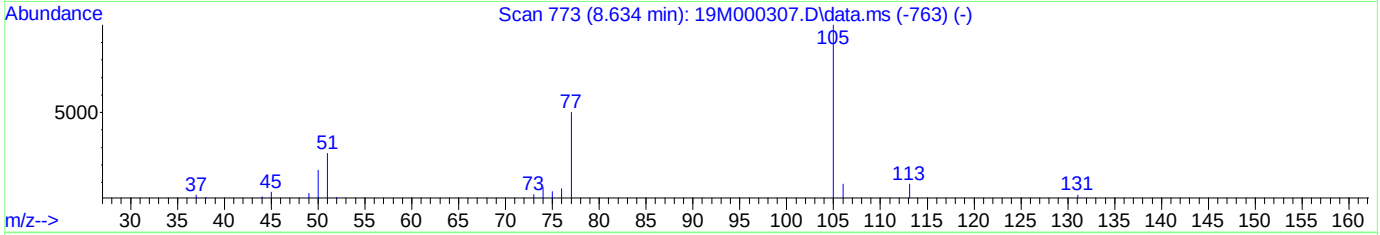
Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081517\19M000313.D  Vial: 8
Acq On : 15 Aug 2017 7:30 pm  Operator: SCB
Sample : WG625881-08 80PPM 8270 STD  Inst : HPMS19NEW
Misc : 1,1 STD81744  Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:10:17 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:10:02 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




TIC: 19M000313.D\data.ms

(39) Benzoic Acid

8.610min (-0.023) 81.331 ug/mL mint

response 201828

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 51.80 | 36.63 |
| 77.00 | 44.60 | 31.03 |
| 0.00 | 0.00 | 0.00 |

Analyst: 08/18/2017 15:03 Supervisor: 08/18/2017 15:58

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000314.D Vial: 9
Acq On : 15 Aug 2017 8:00 pm Operator: SCB
Sample : WG625881-09 100PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:12:16 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:11:10 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 122282 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.981 | 136 | 493111 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.786 | 164 | 241851 | 40.0000 | ug/mL | 0.0000 |
| 87) Phenanthrene-d10 | 12.380 | 188 | 457189 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.039 | 240 | 437893 | 40.0000 | ug/mL | 0.0000 |
| 128) Perylene-d12 | 18.709 | 264 | 438869 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.428 | 112 | 403257 | 101.4978 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.287 | 99 | 461049 | 98.7650 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.251 | 82 | 410109 | 100.5181 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.051 | 172 | 764707 | 91.1567 | ug/mL | 0.0000 |
| 86) 2,4,6-Tribromophenol | 11.604 | 330 | 106666 | 107.7007 | ug/mL | 0.0000 |
| 117) p-Terphenyl-d14 | 14.392 | 244 | 829823 | 93.6885 | ug/mL | 0.0000 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.504 | 88 | 174344 | 98.155 | ug/mL | 99 |
| 3) n-Nitrosodimethylamine | 4.963 | 74 | 255269 | 101.593 | ug/mL | 99 |
| 4) Pyridine | 4.987 | 79 | 445264 | 99.948 | ug/mL | 100 |
| 5) 2-Picoline | 5.840 | 93 | 467154 | 99.891 | ug/mL | 100 |
| 6) n-Nitrosomethylethylamine | 5.963 | 88 | 211267 | 105.735 | ug/mL | 98 |
| 7) Methyl Methanesulfonate | 6.269 | 80 | 239981 | 99.417 | ug/mL | 98 |
| 9) n-Nitrosodiethylamine | 6.663 | 102 | 207160 | 102.814 | ug/mL | 98 |
| 10) Ethyl Methanesulfonate | 6.934 | 79 | 309628 | 99.996 | ug/mL | 99 |
| 11) Aniline | 7.381 | 66 | 236541 | 98.997 | ug/mL | 99 |
| 13) Phenol | 7.298 | 94 | 477107 | 95.551 | ug/mL | 100 |
| 14) bis(2-Chloroethyl)ether | 7.404 | 63 | 287172 | 90.613 | ug/mL# | 34 |
| 15) Pentachloroethane | 7.416 | 167 | 141685 | 95.636 | ug/mL | 99 |
| 16) 2-Chlorophenol | 7.510 | 128 | 429598 | 99.984 | ug/mL | 100 |
| 17) 1,3-Dichlorobenzene | 7.657 | 146 | 444315 | 95.743 | ug/mL | 99 |
| 18) 1,4-Dichlorobenzene | 7.704 | 146 | 440680 | 95.077 | ug/mL | 99 |
| 19) Benzyl Alcohol | 7.798 | 108 | 280234 | 101.595 | ug/mL | 99 |
| 20) 1,2-Dichlorobenzene | 7.898 | 146 | 371178 | 88.935 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.898 | 107 | 279589 | 91.327 | ug/mL | 99 |
| 22) bis(2-Chloroisopropyl)... | 7.945 | 45 | 474312 | 92.941 | ug/mL | 99 |
| 23) 3-,4-Methylphenol | 8.028 | 107 | 417767 | 98.516 | ug/mL | 100 |
| 24) n-Nitrosopyrrolidine | 8.075 | 100 | 171755 | 92.929 | ug/mL | 92 |
| 25) n-Nitrosodipropylamine | 8.081 | 70 | 221976 | 84.465 | ug/mL | 99 |
| 26) Acetophenone | 8.087 | 105 | 439855 | 84.789 | ug/mL | 100 |
| 27) n-Nitrosomorpholine | 8.087 | 56 | 187351 | 99.145 | ug/mL | 98 |
| 28) o-Toluidine | 8.128 | 106 | 615560 | 95.841 | ug/mL | 99 |
| 29) Hexachloroethane | 8.216 | 117 | 173015 | 97.468 | ug/mL | 100 |
| 32) Nitrobenzene | 8.275 | 77 | 411123 | 96.542 | ug/mL | 99 |
| 33) n-Nitrosopiperidine | 8.416 | 114 | 215733 | 99.701 | ug/mL | 99 |
| 34) Isophorone | 8.487 | 82 | 744913 | 96.274 | ug/mL | 100 |
| 35) 2-Nitrophenol | 8.592 | 139 | 233949 | 104.749 | ug/mL | 100 |
| 36) 2,4-Dimethylphenol | 8.563 | 122 | 372952 | 98.266 | ug/mL | 98 |
| 37) 0,0,0-Triethyl Phospho... | 8.663 | 198 | 169405 | 89.121 | ug/mL | 96 |
| 38) bis(2-Chloroethoxy)met... | 8.663 | 93 | 502632 | 84.717 | ug/mL | 100 |
| 39) Benzoic Acid | 8.616 | 105 | 279489m | 102.223 | ug/mL | |
| 40) 2,4-Dichlorophenol | 8.816 | 162 | 313872 | 97.146 | ug/mL | 100 |
| 41) a,a-Dimethylphenethyla... | 8.834 | 58 | 1087314 | 101.028 | ug/mL | 100 |
| 42) 1,2,4-Trichlorobenzene | 8.922 | 180 | 341758 | 93.219 | ug/mL | 99 |
| 43) Naphthalene | 8.998 | 128 | 1202362 | 92.650 | ug/mL | 100 |

Data File : C:\msdchem\4\DATA\081517\19M000314.D Vial: 9
Acq On : 15 Aug 2017 8:00 pm Operator: SCB
Sample : WG625881-09 100PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:12:16 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:11:10 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 44) 4-Chloroaniline | 9.028 | 65 | 146582 | 96.275 | ug/mL | 99 |
| 45) 2,6-Dichlorophenol | 8.816 | 162 | 313872 | 97.146 | ug/mL | 100 |
| 46) Hexachloropropene | 9.116 | 213 | 221321 | 102.144 | ug/mL | 99 |
| 47) Hexachlorobutadiene | 9.151 | 225 | 171078 | 92.792 | ug/mL | 100 |
| 48) n-Nitrosodi-n-Butylamine | 9.345 | 84 | 322061 | 93.467 | ug/mL | 98 |
| 49) p-Phenylenediamine | 9.369 | 108 | 310683 | 89.718 | ug/mL | 100 |
| 50) 4-Chloro-3-Methylphenol | 9.469 | 107 | 351378 | 99.026 | ug/mL | 99 |
| 51) Safrole | 9.563 | 162 | 313772 | 95.074 | ug/mL | 99 |
| 52) 2-Methylnaphthalene | 9.692 | 142 | 795878 | 91.960 | ug/mL | 100 |
| 53) 1-Methylnaphthalene | 9.810 | 142 | 730713 | 91.708 | ug/mL | 99 |
| 55) 1,2,4,5-Tetrachloroben... | 9.898 | 216 | 310141 | 91.222 | ug/mL | 100 |
| 56) Hexachlorocyclopentadiene | 9.910 | 237 | 141283 | 104.706 | ug/mL | 99 |
| 57) 2,4,6-Trichlorophenol | 9.981 | 196 | 232920 | 100.515 | ug/mL | 99 |
| 58) 2,4,5-Trichlorophenol | 10.028 | 196 | 238126 | 99.836 | ug/mL | 99 |
| 60) Isosafrole | 10.086 | 162 | 315326 | 94.984 | ug/mL | 99 |
| 61) 2-Chloronaphthalene | 10.198 | 162 | 699812 | 89.883 | ug/mL | 100 |
| 62) 1-Chloronaphthalene | 10.239 | 162 | 627906 | 88.827 | ug/mL | 100 |
| 63) 2-Nitroaniline | 10.292 | 65 | 222968 | 99.416 | ug/mL | 100 |
| 64) 1,4-Naphthoquinone | 10.357 | 158 | 206073 | 83.988 | ug/mL | 98 |
| 65) Dimethylphthalate | 10.457 | 163 | 816092 | 93.025 | ug/mL | 100 |
| 66) 1,3-Dinitrobenzene | 10.510 | 168 | 160724 | 106.432 | ug/mL | 98 |
| 67) 2,6-Dinitrotoluene | 10.551 | 165 | 205833 | 100.582 | ug/mL | 97 |
| 68) Acenaphthylene | 10.639 | 152 | 1074983 | 89.534 | ug/mL | 100 |
| 69) 3-Nitroaniline | 10.710 | 138 | 239750 | 99.261 | ug/mL | 100 |
| 70) 2,4-Dinitrophenol | 10.810 | 184 | 104518 | 102.708 | ug/mL | 48 |
| 71) Acenaphthene | 10.822 | 154 | 644779 | 87.724 | ug/mL | 98 |
| 72) 4-Nitrophenol | 10.816 | 65 | 145498 | 96.421 | ug/mL | 96 |
| 73) 2,4-Dinitrotoluene | 10.963 | 165 | 268988 | 102.004 | ug/mL | 96 |
| 74) Pentachlorobenzene | 11.004 | 250 | 268888 | 92.868 | ug/mL | 99 |
| 75) Dibenzofuran | 10.975 | 168 | 972318 | 89.453 | ug/mL | 100 |
| 76) 2,3,4,6-Tetrachlorophenol | 11.128 | 232 | 172521 | 97.823 | ug/mL | 97 |
| 77) 1-Naphthylamine | 11.057 | 143 | 774387 | 94.144 | ug/mL | 99 |
| 78) 2-Naphthylamine | 11.128 | 143 | 713485 | 88.528 | ug/mL | 99 |
| 79) Diethylphthalate | 11.163 | 149 | 852755 | 94.635 | ug/mL | 100 |
| 80) Thionazin | 11.263 | 107 | 137365 | 97.303 | ug/mL | 98 |
| 81) Fluorene | 11.333 | 166 | 713082 | 86.031 | ug/mL | 100 |
| 82) 4-Chlorophenyl Phenyl ... | 11.286 | 204 | 387273 | 91.074 | ug/mL | 100 |
| 83) 4-Nitroaniline | 11.345 | 138 | 211079 | 93.651 | ug/mL | 98 |
| 84) 5-Nitro-o-Toluidine | 11.339 | 152 | 218346 | 91.586 | ug/mL | 97 |
| 85) 1,2-Diphenylhydrazine | 11.451 | 77 | 838169 | 94.118 | ug/mL | 99 |
| 88) 4,6-Dinitro-2-Methylph... | 11.386 | 198 | 162646 | 101.103 | ug/mL | 90 |
| 89) Diphenylamine/n-Nitros... | 11.404 | 169 | 718775 | 91.336 | ug/mL | 99 |
| 90) Sulfotepp | 11.604 | 322 | 131105 | 99.578 | ug/mL | 89 |
| 91) Sym-Trinitrobenzene | 11.680 | 75 | 227395 | 101.717 | ug/mL | 99 |
| 92) Diallate | 11.728 | 86 | 306654 | 88.714 | ug/mL | 96 |
| 93) Phenacetin | 11.716 | 108 | 416572 | 99.651 | ug/mL | 99 |
| 94) Phorate | 11.745 | 75 | 487906 | 91.686 | ug/mL# | 99 |
| 95) 4-Bromophenyl Phenyl E... | 11.810 | 248 | 220152 | 93.703 | ug/mL | 99 |
| 96) Hexachlorobenzene | 12.022 | 284 | 227244 | 92.749 | ug/mL | 99 |
| 97) Dimethoate | 11.951 | 87 | 245200 | 98.834 | ug/mL | 100 |
| 98) 4-Aminobiphenyl | 12.104 | 169 | 926839 | 95.337 | ug/mL | 99 |
| 99) Pentachlorophenol | 12.204 | 266 | 146591 | 100.288 | ug/mL | 99 |
| 100) Pronamide | 12.145 | 173 | 362875 | 97.839 | ug/mL | 99 |
| 101) Pentachloronitrobenzene | 12.286 | 237 | 88637 | 99.802 | ug/mL | 99 |
| 102) Disulfoton | 12.322 | 88 | 429459 | 95.210 | ug/mL | 100 |

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000314.D Vial: 9
Acq On : 15 Aug 2017 8:00 pm Operator: SCB
Sample : WG625881-09 100PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:12:16 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:11:10 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

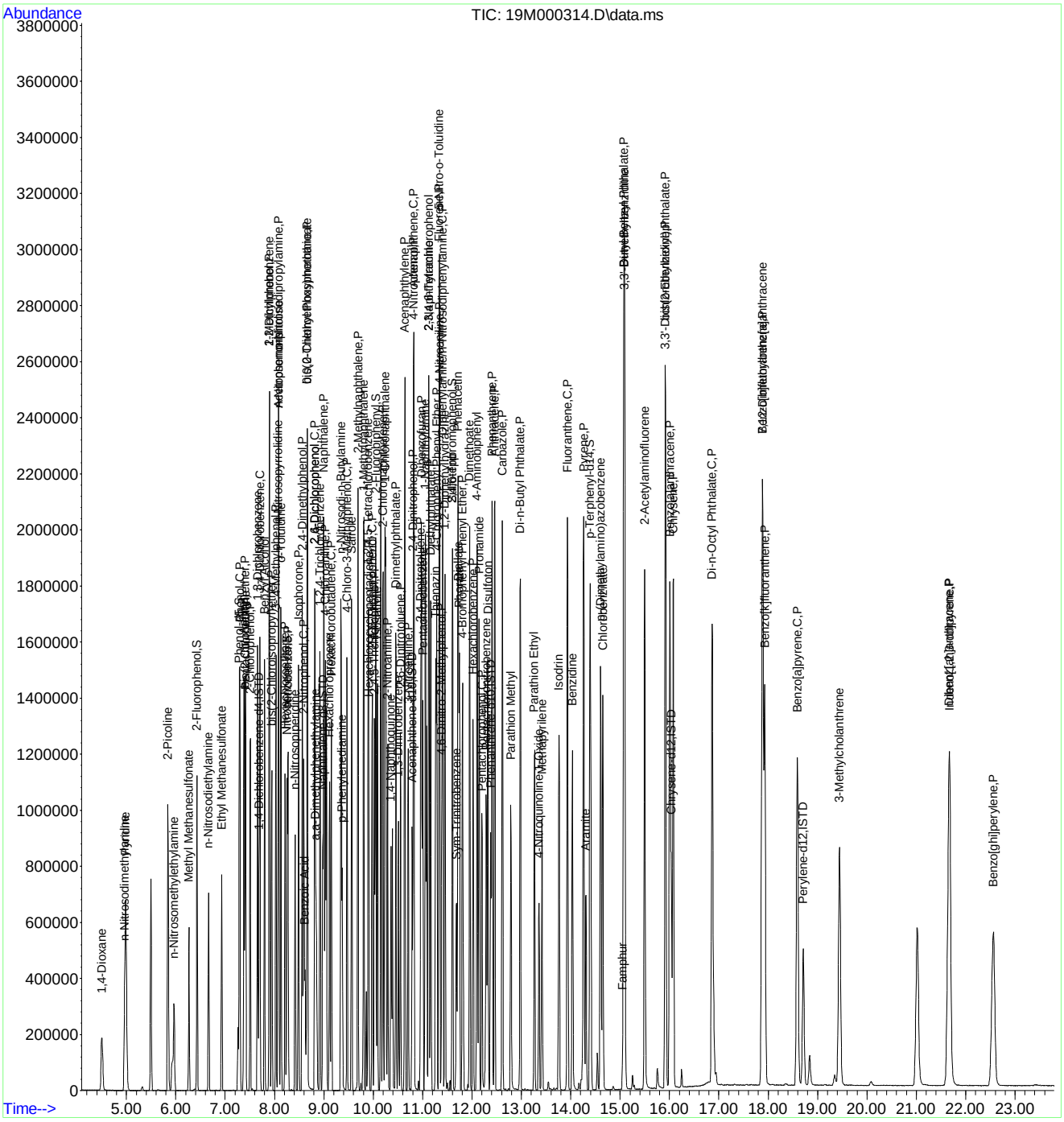
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 103) Phenanthrene | 12.410 | 178 | 1174987 | 90.675 ug/mL | 100 |
| 104) Anthracene | 12.463 | 178 | 1231984 | 92.496 ug/mL | 100 |
| 105) Carbazole | 12.616 | 167 | 1153777 | 94.344 ug/mL# | 100 |
| 106) Parathion Methyl | 12.786 | 109 | 255896 | 96.718 ug/mL | 98 |
| 107) Di-n-Butyl Phthalate | 12.980 | 149 | 1464832 | 96.283 ug/mL | 100 |
| 108) Parathion Ethyl | 13.263 | 97 | 177153 | 99.562 ug/mL | 98 |
| 109) 4-Nitroquinoline 1-Oxide | 13.357 | 190 | 103498 | 101.272 ug/mL | 95 |
| 110) Methapyrilene | 13.416 | 58 | 390126 | 92.459 ug/mL | 100 |
| 111) Isodrin | 13.763 | 193 | 139560 | 96.586 ug/mL | 99 |
| 112) Fluoranthene | 13.933 | 202 | 1333062 | 94.597 ug/mL | 100 |
| 114) Benzidine | 14.033 | 184 | 700893 | 106.835 ug/mL | 100 |
| 115) Pyrene | 14.263 | 202 | 1381650 | 95.428 ug/mL | 99 |
| 116) Aramite | 14.310 | 185 | 88686 | 100.151 ug/mL | 99 |
| 118) p-(Dimethylamino)azobe... | 14.604 | 225 | 284060 | 106.848 ug/mL | 99 |
| 119) Chlorobenzilate | 14.651 | 251 | 368834 | 106.479 ug/mL | 99 |
| 120) Famphur | 15.051 | 218 | 35385 | 20.944 ug/mL# | 57 |
| 121) Butyl Benzyl Phthalate | 15.074 | 149 | 572058 | 89.208 ug/mL | 98 |
| 122) 3,3'-Dimethylbenzidine | 15.086 | 212 | 973547 | 94.490 ug/mL | 99 |
| 123) 2-Acetylaminofluorene | 15.498 | 181 | 576361 | 100.459 ug/mL# | 100 |
| 124) bis(2-Ethylhexyl)phtha... | 15.916 | 149 | 845441 | 97.853 ug/mL | 99 |
| 125) 3,3'-Dichlorobenzidine | 15.921 | 252 | 401964 | 97.255 ug/mL | 99 |
| 126) Benzo[a]anthracene | 16.010 | 228 | 1217408 | 95.271 ug/mL | 99 |
| 127) Chrysene | 16.080 | 228 | 1109002 | 92.614 ug/mL | 99 |
| 129) Di-n-Octyl Phthalate | 16.862 | 149 | 1735983 | 109.617 ug/mL | 99 |
| 130) 7,12-Dimethylbenz[a]an... | 17.886 | 256 | 555980 | 97.806 ug/mL | 99 |
| 131) Benzo[b]fluoranthene | 17.886 | 252 | 1204861 | 95.223 ug/mL | 99 |
| 132) Benzo[k]fluoranthene | 17.933 | 252 | 1240451 | 101.672 ug/mL | 97 |
| 133) Benzo[a]pyrene | 18.592 | 252 | 1203576 | 102.932 ug/mL | 99 |
| 134) 3-Methylcholanthrene | 19.445 | 268 | 606750 | 108.541 ug/mL | 100 |
| 135) Indeno[1,2,3-cd]pyrene | 21.674 | 276 | 1167043 | 96.574 ug/mL | 100 |
| 136) Dibenz[ah]anthracene | 21.668 | 278 | 994710 | 97.588 ug/mL | 99 |
| 137) Benzo[ghi]perylene | 22.562 | 276 | 972324 | 96.372 ug/mL | 100 |

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000314.D Vial: 9
Acq On : 15 Aug 2017 8:00 pm Operator: SCB
Sample : WG625881-09 100PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:12:16 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:11:10 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

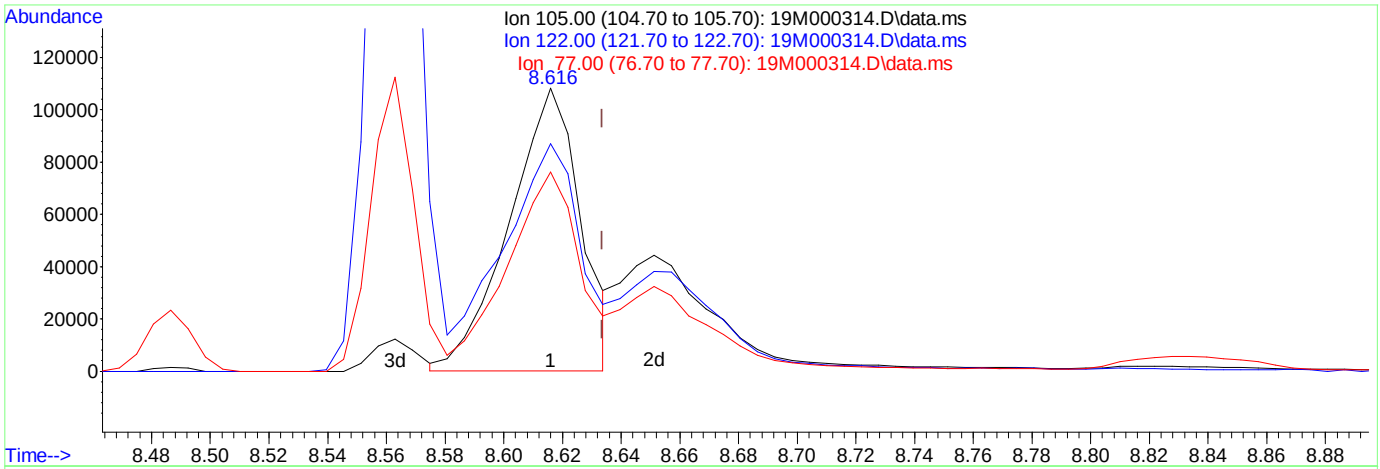


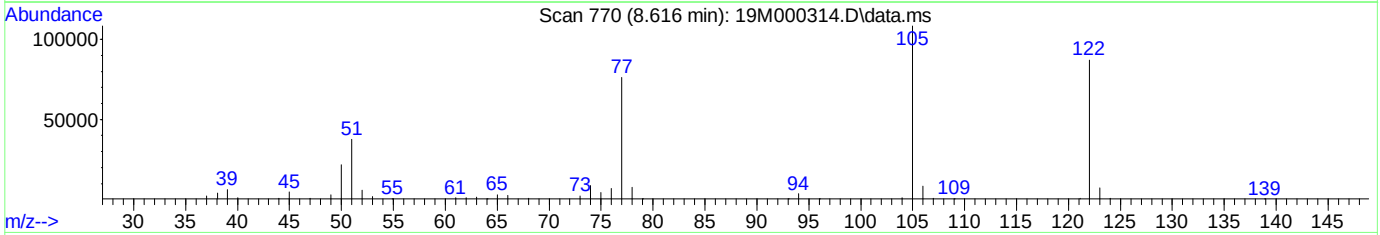

19M000314.D MEGAMIX.M Fri Aug 18 14:17:33 2017 SVOA1 Page: 4

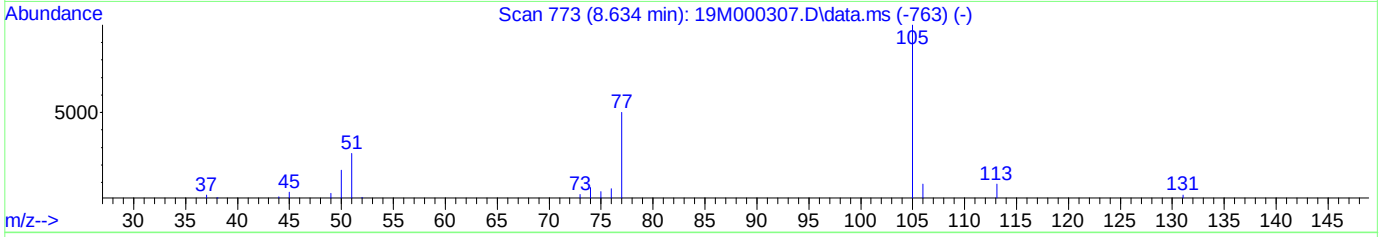
Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081517\19M000314.D  Vial: 9
Acq On : 15 Aug 2017 8:00 pm  Operator: SCB
Sample : WG625881-09 100PPM 8270 STD  Inst : HPMS19NEW
Misc : 1,1 STD81744  Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:11:49 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:11:10 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




TIC: 19M000314.D\data.ms

(39) Benzoic Acid

8.616min (-0.018) 74.927 ug/mL

response 182071

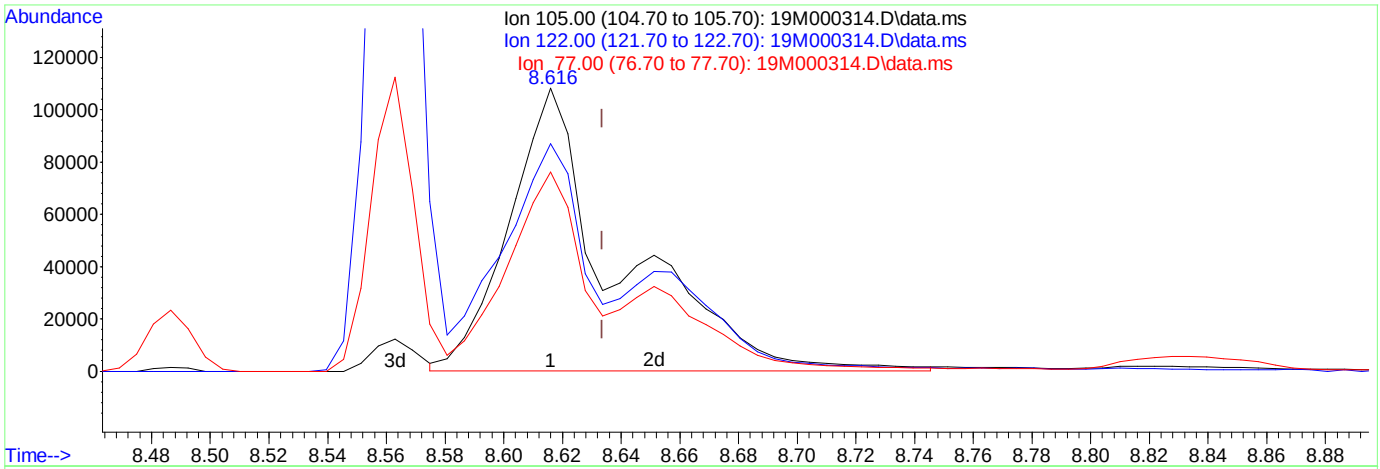
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 51.80 | 83.58# |
| 77.00 | 44.60 | 70.64# |
| 0.00 | 0.00 | 0.00 |

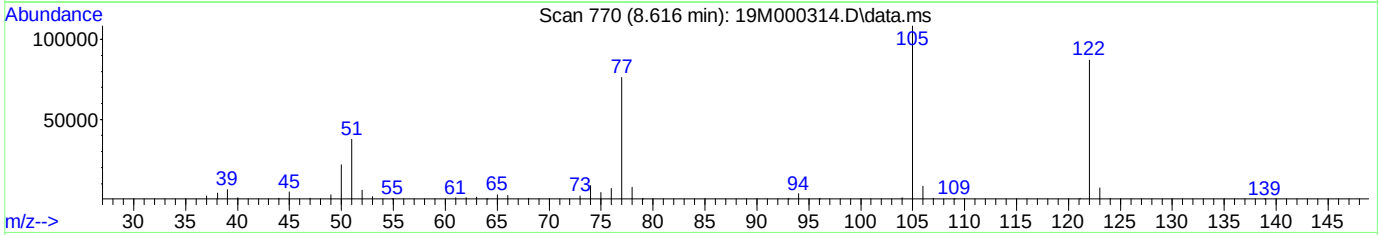
19M000314.D MEGAMIX.M Fri Aug 18 14:12:03 2017  SVOA1  Page: 1

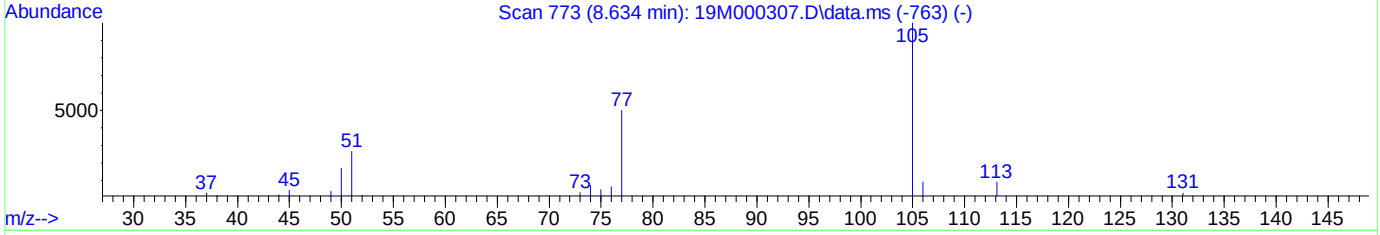
Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081517\19M000314.D  Vial: 9
Acq On : 15 Aug 2017 8:00 pm  Operator: SCB
Sample : WG625881-09 100PPM 8270 STD  Inst : HPMS19NEW
Misc : 1,1 STD81744  Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:11:49 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:11:10 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




TIC: 19M000314.D\data.ms

(39) Benzoic Acid

8.616min (-0.018) 102.223 ug/mL mint

response 279489

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 51.80 | 54.44 |
| 77.00 | 44.60 | 46.02 |
| 0.00 | 0.00 | 0.00 |

Analyst: 08/18/2017 15:03 Supervisor: 08/18/2017 15:58

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000315.D Vial: 10
Acq On : 15 Aug 2017 8:30 pm Operator: SCB
Sample : WG625881-10 120PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:13:33 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:12:28 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 115100 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.975 | 136 | 476814 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.787 | 164 | 236636 | 40.0000 | ug/mL | 0.0000 |
| 87) Phenanthrene-d10 | 12.375 | 188 | 439371 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.033 | 240 | 418538 | 40.0000 | ug/mL | 0.0000 |
| 128) Perylene-d12 | 18.710 | 264 | 421796 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.434 | 112 | 453118 | 121.1639 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.287 | 99 | 508746 | 115.7828 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.251 | 82 | 459862 | 116.5650 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.051 | 172 | 847899 | 103.3010 | ug/mL | 0.0000 |
| 86) 2,4,6-Tribromophenol | 11.604 | 330 | 120592 | 124.4452 | ug/mL | 0.0000 |
| 117) p-Terphenyl-d14 | 14.392 | 244 | 935393 | 110.4913 | ug/mL | 0.0000 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.505 | 88 | 199910 | 119.571 | ug/mL | 99 |
| 3) n-Nitrosodimethylamine | 4.969 | 74 | 289419 | 122.372 | ug/mL | 100 |
| 4) Pyridine | 4.993 | 79 | 505364 | 120.517 | ug/mL | 99 |
| 5) 2-Picoline | 5.840 | 93 | 525124 | 119.293 | ug/mL | 100 |
| 6) n-Nitrosomethylethylamine | 5.969 | 88 | 237027 | 126.030 | ug/mL | 99 |
| 7) Methyl Methanesulfonate | 6.269 | 80 | 271634 | 119.552 | ug/mL | 98 |
| 9) n-Nitrosodiethylamine | 6.669 | 102 | 233675 | 123.210 | ug/mL | 100 |
| 10) Ethyl Methanesulfonate | 6.934 | 79 | 350261 | 120.177 | ug/mL | 99 |
| 11) Aniline | 7.381 | 66 | 259819 | 115.525 | ug/mL | 86 |
| 13) Phenol | 7.299 | 94 | 525810 | 111.876 | ug/mL | 100 |
| 14) bis(2-Chloroethyl)ether | 7.404 | 63 | 311494 | 104.420 | ug/mL | 85 |
| 15) Pentachloroethane | 7.416 | 167 | 154755 | 110.976 | ug/mL | 100 |
| 16) 2-Chlorophenol | 7.510 | 128 | 469284 | 116.035 | ug/mL | 100 |
| 17) 1,3-Dichlorobenzene | 7.657 | 146 | 484530 | 110.924 | ug/mL | 100 |
| 18) 1,4-Dichlorobenzene | 7.704 | 146 | 481175 | 110.291 | ug/mL | 99 |
| 19) Benzyl Alcohol | 7.798 | 108 | 307277 | 118.350 | ug/mL | 99 |
| 20) 1,2-Dichlorobenzene | 7.898 | 146 | 410763 | 104.561 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.898 | 107 | 309119 | 107.274 | ug/mL | 99 |
| 22) bis(2-Chloroisopropyl)... | 7.946 | 45 | 526629 | 109.631 | ug/mL | 99 |
| 23) 3-,4-Methylphenol | 8.028 | 107 | 470132 | 117.782 | ug/mL | 100 |
| 24) n-Nitrosopyrrolidine | 8.075 | 100 | 188266 | 108.218 | ug/mL | 91 |
| 25) n-Nitrosodipropylamine | 8.081 | 70 | 237956 | 96.196 | ug/mL | 98 |
| 26) Acetophenone | 8.087 | 105 | 481357 | 98.579 | ug/mL | 99 |
| 27) n-Nitrosomorpholine | 8.087 | 56 | 202454 | 124.898 | ug/mL | 97 |
| 28) o-Toluidine | 8.128 | 106 | 685960 | 113.466 | ug/mL | 99 |
| 29) Hexachloroethane | 8.216 | 117 | 193785 | 115.980 | ug/mL | 100 |
| 32) Nitrobenzene | 8.275 | 77 | 460650 | 111.869 | ug/mL | 99 |
| 33) n-Nitrosopiperidine | 8.416 | 114 | 243504 | 116.381 | ug/mL | 100 |
| 34) Isophorone | 8.487 | 82 | 837783 | 111.978 | ug/mL | 100 |
| 35) 2-Nitrophenol | 8.593 | 139 | 263268 | 121.906 | ug/mL | 99 |
| 36) 2,4-Dimethylphenol | 8.563 | 122 | 414221 | 112.869 | ug/mL | 99 |
| 37) 0,0,0-Triethyl Phospho... | 8.669 | 198 | 188809 | 102.724 | ug/mL | 95 |
| 38) bis(2-Chloroethoxy)met... | 8.663 | 93 | 551856 | 96.193 | ug/mL | 99 |
| 39) Benzoic Acid | 8.622 | 105 | 325594m | 117.170 | ug/mL | |
| 40) 2,4-Dichlorophenol | 8.816 | 162 | 355414 | 113.763 | ug/mL | 99 |
| 41) a,a-Dimethylphenethyla... | 8.840 | 58 | 1251772 | 120.134 | ug/mL | 100 |
| 42) 1,2,4-Trichlorobenzene | 8.922 | 180 | 380716 | 107.395 | ug/mL | 99 |
| 43) Naphthalene | 8.998 | 128 | 1332777 | 106.210 | ug/mL | 98 |

Data File : C:\msdchem\4\DATA\081517\19M000315.D Vial: 10
Acq On : 15 Aug 2017 8:30 pm Operator: SCB
Sample : WG625881-10 120PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:13:33 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:12:28 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 44) | 4-Chloroaniline | 9.028 | 65 | 163203 | 110.855 | ug/mL | 97 |
| 45) | 2,6-Dichlorophenol | 8.816 | 162 | 355414 | 113.763 | ug/mL | 99 |
| 46) | Hexachloropropene | 9.116 | 213 | 244317 | 116.611 | ug/mL | 99 |
| 47) | Hexachlorobutadiene | 9.151 | 225 | 190284 | 106.737 | ug/mL | 99 |
| 48) | n-Nitrosodi-n-Butylamine | 9.345 | 84 | 358001 | 107.448 | ug/mL | 98 |
| 49) | p-Phenylenediamine | 9.375 | 108 | 327190 | 97.714 | ug/mL | 99 |
| 50) | 4-Chloro-3-Methylphenol | 9.469 | 107 | 389735 | 113.590 | ug/mL | 100 |
| 51) | Safrole | 9.563 | 162 | 346528 | 108.588 | ug/mL | 99 |
| 52) | 2-Methylnaphthalene | 9.687 | 142 | 868964 | 103.837 | ug/mL | 99 |
| 53) | 1-Methylnaphthalene | 9.804 | 142 | 803267 | 104.259 | ug/mL | 99 |
| 55) | 1,2,4,5-Tetrachloroben... | 9.898 | 216 | 338045 | 101.621 | ug/mL | 100 |
| 56) | Hexachlorocyclopentadiene | 9.910 | 237 | 155880 | 118.070 | ug/mL | 99 |
| 57) | 2,4,6-Trichlorophenol | 9.981 | 196 | 261885 | 115.505 | ug/mL | 99 |
| 58) | 2,4,5-Trichlorophenol | 10.022 | 196 | 268203 | 114.924 | ug/mL | 99 |
| 60) | Isosafrole | 10.081 | 162 | 357325 | 110.007 | ug/mL | 99 |
| 61) | 2-Chloronaphthalene | 10.192 | 162 | 800442 | 105.073 | ug/mL | 100 |
| 62) | 1-Chloronaphthalene | 10.240 | 162 | 703091 | 101.655 | ug/mL | 100 |
| 63) | 2-Nitroaniline | 10.292 | 65 | 255997 | 116.658 | ug/mL | 99 |
| 64) | 1,4-Naphthoquinone | 10.357 | 158 | 219912 | 91.604 | ug/mL | 99 |
| 65) | Dimethylphthalate | 10.457 | 163 | 931470 | 108.516 | ug/mL | 100 |
| 66) | 1,3-Dinitrobenzene | 10.510 | 168 | 186430 | 126.176 | ug/mL | 98 |
| 67) | 2,6-Dinitrotoluene | 10.551 | 165 | 237016 | 118.372 | ug/mL | 96 |
| 68) | Acenaphthylene | 10.639 | 152 | 1200314 | 102.175 | ug/mL | 99 |
| 69) | 3-Nitroaniline | 10.710 | 138 | 275623 | 116.628 | ug/mL | 100 |
| 70) | 2,4-Dinitrophenol | 10.810 | 184 | 120317 | 118.493 | ug/mL | 42 |
| 71) | Acenaphthene | 10.822 | 154 | 711670 | 98.958 | ug/mL | 98 |
| 72) | 4-Nitrophenol | 10.816 | 65 | 160371 | 108.620 | ug/mL | 95 |
| 73) | 2,4-Dinitrotoluene | 10.963 | 165 | 302736 | 117.331 | ug/mL | 96 |
| 74) | Pentachlorobenzene | 11.004 | 250 | 302013 | 106.608 | ug/mL | 99 |
| 75) | Dibenzofuran | 10.975 | 168 | 1084902 | 102.010 | ug/mL | 100 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.128 | 232 | 191047 | 110.715 | ug/mL | 97 |
| 77) | 1-Naphthylamine | 11.057 | 143 | 867454 | 107.783 | ug/mL | 99 |
| 78) | 2-Naphthylamine | 11.128 | 143 | 785443 | 99.604 | ug/mL | 99 |
| 79) | Diethylphthalate | 11.163 | 149 | 947356 | 107.450 | ug/mL | 99 |
| 80) | Thionazin | 11.263 | 107 | 152577 | 110.460 | ug/mL | 99 |
| 81) | Fluorene | 11.334 | 166 | 792761 | 97.751 | ug/mL | 100 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.287 | 204 | 433522 | 104.197 | ug/mL | 98 |
| 83) | 4-Nitroaniline | 11.345 | 138 | 237957 | 107.903 | ug/mL | 98 |
| 84) | 5-Nitro-o-Toluidine | 11.339 | 152 | 244772 | 104.933 | ug/mL | 95 |
| 85) | 1,2-Diphenylhydrazine | 11.451 | 77 | 929061 | 106.623 | ug/mL | 99 |
| 88) | 4,6-Dinitro-2-Methylph... | 11.386 | 198 | 187552 | 120.199 | ug/mL | 87 |
| 89) | Diphenylamine/n-Nitros... | 11.404 | 169 | 792893 | 104.840 | ug/mL | 99 |
| 90) | Sulfotepp | 11.604 | 322 | 148274 | 117.185 | ug/mL | 86 |
| 91) | Sym-Trinitrobenzene | 11.681 | 75 | 255558 | 118.582 | ug/mL | 99 |
| 92) | Diallate | 11.728 | 86 | 330240 | 99.412 | ug/mL | 96 |
| 93) | Phenacetin | 11.716 | 108 | 454996 | 113.257 | ug/mL | 99 |
| 94) | Phorate | 11.745 | 75 | 531176 | 103.865 | ug/mL# | 99 |
| 95) | 4-Bromophenyl Phenyl E... | 11.810 | 248 | 242853 | 107.558 | ug/mL | 99 |
| 96) | Hexachlorobenzene | 12.022 | 284 | 256988 | 109.142 | ug/mL | 98 |
| 97) | Dimethoate | 11.951 | 87 | 259158 | 136.454 | ug/mL | 100 |
| 98) | 4-Aminobiphenyl | 12.104 | 169 | 1055503 | 112.975 | ug/mL | 100 |
| 99) | Pentachlorophenol | 12.198 | 266 | 167155 | 119.772 | ug/mL | 99 |
| 100) | Pronamide | 12.145 | 173 | 407813 | 114.415 | ug/mL | 100 |
| 101) | Pentachloronitrobenzene | 12.286 | 237 | 99987 | 117.147 | ug/mL | 99 |
| 102) | Disulfoton | 12.322 | 88 | 477528 | 110.160 | ug/mL | 100 |

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000315.D Vial: 10
Acq On : 15 Aug 2017 8:30 pm Operator: SCB
Sample : WG625881-10 120PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:13:33 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:12:28 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

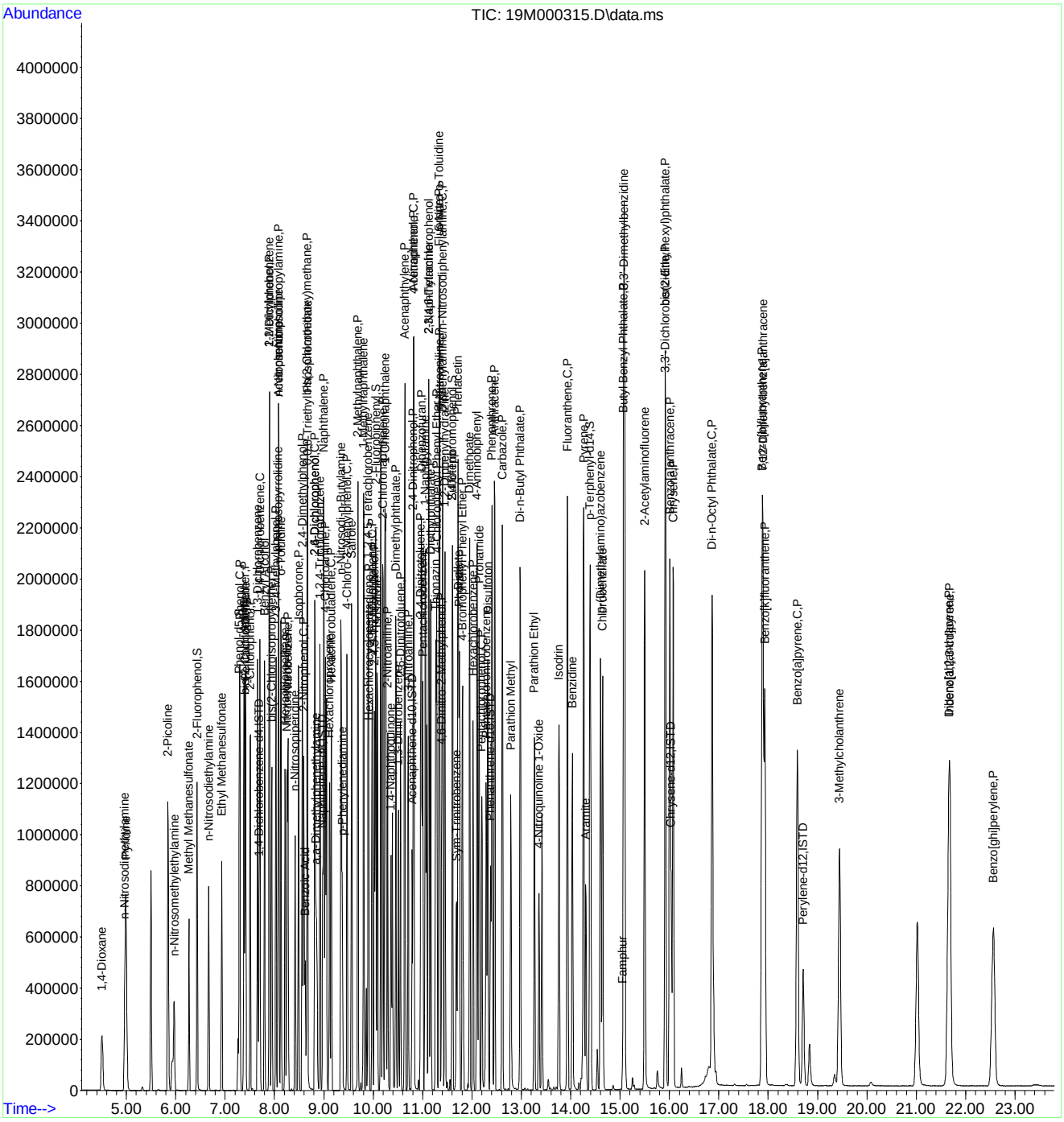
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 103) Phenanthrene | 12.404 | 178 | 1313881 | 105.505 ug/mL | 99 |
| 104) Anthracene | 12.457 | 178 | 1371262 | 107.128 ug/mL | 100 |
| 105) Carbazole | 12.616 | 167 | 1287389 | 109.539 ug/mL# | 100 |
| 106) Parathion Methyl | 12.786 | 109 | 284487 | 111.836 ug/mL | 98 |
| 107) Di-n-Butyl Phthalate | 12.975 | 149 | 1643869 | 112.433 ug/mL | 100 |
| 108) Parathion Ethyl | 13.263 | 97 | 200751 | 117.111 ug/mL | 98 |
| 109) 4-Nitroquinoline 1-Oxide | 13.357 | 190 | 119112 | 118.136 ug/mL | 95 |
| 110) Methapyrilene | 13.416 | 58 | 424138 | Below Cal | 99 |
| 111) Isodrin | 13.763 | 193 | 156765 | 112.893 ug/mL | 99 |
| 112) Fluoranthene | 13.933 | 202 | 1511346 | 111.597 ug/mL | 100 |
| 114) Benzidine | 14.033 | 184 | 778565 | 124.163 ug/mL | 100 |
| 115) Pyrene | 14.263 | 202 | 1560652 | 112.776 ug/mL | 100 |
| 116) Aramite | 14.304 | 185 | 101407 | 119.401 ug/mL | 99 |
| 118) p-(Dimethylamino)azobe... | 14.604 | 225 | 322345 | 126.856 ug/mL | 99 |
| 119) Chlorobenzilate | 14.645 | 251 | 415994 | 125.647 ug/mL | 97 |
| 120) Famphur | 15.051 | 218 | 28200 | 17.463 ug/mL# | 37 |
| 121) Butyl Benzyl Phthalate | 15.069 | 149 | 631515 | 103.034 ug/mL | 98 |
| 122) 3,3'-Dimethylbenzidine | 15.080 | 212 | 1065690 | 108.216 ug/mL | 99 |
| 123) 2-Acetylaminofluorene | 15.498 | 181 | 657209 | 119.353 ug/mL# | 100 |
| 124) bis(2-Ethylhexyl)phtha... | 15.916 | 149 | 935703 | 113.246 ug/mL | 99 |
| 125) 3,3'-Dichlorobenzidine | 15.921 | 252 | 452680 | 114.591 ug/mL | 99 |
| 126) Benzo[a]anthracene | 16.010 | 228 | 1371083 | 112.259 ug/mL | 99 |
| 127) Chrysene | 16.074 | 228 | 1260047 | 110.095 ug/mL | 100 |
| 129) Di-n-Octyl Phthalate | 16.863 | 149 | 1929750 | 126.785 ug/mL | 99 |
| 130) 7,12-Dimethylbenz[a]an... | 17.892 | 256 | 634458 | 116.129 ug/mL | 99 |
| 131) Benzo[b]fluoranthene | 17.880 | 252 | 1354184 | 111.357 ug/mL | 99 |
| 132) Benzo[k]fluoranthene | 17.933 | 252 | 1395598 | 119.018 ug/mL | 96 |
| 133) Benzo[a]pyrene | 18.592 | 252 | 1359129 | 120.940 ug/mL | 99 |
| 134) 3-Methylcholanthrene | 19.445 | 268 | 670479 | 124.796 ug/mL | 99 |
| 135) Indeno[1,2,3-cd]pyrene | 21.674 | 276 | 1306679 | 112.506 ug/mL | 100 |
| 136) Dibenz[ah]anthracene | 21.668 | 278 | 1109966 | 113.303 ug/mL | 100 |
| 137) Benzo[ghi]perylene | 22.562 | 276 | 1096717 | 113.101 ug/mL | 100 |

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000315.D Vial: 10
Acq On : 15 Aug 2017 8:30 pm Operator: SCB
Sample : WG625881-10 120PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:13:33 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:12:28 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

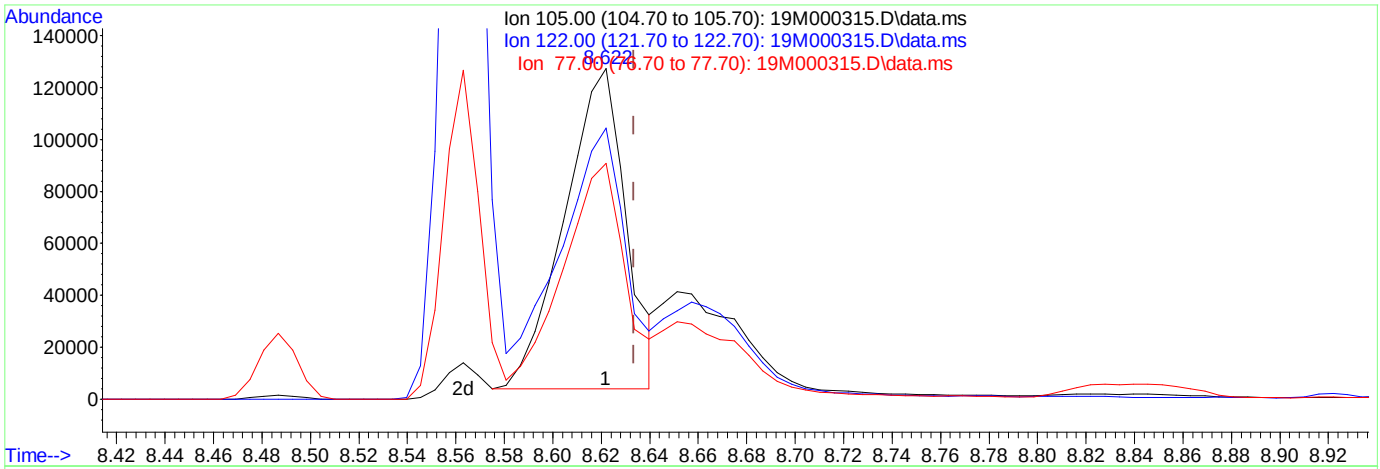


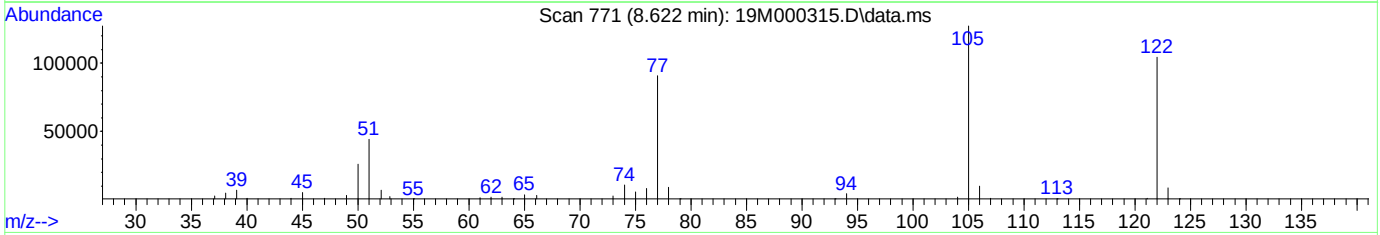

19M000315.D MEGAMIX.M Fri Aug 18 14:17:37 2017 SVOA1 Page: 4

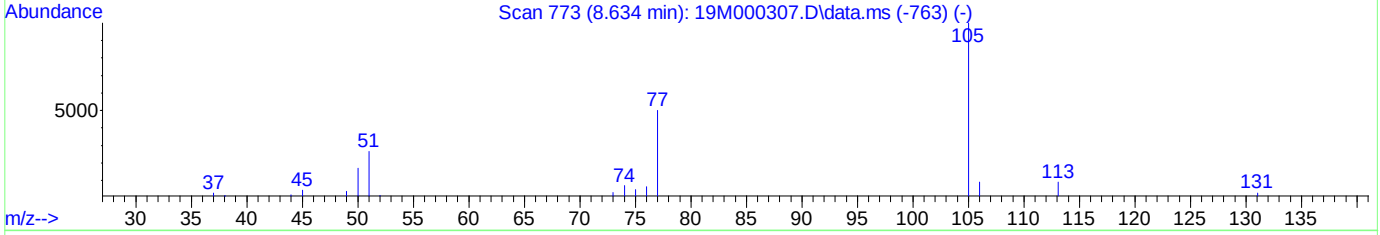
Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081517\19M000315.D  Vial: 10
Acq On : 15 Aug 2017 8:30 pm  Operator: SCB
Sample : WG625881-10 120PPM 8270 STD  Inst : HPMS19NEW
Misc : 1,1 STD81744  Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:12:54 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:12:28 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




TIC: 19M000315.D\data.ms

(39) Benzoic Acid

8.622min (-0.012) 87.810 ug/mL

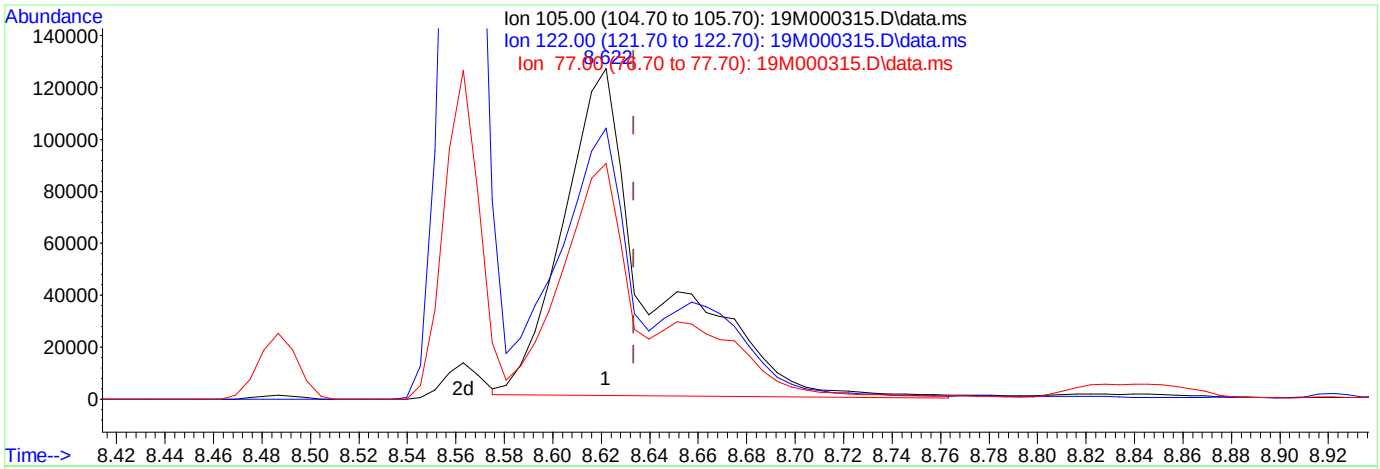
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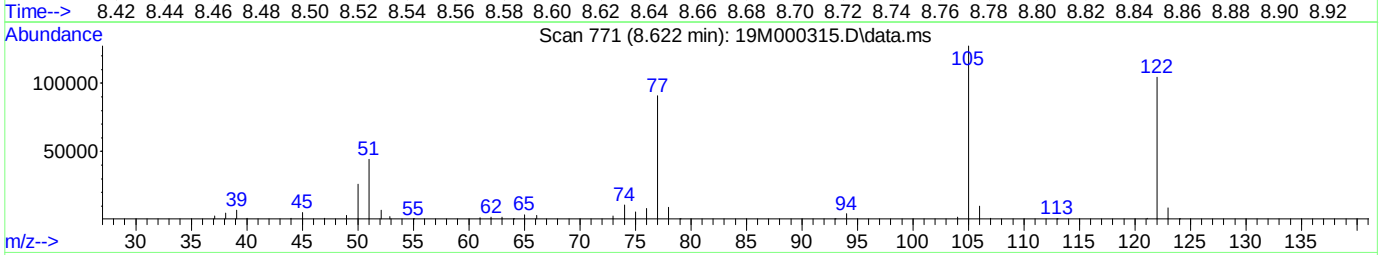
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 51.80 | 88.65# |
| 77.00 | 44.60 | 64.76# |
| 0.00 | 0.00 | 0.00 |

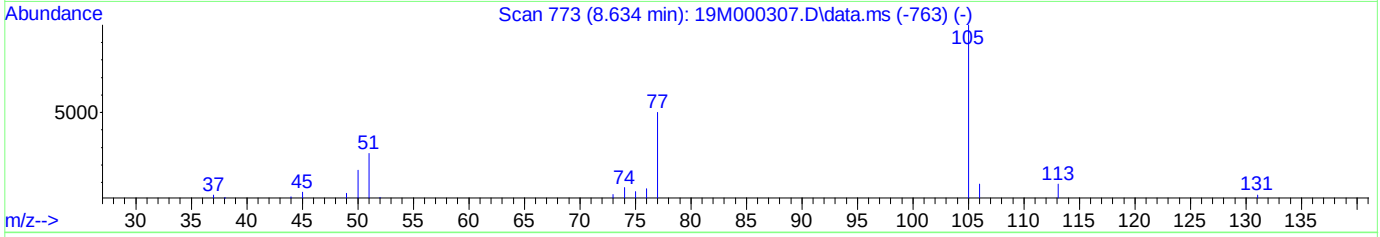
Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081517\19M000315.D  Vial: 10
Acq On : 15 Aug 2017 8:30 pm  Operator: SCB
Sample : WG625881-10 120PPM 8270 STD  Inst : HPMS19NEW
Misc : 1,1 STD81744  Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:12:54 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:12:28 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




TIC: 19M000315.D\data.ms

(39) Benzoic Acid

8.622min (-0.012) 117.170 ug/mL mint

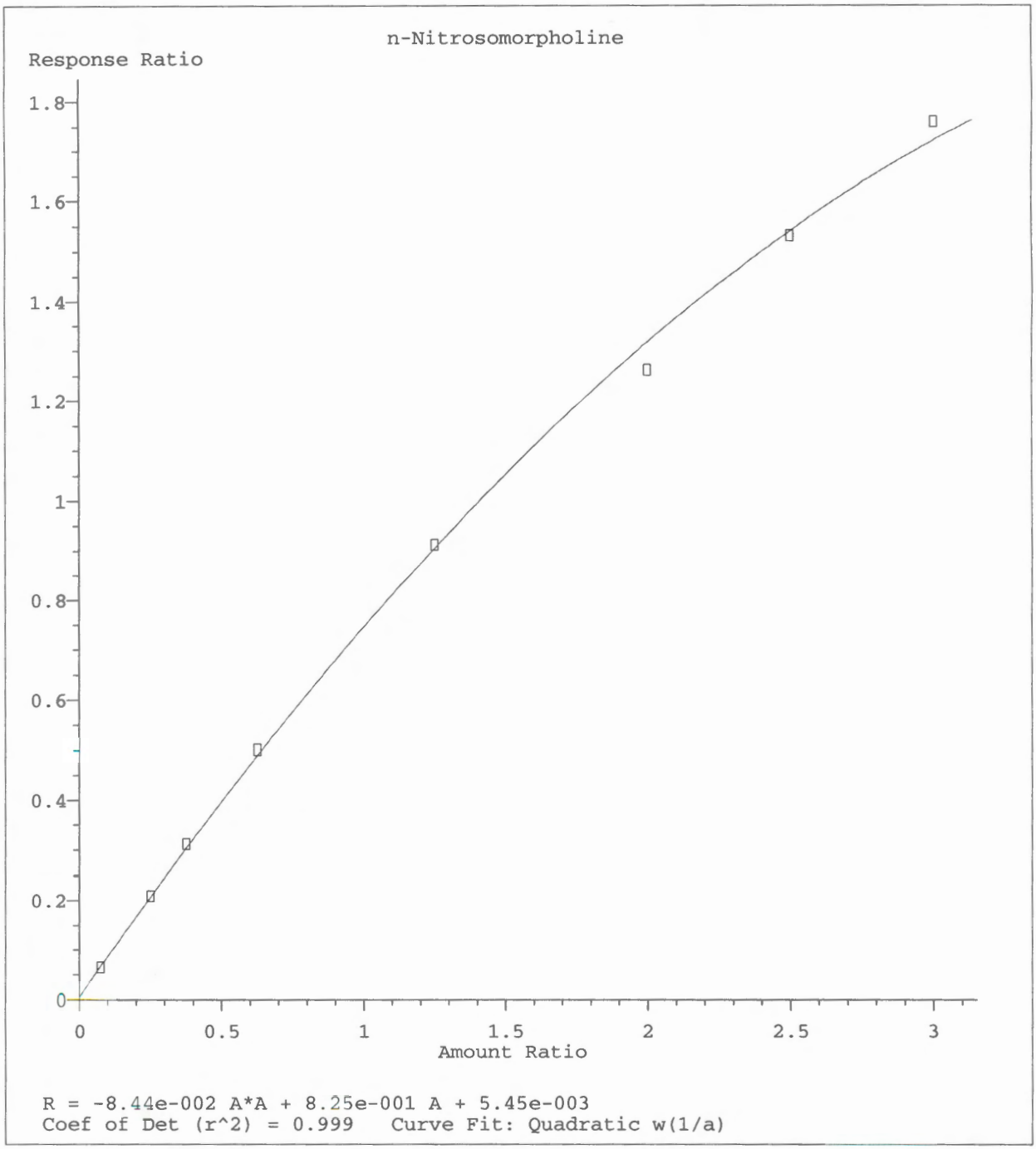
response 325594

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 51.80 | 59.23 |
| 77.00 | 44.60 | 43.27 |
| 0.00 | 0.00 | 0.00 |

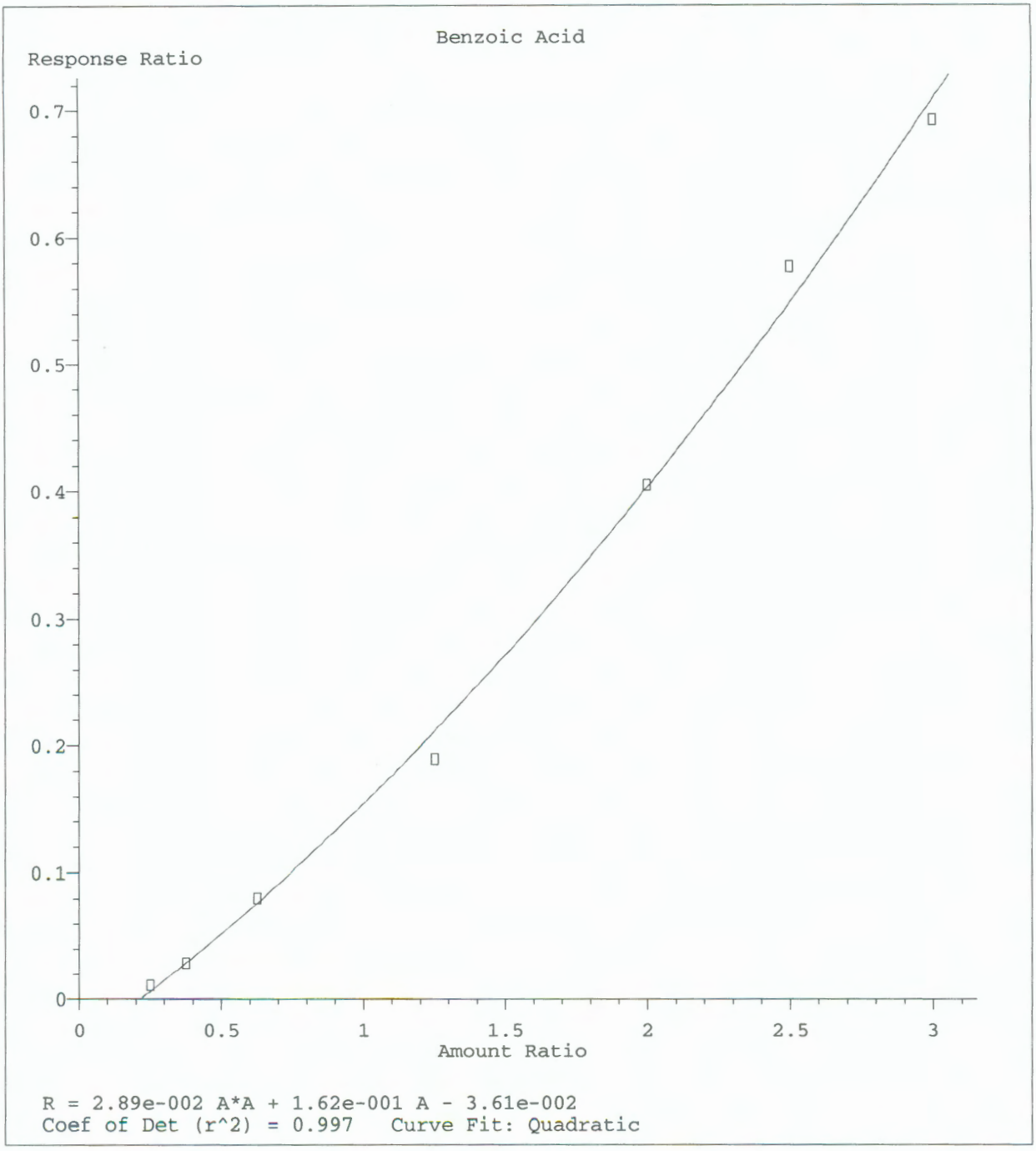
Analyst: 08/18/2017 15:03 Supervisor: 08/18/2017 15:58

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

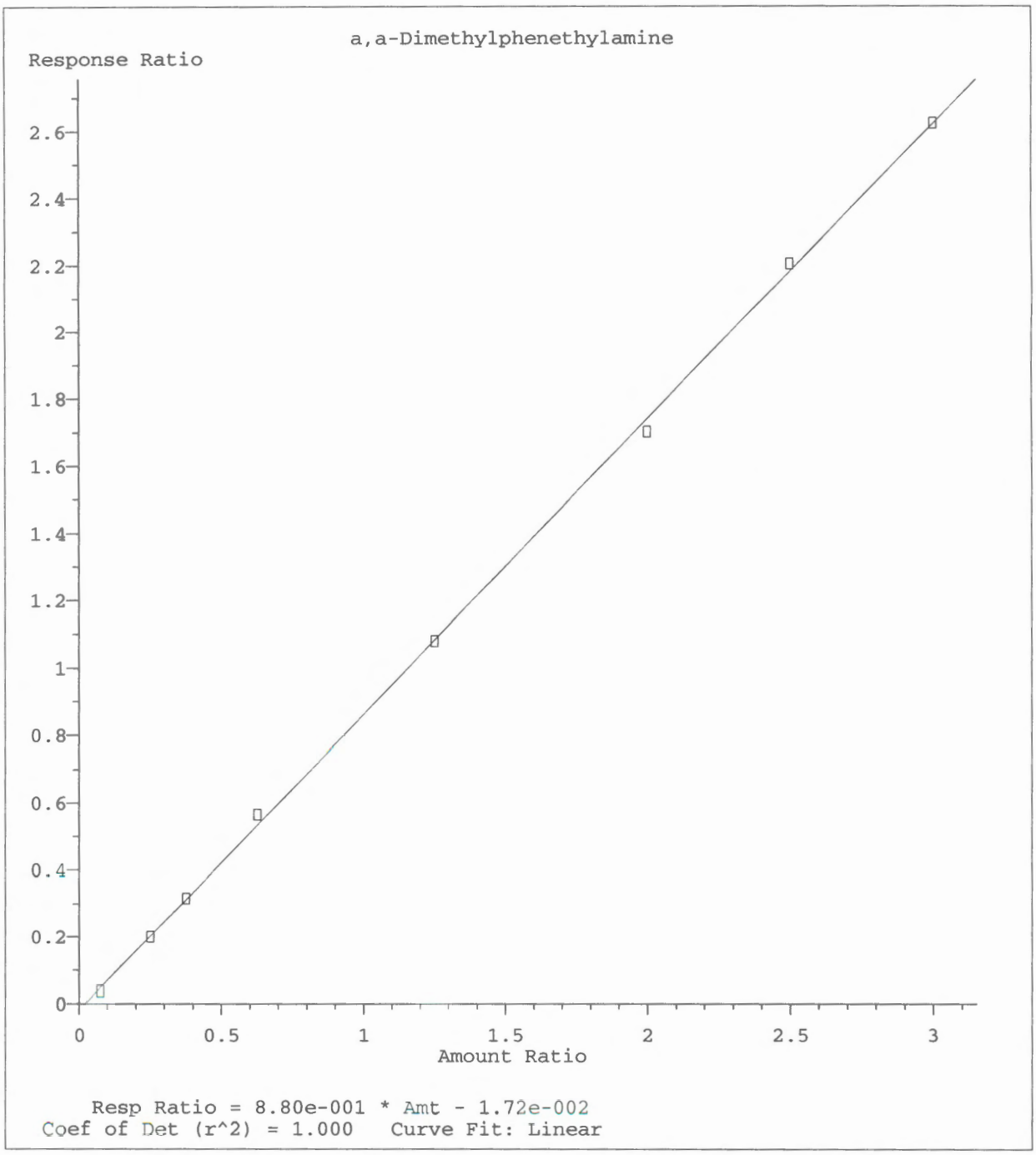
19M000315.D MEGAMIX.M Fri Aug 18 14:1 Page: 1



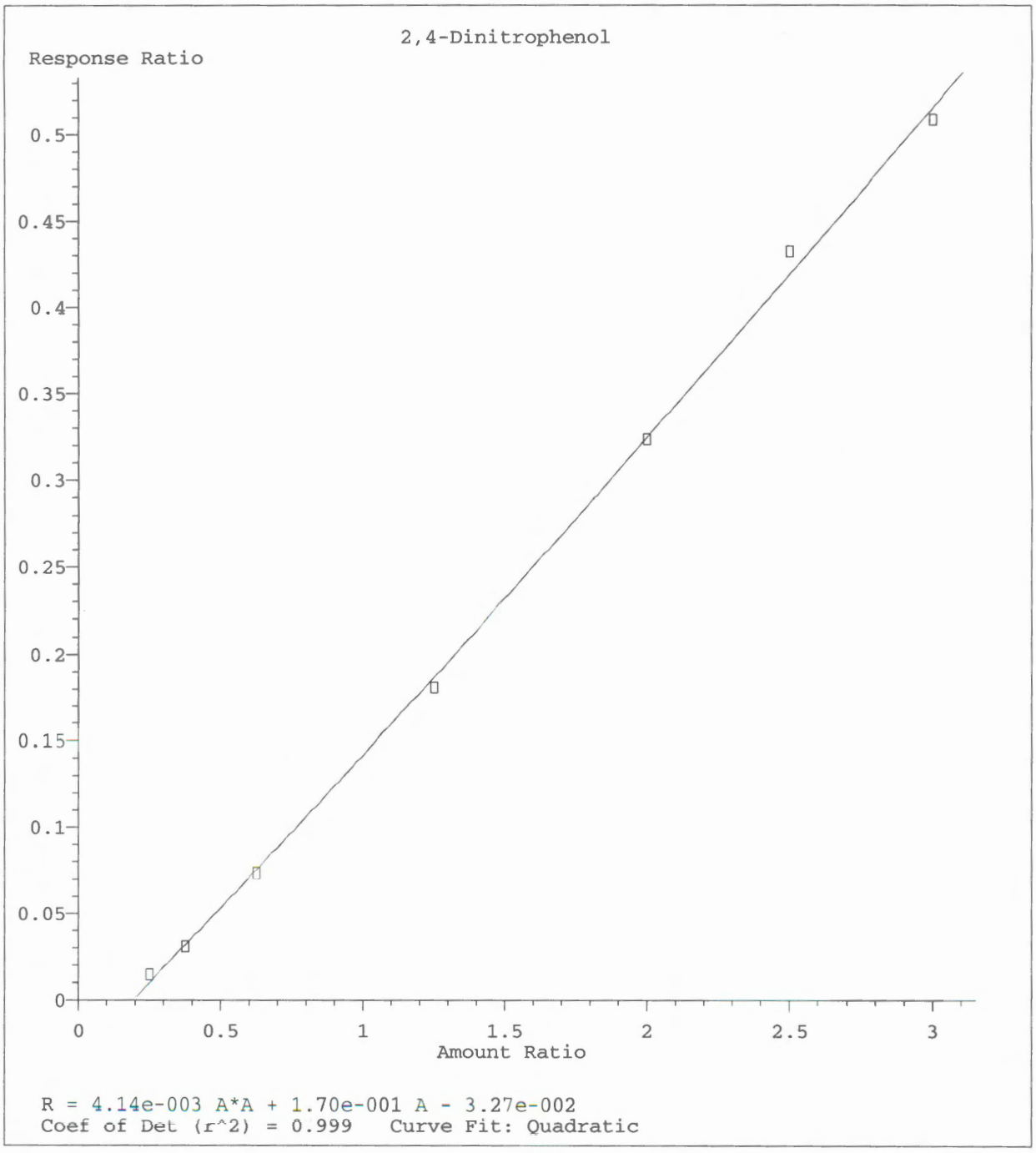

Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Thu Aug 17 17:48:58 2017



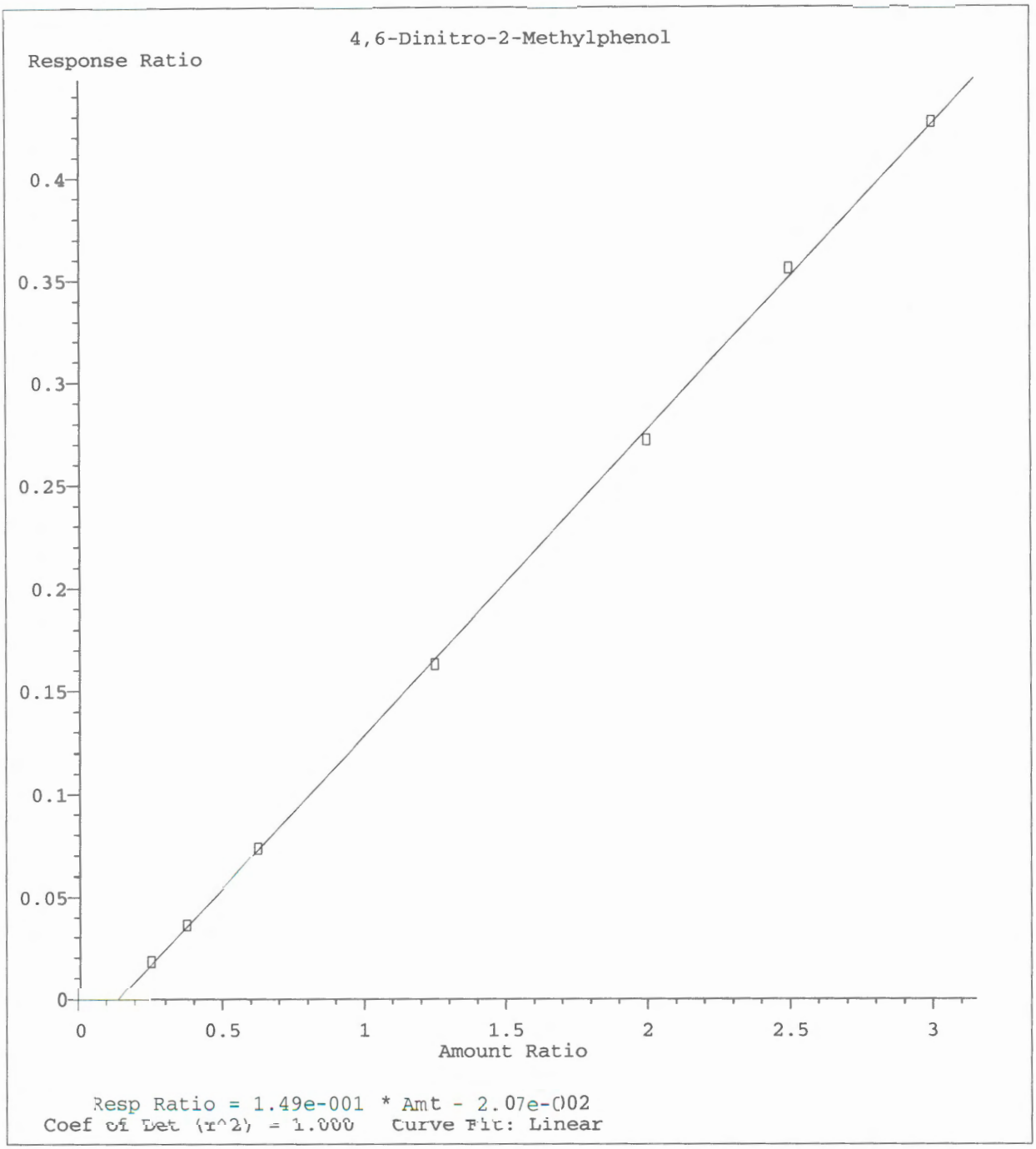

Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017



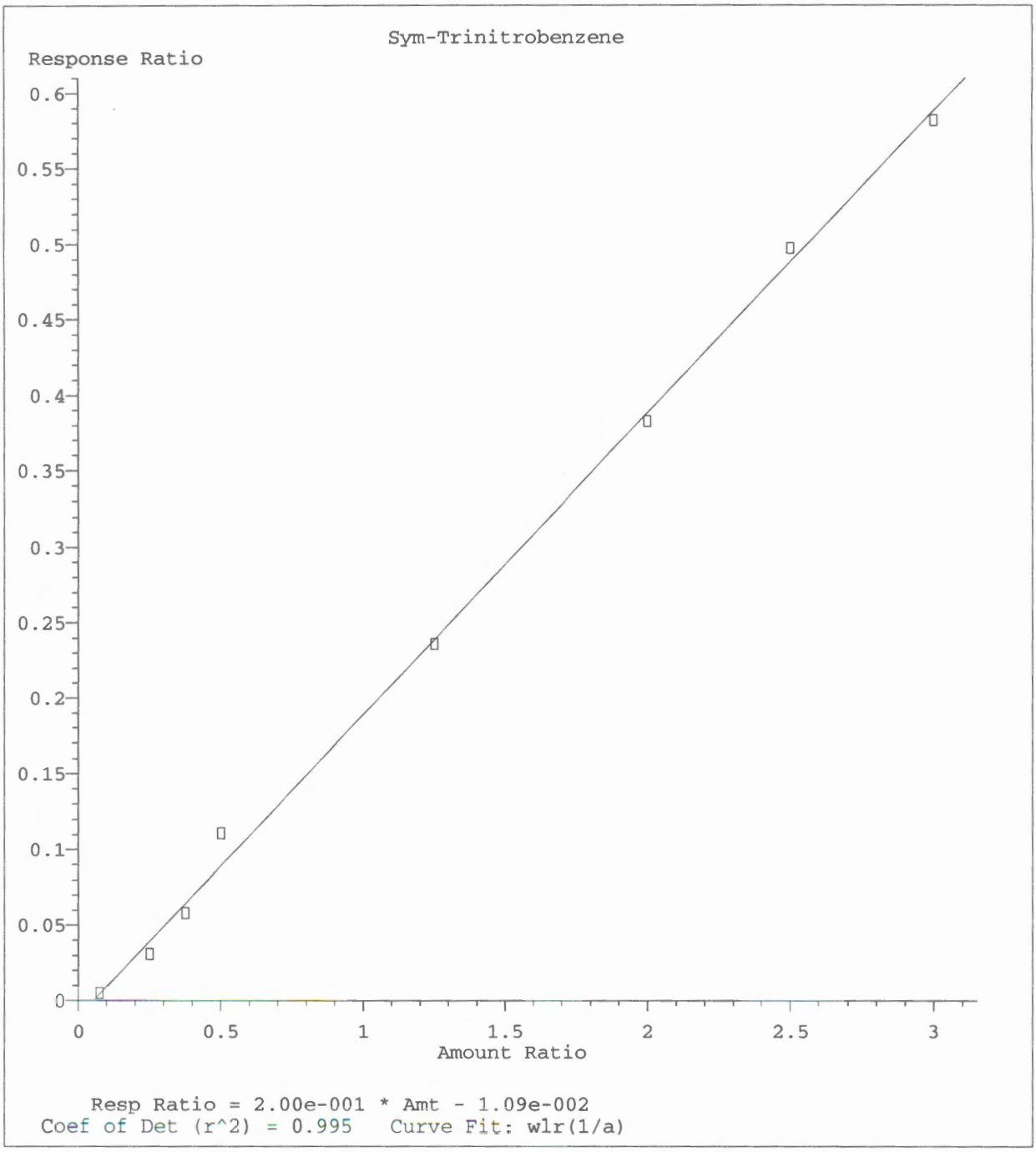

Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017



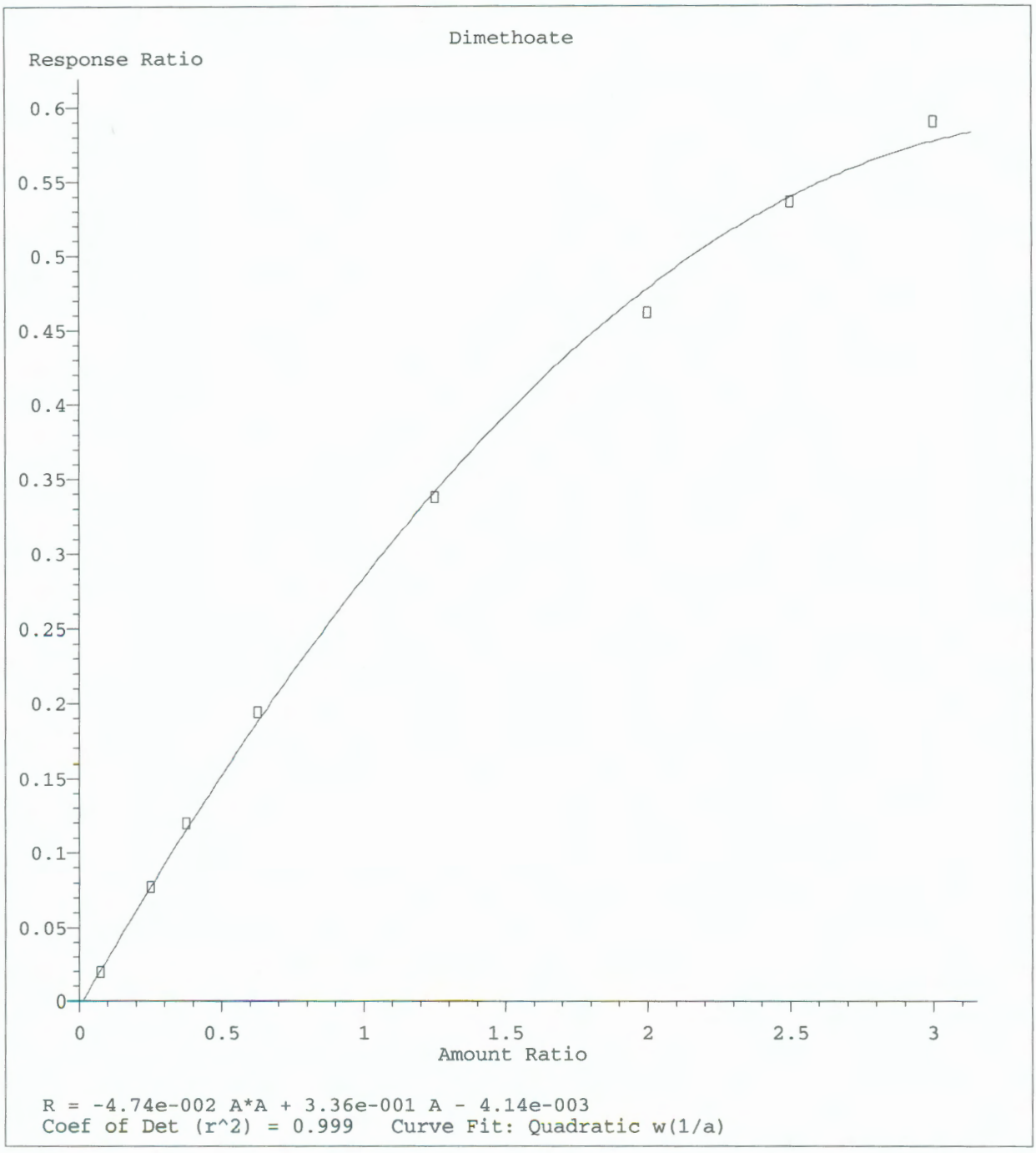

Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017



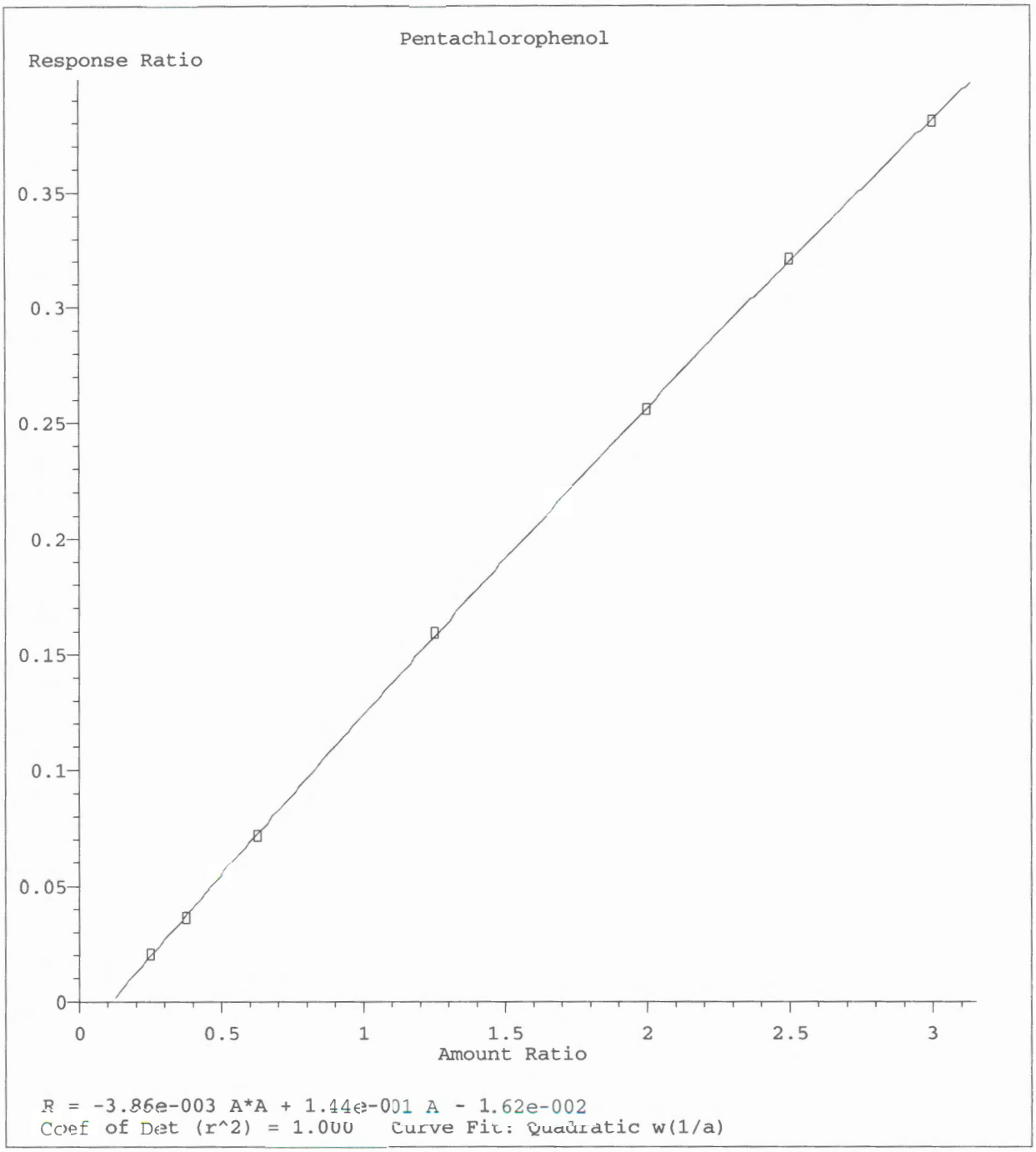

Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017



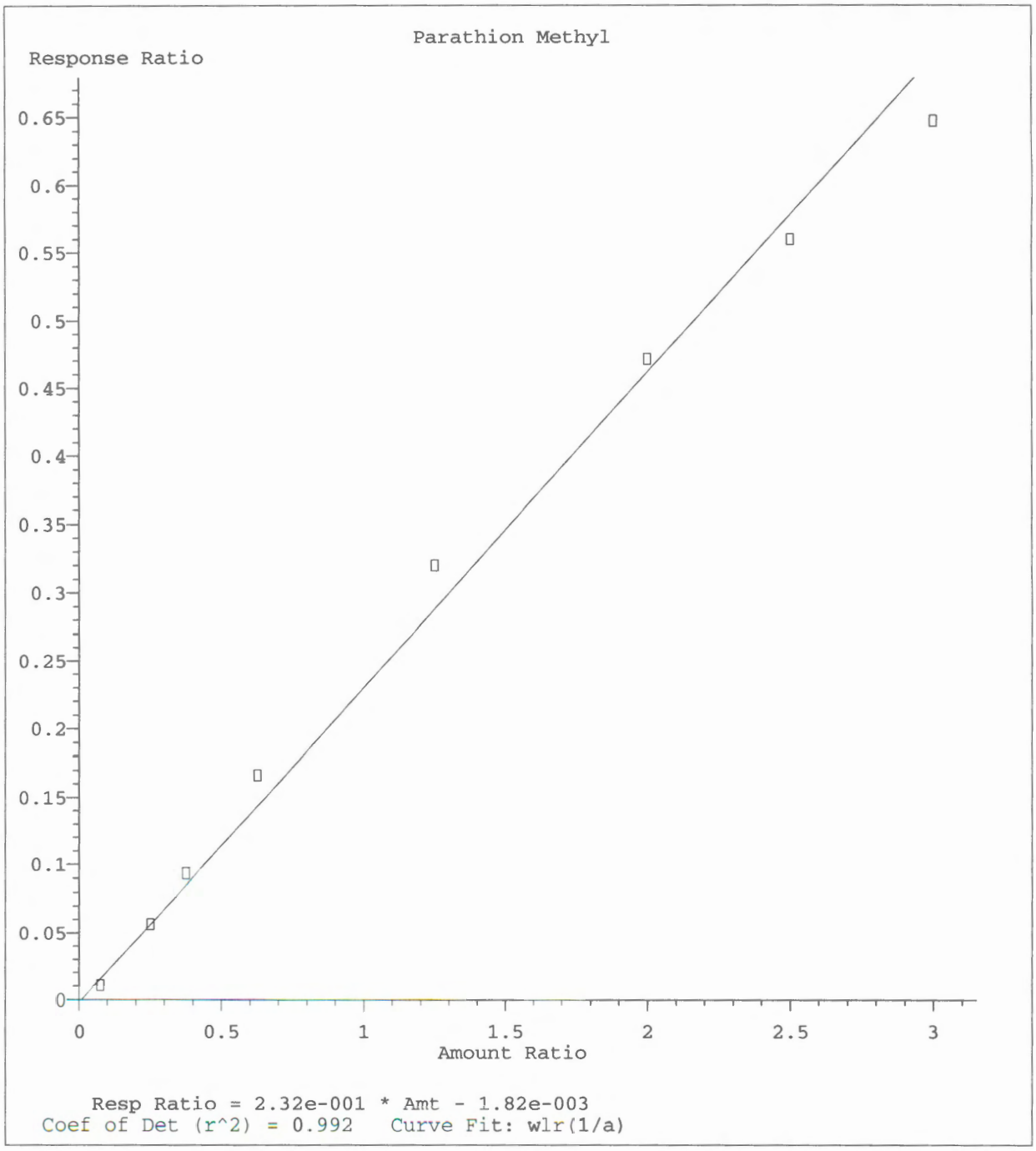

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Calibration Table Last Updated: Fri Aug 18 13:31:47 2017



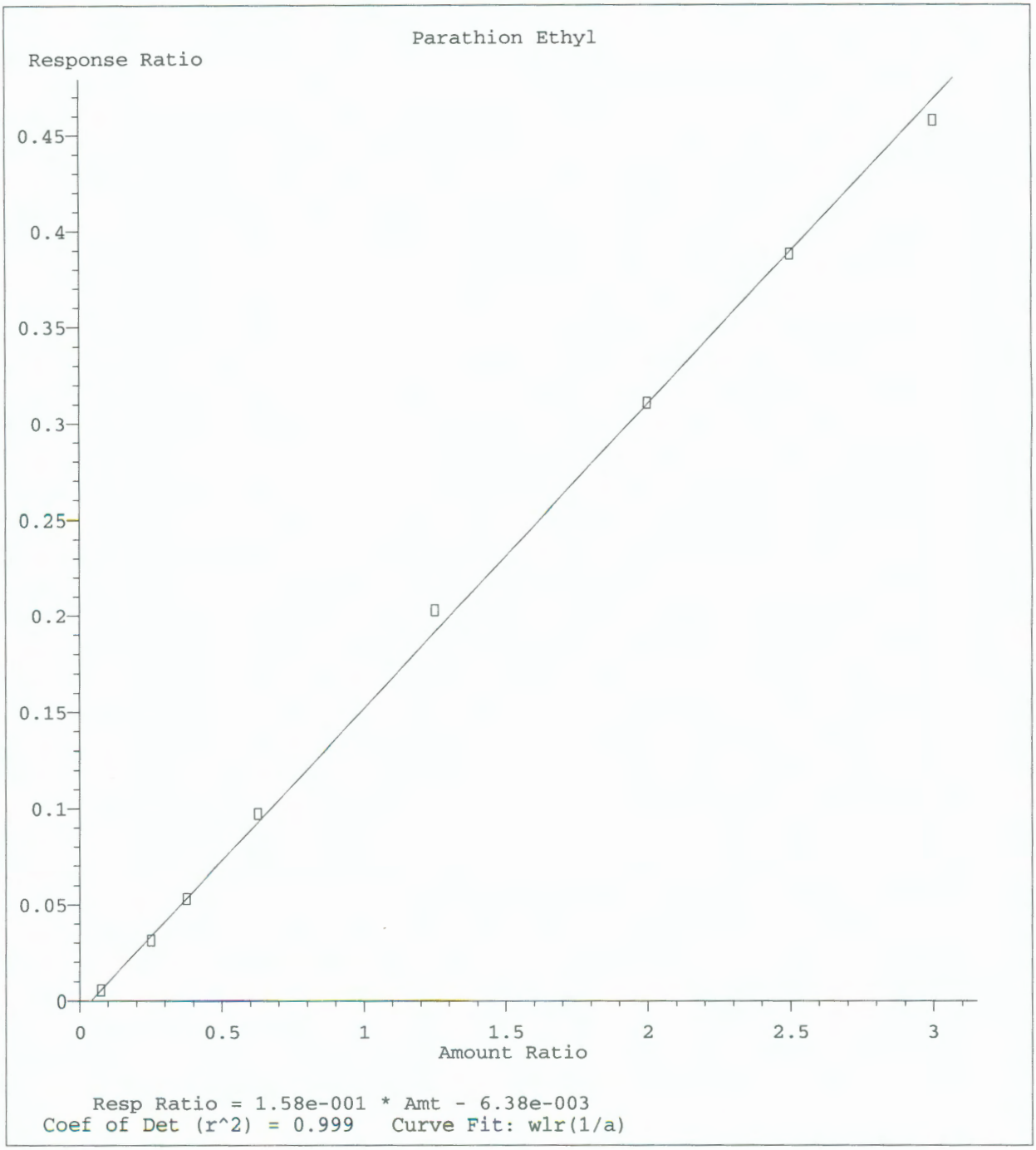

Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017



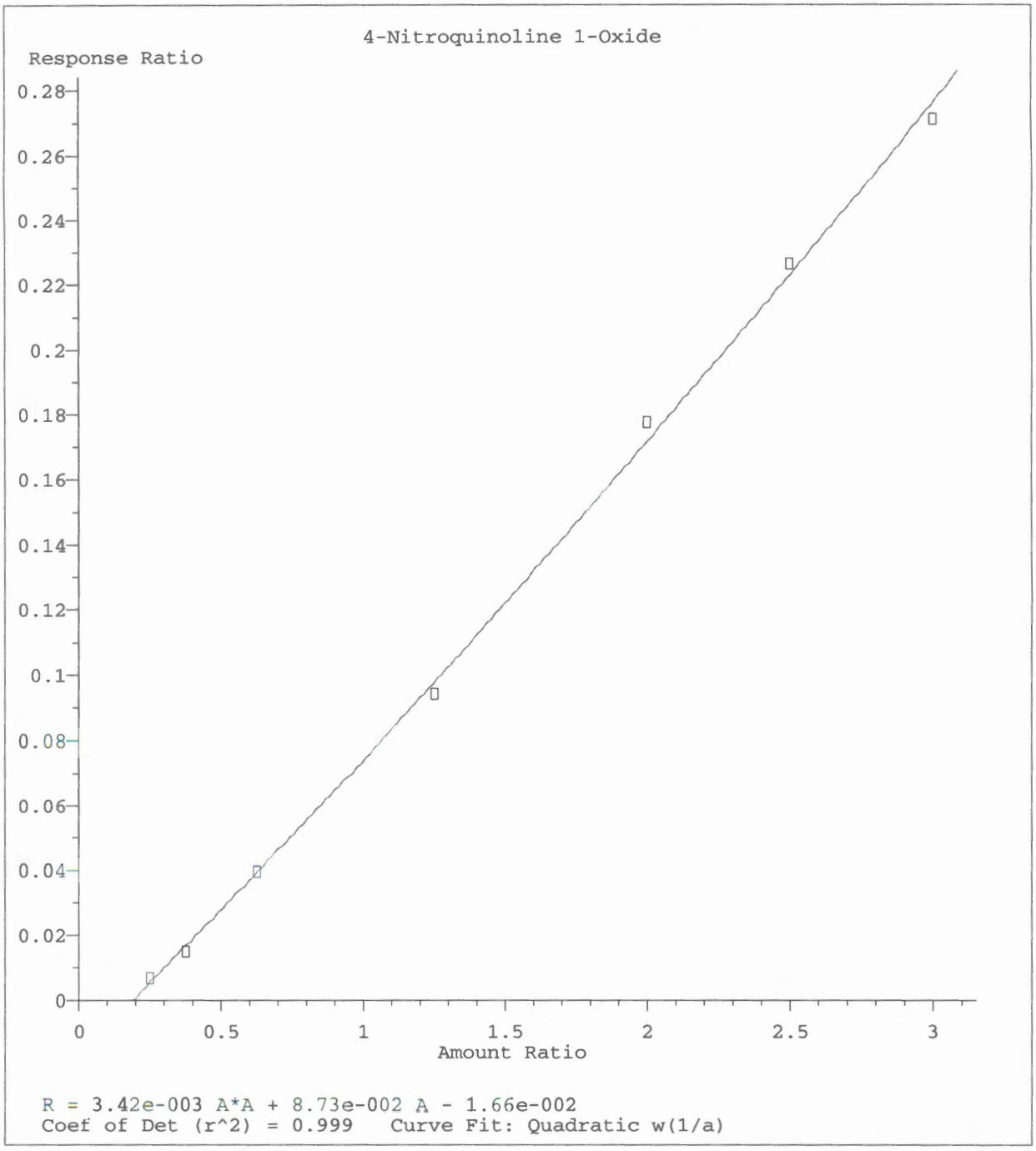

Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017



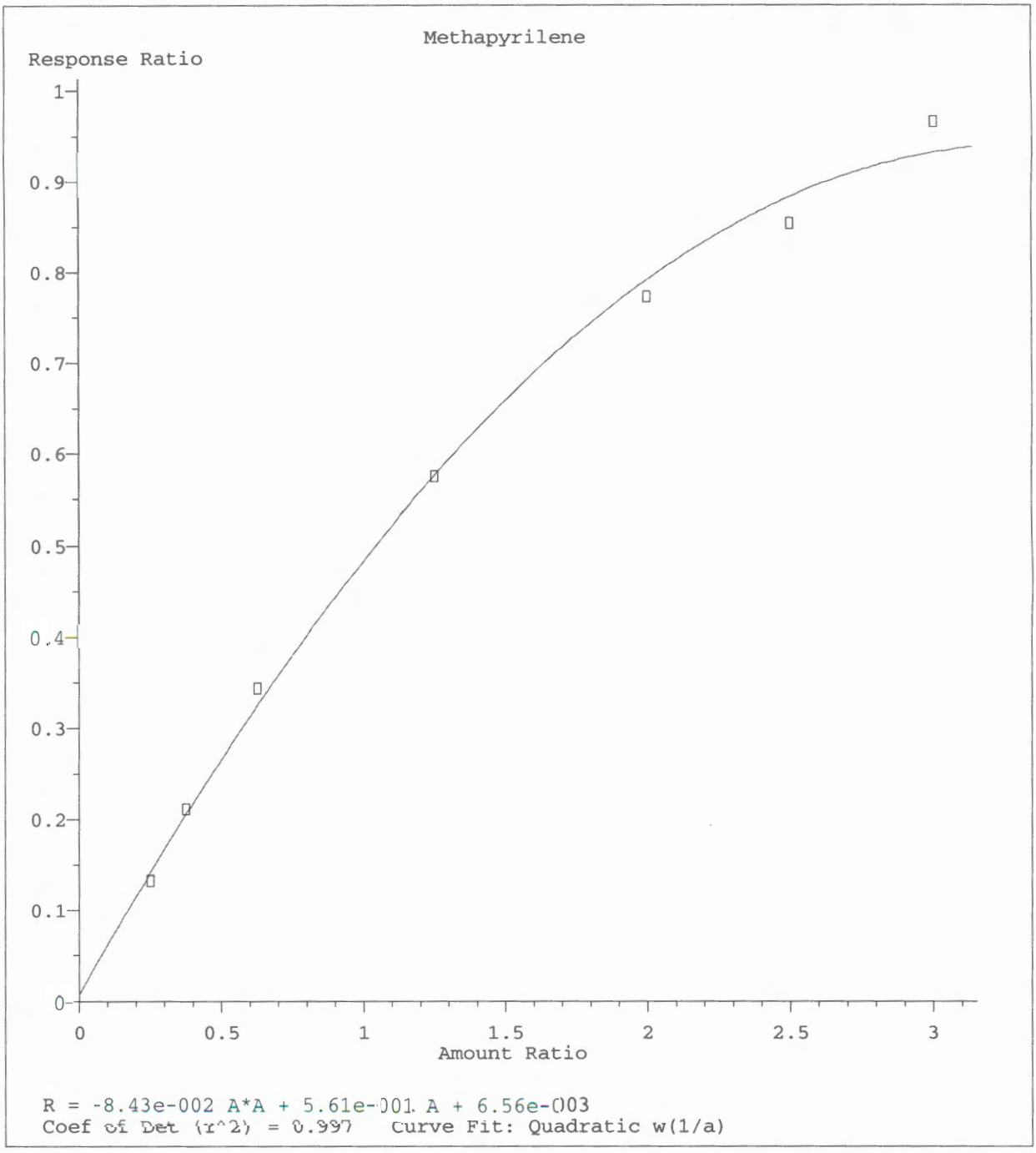

Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017



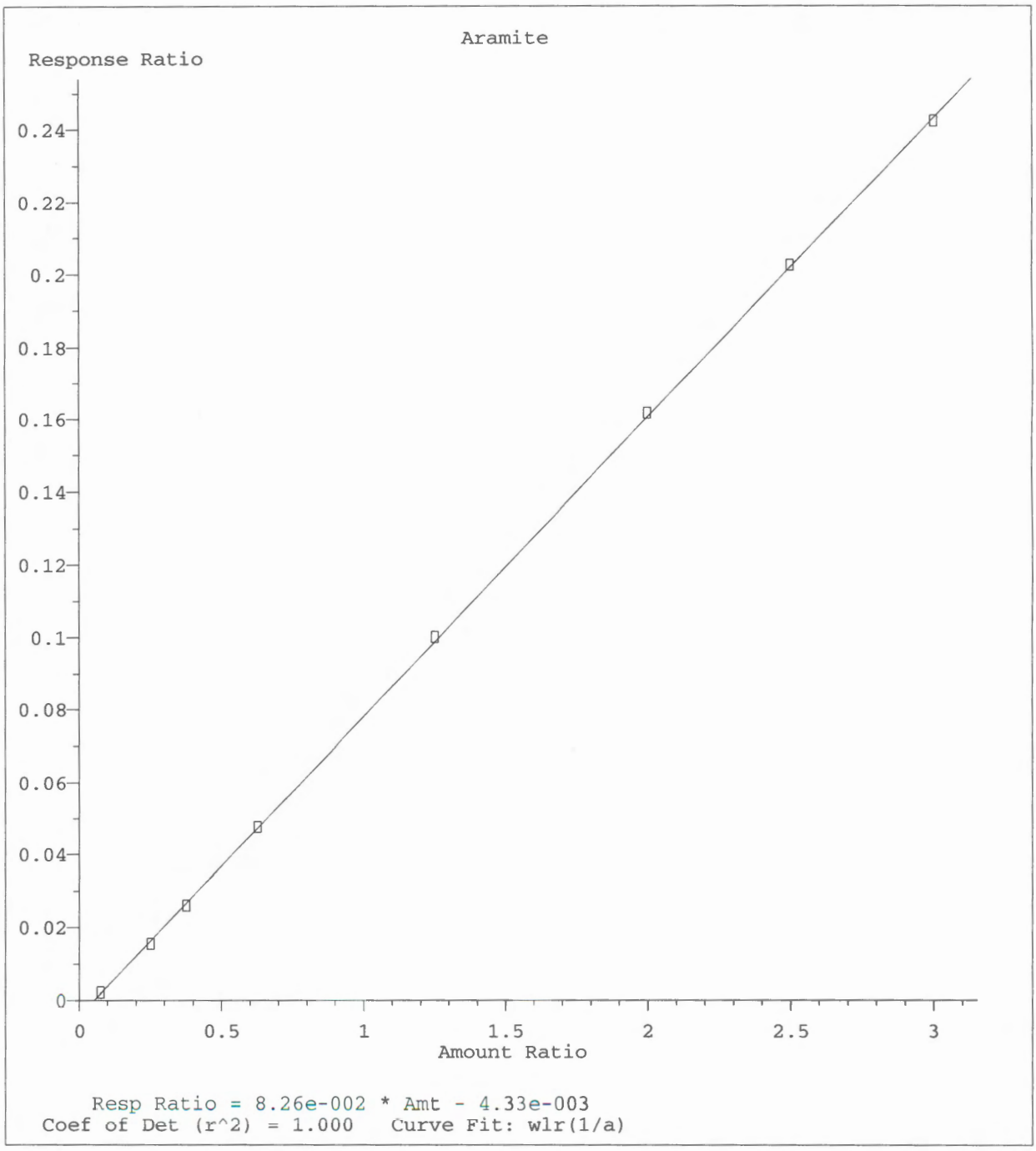

Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017



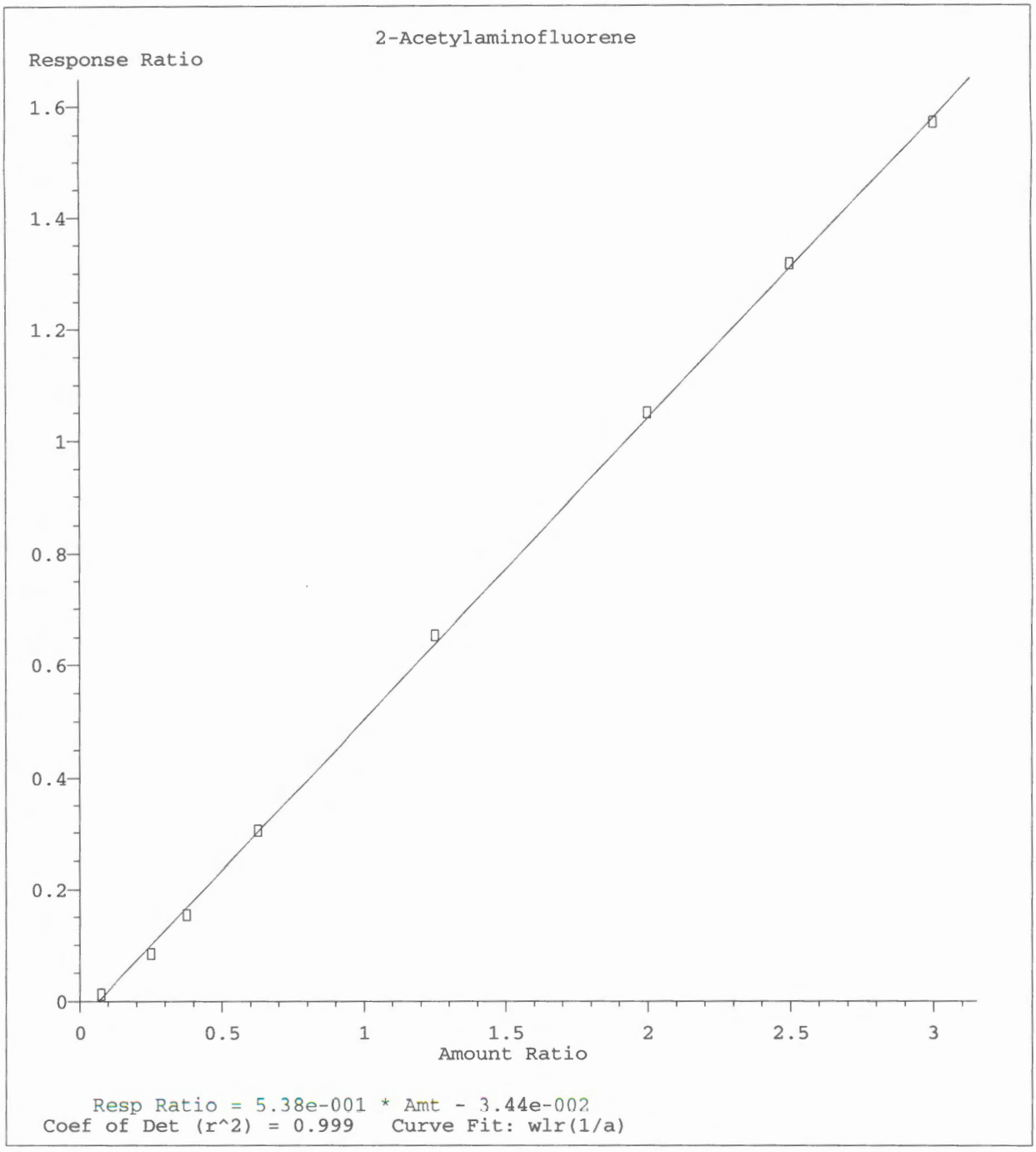

Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017



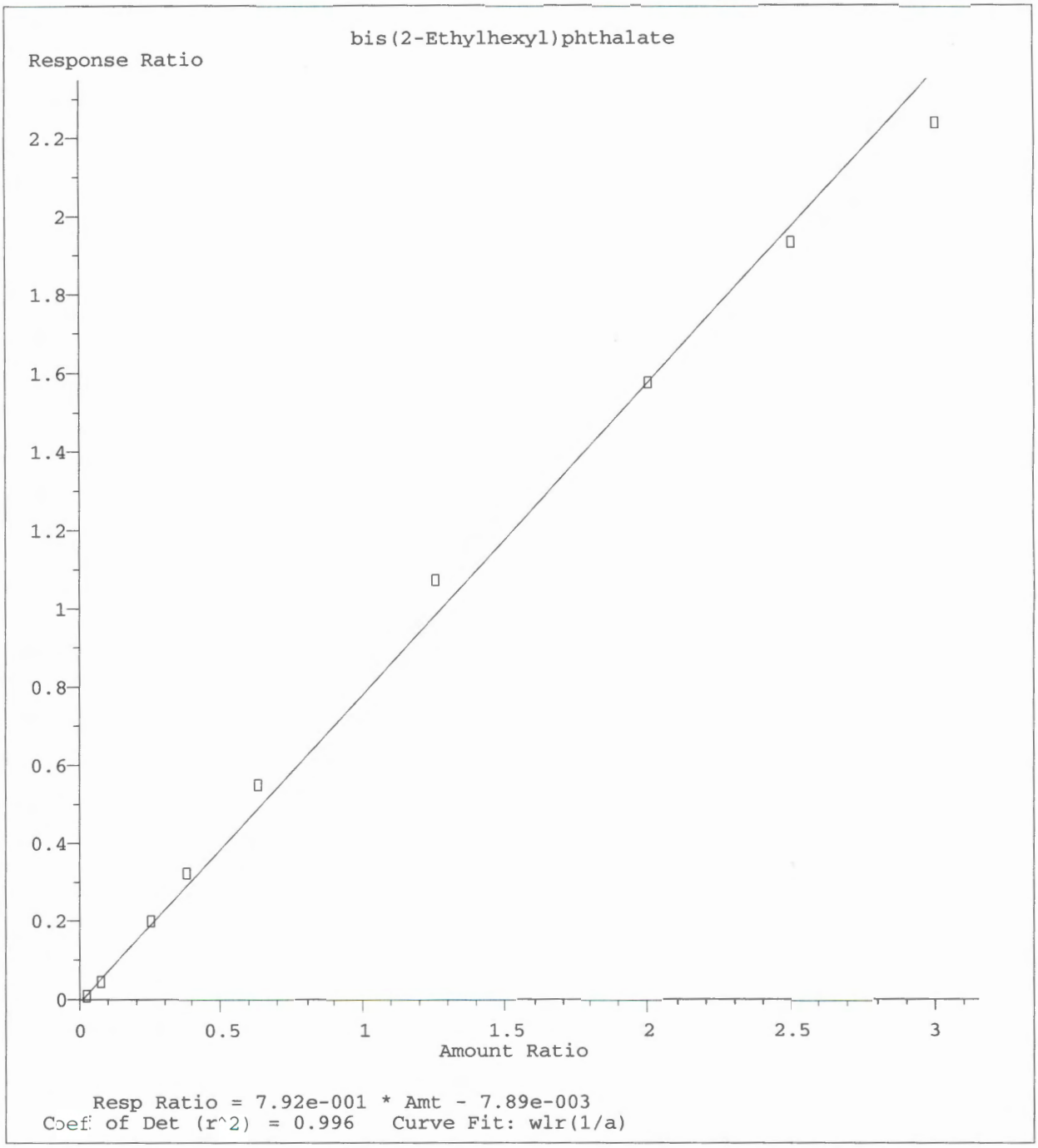

Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017




Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017




Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017




Method Name: C:\msdchem\4\METHODS\MEGAMIX.M
Calibration Table Last Updated: Fri Aug 18 10:46:55 2017

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000316.D Vial: 11
Acq On : 15 Aug 2017 9:00 pm Operator: SCB
Sample : WG625881-11 50PPM 8270 ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81294 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:23:35 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 125439 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.975 | 136 | 499655 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.786 | 164 | 242756 | 40.0000 | ug/mL | 0.0000 |
| 87) Phenanthrene-d10 | 12.374 | 188 | 447703 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.033 | 240 | 433308 | 40.0000 | ug/mL | 0.0000 |
| 128) Perylene-d12 | 18.703 | 264 | 442198 | 40.0000 | ug/mL | -0.0117 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 0.000 | 112 | 0 | 0.0000 | ug/mL | |
| 12) Phenol-d5 | 7.416 | 99 | 1565 | 0.3268 | ug/mL | 0.1294 |
| 31) Nitrobenzene-d5 | 8.216 | 82 | 18932 | 4.5795 | ug/mL | -0.0353 |
| 59) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.0000 | ug/mL | |
| 86) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.0000 | ug/mL | |
| 117) p-Terphenyl-d14 | 0.000 | 244 | 0 | 0.0000 | ug/mL | |
| Target Compounds | | | | | | Qvalue |
| 3) n-Nitrosodimethylamine | 4.969 | 74 | 121236 | 47.036 | ug/mL | 100 |
| 4) Pyridine | 4.993 | 79 | 231669 | 50.694 | ug/mL | 98 |
| 7) Methyl Methanesulfonate | 6.269 | 80 | 128594 | 51.932 | ug/mL | 98 |
| 10) Ethyl Methanesulfonate | 6.928 | 79 | 163767 | 51.558 | ug/mL | 100 |
| 11) Aniline | 7.381 | 66 | 122655 | 50.042 | ug/mL | 98 |
| 13) Phenol | 7.298 | 94 | 263688 | 51.480 | ug/mL | 94 |
| 14) bis(2-Chloroethyl)ether | 7.404 | 63 | 163690 | 50.350 | ug/mL | 99 |
| 15) Pentachloroethane | 7.416 | 167 | 84095 | 55.335 | ug/mL | 99 |
| 16) 2-Chlorophenol | 7.504 | 128 | 232219 | 52.686 | ug/mL | 100 |
| 17) 1,3-Dichlorobenzene | 7.657 | 146 | 240757 | 50.574 | ug/mL | 100 |
| 18) 1,4-Dichlorobenzene | 7.704 | 146 | 237633 | 49.979 | ug/mL | 99 |
| 19) Benzyl Alcohol | 7.798 | 108 | 150252 | 53.101 | ug/mL | 99 |
| 20) 1,2-Dichlorobenzene | 7.898 | 146 | 216197 | 50.498 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.892 | 107 | 159012 | 50.634 | ug/mL | 99 |
| 22) bis(2-Chloroisopropyl)... | 7.945 | 45 | 266870 | 50.977 | ug/mL | 99 |
| 23) 3-,4-Methylphenol | 8.022 | 107 | 226645 | 52.101 | ug/mL | 99 |
| 25) n-Nitrosodipropylamine | 8.075 | 70 | 141887 | 52.631 | ug/mL# | 65 |
| 26) Acetophenone | 8.081 | 105 | 295075 | 55.449 | ug/mL | 100 |
| 27) n-Nitrosomorpholine | 8.075 | 56 | 9495 | 3.435 | ug/mL# | 45 |
| 28) o-Toluidine | 8.081 | 106 | 22953 | 3.484 | ug/mL# | 1 |
| 29) Hexachloroethane | 8.216 | 117 | 90901 | 49.920 | ug/mL | 99 |
| 32) Nitrobenzene | 8.269 | 77 | 226857 | 52.574 | ug/mL | 100 |
| 33) n-Nitrosopiperidine | 8.663 | 114 | 39078 | 17.823 | ug/mL# | 18 |
| 34) Isophorone | 8.487 | 82 | 412313 | 52.590 | ug/mL | 100 |
| 35) 2-Nitrophenol | 8.592 | 139 | 122230 | 54.011 | ug/mL | 98 |
| 36) 2,4-Dimethylphenol | 8.563 | 122 | 206091 | 53.590 | ug/mL | 99 |
| 37) 0,0,0-Triethyl Phospho... | 8.663 | 198 | 92918 | 48.242 | ug/mL# | 49 |
| 38) bis(2-Chloroethoxy)met... | 8.663 | 93 | 315415 | 52.466 | ug/mL# | 96 |
| 39) Benzoic Acid | 8.610 | 105 | 132366 | 58.882 | ug/mL# | 56 |
| 40) 2,4-Dichlorophenol | 8.816 | 162 | 176707 | 53.976 | ug/mL | 99 |
| 42) 1,2,4-Trichlorobenzene | 8.922 | 180 | 182802 | 49.209 | ug/mL | 99 |
| 43) Naphthalene | 8.998 | 128 | 660042 | 50.195 | ug/mL | 98 |
| 44) 4-Chloroaniline | 9.028 | 65 | 78433 | 50.840 | ug/mL | 98 |
| 45) 2,6-Dichlorophenol | 8.816 | 162 | 176707 | 53.976 | ug/mL | 99 |
| 46) Hexachloropropene | 9.116 | 213 | 124283 | 56.608 | ug/mL | 99 |
| 47) Hexachlorobutadiene | 9.151 | 225 | 103730 | 55.526 | ug/mL | 99 |
| 49) p-Phenylenediamine | 9.463 | 108 | 14955 | 4.262 | ug/mL# | 1 |
| 50) 4-Chloro-3-Methylphenol | 9.463 | 107 | 188928 | 52.547 | ug/mL | 100 |

Data File : C:\msdchem\4\DATA\081517\19M000316.D Vial: 11
Acq On : 15 Aug 2017 9:00 pm Operator: SCB
Sample : WG625881-11 50PPM 8270 ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81294 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:23:35 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 51) | Safrole | 9.563 | 162 | 175003 | 52.332 | ug/mL | 99 |
| 52) | 2-Methylnaphthalene | 9.686 | 142 | 424899 | 48.452 | ug/mL | 100 |
| 53) | 1-Methylnaphthalene | 9.804 | 142 | 424107 | 52.530 | ug/mL | 99 |
| 55) | 1,2,4,5-Tetrachloroben... | 9.898 | 216 | 174407 | 51.107 | ug/mL | 99 |
| 56) | Hexachlorocyclopentadiene | 9.910 | 237 | 83927 | 61.967 | ug/mL | 98 |
| 57) | 2,4,6-Trichlorophenol | 9.975 | 196 | 123431 | 53.067 | ug/mL | 100 |
| 58) | 2,4,5-Trichlorophenol | 10.022 | 196 | 123583 | 51.620 | ug/mL | 100 |
| 60) | Isosafrole | 10.081 | 162 | 187394 | 56.237 | ug/mL | 98 |
| 61) | 2-Chloronaphthalene | 10.192 | 162 | 438937 | 56.166 | ug/mL | 99 |
| 62) | 1-Chloronaphthalene | 10.233 | 162 | 376980 | 53.131 | ug/mL | 99 |
| 63) | 2-Nitroaniline | 10.286 | 65 | 123023 | 54.648 | ug/mL | 99 |
| 64) | 1,4-Naphthoquinone | 10.357 | 158 | 193804 | 78.693 | ug/mL | 99 |
| 65) | Dimethylphthalate | 10.457 | 163 | 462284 | 52.498 | ug/mL | 100 |
| 66) | 1,3-Dinitrobenzene | 10.504 | 168 | 79900 | 52.713 | ug/mL | 98 |
| 67) | 2,6-Dinitrotoluene | 10.551 | 165 | 108542 | 52.842 | ug/mL | 97 |
| 68) | Acenaphthylene | 10.633 | 152 | 605195 | 50.218 | ug/mL | 100 |
| 69) | 3-Nitroaniline | 10.704 | 138 | 126962 | 52.369 | ug/mL | 100 |
| 70) | 2,4-Dinitrophenol | 10.804 | 184 | 61635 | 64.730 | ug/mL | 55 |
| 71) | Acenaphthene | 10.822 | 154 | 398355 | 53.995 | ug/mL | 98 |
| 72) | 4-Nitrophenol | 10.804 | 65 | 84144 | 55.554 | ug/mL | 99 |
| 73) | 2,4-Dinitrotoluene | 10.957 | 165 | 141751 | 53.553 | ug/mL | 99 |
| 74) | Pentachlorobenzene | 10.998 | 250 | 146143 | 50.287 | ug/mL | 100 |
| 75) | Dibenzofuran | 10.975 | 168 | 544701 | 49.926 | ug/mL | 99 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.122 | 232 | 95858 | 54.151 | ug/mL | 99 |
| 79) | Diethylphthalate | 11.163 | 149 | 463351 | 51.229 | ug/mL | 100 |
| 80) | Thionazin | 11.257 | 107 | 74782 | 52.775 | ug/mL | 99 |
| 81) | Fluorene | 11.333 | 166 | 430587 | 51.755 | ug/mL | 100 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.280 | 204 | 210372 | 49.288 | ug/mL | 99 |
| 83) | 4-Nitroaniline | 11.339 | 138 | 114370 | 50.554 | ug/mL | 94 |
| 84) | 5-Nitro-o-Toluidine | 11.380 | 152 | 5274 | 2.204 | ug/mL# | 1 |
| 85) | 1,2-Diphenylhydrazine | 11.451 | 77 | 446488 | 49.949 | ug/mL | 99 |
| 88) | 4,6-Dinitro-2-Methylph... | 11.380 | 198 | 82563 | 55.092 | ug/mL# | 53 |
| 89) | Diphenylamine/n-Nitros... | 11.404 | 169 | 391822 | 50.844 | ug/mL | 100 |
| 90) | Sulfotepp | 11.604 | 322 | 68541 | 53.162 | ug/mL | 93 |
| 91) | Sym-Trinitrobenzene | 11.675 | 75 | 123420 | 57.347 | ug/mL | 99 |
| 92) | Diallate | 11.722 | 86 | 173235 | 51.178 | ug/mL | 97 |
| 93) | Phenacetin | 11.704 | 108 | 238306 | 58.215 | ug/mL | 99 |
| 94) | Phorate | 11.739 | 75 | 261294 | 50.142 | ug/mL# | 99 |
| 95) | 4-Bromophenyl Phenyl E... | 11.810 | 248 | 118512 | 51.511 | ug/mL | 98 |
| 96) | Hexachlorobenzene | 12.022 | 284 | 119996 | 50.014 | ug/mL | 100 |
| 97) | Dimethoate | 11.945 | 87 | 193542 | 68.558 | ug/mL | 95 |
| 99) | Pentachlorophenol | 12.198 | 266 | 88798 | 62.172 | ug/mL | 99 |
| 100) | Pronamide | 12.139 | 173 | 207048 | 57.008 | ug/mL | 100 |
| 101) | Pentachloronitrobenzene | 12.286 | 237 | 48040 | 55.237 | ug/mL | 99 |
| 102) | Disulfoton | 12.316 | 88 | 234194 | 53.020 | ug/mL | 97 |
| 103) | Phenanthrene | 12.404 | 178 | 631088 | 49.734 | ug/mL | 100 |
| 104) | Anthracene | 12.457 | 178 | 651645 | 49.961 | ug/mL | 100 |
| 105) | Carbazole | 12.610 | 167 | 636799 | 53.174 | ug/mL# | 100 |
| 106) | Parathion Methyl | 12.786 | 109 | 173587 | 67.095 | ug/mL | 100 |
| 107) | Di-n-Butyl Phthalate | 12.974 | 149 | 822215 | 55.189 | ug/mL | 100 |
| 108) | Parathion Ethyl | 13.263 | 97 | 91067 | 53.031 | ug/mL | 99 |
| 109) | 4-Nitroquinoline 1-Oxide | 13.357 | 190 | 61426 | 66.170 | ug/mL | 96 |
| 111) | Isodrin | 13.763 | 193 | 74346 | 52.543 | ug/mL | 100 |
| 112) | Fluoranthene | 13.933 | 202 | 685775 | 49.695 | ug/mL | 100 |
| 115) | Pyrene | 14.257 | 202 | 709185 | 49.500 | ug/mL | 100 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000316.D Vial: 11
Acq On : 15 Aug 2017 9:00 pm Operator: SCB
Sample : WG625881-11 50PPM 8270 ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81294 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:23:35 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

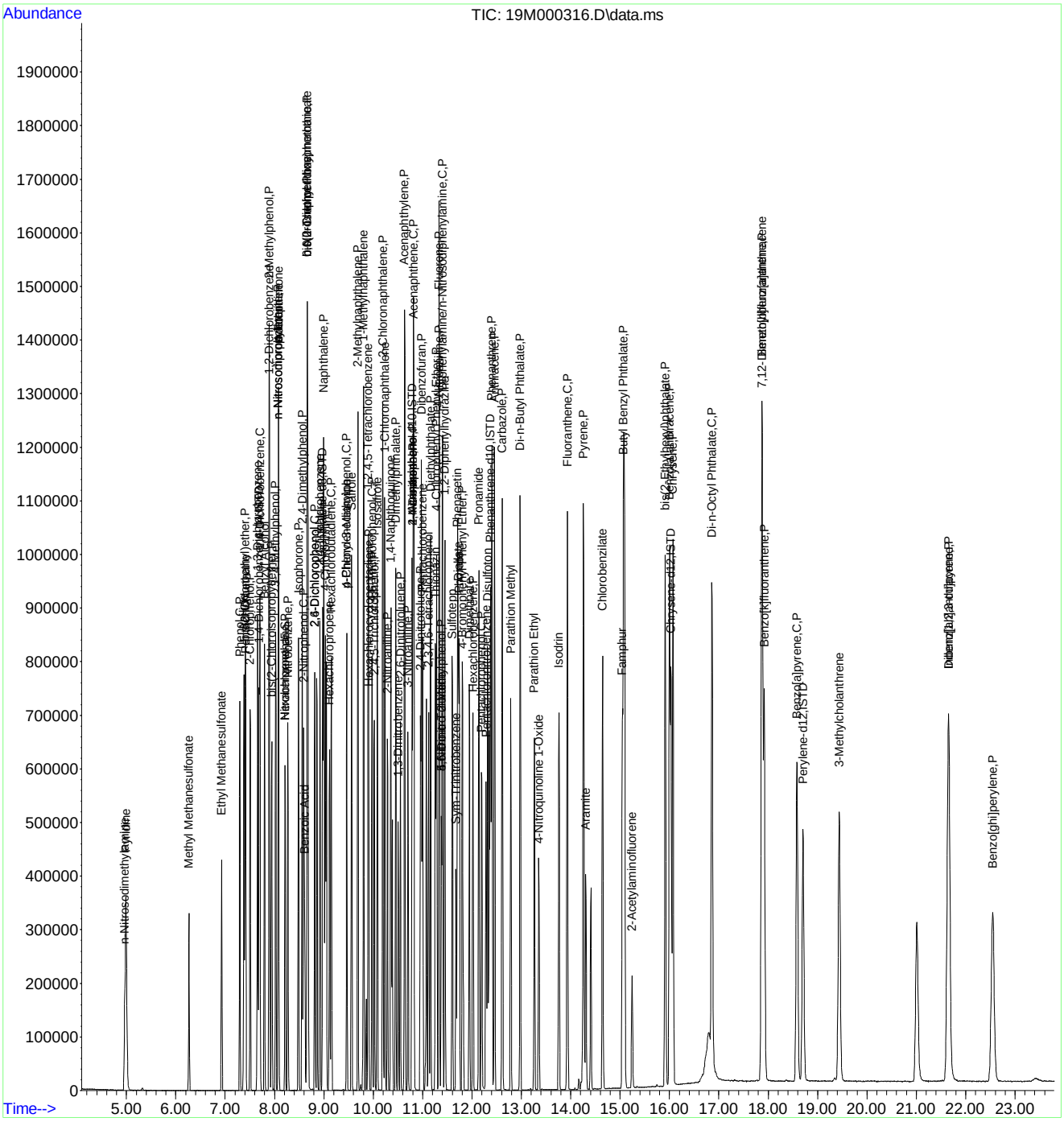
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 116) Aramite | 14.304 | 185 | 46654 | 54.224 | ug/mL | 99 |
| 119) Chlorobenzilate | 14.645 | 251 | 197953 | 57.752 | ug/mL | 99 |
| 120) Famphur | 15.045 | 218 | 269396 | 161.138 | ug/mL# | 90 |
| 121) Butyl Benzyl Phthalate | 15.068 | 149 | 354330 | 55.840 | ug/mL | 99 |
| 123) 2-Acetylaminofluorene | 15.239 | 181 | 1092 | 2.749 | ug/mL# | 47 |
| 124) bis(2-Ethylhexyl)phtha... | 15.915 | 149 | 494061 | 57.952 | ug/mL | 100 |
| 126) Benzo[a]anthracene | 16.004 | 228 | 627731 | 49.644 | ug/mL | 100 |
| 127) Chrysene | 16.068 | 228 | 604405 | 51.009 | ug/mL | 100 |
| 129) Di-n-Octyl Phthalate | 16.857 | 149 | 897484 | 56.244 | ug/mL | 100 |
| 130) 7,12-Dimethylbenz[a]an... | 17.880 | 256 | 311805 | 54.439 | ug/mL | 99 |
| 131) Benzo[b]fluoranthene | 17.874 | 252 | 679850 | 53.326 | ug/mL | 100 |
| 132) Benzo[k]fluoranthene | 17.921 | 252 | 595672 | 48.456 | ug/mL | 100 |
| 133) Benzo[a]pyrene | 18.586 | 252 | 605273 | 51.374 | ug/mL | 99 |
| 134) 3-Methylcholanthrene | 19.439 | 268 | 351813 | 62.462 | ug/mL | 100 |
| 135) Indeno[1,2,3-cd]pyrene | 21.656 | 276 | 649537 | 53.345 | ug/mL | 99 |
| 136) Dibenz[ah]anthracene | 21.656 | 278 | 560296 | 54.555 | ug/mL | 100 |
| 137) Benzo[ghi]perylene | 22.550 | 276 | 542385 | 53.354 | ug/mL | 100 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000316.D Vial: 11
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Misc : 1,1 STD81294 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:23:35 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\081517\19M000316.D Vial: 11
Acq On : 15 Aug 2017 9:00 pm Operator: SCB
Sample : WG625881-11 50PPM 8270 ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81294 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:23:35 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 | ISTD | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 2 | | 1,4-Dioxane | 0.581 | 0.000# | 100.0# | 0# | -4.50# |
| 3 | | n-Nitrosodimethylamine | 0.822 | 0.773 | 6.0 | 97 | 0.00 |
| 4 | | Pyridine | 1.457 | 1.477 | -1.4 | 105 | 0.00 |
| 5 | | 2-Picoline | 1.530 | 0.000# | 100.0# | 0# | -5.84# |
| 6 | | n-Nitrosomethylethylamine | 0.654 | 0.000# | 100.0# | 0# | -5.96# |
| 7 | | Methyl Methanesulfonate | 0.790 | 0.820 | -3.8 | 108 | 0.00 |
| 8 | S | 2-Fluorophenol | 1.300 | 0.000# | 100.0# | 0# | -6.43# |
| 9 | | n-Nitrosodiethylamine | 0.659 | 0.000# | 100.0# | 0# | -6.66# |
| 10 | | Ethyl Methanesulfonate | 1.013 | 1.044 | -3.1 | 109 | 0.00 |
| 11 | | Aniline | 0.782 | 0.782 | 0.0 | 105 | 0.00 |
| 12 | S | Phenol-d5 | 1.527 | 0.010# | 99.3# | 1# | 0.13 |
| 13 | C,P | Phenol | 1.633 | 1.682 | -3.0 | 108 | 0.00 |
| 14 | P | bis(2-Chloroethyl)ether | 1.037 | 1.044 | -0.7 | 107 | 0.00 |
| 15 | | Pentachloroethane | 0.485 | 0.536 | -10.5 | 115 | 0.00 |
| 16 | P | 2-Chlorophenol | 1.406 | 1.481 | -5.3 | 109 | 0.00 |
| 17 | | 1,3-Dichlorobenzene | 1.518 | 1.535 | -1.1 | 107 | 0.00 |
| 18 | C | 1,4-Dichlorobenzene | 1.516 | 1.516 | 0.0 | 106 | 0.00 |
| 19 | | Benzyl Alcohol | 0.902 | 0.958 | -6.2 | 109 | 0.00 |
| 20 | | 1,2-Dichlorobenzene | 1.365 | 1.379 | -1.0 | 108 | 0.00 |
| 21 | P | 2-Methylphenol | 1.001 | 1.014 | -1.3 | 107 | 0.00 |
| 22 | P | bis(2-Chloroisopropyl)ether | 1.669 | 1.702 | -2.0 | 111 | 0.00 |
| 23 | P | 3-,4-Methylphenol | 1.387 | 1.445 | -4.2 | 108 | 0.00 |
| 24 | | n-Nitrosopyrrolidine | 0.605 | 0.000# | 100.0# | 0# | -8.07# |
| 25 | P | n-Nitrosodipropylamine | 0.860 | 0.905 | -5.2 | 111 | 0.00 |
| 26 | | Acetophenone | 1.697 | 1.882 | -10.9 | 117 | 0.00 |
| 27 | | n-Nitrosomorpholine | 0.735 | 0.061 | 91.7# | 9 | 0.00 |
| 28 | | o-Toluidine | 2.101 | 0.146 | 93.1# | 7 | -0.05 |
| 29 | P | Hexachloroethane | 0.581 | 0.580 | 0.2 | 101 | 0.00 |
| 30 | ISTD | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 103 | 0.00 |
| 31 | S | Nitrobenzene-d5 | 0.331 | 0.030# | 90.9# | 9 | -0.04 |
| 32 | P | Nitrobenzene | 0.345 | 0.363 | -5.2 | 107 | 0.00 |
| 33 | | n-Nitrosopiperidine | 0.176 | 0.063 | 64.2# | 35 | 0.25 |
| 34 | P | Isophorone | 0.628 | 0.660 | -5.1 | 106 | 0.00 |
| 35 | C,P | 2-Nitrophenol | 0.181 | 0.196 | -8.3 | 106 | 0.00 |
| 36 | P | 2,4-Dimethylphenol | 0.308 | 0.330 | -7.1 | 108 | 0.00 |
| 37 | | 0,0,0-Triethyl Phosphorothi | 0.154 | 0.149 | 3.2 | 100 | 0.00 |
| 38 | P | bis(2-Chloroethoxy)methane | 0.481 | 0.505 | -5.0 | 108 | 0.00 |
| 39 | | Benzoic Acid | 0.151 | 0.212 | -40.4# | 147 | -0.02 |
| 40 | C,P | 2,4-Dichlorophenol | 0.262 | 0.283 | -8.0 | 109 | 0.00 |
| 41 | | a,a-Dimethylphenethylamine | 0.813 | 0.003# | 99.6# | 0# | 0.05 |
| 42 | | 1,2,4-Trichlorobenzene | 0.297 | 0.293 | 1.3 | 102 | 0.00 |
| 43 | P | Naphthalene | 1.053 | 1.057 | -0.4 | 104 | 0.00 |
| 44 | P | 4-Chloroaniline | 0.124 | 0.126 | -1.6 | 101 | 0.00 |
| 45 | | 2,6-Dichlorophenol | 0.262 | 0.283 | -8.0 | 109 | 0.00 |
| 46 | | Hexachloropropene | 0.176 | 0.199 | -13.1 | 111 | 0.00 |
| 47 | C,P | Hexachlorobutadiene | 0.150 | 0.166 | -10.7 | 114 | 0.00 |
| 48 | | n-Nitrosodi-n-Butylamine | 0.280 | 0.002# | 99.3# | 1# | 0.12 |
| 49 | | p-Phenylenediamine | 0.281 | 0.024# | 91.5# | 8 | 0.09 |
| 50 | C,P | 4-Chloro-3-Methylphenol | 0.288 | 0.302 | -4.9 | 103 | 0.00 |

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Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 51 | | Safrole | 0.268 | 0.280 | -4.5 | 106 | 0.00 |
| 52 | P | 2-Methylnaphthalene | 0.702 | 0.680 | 3.1 | 101 | 0.00 |
| 53 | | 1-Methylnaphthalene | 0.646 | 0.679 | -5.1 | 109 | 0.00 |
| 54 | ISTD | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 103 | 0.00 |
| 55 | | 1,2,4,5-Tetrachlorobenzene | 0.562 | 0.575 | -2.3 | 107 | 0.00 |
| 56 | P | Hexachlorocyclopentadiene | 0.223 | 0.277 | -24.2 | 115 | 0.00 |
| 57 | C,P | 2,4,6-Trichlorophenol | 0.383 | 0.407 | -6.3 | 104 | 0.00 |
| 58 | P | 2,4,5-Trichlorophenol | 0.394 | 0.407 | -3.3 | 101 | 0.00 |
| 59 | S | 2-Fluorobiphenyl | 1.387 | 0.000# | 100.0# | 0# | -10.05# |
| 60 | | Isosafrole | 0.549 | 0.618 | -12.6 | 114 | 0.00 |
| 61 | P | 2-Chloronaphthalene | 1.288 | 1.447 | -12.3 | 117 | 0.00 |
| 62 | | 1-Chloronaphthalene | 1.169 | 1.242 | -6.2 | 111 | 0.00 |
| 63 | P | 2-Nitroaniline | 0.371 | 0.405 | -9.2 | 110 | 0.00 |
| 64 | | 1,4-Naphthoquinone | 0.406 | 0.639 | -57.4# | 150 | 0.00 |
| 65 | P | Dimethylphthalate | 1.451 | 1.523 | -5.0 | 108 | 0.00 |
| 66 | | 1,3-Dinitrobenzene | 0.250 | 0.263 | -5.2 | 102 | 0.00 |
| 67 | P | 2,6-Dinitrotoluene | 0.338 | 0.358 | -5.9 | 106 | 0.00 |
| 68 | P | Acenaphthylene | 1.986 | 1.994 | -0.4 | 103 | 0.00 |
| 69 | P | 3-Nitroaniline | 0.399 | 0.418 | -4.8 | 105 | 0.00 |
| 70 | P | 2,4-Dinitrophenol | 0.130 | 0.203 | -56.2# | 145 | 0.00 |
| 71 | C,P | Acenaphthene | 1.216 | 1.313 | -8.0 | 111 | 0.00 |
| 72 | P | 4-Nitrophenol | 0.250 | 0.277 | -10.8 | 107 | 0.00 |
| 73 | P | 2,4-Dinitrotoluene | 0.436 | 0.467 | -7.1 | 104 | 0.00 |
| 74 | | Pentachlorobenzene | 0.479 | 0.482 | -0.6 | 105 | 0.00 |
| 75 | P | Dibenzofuran | 1.798 | 1.795 | 0.2 | 104 | 0.00 |
| 76 | | 2,3,4,6-Tetrachlorophenol | 0.292 | 0.316 | -8.2 | 106 | 0.00 |
| 77 | | 1-Naphthylamine | 1.360 | 0.007# | 99.5# | 1# | 0.02 |
| 78 | | 2-Naphthylamine | 1.333 | 0.010# | 99.2# | 1# | 0.00 |
| 79 | P | Diethylphthalate | 1.490 | 1.527 | -2.5 | 105 | 0.00 |
| 80 | | Thionazin | 0.233 | 0.246 | -5.6 | 105 | 0.00 |
| 81 | P | Fluorene | 1.371 | 1.419 | -3.5 | 109 | 0.00 |
| 82 | P | 4-Chlorophenyl Phenyl Ether | 0.703 | 0.693 | 1.4 | 102 | 0.00 |
| 83 | P | 4-Nitroaniline | 0.373 | 0.377 | -1.1 | 103 | 0.00 |
| 84 | | 5-Nitro-o-Toluidine | 0.394 | 0.017# | 95.7# | 4 | 0.04 |
| 85 | | 1,2-Diphenylhydrazine | 1.473 | 1.471 | 0.1 | 102 | 0.00 |
| 86 | S | 2,4,6-Tribromophenol | 0.164 | 0.000# | 100.0# | 0# | -11.61# |
| 87 | ISTD | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 101 | 0.00 |
| 88 | P | 4,6-Dinitro-2-Methylphenol | 0.119 | 0.148 | -24.4 | 114 | 0.00 |
| 89 | C,P | Diphenylamine/n-Nitrosodiph | 0.689 | 0.700 | -1.6 | 103 | 0.00 |
| 90 | | Sulfotepp | 0.115 | 0.122 | -6.1 | 106 | 0.00 |
| 91 | | Sym-Trinitrobenzene | 0.167 | 0.221 | -32.3 | 118 | 0.00 |
| 92 | | Diallate | 0.302 | 0.310 | -2.6 | 102 | 0.00 |
| 93 | | Phenacetin | 0.366 | 0.426 | -16.4 | 107 | 0.00 |
| 94 | | Phorate | 0.466 | 0.467 | -0.2 | 100 | 0.00 |
| 95 | P | 4-Bromophenyl Phenyl Ether | 0.206 | 0.212 | -2.9 | 104 | 0.00 |
| 96 | P | Hexachlorobenzene | 0.214 | 0.214 | 0.0 | 101 | 0.00 |
| 97 | | Dimethoate | 0.264 | 0.346 | -31.1 | 129 | 0.00 |
| 98 | | 4-Aminobiphenyl | 0.851 | 0.002# | 99.8# | 0# | -0.01 |
| 99 | C,P | Pentachlorophenol | 0.115 | 0.159 | -38.3# | 125 | 0.00 |

Data File : C:\msdchem\4\DATA\081517\19M000316.D Vial: 11
Acq On : 15 Aug 2017 9:00 pm Operator: SCB
Sample : WG625881-11 50PPM 8270 ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81294 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:23:35 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 100 | | Pronamide | 0.324 | 0.370 | -14.2 | 108 | 0.00 |
| 101 | | Pentachloronitrobenzene | 0.078 | 0.086 | -10.3 | 104 | 0.00 |
| 102 | | Disulfoton | 0.395 | 0.418 | -5.8 | 103 | 0.00 |
| 103 | P | Phenanthrene | 1.134 | 1.128 | 0.5 | 101 | 0.00 |
| 104 | P | Anthracene | 1.165 | 1.164 | 0.1 | 99 | 0.00 |
| 105 | P | Carbazole | 1.070 | 1.138 | -6.4 | 105 | 0.00 |
| 106 | | Parathion Methyl | 0.227 | 0.310 | -36.6 | 122 | 0.00 |
| 107 | P | Di-n-Butyl Phthalate | 1.331 | 1.469 | -10.4 | 105 | 0.00 |
| 108 | | Parathion Ethyl | 0.139 | 0.163 | -17.3 | 101 | 0.00 |
| 109 | | 4-Nitroquinoline 1-Oxide | 0.068 | 0.110 | -61.8# | 147 | 0.00 |
| 110 | | Methapyrilene | 0.450 | 0.000# | 100.0# | 0# | -13.42# |
| 111 | | Isodrin | 0.126 | 0.133 | -5.6 | 104 | 0.00 |
| 112 | C,P | Fluoranthene | 1.233 | 1.225 | 0.6 | 99 | 0.00 |
| 113 | ISTD | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 99 | 0.00 |
| 114 | | Benzidine | 0.599 | 0.008# | 98.7# | 1 | -0.27 |
| 115 | P | Pyrene | 1.323 | 1.309 | 1.1 | 98 | 0.00 |
| 116 | | Aramite | 0.070 | 0.086 | -22.9 | 107 | 0.00 |
| 117 | S | p-Terphenyl-d14 | 0.809 | 0.000# | 100.0# | 0# | -14.39# |
| 118 | | p-(Dimethylamino)azobenzene | 0.243 | 0.006# | 97.5# | 2 | -0.29 |
| 119 | | Chlorobenzilate | 0.316 | 0.365 | -15.5 | 108 | 0.00 |
| 120 | | Famphur | 0.154 | 0.497 | -222.7# | 320 | -0.01 |
| 121 | P | Butyl Benzyl Phthalate | 0.586 | 0.654 | -11.6 | 108 | 0.00 |
| 122 | | 3,3'-Dimethylbenzidine | 0.941 | 0.007# | 99.3# | 1# | 0.00 |
| 123 | | 2-Acetylaminofluorene | 0.436 | 0.002# | 99.5# | 0# | -0.26 |
| 124 | P | bis(2-Ethylhexyl)phthalate | 0.737 | 0.912 | -23.7 | 106 | 0.00 |
| 125 | P | 3,3'-Dichlorobenzidine | 0.378 | 0.000# | 100.0# | 0# | -15.92# |
| 126 | P | Benzo[a]anthracene | 1.167 | 1.159 | 0.7 | 97 | 0.00 |
| 127 | P | Chrysene | 1.094 | 1.116 | -2.0 | 101 | -0.01 |
| 128 | ISTD | Perylene-d12 | 1.000 | 1.000 | 0.0 | 97 | -0.01 |
| 129 | C,P | Di-n-Octyl Phthalate | 1.443 | 1.624 | -12.5 | 103 | -0.01 |
| 130 | | 7,12-Dimethylbenz[a]anthrac | 0.518 | 0.564 | -8.9 | 105 | 0.00 |
| 131 | P | Benzo[b]fluoranthene | 1.153 | 1.230 | -6.7 | 102 | 0.00 |
| 132 | P | Benzo[k]fluoranthene | 1.112 | 1.078 | 3.1 | 90 | 0.00 |
| 133 | C,P | Benzo[a]pyrene | 1.066 | 1.095 | -2.7 | 93 | 0.00 |
| 134 | | 3-Methylcholanthrene | 0.509 | 0.636 | -25.0 | 108 | 0.00 |
| 135 | P | Indeno[1,2,3-cd]pyrene | 1.101 | 1.175 | -6.7 | 93 | 0.00 |
| 136 | P | Dibenz[ah]anthracene | 0.929 | 1.014 | -9.1 | 95 | 0.00 |
| 137 | P | Benzo[ghi]perylene | 0.920 | 0.981 | -6.6 | 92 | 0.00 |

(#) = Out of Range SPCC's out = 1 CCC's out = 1

Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\081517\19M000316.D Vial: 11
Acq On : 15 Aug 2017 9:00 pm Operator: SCB
Sample : WG625881-11 50PPM 8270 ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81294 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:23:35 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 | ISTD | 1,4-Dichlorobenzene-d4 | 40.000 | 40.000 | 0.0 | 106 | 0.00 |
| 2 | | 1,4-Dioxane | 50.000 | 0.000 | 100.0# | 0 | -4.50# |
| 3 | | n-Nitrosodimethylamine | 50.000 | 47.036 | 5.9 | 97 | 0.00 |
| 4 | | Pyridine | 50.000 | 50.694 | -1.4 | 105 | 0.00 |
| 5 | | 2-Picoline | 50.000 | 0.000 | 100.0# | 0 | -5.84# |
| 6 | | n-Nitrosomethylethylamine | 50.000 | 0.000 | 100.0# | 0 | -5.96# |
| 7 | | Methyl Methanesulfonate | 50.000 | 51.932 | -3.9 | 108 | 0.00 |
| 8 | S | 2-Fluorophenol | 50.000 | 0.000 | 100.0# | 0 | -6.43# |
| 9 | | n-Nitrosodiethylamine | 50.000 | 0.000 | 100.0# | 0 | -6.66# |
| 10 | | Ethyl Methanesulfonate | 50.000 | 51.558 | -3.1 | 109 | 0.00 |
| 11 | | Aniline | 50.000 | 50.042 | -0.1 | 105 | 0.00 |
| 12 | S | Phenol-d5 | 50.000 | 0.327 | 99.3# | 1 | 0.13 |
| 13 | C,P | Phenol | 50.000 | 51.480 | -3.0 | 108 | 0.00 |
| 14 | P | bis(2-Chloroethyl)ether | 50.000 | 50.350 | -0.7 | 107 | 0.00 |
| 15 | | Pentachloroethane | 50.000 | 55.335 | -10.7 | 115 | 0.00 |
| 16 | P | 2-Chlorophenol | 50.000 | 52.686 | -5.4 | 109 | 0.00 |
| 17 | | 1,3-Dichlorobenzene | 50.000 | 50.574 | -1.1 | 107 | 0.00 |
| 18 | C | 1,4-Dichlorobenzene | 50.000 | 49.979 | 0.0 | 106 | 0.00 |
| 19 | | Benzyl Alcohol | 50.000 | 53.101 | -6.2 | 109 | 0.00 |
| 20 | | 1,2-Dichlorobenzene | 50.000 | 50.498 | -1.0 | 108 | 0.00 |
| 21 | P | 2-Methylphenol | 50.000 | 50.634 | -1.3 | 107 | 0.00 |
| 22 | P | bis(2-Chloroisopropyl)ether | 50.000 | 50.977 | -2.0 | 111 | 0.00 |
| 23 | P | 3-,4-Methylphenol | 50.000 | 52.101 | -4.2 | 108 | 0.00 |
| 24 | | n-Nitrosopyrrolidine | 50.000 | 0.000 | 100.0# | 0 | -8.07# |
| 25 | P | n-Nitrosodipropylamine | 50.000 | 52.631 | -5.3 | 111 | 0.00 |
| 26 | | Acetophenone | 50.000 | 55.449 | -10.9 | 117 | 0.00 |
| 27 | | n-Nitrosomorpholine | 50.000 | 3.435 | 93.1# | 9 | 0.00 |
| 28 | | o-Toluidine | 50.000 | 3.484 | 93.0# | 7 | -0.05 |
| 29 | P | Hexachloroethane | 50.000 | 49.920 | 0.2 | 101 | 0.00 |
| 30 | ISTD | Naphthalene-d8 | 40.000 | 40.000 | 0.0 | 103 | 0.00 |
| 31 | S | Nitrobenzene-d5 | 50.000 | 4.579 | 90.8# | 9 | -0.04 |
| 32 | P | Nitrobenzene | 50.000 | 52.574 | -5.1 | 107 | 0.00 |
| 33 | | n-Nitrosopiperidine | 50.000 | 17.823 | 64.4# | 35 | 0.25 |
| 34 | P | Isophorone | 50.000 | 52.590 | -5.2 | 106 | 0.00 |
| 35 | C,P | 2-Nitrophenol | 50.000 | 54.011 | -8.0 | 106 | 0.00 |
| 36 | P | 2,4-Dimethylphenol | 50.000 | 53.590 | -7.2 | 108 | 0.00 |
| 37 | | 0,0,0-Triethyl Phosphorothi | 50.000 | 48.242 | 3.5 | 100 | 0.00 |
| 38 | P | bis(2-Chloroethoxy)methane | 50.000 | 52.466 | -4.9 | 108 | 0.00 |
| 39 | | Benzoic Acid | 50.000 | 58.882 | -17.8 | 147 | -0.02 |
| 40 | C,P | 2,4-Dichlorophenol | 50.000 | 53.976 | -8.0 | 109 | 0.00 |
| 41 | | a,a-Dimethylphenethylamine | 50.000 | 0.926 | 98.1# | 0 | 0.05 |
| 42 | | 1,2,4-Trichlorobenzene | 50.000 | 49.209 | 1.6 | 102 | 0.00 |
| 43 | P | Naphthalene | 50.000 | 50.195 | -0.4 | 104 | 0.00 |
| 44 | P | 4-Chloroaniline | 50.000 | 50.840 | -1.7 | 101 | 0.00 |
| 45 | | 2,6-Dichlorophenol | 50.000 | 53.976 | -8.0 | 109 | 0.00 |
| 46 | | Hexachloropropene | 50.000 | 56.608 | -13.2 | 111 | 0.00 |
| 47 | C,P | Hexachlorobutadiene | 50.000 | 55.526 | -11.1 | 114 | 0.00 |
| 48 | | n-Nitrosodi-n-Butylamine | 50.000 | 0.306 | 99.4# | 1 | 0.12 |
| 49 | | p-Phenylenediamine | 50.000 | 4.262 | 91.5# | 8 | 0.09 |
| 50 | C,P | 4-Chloro-3-Methylphenol | 50.000 | 52.547 | -5.1 | 103 | 0.00 |

Data File : C:\msdchem\4\DATA\081517\19M000316.D Vial: 11
Acq On : 15 Aug 2017 9:00 pm Operator: SCB
Sample : WG625881-11 50PPM 8270 ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81294 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:23:35 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 51 | | Safrole | 50.000 | 52.332 | -4.7 | 106 | 0.00 |
| 52 | P | 2-Methylnaphthalene | 50.000 | 48.452 | 3.1 | 101 | 0.00 |
| 53 | | 1-Methylnaphthalene | 50.000 | 52.530 | -5.1 | 109 | 0.00 |
| 54 | ISTD | Acenaphthene-d10 | 40.000 | 40.000 | 0.0 | 103 | 0.00 |
| 55 | | 1,2,4,5-Tetrachlorobenzene | 50.000 | 51.107 | -2.2 | 107 | 0.00 |
| 56 | P | Hexachlorocyclopentadiene | 50.000 | 61.967 | -23.9 | 115 | 0.00 |
| 57 | C,P | 2,4,6-Trichlorophenol | 50.000 | 53.067 | -6.1 | 104 | 0.00 |
| 58 | P | 2,4,5-Trichlorophenol | 50.000 | 51.620 | -3.2 | 101 | 0.00 |
| 59 | S | 2-Fluorobiphenyl | 50.000 | 0.000 | 100.0# | 0 | -10.05# |
| 60 | | Isosafrole | 50.000 | 56.237 | -12.5 | 114 | 0.00 |
| 61 | P | 2-Chloronaphthalene | 50.000 | 56.166 | -12.3 | 117 | 0.00 |
| 62 | | 1-Chloronaphthalene | 50.000 | 53.131 | -6.3 | 111 | 0.00 |
| 63 | P | 2-Nitroaniline | 50.000 | 54.648 | -9.3 | 110 | 0.00 |
| 64 | | 1,4-Naphthoquinone | 50.000 | 78.693 | -57.4# | 150 | 0.00 |
| 65 | P | Dimethylphthalate | 50.000 | 52.498 | -5.0 | 108 | 0.00 |
| 66 | | 1,3-Dinitrobenzene | 50.000 | 52.713 | -5.4 | 102 | 0.00 |
| 67 | P | 2,6-Dinitrotoluene | 50.000 | 52.842 | -5.7 | 106 | 0.00 |
| 68 | P | Acenaphthylene | 50.000 | 50.218 | -0.4 | 103 | 0.00 |
| 69 | P | 3-Nitroaniline | 50.000 | 52.369 | -4.7 | 105 | 0.00 |
| 70 | P | 2,4-Dinitrophenol | 50.000 | 64.730 | -29.5 | 145 | 0.00 |
| 71 | C,P | Acenaphthene | 50.000 | 53.995 | -8.0 | 111 | 0.00 |
| 72 | P | 4-Nitrophenol | 50.000 | 55.554 | -11.1 | 107 | 0.00 |
| 73 | P | 2,4-Dinitrotoluene | 50.000 | 53.553 | -7.1 | 104 | 0.00 |
| 74 | | Pentachlorobenzene | 50.000 | 50.287 | -0.6 | 105 | 0.00 |
| 75 | P | Dibenzofuran | 50.000 | 49.926 | 0.1 | 104 | 0.00 |
| 76 | | 2,3,4,6-Tetrachlorophenol | 50.000 | 54.151 | -8.3 | 106 | 0.00 |
| 77 | | 1-Naphthylamine | 50.000 | 0.265 | 99.5# | 1 | 0.02 |
| 78 | | 2-Naphthylamine | 50.000 | 0.372 | 99.3# | 1 | 0.00 |
| 79 | P | Diethylphthalate | 50.000 | 51.229 | -2.5 | 105 | 0.00 |
| 80 | | Thionazin | 50.000 | 52.775 | -5.5 | 105 | 0.00 |
| 81 | P | Fluorene | 50.000 | 51.755 | -3.5 | 109 | 0.00 |
| 82 | P | 4-Chlorophenyl Phenyl Ether | 50.000 | 49.288 | 1.4 | 102 | 0.00 |
| 83 | P | 4-Nitroaniline | 50.000 | 50.554 | -1.1 | 103 | 0.00 |
| 84 | | 5-Nitro-o-Toluidine | 50.000 | 2.204 | 95.6# | 4 | 0.04 |
| 85 | | 1,2-Diphenylhydrazine | 50.000 | 49.949 | 0.1 | 102 | 0.00 |
| 86 | S | 2,4,6-Tribromophenol | 50.000 | 0.000 | 100.0# | 0 | -11.61# |
| 87 | ISTD | Phenanthrene-d10 | 40.000 | 40.000 | 0.0 | 101 | 0.00 |
| 88 | P | 4,6-Dinitro-2-Methylphenol | 50.000 | 55.092 | -10.2 | 114 | 0.00 |
| 89 | C,P | Diphenylamine/n-Nitrosodiph | 50.000 | 50.844 | -1.7 | 103 | 0.00 |
| 90 | | Sulfotepp | 50.000 | 53.162 | -6.3 | 106 | 0.00 |
| 91 | | Sym-Trinitrobenzene | 50.000 | 57.347 | -14.7 | 118 | 0.00 |
| 92 | | Diallate | 50.000 | 51.178 | -2.4 | 102 | 0.00 |
| 93 | | Phenacetin | 50.000 | 58.215 | -16.4 | 107 | 0.00 |
| 94 | | Phorate | 50.000 | 50.142 | -0.3 | 100 | 0.00 |
| 95 | P | 4-Bromophenyl Phenyl Ether | 50.000 | 51.511 | -3.0 | 104 | 0.00 |
| 96 | P | Hexachlorobenzene | 50.000 | 50.014 | -0.0 | 101 | 0.00 |
| 97 | | Dimethoate | 50.000 | 68.558 | -37.1 | 129 | 0.00 |
| 98 | | 4-Aminobiphenyl | 50.000 | 0.100 | 99.8# | 0 | -0.01 |
| 99 | C,P | Pentachlorophenol | 50.000 | 62.172 | -24.3# | 125 | 0.00 |

Data File : C:\msdchem\4\DATA\081517\19M000316.D Vial: 11
Acq On : 15 Aug 2017 9:00 pm Operator: SCB
Sample : WG625881-11 50PPM 8270 ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81294 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:23:35 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 100 | | Pronamide | 50.000 | 57.008 | -14.0 | 108 | 0.00 |
| 101 | | Pentachloronitrobenzene | 50.000 | 55.237 | -10.5 | 104 | 0.00 |
| 102 | | Disulfoton | 50.000 | 53.020 | -6.0 | 103 | 0.00 |
| 103 | P | Phenanthrene | 50.000 | 49.734 | 0.5 | 101 | 0.00 |
| 104 | P | Anthracene | 50.000 | 49.961 | 0.1 | 99 | 0.00 |
| 105 | P | Carbazole | 50.000 | 53.174 | -6.3 | 105 | 0.00 |
| 106 | | Parathion Methyl | 50.000 | 67.095 | -34.2 | 122 | 0.00 |
| 107 | P | Di-n-Butyl Phthalate | 50.000 | 55.189 | -10.4 | 105 | 0.00 |
| 108 | | Parathion Ethyl | 50.000 | 53.031 | -6.1 | 101 | 0.00 |
| 109 | | 4-Nitroquinoline 1-Oxide | 50.000 | 66.170 | -32.3 | 147 | 0.00 |
| 110 | | Methapyrilene | 50.000 | 0.000 | 100.0# | 0 | -13.42# |
| 111 | | Isodrin | 50.000 | 52.543 | -5.1 | 104 | 0.00 |
| 112 | C,P | Fluoranthene | 50.000 | 49.695 | 0.6 | 99 | 0.00 |
| 113 | ISTD | Chrysene-d12 | 40.000 | 40.000 | 0.0 | 99 | 0.00 |
| 114 | | Benzidine | 50.000 | 0.697 | 98.6# | 1 | -0.27 |
| 115 | P | Pyrene | 50.000 | 49.500 | 1.0 | 98 | 0.00 |
| 116 | | Aramite | 50.000 | 54.224 | -8.4 | 107 | 0.00 |
| 117 | S | p-Terphenyl-d14 | 50.000 | 0.000 | 100.0# | 0 | -14.39# |
| 118 | | p-(Dimethylamino)azobenzene | 50.000 | 1.137 | 97.7# | 2 | -0.29 |
| 119 | | Chlorobenzilate | 50.000 | 57.752 | -15.5 | 108 | 0.00 |
| 120 | | Famphur | 50.000 | 161.138 | -222.3# | 320 | -0.01 |
| 121 | P | Butyl Benzyl Phthalate | 50.000 | 55.840 | -11.7 | 108 | 0.00 |
| 122 | | 3,3'-Dimethylbenzidine | 50.000 | 0.386 | 99.2# | 1 | 0.00 |
| 123 | | 2-Acetylaminofluorene | 50.000 | 2.749 | 94.5# | 0 | -0.26 |
| 124 | P | bis(2-Ethylhexyl)phthalate | 50.000 | 57.952 | -15.9 | 106 | 0.00 |
| 125 | P | 3,3'-Dichlorobenzidine | 50.000 | 0.000 | 100.0# | 0 | -15.92# |
| 126 | P | Benzo[a]anthracene | 50.000 | 49.644 | 0.7 | 97 | 0.00 |
| 127 | P | Chrysene | 50.000 | 51.009 | -2.0 | 101 | -0.01 |
| 128 | ISTD | Perylene-d12 | 40.000 | 40.000 | 0.0 | 97 | -0.01 |
| 129 | C,P | Di-n-Octyl Phthalate | 50.000 | 56.244 | -12.5 | 103 | -0.01 |
| 130 | | 7,12-Dimethylbenz[a]anthrac | 50.000 | 54.439 | -8.9 | 105 | 0.00 |
| 131 | P | Benzo[b]fluoranthene | 50.000 | 53.326 | -6.7 | 102 | 0.00 |
| 132 | P | Benzo[k]fluoranthene | 50.000 | 48.456 | 3.1 | 90 | 0.00 |
| 133 | C,P | Benzo[a]pyrene | 50.000 | 51.374 | -2.7 | 93 | 0.00 |
| 134 | | 3-Methylcholanthrene | 50.000 | 62.462 | -24.9 | 108 | 0.00 |
| 135 | P | Indeno[1,2,3-cd]pyrene | 50.000 | 53.345 | -6.7 | 93 | 0.00 |
| 136 | P | Dibenz[ah]anthracene | 50.000 | 54.555 | -9.1 | 95 | 0.00 |
| 137 | P | Benzo[ghi]perylene | 50.000 | 53.354 | -6.7 | 92 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000317.D Vial: 12
Acq On : 15 Aug 2017 9:30 pm Operator: SCB
Sample : WG625881-12 50PPM 1,4-DIOX ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81996 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:08 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

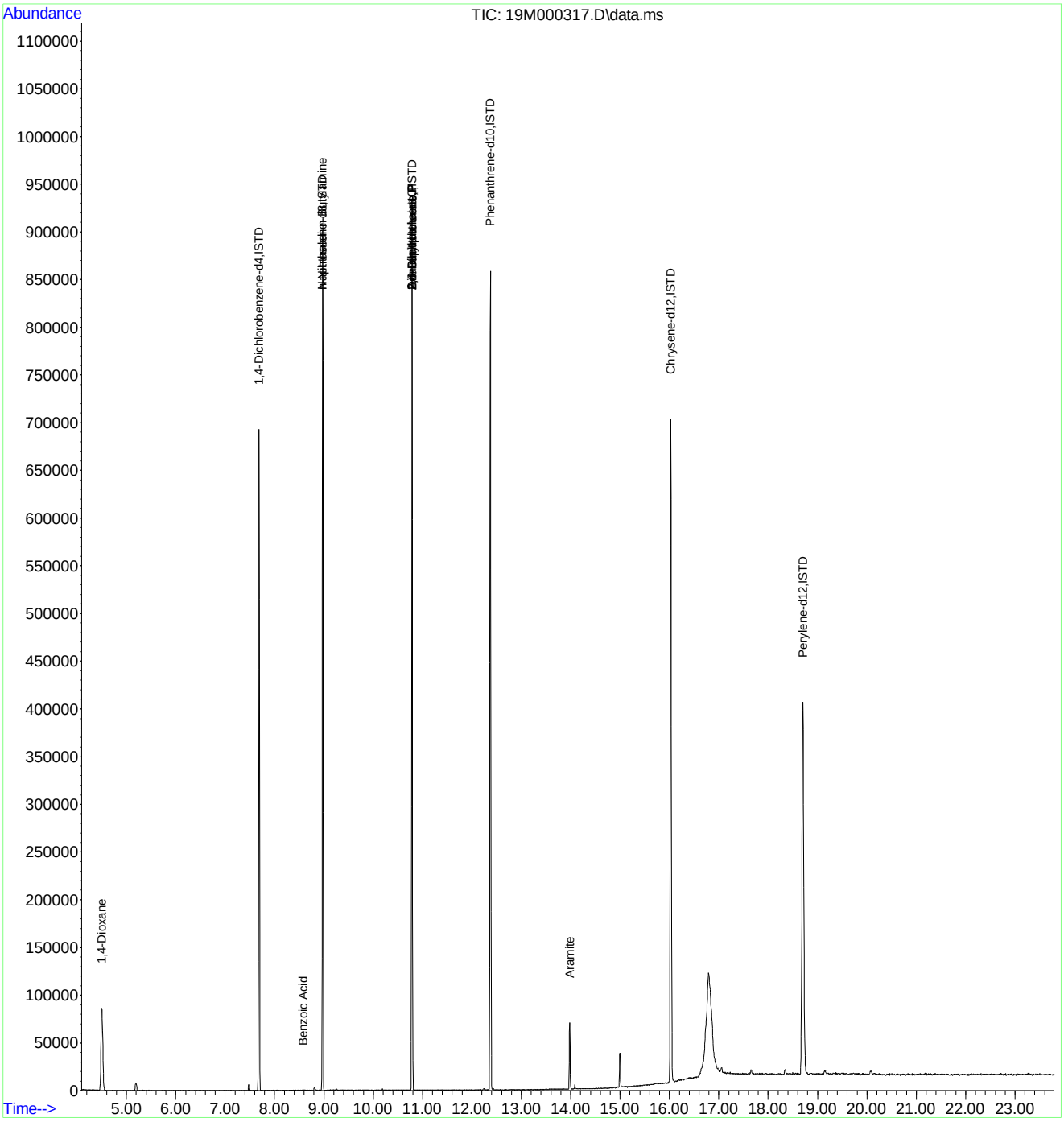
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 122139 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.975 | 136 | 486017 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.787 | 164 | 229758 | 40.0000 | ug/mL | 0.0000 |
| 87) Phenanthrene-d10 | 12.375 | 188 | 429525 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.027 | 240 | 393643 | 40.0000 | ug/mL | -0.0116 |
| 128) Perylene-d12 | 18.704 | 264 | 376466 | 40.0000 | ug/mL | -0.0116 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 0.000 | 112 | 0 | 0.0000 | ug/mL | |
| 12) Phenol-d5 | 0.000 | 99 | 0 | 0.0000 | ug/mL | |
| 31) Nitrobenzene-d5 | 0.000 | 82 | 0 | 0.0000 | ug/mL | |
| 59) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.0000 | ug/mL | |
| 86) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.0000 | ug/mL | |
| 117) p-Terphenyl-d14 | 0.000 | 244 | 0 | 0.0000 | ug/mL | |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.499 | 88 | 84156 | 47.435 | ug/mL | 97 |
| 39) Benzoic Acid | 8.587 | 105 | 183 | 8.929 | ug/mL# | 29 |
| 48) n-Nitrosodi-n-Butylamine | 8.975 | 84 | 11300 | 3.327 | ug/mL# | 17 |
| 65) Dimethylphthalate | 10.787 | 163 | 66674 | 8.000 | ug/mL# | 1 |
| 67) 2,6-Dinitrotoluene | 10.787 | 165 | 29765 | 15.310 | ug/mL# | 24 |
| 73) 2,4-Dinitrotoluene | 10.787 | 165 | 29765 | 11.881 | ug/mL# | 12 |
| 116) Aramite | 13.980 | 185 | 700 | 2.955 | ug/mL# | 33 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000317.D Vial: 12
Acq On : 15 Aug 2017 9:30 pm Operator: SCB
Sample : WG625881-12 50PPM 1,4-DIOX ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81996 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:08 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\081517\19M000317.D Vial: 12
Acq On : 15 Aug 2017 9:30 pm Operator: SCB
Sample : WG625881-12 50PPM 1,4-DIOX ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81996 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:08 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 | ISTD | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 103 | 0.00 |
| 2 | | 1,4-Dioxane | 0.581 | 0.551 | 5.2 | 98 | 0.00 |
| 3 | | n-Nitrosodimethylamine | 0.822 | 0.000# | 100.0# | 0# | -4.96# |
| 4 | | Pyridine | 1.457 | 0.000# | 100.0# | 0# | -4.99# |
| 5 | | 2-Picoline | 1.530 | 0.000# | 100.0# | 0# | -5.84# |
| 6 | | n-Nitrosomethylethylamine | 0.654 | 0.000# | 100.0# | 0# | -5.96# |
| 7 | | Methyl Methanesulfonate | 0.790 | 0.000# | 100.0# | 0# | -6.27# |
| 8 | S | 2-Fluorophenol | 1.300 | 0.000# | 100.0# | 0# | -6.43# |
| 9 | | n-Nitrosodiethylamine | 0.659 | 0.000# | 100.0# | 0# | -6.66# |
| 10 | | Ethyl Methanesulfonate | 1.013 | 0.000# | 100.0# | 0# | -6.93# |
| 11 | | Aniline | 0.782 | 0.013# | 98.3# | 2 | 0.31 |
| 12 | S | Phenol-d5 | 1.527 | 0.000# | 100.0# | 0# | -7.29# |
| 13 | C,P | Phenol | 1.633 | 0.000# | 100.0# | 0# | -7.30# |
| 14 | P | bis(2-Chloroethyl)ether | 1.037 | 0.021# | 98.0# | 2 | 0.28 |
| 15 | | Pentachloroethane | 0.485 | 0.000# | 100.0# | 0# | -7.42# |
| 16 | P | 2-Chlorophenol | 1.406 | 0.000# | 100.0# | 0# | -7.51# |
| 17 | | 1,3-Dichlorobenzene | 1.518 | 0.000# | 100.0# | 0# | -7.66# |
| 18 | C | 1,4-Dichlorobenzene | 1.516 | 0.000# | 100.0# | 0# | -7.70# |
| 19 | | Benzyl Alcohol | 0.902 | 0.000# | 100.0# | 0# | -7.80# |
| 20 | | 1,2-Dichlorobenzene | 1.365 | 0.000# | 100.0# | 0# | -7.90# |
| 21 | P | 2-Methylphenol | 1.001 | 0.000# | 100.0# | 0# | -7.89# |
| 22 | P | bis(2-Chloroisopropyl)ether | 1.669 | 0.000# | 100.0# | 0# | -7.95# |
| 23 | P | 3-,4-Methylphenol | 1.387 | 0.000# | 100.0# | 0# | -8.03# |
| 24 | | n-Nitrosopyrrolidine | 0.605 | 0.000# | 100.0# | 0# | -8.07# |
| 25 | P | n-Nitrosodipropylamine | 0.860 | 0.000# | 100.0# | 0# | -8.07# |
| 26 | | Acetophenone | 1.697 | 0.000# | 100.0# | 0# | -8.09# |
| 27 | | n-Nitrosomorpholine | 0.735 | 0.000# | 100.0# | 0# | -8.08# |
| 28 | | o-Toluidine | 2.101 | 0.000# | 100.0# | 0# | -8.13# |
| 29 | P | Hexachloroethane | 0.581 | 0.000# | 100.0# | 0# | -8.22# |
| 30 | ISTD | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 31 | S | Nitrobenzene-d5 | 0.331 | 0.000# | 100.0# | 0# | -8.25# |
| 32 | P | Nitrobenzene | 0.345 | 0.000# | 100.0# | 0# | -8.27# |
| 33 | | n-Nitrosopiperidine | 0.176 | 0.000# | 100.0# | 0# | -8.42# |
| 34 | P | Isophorone | 0.628 | 0.000# | 100.0# | 0# | -8.49# |
| 35 | C,P | 2-Nitrophenol | 0.181 | 0.000# | 100.0# | 0# | -8.59# |
| 36 | P | 2,4-Dimethylphenol | 0.308 | 0.000# | 100.0# | 0# | -8.56# |
| 37 | | 0,0,0-Triethyl Phosphorothi | 0.154 | 0.000# | 100.0# | 0# | -8.66# |
| 38 | P | bis(2-Chloroethoxy)methane | 0.481 | 0.000# | 100.0# | 0# | -8.66# |
| 39 | | Benzoic Acid | 0.151 | 0.000# | 100.0# | 0# | -0.05 |
| 40 | C,P | 2,4-Dichlorophenol | 0.262 | 0.000# | 100.0# | 0# | -8.82# |
| 41 | | a,a-Dimethylphenethylamine | 0.813 | 0.007# | 99.1# | 1# | 0.00 |
| 42 | | 1,2,4-Trichlorobenzene | 0.297 | 0.000# | 100.0# | 0# | -8.92# |
| 43 | P | Naphthalene | 1.053 | 0.000# | 100.0# | 0# | -9.00# |
| 44 | P | 4-Chloroaniline | 0.124 | 0.001# | 99.2# | 1# | -0.05 |
| 45 | | 2,6-Dichlorophenol | 0.262 | 0.000# | 100.0# | 0# | -8.82# |
| 46 | | Hexachloropropene | 0.176 | 0.000# | 100.0# | 0# | -9.12# |
| 47 | C,P | Hexachlorobutadiene | 0.150 | 0.000# | 100.0# | 0# | -9.15# |
| 48 | | n-Nitrosodi-n-Butylamine | 0.280 | 0.019# | 93.2# | 6 | -0.37 |
| 49 | | p-Phenylenediamine | 0.281 | 0.000# | 100.0# | 0# | -9.37# |
| 50 | C,P | 4-Chloro-3-Methylphenol | 0.288 | 0.000# | 100.0# | 0# | -9.47# |

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Acq On : 15 Aug 2017 9:30 pm Operator: SCB
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Misc : 1,1 STD81996 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:08 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 51 | | Safrole | 0.268 | 0.000# | 100.0# | 0# | -9.56# |
| 52 | P | 2-Methylnaphthalene | 0.702 | 0.000# | 100.0# | 0# | -9.69# |
| 53 | | 1-Methylnaphthalene | 0.646 | 0.000# | 100.0# | 0# | -9.81# |
| 54 | ISTD | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 98 | 0.00 |
| 55 | | 1,2,4,5-Tetrachlorobenzene | 0.562 | 0.000# | 100.0# | 0# | -9.90# |
| 56 | P | Hexachlorocyclopentadiene | 0.223 | 0.000# | 100.0# | 0# | -9.91# |
| 57 | C,P | 2,4,6-Trichlorophenol | 0.383 | 0.000# | 100.0# | 0# | -9.98# |
| 58 | P | 2,4,5-Trichlorophenol | 0.394 | 0.000# | 100.0# | 0# | -10.02# |
| 59 | S | 2-Fluorobiphenyl | 1.387 | 0.000# | 100.0# | 0# | -10.05# |
| 60 | | Isosafrole | 0.549 | 0.000# | 100.0# | 0# | -10.09# |
| 61 | P | 2-Chloronaphthalene | 1.288 | 0.000# | 100.0# | 0# | -10.20# |
| 62 | | 1-Chloronaphthalene | 1.169 | 0.000# | 100.0# | 0# | -10.24# |
| 63 | P | 2-Nitroaniline | 0.371 | 0.000# | 100.0# | 0# | -10.29# |
| 64 | | 1,4-Naphthoquinone | 0.406 | 0.000# | 100.0# | 0# | -10.36# |
| 65 | P | Dimethylphthalate | 1.451 | 0.232 | 84.0# | 16 | 0.33 |
| 66 | | 1,3-Dinitrobenzene | 0.250 | 0.000# | 100.0# | 0# | -10.51# |
| 67 | P | 2,6-Dinitrotoluene | 0.338 | 0.104# | 69.2# | 29 | 0.24 |
| 68 | P | Acenaphthylene | 1.986 | 0.000# | 100.0# | 0# | -10.64# |
| 69 | P | 3-Nitroaniline | 0.399 | 0.000# | 100.0# | 0# | -10.71# |
| 70 | P | 2,4-Dinitrophenol | 0.130 | 0.000# | 100.0# | 0# | -10.81# |
| 71 | C,P | Acenaphthene | 1.216 | 0.002# | 99.8# | 0# | -0.04 |
| 72 | P | 4-Nitrophenol | 0.250 | 0.003# | 98.8# | 1 | -0.02 |
| 73 | P | 2,4-Dinitrotoluene | 0.436 | 0.104# | 76.1# | 22 | -0.18 |
| 74 | | Pentachlorobenzene | 0.479 | 0.000# | 100.0# | 0# | -11.00# |
| 75 | P | Dibenzofuran | 1.798 | 0.000# | 100.0# | 0# | -10.98# |
| 76 | | 2,3,4,6-Tetrachlorophenol | 0.292 | 0.000# | 100.0# | 0# | -11.13# |
| 77 | | 1-Naphthylamine | 1.360 | 0.000# | 100.0# | 0# | -11.06# |
| 78 | | 2-Naphthylamine | 1.333 | 0.000# | 100.0# | 0# | -11.12# |
| 79 | P | Diethylphthalate | 1.490 | 0.000# | 100.0# | 0# | -11.16# |
| 80 | | Thionazin | 0.233 | 0.000# | 100.0# | 0# | -11.26# |
| 81 | P | Fluorene | 1.371 | 0.000# | 100.0# | 0# | -11.33# |
| 82 | P | 4-Chlorophenyl Phenyl Ether | 0.703 | 0.000# | 100.0# | 0# | -11.29# |
| 83 | P | 4-Nitroaniline | 0.373 | 0.000# | 100.0# | 0# | -11.35# |
| 84 | | 5-Nitro-o-Toluidine | 0.394 | 0.000# | 100.0# | 0# | -11.34# |
| 85 | | 1,2-Diphenylhydrazine | 1.473 | 0.000# | 100.0# | 0# | -11.45# |
| 86 | S | 2,4,6-Tribromophenol | 0.164 | 0.000# | 100.0# | 0# | -11.61# |
| 87 | ISTD | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 88 | P | 4,6-Dinitro-2-Methylphenol | 0.119 | 0.000# | 100.0# | 0# | -11.39# |
| 89 | C,P | Diphenylamine/n-Nitrosodiph | 0.689 | 0.000# | 100.0# | 0# | -11.40# |
| 90 | | Sulfotepp | 0.115 | 0.000# | 100.0# | 0# | -11.60# |
| 91 | | Sym-Trinitrobenzene | 0.167 | 0.000# | 100.0# | 0# | -11.68# |
| 92 | | Diallate | 0.302 | 0.000# | 100.0# | 0# | -11.73# |
| 93 | | Phenacetin | 0.366 | 0.000# | 100.0# | 0# | -11.71# |
| 94 | | Phorate | 0.466 | 0.000# | 100.0# | 0# | -11.75# |
| 95 | P | 4-Bromophenyl Phenyl Ether | 0.206 | 0.000# | 100.0# | 0# | -11.81# |
| 96 | P | Hexachlorobenzene | 0.214 | 0.000# | 100.0# | 0# | -12.02# |
| 97 | | Dimethoate | 0.264 | 0.000# | 100.0# | 0# | -11.95# |
| 98 | | 4-Aminobiphenyl | 0.851 | 0.000# | 100.0# | 0# | -12.10# |
| 99 | C,P | Pentachlorophenol | 0.115 | 0.000# | 100.0# | 0# | -12.20# |

Data File : C:\msdchem\4\DATA\081517\19M000317.D Vial: 12
Acq On : 15 Aug 2017 9:30 pm Operator: SCB
Sample : WG625881-12 50PPM 1,4-DIOX ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81996 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:08 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 100 | | Pronamide | 0.324 | 0.000# | 100.0# | 0# | -12.15# |
| 101 | | Pentachloronitrobenzene | 0.078 | 0.000# | 100.0# | 0# | -12.29# |
| 102 | | Disulfoton | 0.395 | 0.008# | 98.0# | 2 | 0.05 |
| 103 | P | Phenanthrene | 1.134 | 0.000# | 100.0# | 0# | -12.41# |
| 104 | P | Anthracene | 1.165 | 0.000# | 100.0# | 0# | -12.46# |
| 105 | P | Carbazole | 1.070 | 0.000# | 100.0# | 0# | -12.62# |
| 106 | | Parathion Methyl | 0.227 | 0.000# | 100.0# | 0# | -12.79# |
| 107 | P | Di-n-Butyl Phthalate | 1.331 | 0.000# | 100.0# | 0# | -12.98# |
| 108 | | Parathion Ethyl | 0.139 | 0.000# | 100.0# | 0# | -13.27# |
| 109 | | 4-Nitroquinoline 1-Oxide | 0.068 | 0.000# | 100.0# | 0# | -13.36# |
| 110 | | Methapyrilene | 0.450 | 0.000# | 100.0# | 0# | -13.42# |
| 111 | | Isodrin | 0.126 | 0.000# | 100.0# | 0# | -13.77# |
| 112 | C,P | Fluoranthene | 1.233 | 0.000# | 100.0# | 0# | -13.93# |
| 113 | ISTD | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 90 | -0.01 |
| 114 | | Benzidine | 0.599 | 0.000# | 100.0# | 0# | -14.03# |
| 115 | P | Pyrene | 1.323 | 0.000# | 100.0# | 0# | -14.26# |
| 116 | | Aramite | 0.070 | 0.001# | 98.6# | 2 | -0.33 |
| 117 | S | p-Terphenyl-d14 | 0.809 | 0.000# | 100.0# | 0# | -14.39# |
| 118 | | p-(Dimethylamino)azobenzene | 0.243 | 0.000# | 100.0# | 0# | -14.61# |
| 119 | | Chlorobenzilate | 0.316 | 0.000# | 100.0# | 0# | -14.65# |
| 120 | | Famphur | 0.154 | 0.000# | 100.0# | 0# | -15.06# |
| 121 | P | Butyl Benzyl Phthalate | 0.586 | 0.000# | 100.0# | 0# | -15.07# |
| 122 | | 3,3'-Dimethylbenzidine | 0.941 | 0.000# | 100.0# | 0# | -15.09# |
| 123 | | 2-Acetylaminofluorene | 0.436 | 0.000# | 100.0# | 0# | -15.50# |
| 124 | P | bis(2-Ethylhexyl)phthalate | 0.737 | 0.000# | 100.0# | 0# | -15.92# |
| 125 | P | 3,3'-Dichlorobenzidine | 0.378 | 0.000# | 100.0# | 0# | -15.92# |
| 126 | P | Benzo[a]anthracene | 1.167 | 0.000# | 100.0# | 0# | 0.02 |
| 127 | P | Chrysene | 1.094 | 0.000# | 100.0# | 0# | -0.05 |
| 128 | ISTD | Perylene-d12 | 1.000 | 1.000 | 0.0 | 83 | -0.01 |
| 129 | C,P | Di-n-Octyl Phthalate | 1.443 | 0.000# | 100.0# | 0# | -16.87# |
| 130 | | 7,12-Dimethylbenz[a]anthrac | 0.518 | 0.000# | 100.0# | 0# | -17.89# |
| 131 | P | Benzo[b]fluoranthene | 1.153 | 0.000# | 100.0# | 0# | -17.88# |
| 132 | P | Benzo[k]fluoranthene | 1.112 | 0.000# | 100.0# | 0# | -17.93# |
| 133 | C,P | Benzo[a]pyrene | 1.066 | 0.000# | 100.0# | 0# | 0.11 |
| 134 | | 3-Methylcholanthrene | 0.509 | 0.000# | 100.0# | 0# | -19.44# |
| 135 | P | Indeno[1,2,3-cd]pyrene | 1.101 | 0.000# | 100.0# | 0# | -21.66# |
| 136 | P | Dibenz[ah]anthracene | 0.929 | 0.000# | 100.0# | 0# | -21.66# |
| 137 | P | Benzo[ghi]perylene | 0.920 | 0.000# | 100.0# | 0# | -22.56# |

(#) = Out of Range SPCC's out = 59 CCC's out = 13

Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\081517\19M000317.D Vial: 12
Acq On : 15 Aug 2017 9:30 pm Operator: SCB
Sample : WG625881-12 50PPM 1,4-DIOX ALT SRC Inst : HPMS19NEW
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QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 | ISTD | 1,4-Dichlorobenzene-d4 | 40.000 | 40.000 | 0.0 | 103 | 0.00 |
| 2 | | 1,4-Dioxane | 50.000 | 47.435 | 5.1 | 98 | 0.00 |
| 3 | | n-Nitrosodimethylamine | 50.000 | 0.000 | 100.0# | 0 | -4.96# |
| 4 | | Pyridine | 50.000 | 0.000 | 100.0# | 0 | -4.99# |
| 5 | | 2-Picoline | 50.000 | 0.000 | 100.0# | 0 | -5.84# |
| 6 | | n-Nitrosomethylethylamine | 50.000 | 0.000 | 100.0# | 0 | -5.96# |
| 7 | | Methyl Methanesulfonate | 50.000 | 0.000 | 100.0# | 0 | -6.27# |
| 8 | S | 2-Fluorophenol | 50.000 | 0.000 | 100.0# | 0 | -6.43# |
| 9 | | n-Nitrosodiethylamine | 50.000 | 0.000 | 100.0# | 0 | -6.66# |
| 10 | | Ethyl Methanesulfonate | 50.000 | 0.000 | 100.0# | 0 | -6.93# |
| 11 | | Aniline | 50.000 | 0.832 | 98.3# | 2 | 0.31 |
| 12 | S | Phenol-d5 | 50.000 | 0.000 | 100.0# | 0 | -7.29# |
| 13 | C,P | Phenol | 50.000 | 0.000 | 100.0# | 0 | -7.30# |
| 14 | P | bis(2-Chloroethyl)ether | 50.000 | 1.001 | 98.0# | 2 | 0.28 |
| 15 | | Pentachloroethane | 50.000 | 0.000 | 100.0# | 0 | -7.42# |
| 16 | P | 2-Chlorophenol | 50.000 | 0.000 | 100.0# | 0 | -7.51# |
| 17 | | 1,3-Dichlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -7.66# |
| 18 | C | 1,4-Dichlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -7.70# |
| 19 | | Benzyl Alcohol | 50.000 | 0.000 | 100.0# | 0 | -7.80# |
| 20 | | 1,2-Dichlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -7.90# |
| 21 | P | 2-Methylphenol | 50.000 | 0.000 | 100.0# | 0 | -7.89# |
| 22 | P | bis(2-Chloroisopropyl)ether | 50.000 | 0.000 | 100.0# | 0 | -7.95# |
| 23 | P | 3-,4-Methylphenol | 50.000 | 0.000 | 100.0# | 0 | -8.03# |
| 24 | | n-Nitrosopyrrolidine | 50.000 | 0.000 | 100.0# | 0 | -8.07# |
| 25 | P | n-Nitrosodipropylamine | 50.000 | 0.000 | 100.0# | 0 | -8.07# |
| 26 | | Acetophenone | 50.000 | 0.000 | 100.0# | 0 | -8.09# |
| 27 | | n-Nitrosomorpholine | 50.000 | 0.000 | 100.0# | 0 | -8.08# |
| 28 | | o-Toluidine | 50.000 | 0.000 | 100.0# | 0 | -8.13# |
| 29 | P | Hexachloroethane | 50.000 | 0.000 | 100.0# | 0 | -8.22# |
| 30 | ISTD | Naphthalene-d8 | 40.000 | 40.000 | 0.0 | 100 | 0.00 |
| 31 | S | Nitrobenzene-d5 | 50.000 | 0.000 | 100.0# | 0 | -8.25# |
| 32 | P | Nitrobenzene | 50.000 | 0.000 | 100.0# | 0 | -8.27# |
| 33 | | n-Nitrosopiperidine | 50.000 | 0.000 | 100.0# | 0 | -8.42# |
| 34 | P | Isophorone | 50.000 | 0.000 | 100.0# | 0 | -8.49# |
| 35 | C,P | 2-Nitrophenol | 50.000 | 0.000 | 100.0# | 0 | -8.59# |
| 36 | P | 2,4-Dimethylphenol | 50.000 | 0.000 | 100.0# | 0 | -8.56# |
| 37 | | 0,0,0-Triethyl Phosphorothi | 50.000 | 0.000 | 100.0# | 0 | -8.66# |
| 38 | P | bis(2-Chloroethoxy)methane | 50.000 | 0.000 | 100.0# | 0 | -8.66# |
| 39 | | Benzoic Acid | 50.000 | 8.929 | 82.1# | 0 | -0.05 |
| 40 | C,P | 2,4-Dichlorophenol | 50.000 | 0.000 | 100.0# | 0 | -8.82# |
| 41 | | a,a-Dimethylphenethylamine | 50.000 | 1.185 | 97.6# | 1 | 0.00 |
| 42 | | 1,2,4-Trichlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -8.92# |
| 43 | P | Naphthalene | 50.000 | 0.000 | 100.0# | 0 | -9.00# |
| 44 | P | 4-Chloroaniline | 50.000 | 0.373 | 99.3# | 1 | -0.05 |
| 45 | | 2,6-Dichlorophenol | 50.000 | 0.000 | 100.0# | 0 | -8.82# |
| 46 | | Hexachloropropene | 50.000 | 0.000 | 100.0# | 0 | -9.12# |
| 47 | C,P | Hexachlorobutadiene | 50.000 | 0.000 | 100.0# | 0 | -9.15# |
| 48 | | n-Nitrosodi-n-Butylamine | 50.000 | 3.327 | 93.3# | 6 | -0.37 |
| 49 | | p-Phenylenediamine | 50.000 | 0.000 | 100.0# | 0 | -9.37# |
| 50 | C,P | 4-Chloro-3-Methylphenol | 50.000 | 0.000 | 100.0# | 0 | -9.47# |

Data File : C:\msdchem\4\DATA\081517\19M000317.D Vial: 12
Acq On : 15 Aug 2017 9:30 pm Operator: SCB
Sample : WG625881-12 50PPM 1,4-DIOX ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81996 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:08 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 51 | | Safrole | 50.000 | 0.000 | 100.0# | 0 | -9.56# |
| 52 | P | 2-Methylnaphthalene | 50.000 | 0.000 | 100.0# | 0 | -9.69# |
| 53 | | 1-Methylnaphthalene | 50.000 | 0.000 | 100.0# | 0 | -9.81# |
| 54 | ISTD | Acenaphthene-d10 | 40.000 | 40.000 | 0.0 | 98 | 0.00 |
| 55 | | 1,2,4,5-Tetrachlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -9.90# |
| 56 | P | Hexachlorocyclopentadiene | 50.000 | 0.000 | 100.0# | 0 | -9.91# |
| 57 | C,P | 2,4,6-Trichlorophenol | 50.000 | 0.000 | 100.0# | 0 | -9.98# |
| 58 | P | 2,4,5-Trichlorophenol | 50.000 | 0.000 | 100.0# | 0 | -10.02# |
| 59 | S | 2-Fluorobiphenyl | 50.000 | 0.000 | 100.0# | 0 | -10.05# |
| 60 | | Isosafrole | 50.000 | 0.000 | 100.0# | 0 | -10.09# |
| 61 | P | 2-Chloronaphthalene | 50.000 | 0.000 | 100.0# | 0 | -10.20# |
| 62 | | 1-Chloronaphthalene | 50.000 | 0.000 | 100.0# | 0 | -10.24# |
| 63 | P | 2-Nitroaniline | 50.000 | 0.000 | 100.0# | 0 | -10.29# |
| 64 | | 1,4-Naphthoquinone | 50.000 | 0.000 | 100.0# | 0 | -10.36# |
| 65 | P | Dimethylphthalate | 50.000 | 8.000 | 84.0# | 16 | 0.33 |
| 66 | | 1,3-Dinitrobenzene | 50.000 | 0.000 | 100.0# | 0 | -10.51# |
| 67 | P | 2,6-Dinitrotoluene | 50.000 | 15.310 | 69.4# | 29 | 0.24 |
| 68 | P | Acenaphthylene | 50.000 | 0.000 | 100.0# | 0 | -10.64# |
| 69 | P | 3-Nitroaniline | 50.000 | 0.000 | 100.0# | 0 | -10.71# |
| 70 | P | 2,4-Dinitrophenol | 50.000 | 0.000 | 100.0# | 0 | -10.81# |
| 71 | C,P | Acenaphthene | 50.000 | 0.098 | 99.8# | 0 | -0.04 |
| 72 | P | 4-Nitrophenol | 50.000 | 0.609 | 98.8# | 1 | -0.02 |
| 73 | P | 2,4-Dinitrotoluene | 50.000 | 11.881 | 76.2# | 22 | -0.18 |
| 74 | | Pentachlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -11.00# |
| 75 | P | Dibenzofuran | 50.000 | 0.000 | 100.0# | 0 | -10.98# |
| 76 | | 2,3,4,6-Tetrachlorophenol | 50.000 | 0.000 | 100.0# | 0 | -11.13# |
| 77 | | 1-Naphthylamine | 50.000 | 0.000 | 100.0# | 0 | -11.06# |
| 78 | | 2-Naphthylamine | 50.000 | 0.000 | 100.0# | 0 | -11.12# |
| 79 | P | Diethylphthalate | 50.000 | 0.000 | 100.0# | 0 | -11.16# |
| 80 | | Thionazin | 50.000 | 0.000 | 100.0# | 0 | -11.26# |
| 81 | P | Fluorene | 50.000 | 0.000 | 100.0# | 0 | -11.33# |
| 82 | P | 4-Chlorophenyl Phenyl Ether | 50.000 | 0.000 | 100.0# | 0 | -11.29# |
| 83 | P | 4-Nitroaniline | 50.000 | 0.000 | 100.0# | 0 | -11.35# |
| 84 | | 5-Nitro-o-Toluidine | 50.000 | 0.000 | 100.0# | 0 | -11.34# |
| 85 | | 1,2-Diphenylhydrazine | 50.000 | 0.000 | 100.0# | 0 | -11.45# |
| 86 | S | 2,4,6-Tribromophenol | 50.000 | 0.000 | 100.0# | 0 | -11.61# |
| 87 | ISTD | Phenanthrene-d10 | 40.000 | 40.000 | 0.0 | 97 | 0.00 |
| 88 | P | 4,6-Dinitro-2-Methylphenol | 50.000 | 0.000 | 100.0# | 0 | -11.39# |
| 89 | C,P | Diphenylamine/n-Nitrosodiph | 50.000 | 0.000 | 100.0# | 0 | -11.40# |
| 90 | | Sulfotepp | 50.000 | 0.000 | 100.0# | 0 | -11.60# |
| 91 | | Sym-Trinitrobenzene | 50.000 | 0.000 | 100.0# | 0 | -11.68# |
| 92 | | Diallate | 50.000 | 0.000 | 100.0# | 0 | -11.73# |
| 93 | | Phenacetin | 50.000 | 0.000 | 100.0# | 0 | -11.71# |
| 94 | | Phorate | 50.000 | 0.000 | 100.0# | 0 | -11.75# |
| 95 | P | 4-Bromophenyl Phenyl Ether | 50.000 | 0.000 | 100.0# | 0 | -11.81# |
| 96 | P | Hexachlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -12.02# |
| 97 | | Dimethoate | 50.000 | 0.000 | 100.0# | 0 | -11.95# |
| 98 | | 4-Aminobiphenyl | 50.000 | 0.000 | 100.0# | 0 | -12.10# |
| 99 | C,P | Pentachlorophenol | 50.000 | 0.000 | 100.0# | 0 | -12.20# |

Data File : C:\msdchem\4\DATA\081517\19M000317.D Vial: 12
Acq On : 15 Aug 2017 9:30 pm Operator: SCB
Sample : WG625881-12 50PPM 1,4-DIOX ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81996 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:08 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 100 | | Pronamide | 50.000 | 0.000 | 100.0# | 0 | -12.15# |
| 101 | | Pentachloronitrobenzene | 50.000 | 0.000 | 100.0# | 0 | -12.29# |
| 102 | | Disulfoton | 50.000 | 1.018 | 98.0# | 2 | 0.05 |
| 103 | P | Phenanthrene | 50.000 | 0.000 | 100.0# | 0 | -12.41# |
| 104 | P | Anthracene | 50.000 | 0.000 | 100.0# | 0 | -12.46# |
| 105 | P | Carbazole | 50.000 | 0.000 | 100.0# | 0 | -12.62# |
| 106 | | Parathion Methyl | 50.000 | 0.000 | 100.0# | 0 | -12.79# |
| 107 | P | Di-n-Butyl Phthalate | 50.000 | 0.000 | 100.0# | 0 | -12.98# |
| 108 | | Parathion Ethyl | 50.000 | 0.000 | 100.0# | 0 | -13.27# |
| 109 | | 4-Nitroquinoline 1-Oxide | 50.000 | 0.000 | 100.0# | 0 | -13.36# |
| 110 | | Methapyrilene | 50.000 | 0.000 | 100.0# | 0 | -13.42# |
| 111 | | Isodrin | 50.000 | 0.000 | 100.0# | 0 | -13.77# |
| 112 | C,P | Fluoranthene | 50.000 | 0.000 | 100.0# | 0 | -13.93# |
| 113 | ISTD | Chrysene-d12 | 40.000 | 40.000 | 0.0 | 90 | -0.01 |
| 114 | | Benzidine | 50.000 | 0.000 | 100.0# | 0 | -14.03# |
| 115 | P | Pyrene | 50.000 | 0.000 | 100.0# | 0 | -14.26# |
| 116 | | Aramite | 50.000 | 2.955 | 94.1# | 2 | -0.33 |
| 117 | S | p-Terphenyl-d14 | 50.000 | 0.000 | 100.0# | 0 | -14.39# |
| 118 | | p-(Dimethylamino)azobenzene | 50.000 | 0.000 | 100.0# | 0 | -14.61# |
| 119 | | Chlorobenzilate | 50.000 | 0.000 | 100.0# | 0 | -14.65# |
| 120 | | Famphur | 50.000 | 0.000 | 100.0# | 0 | -15.06# |
| 121 | P | Butyl Benzyl Phthalate | 50.000 | 0.000 | 100.0# | 0 | -15.07# |
| 122 | | 3,3'-Dimethylbenzidine | 50.000 | 0.000 | 100.0# | 0 | -15.09# |
| 123 | | 2-Acetylaminofluorene | 50.000 | 0.000 | 100.0# | 0 | -15.50# |
| 124 | P | bis(2-Ethylhexyl)phthalate | 50.000 | 0.000 | 100.0# | 0 | -15.92# |
| 125 | P | 3,3'-Dichlorobenzidine | 50.000 | 0.000 | 100.0# | 0 | -15.92# |
| 126 | P | Benzo[a]anthracene | 50.000 | 0.018 | 100.0# | 0 | 0.02 |
| 127 | P | Chrysene | 50.000 | 0.019 | 100.0# | 0 | -0.05 |
| 128 | ISTD | Perylene-d12 | 40.000 | 40.000 | 0.0 | 83 | -0.01 |
| 129 | C,P | Di-n-Octyl Phthalate | 50.000 | 0.000 | 100.0# | 0 | -16.87# |
| 130 | | 7,12-Dimethylbenz[a]anthrac | 50.000 | 0.000 | 100.0# | 0 | -17.89# |
| 131 | P | Benzo[b]fluoranthene | 50.000 | 0.000 | 100.0# | 0 | -17.88# |
| 132 | P | Benzo[k]fluoranthene | 50.000 | 0.000 | 100.0# | 0 | -17.93# |
| 133 | C,P | Benzo[a]pyrene | 50.000 | 0.019 | 100.0# | 0 | 0.11 |
| 134 | | 3-Methylcholanthrene | 50.000 | 0.000 | 100.0# | 0 | -19.44# |
| 135 | P | Indeno[1,2,3-cd]pyrene | 50.000 | 0.000 | 100.0# | 0 | -21.66# |
| 136 | P | Dibenz[ah]anthracene | 50.000 | 0.000 | 100.0# | 0 | -21.66# |
| 137 | P | Benzo[ghi]perylene | 50.000 | 0.000 | 100.0# | 0 | -22.56# |

(#) = Out of Range SPCC's out = 0 CCC's out = 13

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000318.D Vial: 13
Acq On : 15 Aug 2017 10:01 pm Operator: SCB
Sample : WG625881-13 50PPM MP,A9,BENZ ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD82728 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:34 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 126159 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.975 | 136 | 495695 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.786 | 164 | 239078 | 40.0000 | ug/mL | 0.0000 |
| 87) Phenanthrene-d10 | 12.375 | 188 | 452289 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.027 | 240 | 442900 | 40.0000 | ug/mL | -0.0117 |
| 128) Perylene-d12 | 18.704 | 264 | 415116 | 40.0000 | ug/mL | -0.0117 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 0.000 | 112 | 0 | 0.0000 | ug/mL | |
| 12) Phenol-d5 | 0.000 | 99 | 0 | 0.0000 | ug/mL | |
| 31) Nitrobenzene-d5 | 8.416 | 82 | 6238 | 1.5210 | ug/mL | 0.1648 |
| 59) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.0000 | ug/mL | |
| 86) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.0000 | ug/mL | |
| 117) p-Terphenyl-d14 | 0.000 | 244 | 0 | 0.0000 | ug/mL | |
| Target Compounds | | | | | | Qvalue |
| 5) 2-Picoline | 5.840 | 93 | 243022 | 50.368 | ug/mL | 100 |
| 6) n-Nitrosomethylethylamine | 5.969 | 88 | 108860 | 52.808 | ug/mL | 99 |
| 9) n-Nitrosodiethylamine | 6.669 | 102 | 108612 | 52.248 | ug/mL | 99 |
| 19) Benzyl Alcohol | 8.128 | 108 | 20396 | 7.167 | ug/mL# | 1 |
| 21) 2-Methylphenol | 8.128 | 107 | 266756 | 84.458 | ug/mL# | 26 |
| 23) 3-,4-Methylphenol | 8.128 | 107 | 266756 | 60.972 | ug/mL# | 37 |
| 24) n-Nitrosopyrrolidine | 8.069 | 100 | 111978 | 58.724 | ug/mL# | 47 |
| 27) n-Nitrosomorpholine | 8.081 | 56 | 130404 | 58.632 | ug/mL | 98 |
| 28) o-Toluidine | 8.128 | 106 | 341152 | 51.484 | ug/mL | 99 |
| 32) Nitrobenzene | 8.128 | 77 | 58592 | 13.687 | ug/mL# | 40 |
| 33) n-Nitrosopiperidine | 8.416 | 114 | 111243 | 51.143 | ug/mL | 98 |
| 39) Benzoic Acid | 8.769 | 105 | 1207 | 9.387 | ug/mL# | 1 |
| 41) a,a-Dimethylphenethyla... | 8.769 | 58 | 610839 | 56.806 | ug/mL | 98 |
| 44) 4-Chloroaniline | 8.763 | 65 | 36006 | 23.525 | ug/mL# | 1 |
| 48) n-Nitrosodi-n-Butylamine | 9.345 | 84 | 154745 | 44.675 | ug/mL | 88 |
| 49) p-Phenylenediamine | 9.363 | 108 | 295538 | 84.900 | ug/mL | 100 |
| 50) 4-Chloro-3-Methylphenol | 9.363 | 107 | 78254 | 21.939 | ug/mL# | 18 |
| 65) Dimethylphthalate | 10.786 | 163 | 67935 | 7.834 | ug/mL# | 1 |
| 67) 2,6-Dinitrotoluene | 10.786 | 165 | 30741 | 15.196 | ug/mL# | 24 |
| 73) 2,4-Dinitrotoluene | 10.786 | 165 | 30741 | 11.793 | ug/mL# | 12 |
| 77) 1-Naphthylamine | 11.051 | 143 | 458410 | 56.377 | ug/mL | 97 |
| 78) 2-Naphthylamine | 11.122 | 143 | 484440 | 60.806 | ug/mL | 98 |
| 80) Thionazin | 11.333 | 107 | 9625 | 6.897 | ug/mL# | 1 |
| 84) 5-Nitro-o-Toluidine | 11.333 | 152 | 140270 | 59.519 | ug/mL | 99 |
| 85) 1,2-Diphenylhydrazine | 11.333 | 77 | 111798 | 12.699 | ug/mL# | 58 |
| 91) Sym-Trinitrobenzene | 11.328 | 75 | 3165 | 3.575 | ug/mL# | 31 |
| 97) Dimethoate | 12.098 | 87 | 4886 | 1.791 | ug/mL# | 73 |
| 98) 4-Aminobiphenyl | 12.098 | 169 | 508298 | 52.852 | ug/mL | 100 |
| 108) Parathion Ethyl | 13.416 | 97 | 108842 | 62.444 | ug/mL# | 7 |
| 109) 4-Nitroquinoline 1-Oxide | 13.416 | 190 | 10396 | 17.813 | ug/mL# | 17 |
| 110) Methapyrilene | 13.416 | 58 | 156993 | 27.013 | ug/mL | 99 |
| 114) Benzidine | 14.033 | 184 | 462739 | 69.737 | ug/mL | 100 |
| 116) Aramite | 14.027 | 185 | 66571 | 74.867 | ug/mL# | 33 |
| 118) p-(Dimethylamino)azobe... | 14.604 | 225 | 156573 | 58.229 | ug/mL | 99 |
| 122) 3,3'-Dimethylbenzidine | 15.080 | 212 | 483774 | 46.423 | ug/mL | 99 |
| 123) 2-Acetylaminofluorene | 15.492 | 181 | 287195 | 50.791 | ug/mL# | 99 |
| 125) 3,3'-Dichlorobenzidine | 15.916 | 252 | 254230 | 60.816 | ug/mL | 99 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000318.D Vial: 13
Acq On : 15 Aug 2017 10:01 pm Operator: SCB
Sample : WG625881-13 50PPM MP,A9,BENZ ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD82728 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:34 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

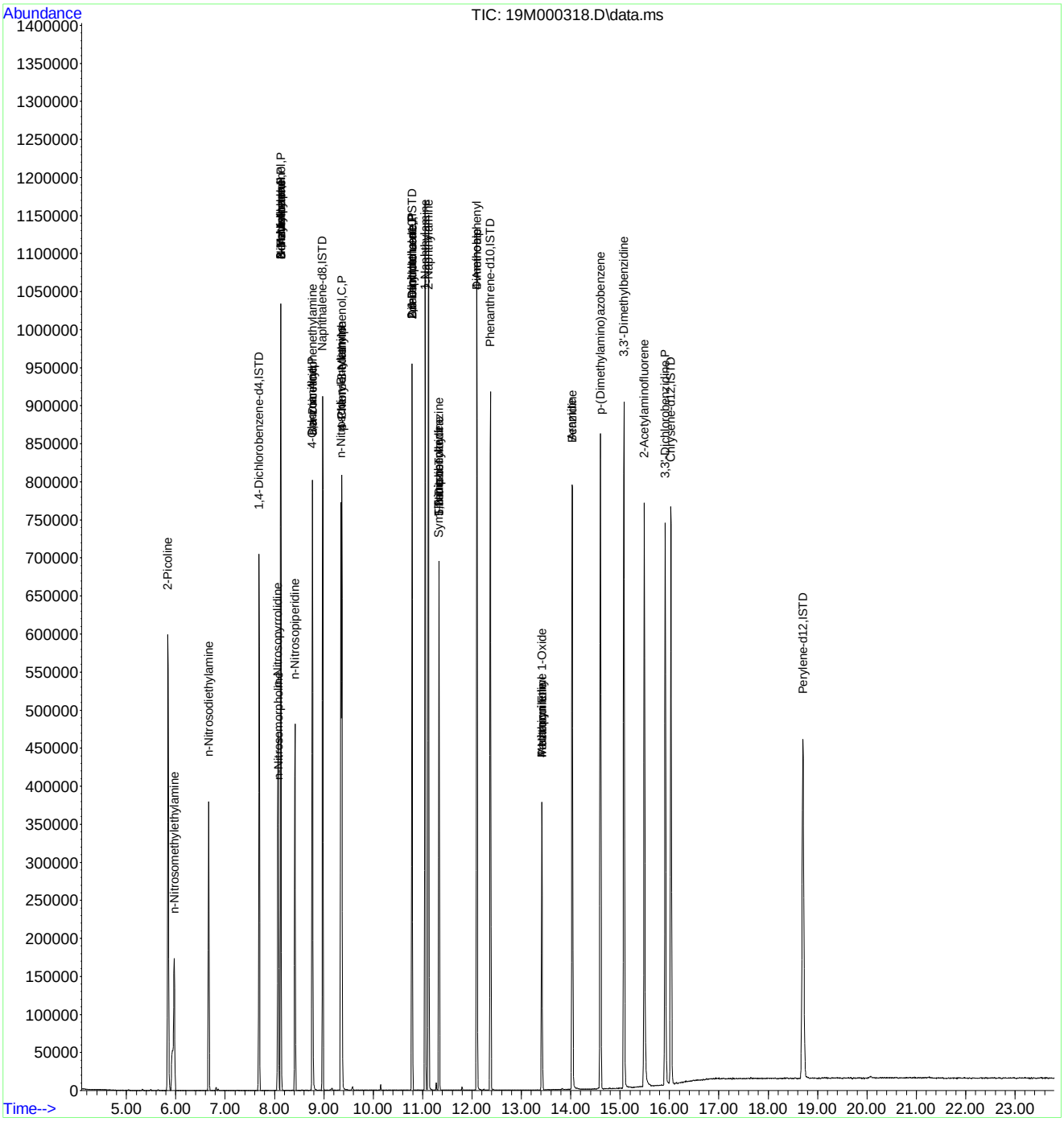
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081517\19M000318.D Vial: 13
Acq On : 15 Aug 2017 10:01 pm Operator: SCB
Sample : WG625881-13 50PPM MP,A9,BENZ ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD82728 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:34 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\081517\19M000318.D Vial: 13
Acq On : 15 Aug 2017 10:01 pm Operator: SCB
Sample : WG625881-13 50PPM MP,A9,BENZ ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD82728 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:34 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 | ISTD | 1,4-Dichlorobenzene-d4 | 40.000 | 40.000 | 0.0 | 107 | 0.00 |
| 2 | | 1,4-Dioxane | 50.000 | 0.000 | 100.0# | 0 | -4.50# |
| 3 | | n-Nitrosodimethylamine | 50.000 | 0.000 | 100.0# | 0 | -4.96# |
| 4 | | Pyridine | 50.000 | 0.000 | 100.0# | 0 | -4.99# |
| 5 | | 2-Picoline | 50.000 | 50.368 | -0.7 | 105 | 0.00 |
| 6 | | n-Nitrosomethylethylamine | 50.000 | 52.808 | -5.6 | 110 | 0.00 |
| 7 | | Methyl Methanesulfonate | 50.000 | 0.000 | 100.0# | 0 | -6.27# |
| 8 | S | 2-Fluorophenol | 50.000 | 0.000 | 100.0# | 0 | -6.43# |
| 9 | | n-Nitrosodiethylamine | 50.000 | 52.248 | -4.5 | 110 | 0.00 |
| 10 | | Ethyl Methanesulfonate | 50.000 | 0.000 | 100.0# | 0 | -6.93# |
| 11 | | Aniline | 50.000 | 0.808 | 98.4# | 2 | 0.31 |
| 12 | S | Phenol-d5 | 50.000 | 0.000 | 100.0# | 0 | -7.29# |
| 13 | C,P | Phenol | 50.000 | 0.000 | 100.0# | 0 | -7.30# |
| 14 | P | bis(2-Chloroethyl)ether | 50.000 | 0.988 | 98.0# | 2 | 0.28 |
| 15 | | Pentachloroethane | 50.000 | 0.000 | 100.0# | 0 | -7.42# |
| 16 | P | 2-Chlorophenol | 50.000 | 0.000 | 100.0# | 0 | -7.51# |
| 17 | | 1,3-Dichlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -7.66# |
| 18 | C | 1,4-Dichlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -7.70# |
| 19 | | Benzyl Alcohol | 50.000 | 7.167 | 85.7# | 15 | 0.33 |
| 20 | | 1,2-Dichlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -7.90# |
| 21 | P | 2-Methylphenol | 50.000 | 84.458 | -68.9# | 179 | 0.24 |
| 22 | P | bis(2-Chloroisopropyl)ether | 50.000 | 0.235 | 99.5# | 1 | 0.13 |
| 23 | P | 3-,4-Methylphenol | 50.000 | 60.972 | -21.9 | 127 | 0.10 |
| 24 | | n-Nitrosopyrrolidine | 50.000 | 58.724 | -17.4 | 123 | 0.00 |
| 25 | P | n-Nitrosodipropylamine | 50.000 | 0.747 | 98.5# | 2 | 0.00 |
| 26 | | Acetophenone | 50.000 | 0.437 | 99.1# | 1 | 0.04 |
| 27 | | n-Nitrosomorpholine | 50.000 | 58.632 | -17.3 | 121 | 0.00 |
| 28 | | o-Toluidine | 50.000 | 51.484 | -3.0 | 105 | 0.00 |
| 29 | P | Hexachloroethane | 50.000 | 1.339 | 97.3# | 3 | -0.14 |
| 30 | ISTD | Naphthalene-d8 | 40.000 | 40.000 | 0.0 | 102 | 0.00 |
| 31 | S | Nitrobenzene-d5 | 50.000 | 1.521 | 97.0# | 3 | 0.16 |
| 32 | P | Nitrobenzene | 50.000 | 13.687 | 72.6# | 28 | -0.14 |
| 33 | | n-Nitrosopiperidine | 50.000 | 51.143 | -2.3 | 101 | 0.00 |
| 34 | P | Isophorone | 50.000 | 0.802 | 98.4# | 2 | -0.07 |
| 35 | C,P | 2-Nitrophenol | 50.000 | 0.000 | 100.0# | 0 | -8.59# |
| 36 | P | 2,4-Dimethylphenol | 50.000 | 0.000 | 100.0# | 0 | -8.56# |
| 37 | | 0,0,0-Triethyl Phosphorothi | 50.000 | 0.000 | 100.0# | 0 | -8.66# |
| 38 | P | bis(2-Chloroethoxy)methane | 50.000 | 0.205 | 99.6# | 0 | 0.11 |
| 39 | | Benzoic Acid | 50.000 | 9.387 | 81.2# | 1 | 0.14 |
| 40 | C,P | 2,4-Dichlorophenol | 50.000 | 0.000 | 100.0# | 0 | -8.82# |
| 41 | | a,a-Dimethylphenethylamine | 50.000 | 56.806 | -13.6 | 117 | -0.04 |
| 42 | | 1,2,4-Trichlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -8.92# |
| 43 | P | Naphthalene | 50.000 | 0.054 | 99.9# | 0 | -0.24 |
| 44 | P | 4-Chloroaniline | 50.000 | 23.525 | 53.0# | 46 | -0.26 |
| 45 | | 2,6-Dichlorophenol | 50.000 | 0.000 | 100.0# | 0 | -8.82# |
| 46 | | Hexachloropropene | 50.000 | 0.000 | 100.0# | 0 | -9.12# |
| 47 | C,P | Hexachlorobutadiene | 50.000 | 0.000 | 100.0# | 0 | -9.15# |
| 48 | | n-Nitrosodi-n-Butylamine | 50.000 | 44.675 | 10.7 | 88 | 0.00 |
| 49 | | p-Phenylenediamine | 50.000 | 84.900 | -69.8# | 163 | 0.00 |
| 50 | C,P | 4-Chloro-3-Methylphenol | 50.000 | 21.939 | 56.1# | 43 | -0.11 |

Data File : C:\msdchem\4\DATA\081517\19M000318.D  Vial: 13
Acq On : 15 Aug 2017 10:01 pm  Operator: SCB
Sample : WG625881-13 50PPM MP,A9,BENZ ALT SRC  Inst : HPMS19NEW
Misc : 1,1 STD82728  Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:34 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 51 | | Safrole | 50.000 | 0.000 | 100.0# | 0 | -9.56# |
| 52 | P | 2-Methylnaphthalene | 50.000 | 0.198 | 99.6# | 0 | -0.35 |
| 53 | | 1-Methylnaphthalene | 50.000 | 0.000 | 100.0# | 0 | -9.81# |
| 54 | ISTD | Acenaphthene-d10 | 40.000 | 40.000 | 0.0 | 102 | 0.00 |
| 55 | | 1,2,4,5-Tetrachlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -9.90# |
| 56 | P | Hexachlorocyclopentadiene | 50.000 | 0.000 | 100.0# | 0 | -9.91# |
| 57 | C,P | 2,4,6-Trichlorophenol | 50.000 | 0.000 | 100.0# | 0 | -9.98# |
| 58 | P | 2,4,5-Trichlorophenol | 50.000 | 0.000 | 100.0# | 0 | -10.02# |
| 59 | S | 2-Fluorobiphenyl | 50.000 | 0.000 | 100.0# | 0 | -10.05# |
| 60 | | Isosafrole | 50.000 | 0.000 | 100.0# | 0 | -10.09# |
| 61 | P | 2-Chloronaphthalene | 50.000 | 0.000 | 100.0# | 0 | -10.20# |
| 62 | | 1-Chloronaphthalene | 50.000 | 0.000 | 100.0# | 0 | -10.24# |
| 63 | P | 2-Nitroaniline | 50.000 | 0.000 | 100.0# | 0 | -10.29# |
| 64 | | 1,4-Naphthoquinone | 50.000 | 0.000 | 100.0# | 0 | -10.36# |
| 65 | P | Dimethylphthalate | 50.000 | 7.834 | 84.3# | 16 | 0.33 |
| 66 | | 1,3-Dinitrobenzene | 50.000 | 0.000 | 100.0# | 0 | -10.51# |
| 67 | P | 2,6-Dinitrotoluene | 50.000 | 15.196 | 69.6# | 30 | 0.24 |
| 68 | P | Acenaphthylene | 50.000 | 0.000 | 100.0# | 0 | -10.64# |
| 69 | P | 3-Nitroaniline | 50.000 | 0.000 | 100.0# | 0 | -10.71# |
| 70 | P | 2,4-Dinitrophenol | 50.000 | 0.000 | 100.0# | 0 | -10.81# |
| 71 | C,P | Acenaphthene | 50.000 | 0.090 | 99.8# | 0 | -0.04 |
| 72 | P | 4-Nitrophenol | 50.000 | 0.580 | 98.8# | 1 | -0.02 |
| 73 | P | 2,4-Dinitrotoluene | 50.000 | 11.793 | 76.4# | 23 | -0.18 |
| 74 | | Pentachlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -11.00# |
| 75 | P | Dibenzofuran | 50.000 | 0.325 | 99.3# | 1 | 0.29 |
| 76 | | 2,3,4,6-Tetrachlorophenol | 50.000 | 0.000 | 100.0# | 0 | -11.13# |
| 77 | | 1-Naphthylamine | 50.000 | 56.377 | -12.8 | 112 | 0.00 |
| 78 | | 2-Naphthylamine | 50.000 | 60.806 | -21.6 | 126 | 0.00 |
| 79 | P | Diethylphthalate | 50.000 | 0.000 | 100.0# | 0 | -11.16# |
| 80 | | Thionazin | 50.000 | 6.897 | 86.2# | 13 | 0.07 |
| 81 | P | Fluorene | 50.000 | 0.000 | 100.0# | 0 | -11.33# |
| 82 | P | 4-Chlorophenyl Phenyl Ether | 50.000 | 0.000 | 100.0# | 0 | -11.29# |
| 83 | P | 4-Nitroaniline | 50.000 | 0.000 | 100.0# | 0 | -11.35# |
| 84 | | 5-Nitro-o-Toluidine | 50.000 | 59.519 | -19.0 | 118 | 0.00 |
| 85 | | 1,2-Diphenylhydrazine | 50.000 | 12.699 | 74.6# | 25 | -0.12 |
| 86 | S | 2,4,6-Tribromophenol | 50.000 | 0.000 | 100.0# | 0 | -11.61# |
| 87 | ISTD | Phenanthrene-d10 | 40.000 | 40.000 | 0.0 | 102 | 0.00 |
| 88 | P | 4,6-Dinitro-2-Methylphenol | 50.000 | 0.000 | 100.0# | 0 | -11.39# |
| 89 | C,P | Diphenylamine/n-Nitrosodiph | 50.000 | 0.476 | 99.0# | 1 | -0.13 |
| 90 | | Sulfotepp | 50.000 | 0.000 | 100.0# | 0 | -11.60# |
| 91 | | Sym-Trinitrobenzene | 50.000 | 3.575 | 92.8# | 3 | -0.35 |
| 92 | | Diallate | 50.000 | 0.899 | 98.2# | 2 | 0.37 |
| 93 | | Phenacetin | 50.000 | 0.000 | 100.0# | 0 | -11.71# |
| 94 | | Phorate | 50.000 | 1.146 | 97.7# | 2 | 0.35 |
| 95 | P | 4-Bromophenyl Phenyl Ether | 50.000 | 0.000 | 100.0# | 0 | -11.81# |
| 96 | P | Hexachlorobenzene | 50.000 | 0.000 | 100.0# | 0 | -12.02# |
| 97 | | Dimethoate | 50.000 | 1.791 | 96.4# | 3 | 0.15 |
| 98 | | 4-Aminobiphenyl | 50.000 | 52.852 | -5.7 | 103 | 0.00 |
| 99 | C,P | Pentachlorophenol | 50.000 | 0.000 | 100.0# | 0 | -12.20# |

Data File : C:\msdchem\4\DATA\081517\19M000318.D Vial: 13
Acq On : 15 Aug 2017 10:01 pm Operator: SCB
Sample : WG625881-13 50PPM MP,A9,BENZ ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD82728 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 18 14:24:34 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 100 | | Pronamide | 50.000 | 0.000 | 100.0# | 0 | -12.15# |
| 101 | | Pentachloronitrobenzene | 50.000 | 0.000 | 100.0# | 0 | -12.29# |
| 102 | | Disulfoton | 50.000 | 1.011 | 98.0# | 2 | 0.05 |
| 103 | P | Phenanthrene | 50.000 | 0.000 | 100.0# | 0 | -12.41# |
| 104 | P | Anthracene | 50.000 | 0.000 | 100.0# | 0 | -12.46# |
| 105 | P | Carbazole | 50.000 | 0.000 | 100.0# | 0 | -12.62# |
| 106 | | Parathion Methyl | 50.000 | 0.000 | 100.0# | 0 | -12.79# |
| 107 | P | Di-n-Butyl Phthalate | 50.000 | 0.000 | 100.0# | 0 | -12.98# |
| 108 | | Parathion Ethyl | 50.000 | 62.444 | -24.9 | 121 | 0.15 |
| 109 | | 4-Nitroquinoline 1-Oxide | 50.000 | 17.813 | 64.4# | 25 | 0.06 |
| 110 | | Methapyrilene | 50.000 | 27.013 | 46.0# | 61 | 0.00 |
| 111 | | Isodrin | 50.000 | 0.480 | 99.0# | 1 | -0.35 |
| 112 | C,P | Fluoranthene | 50.000 | 0.000 | 100.0# | 0 | -13.93# |
| 113 | ISTD | Chrysene-d12 | 40.000 | 40.000 | 0.0 | 101 | -0.01 |
| 114 | | Benzidine | 50.000 | 69.737 | -39.5 | 132 | 0.00 |
| 115 | P | Pyrene | 50.000 | 0.000 | 100.0# | 0 | -14.26# |
| 116 | | Aramite | 50.000 | 74.867 | -49.7# | 152 | -0.28 |
| 117 | S | p-Terphenyl-d14 | 50.000 | 0.000 | 100.0# | 0 | -14.39# |
| 118 | | p-(Dimethylamino)azobenzene | 50.000 | 58.229 | -16.5 | 110 | 0.00 |
| 119 | | Chlorobenzilate | 50.000 | 0.000 | 100.0# | 0 | -14.65# |
| 120 | | Famphur | 50.000 | 0.000 | 100.0# | 0 | -15.06# |
| 121 | P | Butyl Benzyl Phthalate | 50.000 | 0.000 | 100.0# | 0 | -15.07# |
| 122 | | 3,3'-Dimethylbenzidine | 50.000 | 46.423 | 7.2 | 88 | 0.00 |
| 123 | | 2-Acetylaminofluorene | 50.000 | 50.791 | -1.6 | 101 | 0.00 |
| 124 | P | bis(2-Ethylhexyl)phthalate | 50.000 | 0.448 | 99.1# | 0 | 0.00 |
| 125 | P | 3,3'-Dichlorobenzidine | 50.000 | 60.816 | -21.6 | 117 | 0.00 |
| 126 | P | Benzo[a]anthracene | 50.000 | 0.052 | 99.9# | 0 | 0.02 |
| 127 | P | Chrysene | 50.000 | 0.055 | 99.9# | 0 | -0.05 |
| 128 | ISTD | Perylene-d12 | 40.000 | 40.000 | 0.0 | 91 | -0.01 |
| 129 | C,P | Di-n-Octyl Phthalate | 50.000 | 0.000 | 100.0# | 0 | -16.87# |
| 130 | | 7,12-Dimethylbenz[a]anthrac | 50.000 | 0.000 | 100.0# | 0 | -17.89# |
| 131 | P | Benzo[b]fluoranthene | 50.000 | 0.000 | 100.0# | 0 | -17.88# |
| 132 | P | Benzo[k]fluoranthene | 50.000 | 0.000 | 100.0# | 0 | -17.93# |
| 133 | C,P | Benzo[a]pyrene | 50.000 | 0.071 | 99.9# | 0 | 0.11 |
| 134 | | 3-Methylcholanthrene | 50.000 | 0.000 | 100.0# | 0 | -19.44# |
| 135 | P | Indeno[1,2,3-cd]pyrene | 50.000 | 0.000 | 100.0# | 0 | -21.66# |
| 136 | P | Dibenz[ah]anthracene | 50.000 | 0.000 | 100.0# | 0 | -21.66# |
| 137 | P | Benzo[ghi]perylene | 50.000 | 0.000 | 100.0# | 0 | -22.56# |

(#) = Out of Range SPCC's out = 0 CCC's out = 13

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000323.D Vial: 2
Acq On : 16 Aug 2017 12:14 pm Operator: SCB
Sample : WG626039-02 50PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:53:04 2017
Quant Results File: TCL.RES

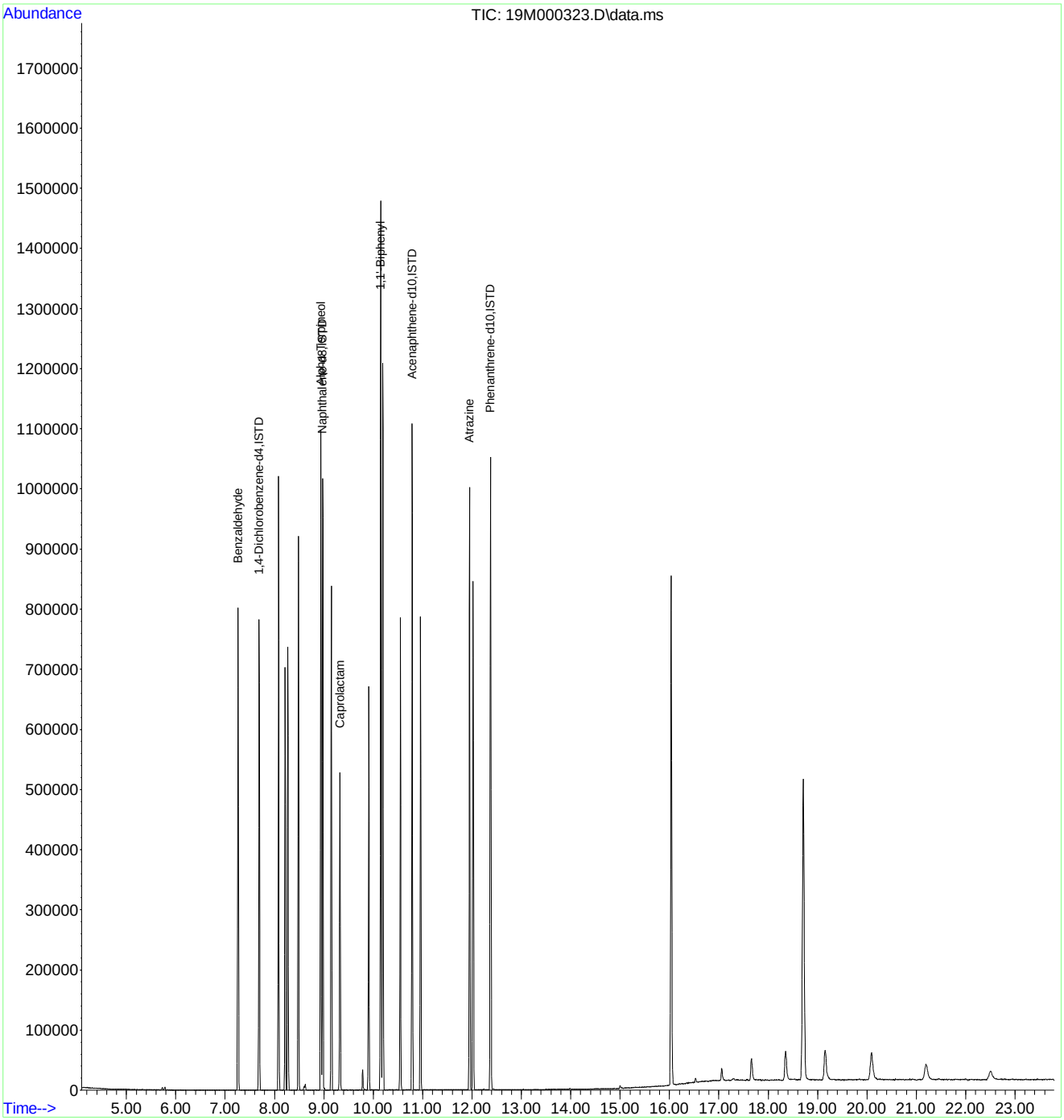
Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Wed Aug 16 15:43:07 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 143492 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.975 | 136 | 563457 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.786 | 164 | 281094 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.374 | 188 | 523746 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.263 | 105 | 178099 | 52.040 | ug/mL | 100 |
| 4) Alpha-Terpineol | 8.939 | 59 | 194239 | 53.281 | ug/mL | 100 |
| 5) Caprolactam | 9.328 | 55 | 105050 | 51.988 | ug/mL | 100 |
| 7) 1,1'-Biphenyl | 10.151 | 154 | 565831 | 50.053 | ug/mL | 100 |
| 9) Atrazine | 11.951 | 200 | 142356 | 54.125 | ug/mL | 100 |

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

Data File : C:\msdchem\4\DATA\081617\19M000323.D Vial: 2
Acq On : 16 Aug 2017 12:14 pm Operator: SCB
Sample : WG626039-02 50PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:53:04 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Wed Aug 16 15:43:07 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000324.D Vial: 3
Acq On : 16 Aug 2017 12:44 pm Operator: SCB
Sample : WG626039-03 3PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:54:03 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:53:34 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

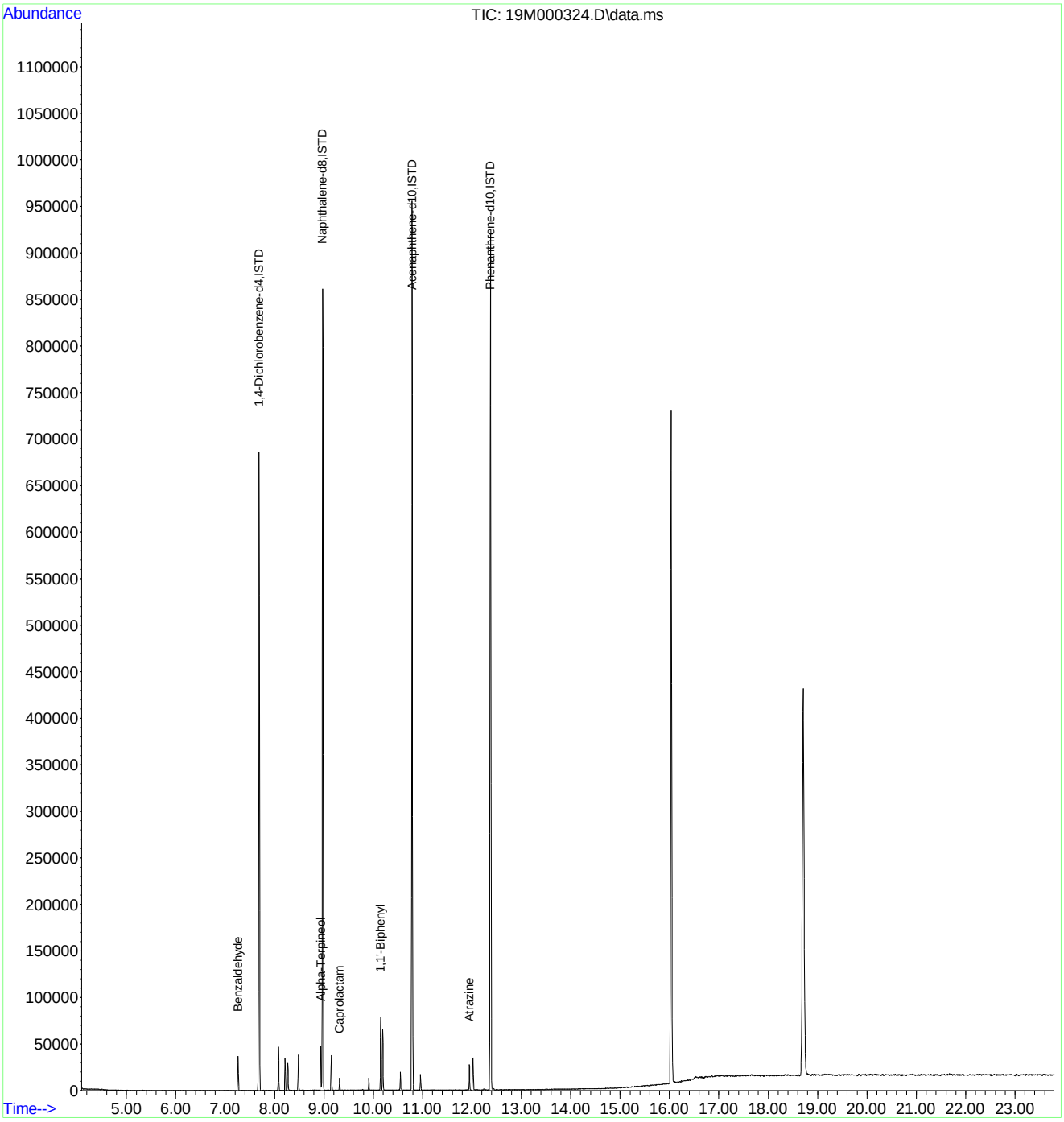
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 121588 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.975 | 136 | 477865 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.786 | 164 | 236147 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.375 | 188 | 436663 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.263 | 105 | 8109 | 2.796 | ug/mL | 99 |
| 4) Alpha-Terpineol | 8.940 | 59 | 8642 | 2.795 | ug/mL | 98 |
| 5) Caprolactam | 9.316 | 55 | 2795 | 3.019 | ug/mL | 96 |
| 7) 1,1'-Biphenyl | 10.151 | 154 | 30046 | 3.164 | ug/mL | 97 |
| 9) Atrazine | 11.951 | 200 | 5205 | 2.374 | ug/mL | 99 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000324.D Vial: 3
Acq On : 16 Aug 2017 12:44 pm Operator: SCB
Sample : WG626039-03 3PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:54:03 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:53:34 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000325.D Vial: 4
Acq On : 16 Aug 2017 1:14 pm Operator: SCB
Sample : WG626039-04 10PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:54:25 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:54:09 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

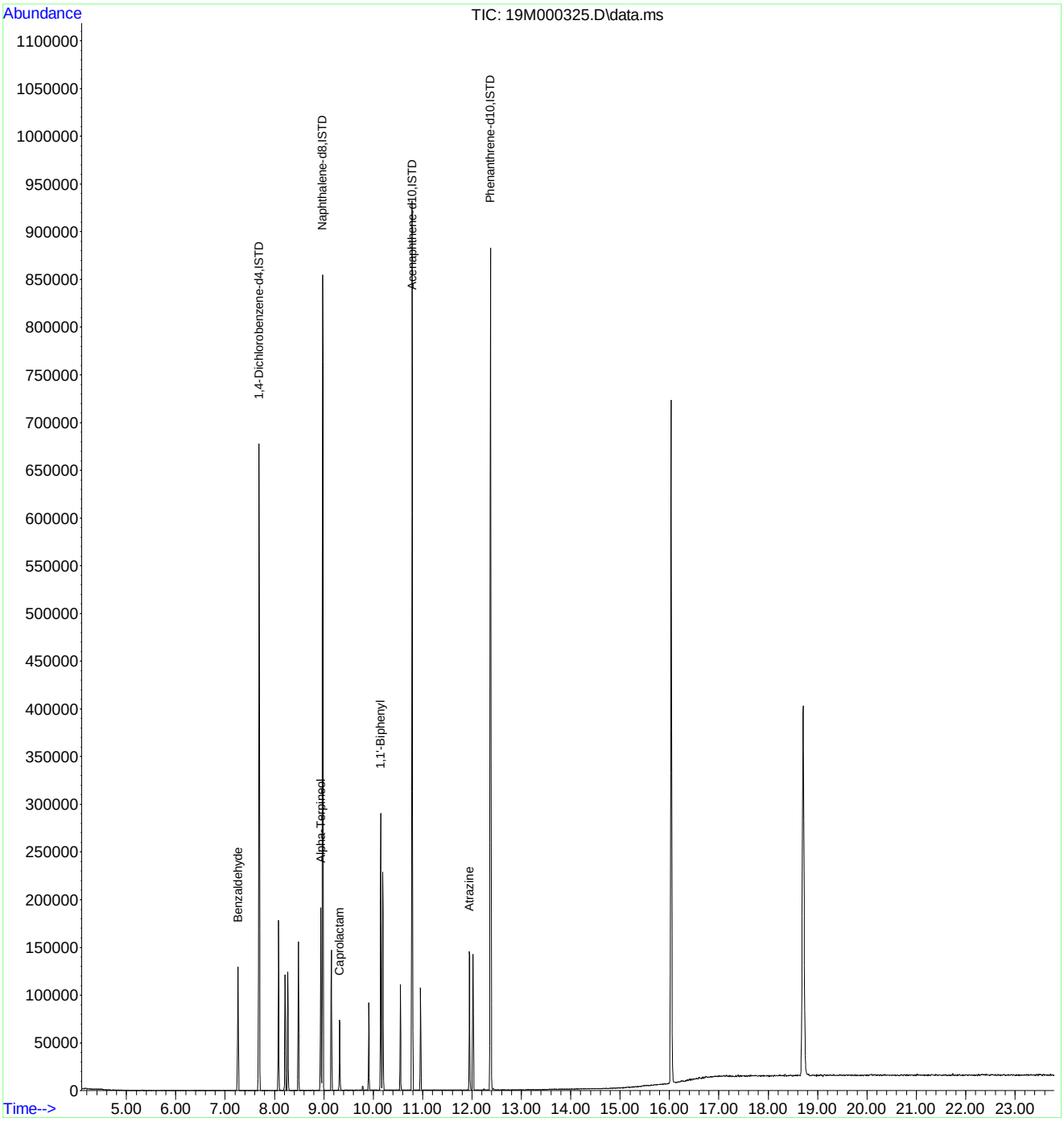
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 119415 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.975 | 136 | 465926 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.786 | 164 | 232173 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.374 | 188 | 427562 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.263 | 105 | 30128 | 10.578 | ug/mL | 99 |
| 4) Alpha-Terpineol | 8.939 | 59 | 32403 | 10.749 | ug/mL | 99 |
| 5) Caprolactam | 9.316 | 55 | 14535 | 9.892 | ug/mL | 95 |
| 7) 1,1'-Biphenyl | 10.151 | 154 | 105578 | 11.307 | ug/mL | 100 |
| 9) Atrazine | 11.951 | 200 | 22121 | 10.303 | ug/mL | 100 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000325.D Vial: 4
Acq On : 16 Aug 2017 1:14 pm Operator: SCB
Sample : WG626039-04 10PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:54:25 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:54:09 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000326.D Vial: 5
Acq On : 16 Aug 2017 1:45 pm Operator: SCB
Sample : WG626039-05 25PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:54:46 2017
Quant Results File: TCL.RES

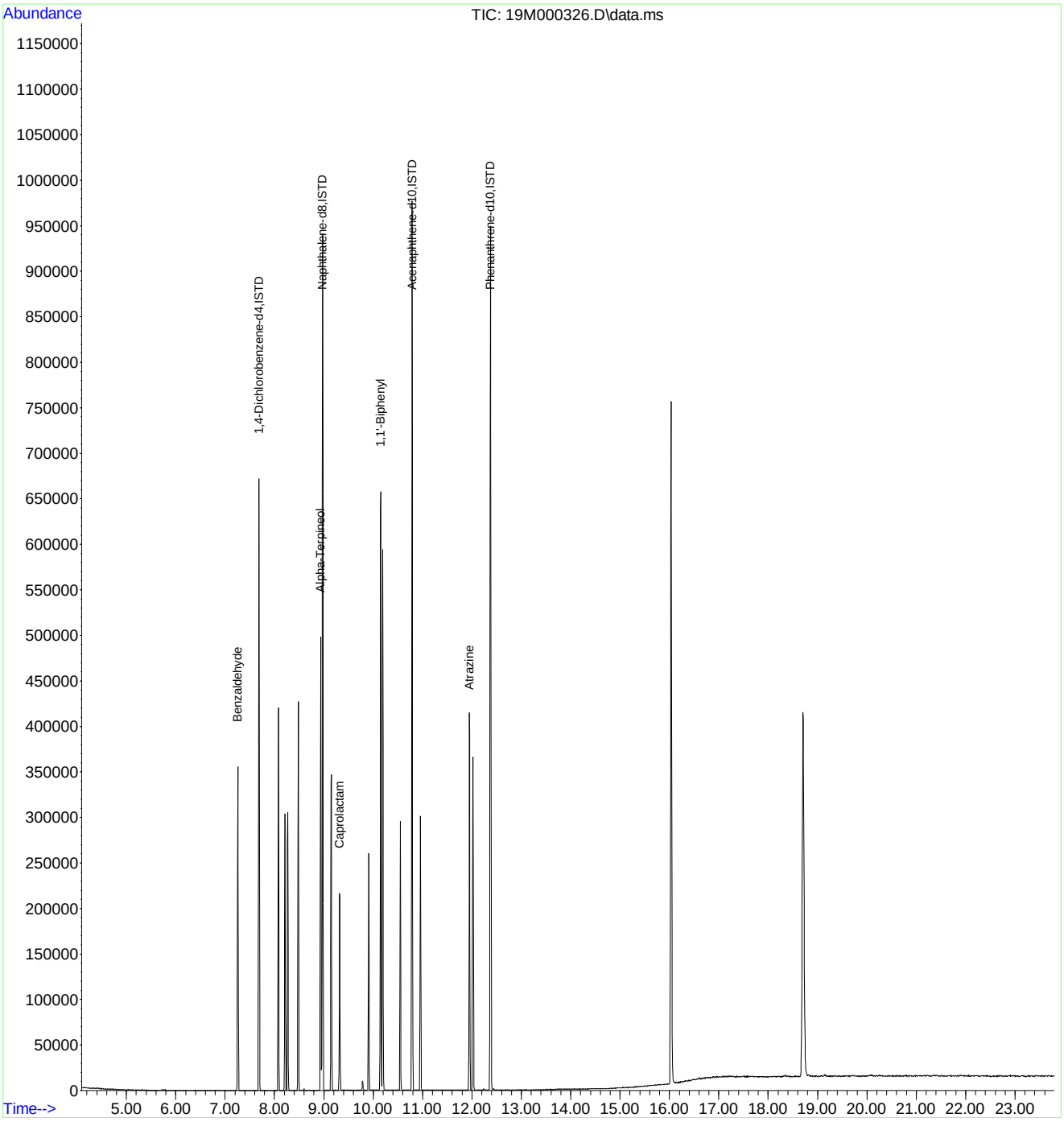
Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:54:32 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 123667 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.975 | 136 | 489961 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.787 | 164 | 242170 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.375 | 188 | 451278 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.257 | 105 | 75774 | 25.691 | ug/mL | 100 |
| 4) Alpha-Terpineol | 8.934 | 59 | 83500 | 26.340 | ug/mL | 99 |
| 5) Caprolactam | 9.316 | 55 | 42121 | 24.744 | ug/mL | 97 |
| 7) 1,1'-Biphenyl | 10.151 | 154 | 255889 | 26.274 | ug/mL | 100 |
| 9) Atrazine | 11.951 | 200 | 59971 | 26.463 | ug/mL | 100 |

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

Data File : C:\msdchem\4\DATA\081617\19M000326.D Vial: 5
Acq On : 16 Aug 2017 1:45 pm Operator: SCB
Sample : WG626039-05 25PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:54:46 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:54:32 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000327.D Vial: 6
Acq On : 16 Aug 2017 2:15 pm Operator: SCB
Sample : WG626039-06 80PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:55:08 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:54:52 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

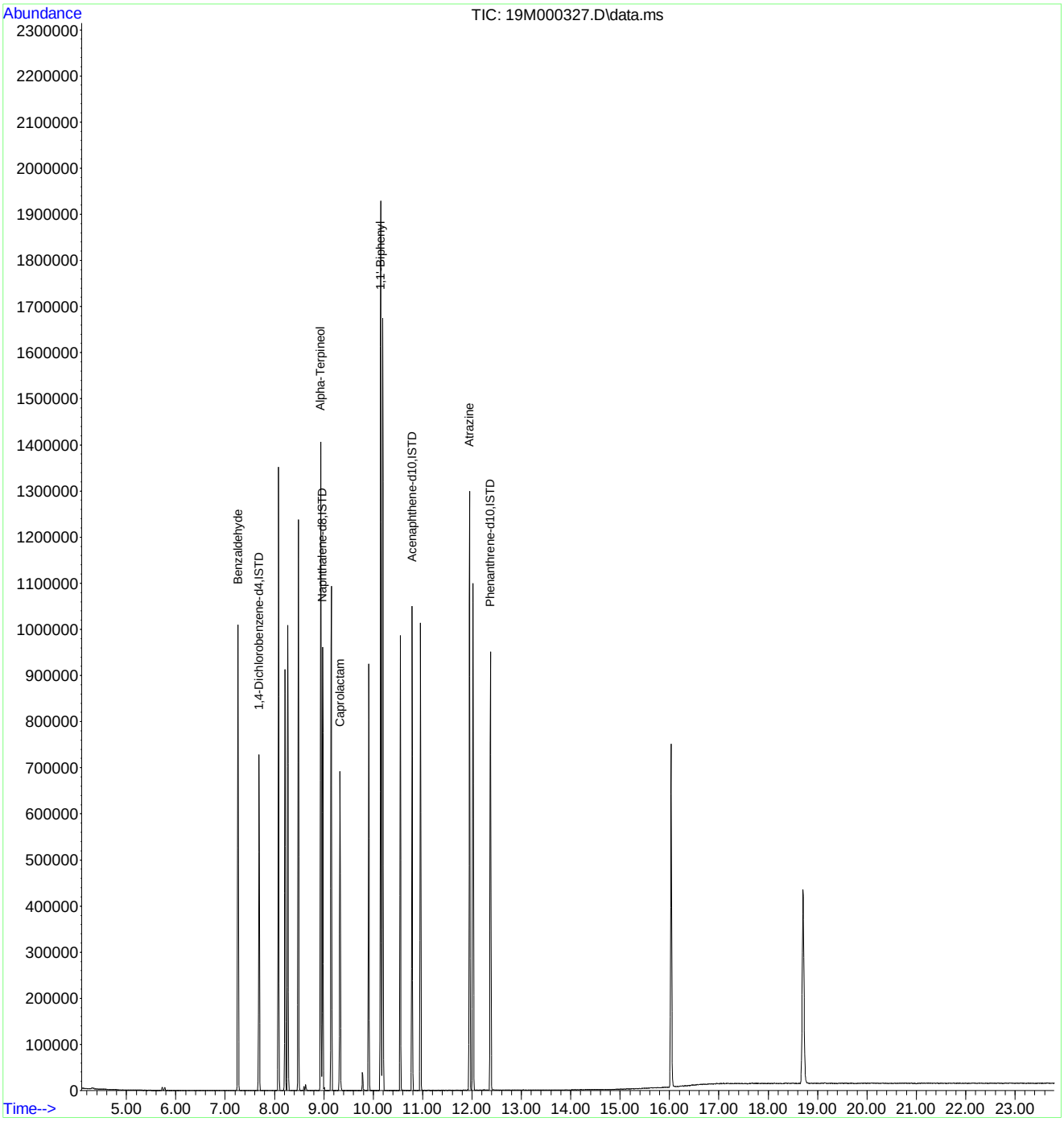
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 127815 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.975 | 136 | 504282 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.786 | 164 | 250184 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.375 | 188 | 463682 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.263 | 105 | 243055 | 79.732 | ug/mL | 99 |
| 4) Alpha-Terpineol | 8.934 | 59 | 255037 | 78.168 | ug/mL | 98 |
| 5) Caprolactam | 9.328 | 55 | 143680 | 78.693 | ug/mL | 99 |
| 7) 1,1'-Biphenyl | 10.151 | 154 | 756779 | 75.215 | ug/mL | 100 |
| 9) Atrazine | 11.951 | 200 | 193468 | 83.087 | ug/mL | 99 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000327.D Vial: 6
Acq On : 16 Aug 2017 2:15 pm Operator: SCB
Sample : WG626039-06 80PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:55:08 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:54:52 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000328.D Vial: 7
Acq On : 16 Aug 2017 2:45 pm Operator: SCB
Sample : WG626039-07 100PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:55:28 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:55:13 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

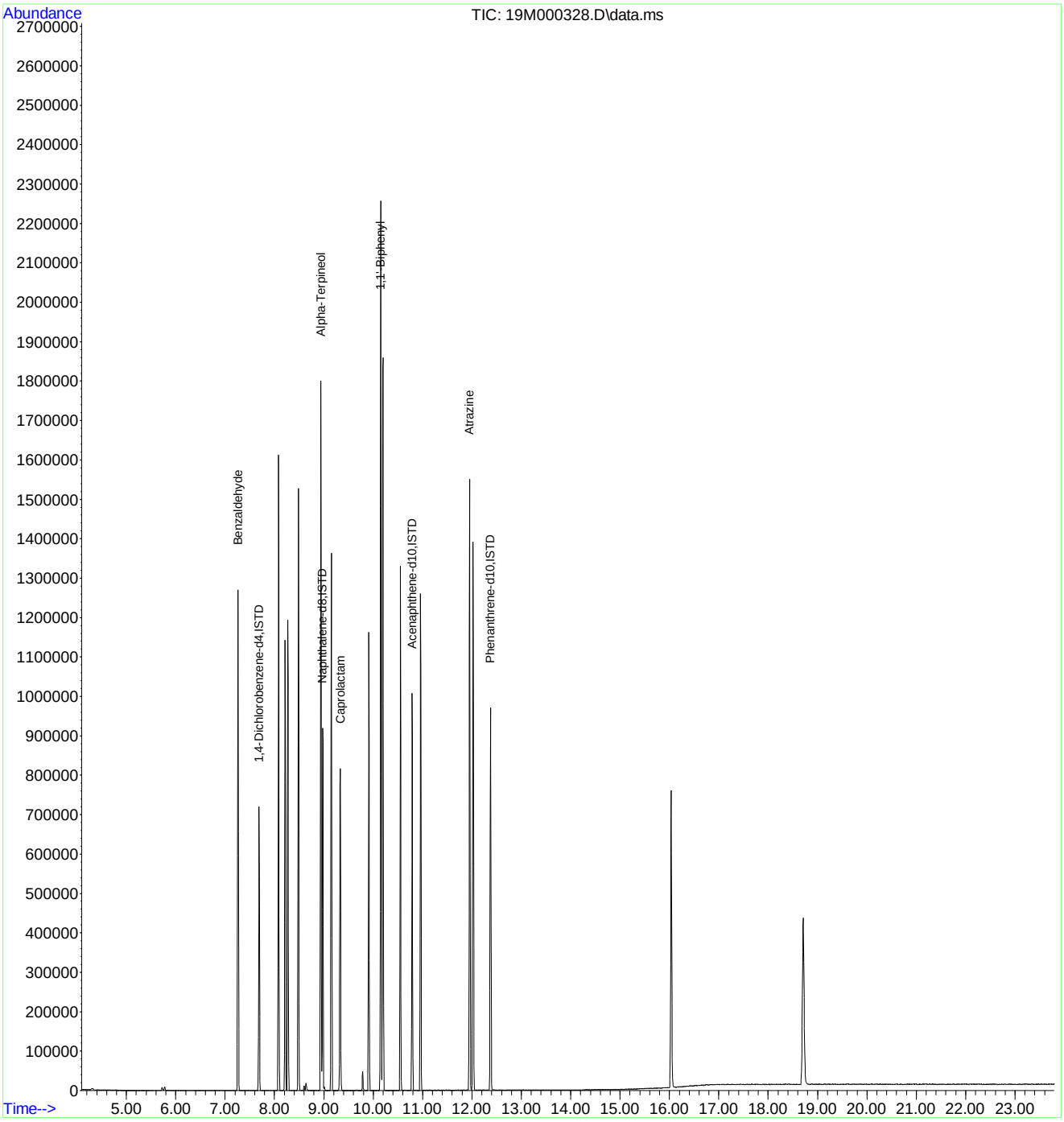
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 128766 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.975 | 136 | 509133 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.787 | 164 | 252515 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.375 | 188 | 471030 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.263 | 105 | 300369 | 97.805 | ug/mL | 99 |
| 4) Alpha-Terpineol | 8.940 | 59 | 311499 | 94.563 | ug/mL | 97 |
| 5) Caprolactam | 9.334 | 55 | 180092 | 97.350 | ug/mL | 100 |
| 7) 1,1'-Biphenyl | 10.151 | 154 | 913418 | 89.946 | ug/mL | 100 |
| 9) Atrazine | 11.951 | 200 | 236692 | 100.064 | ug/mL | 100 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000328.D Vial: 7
Acq On : 16 Aug 2017 2:45 pm Operator: SCB
Sample : WG626039-07 100PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:55:28 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:55:13 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000329.D Vial: 8
Acq On : 16 Aug 2017 3:15 pm Operator: SCB
Sample : WG626039-08 120PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:55:47 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:55:32 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

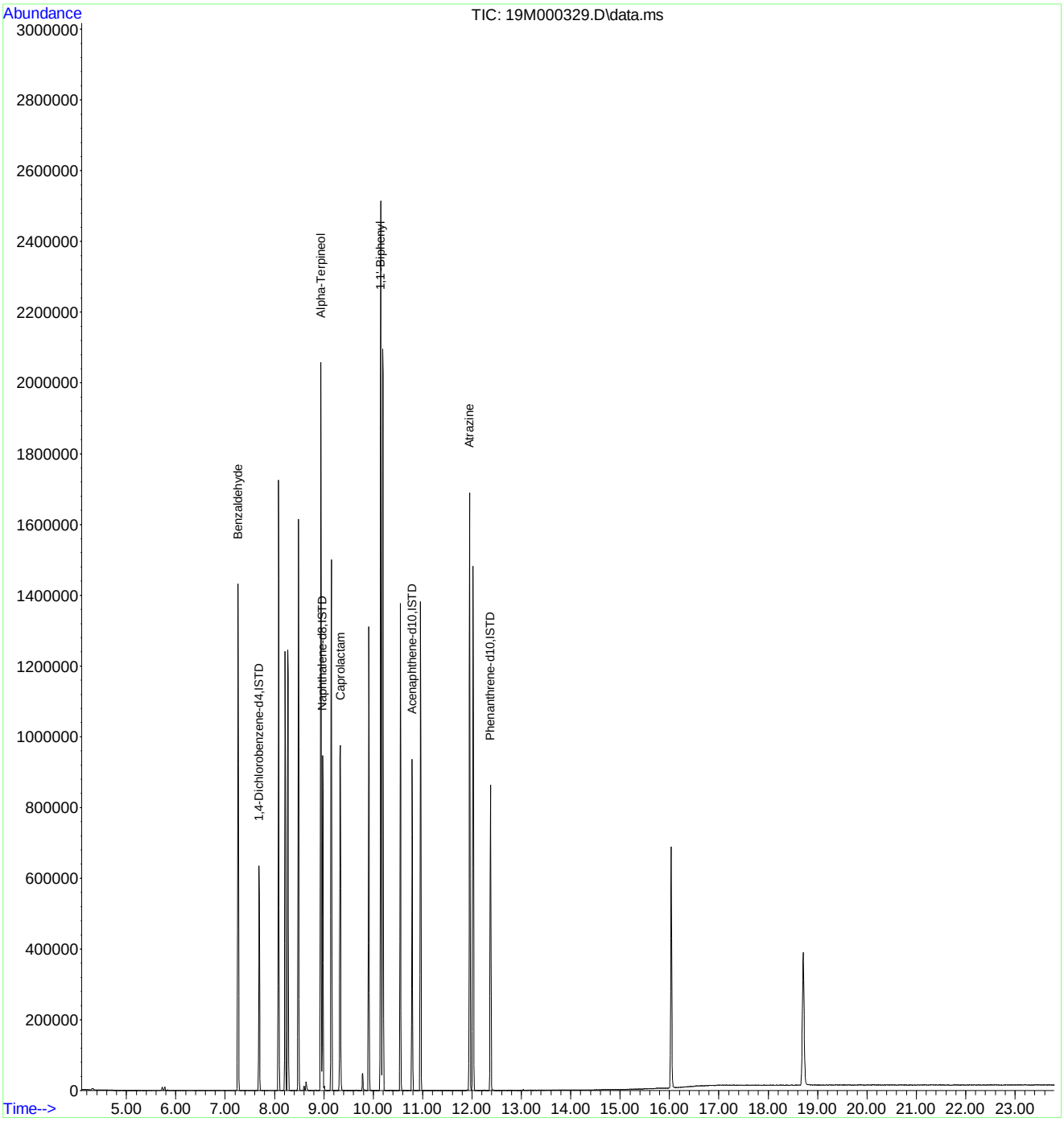
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.686 | 152 | 116600 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.975 | 136 | 500610 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.786 | 164 | 228506 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.374 | 188 | 426636 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.263 | 105 | 322679 | 116.032 | ug/mL | 99 |
| 4) Alpha-Terpineol | 8.939 | 59 | 369790 | 114.170 | ug/mL | 98 |
| 5) Caprolactam | 9.333 | 55 | 223162 | 122.313 | ug/mL | 98 |
| 7) 1,1'-Biphenyl | 10.151 | 154 | 1017858 | 110.761 | ug/mL | 99 |
| 9) Atrazine | 11.951 | 200 | 256656 | 119.794 | ug/mL | 99 |

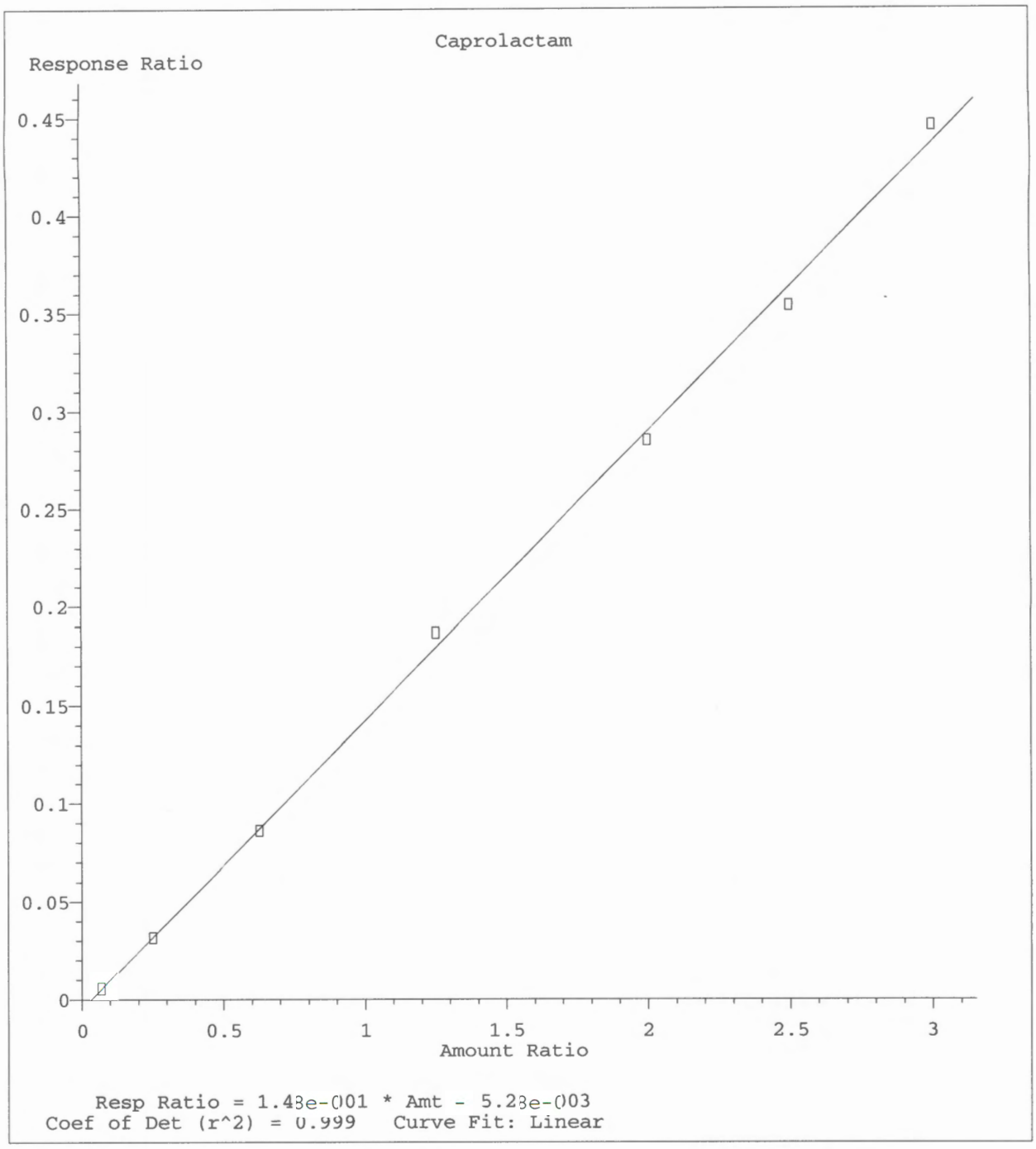
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000329.D Vial: 8
Acq On : 16 Aug 2017 3:15 pm Operator: SCB
Sample : WG626039-08 120PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 10:55:47 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:55:32 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M






Method Name: C:\msdchem\4\METHODS\TCL.M
Calibration Table Last Updated: Thu Aug 17 10:55:54 2017

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000330.D Vial: 9
Acq On : 16 Aug 2017 3:45 pm Operator: SCB
Sample : WG626039-09 50PPM TCL/A-TERP ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81289 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 11:27:06 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

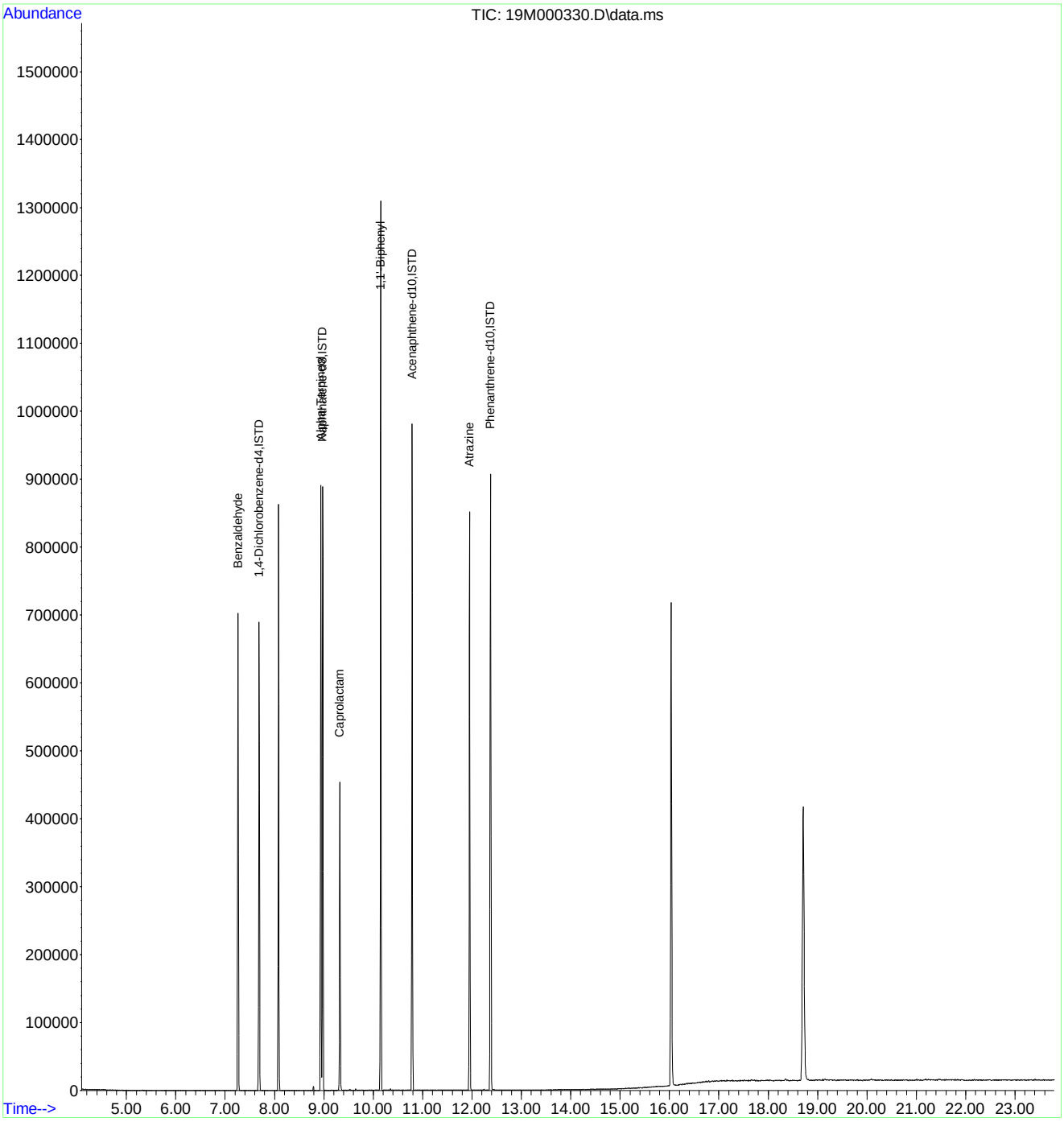
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 121092 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.975 | 136 | 480801 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.786 | 164 | 238644 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.375 | 188 | 443633 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.263 | 105 | 163164 | 56.496 | ug/mL | 99 |
| 4) Alpha-Terpineol | 8.940 | 59 | 154653 | 49.715 | ug/mL | 99 |
| 5) Caprolactam | 9.322 | 55 | 86412 | 50.168 | ug/mL | 99 |
| 7) 1,1'-Biphenyl | 10.151 | 154 | 486114 | 50.651 | ug/mL | 100 |
| 9) Atrazine | 11.951 | 200 | 119021 | 53.425 | ug/mL | 99 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\081617\19M000330.D Vial: 9
Acq On : 16 Aug 2017 3:45 pm Operator: SCB
Sample : WG626039-09 50PPM TCL/A-TERP ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81289 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 11:27:06 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\081617\19M000330.D Vial: 9
Acq On : 16 Aug 2017 3:45 pm Operator: SCB
Sample : WG626039-09 50PPM TCL/A-TERP ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81289 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 11:27:06 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 ISTD | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 84 | 0.00 |
| 2 | Benzaldehyde | 0.954 | 1.078 | -13.0 | 92 | 0.00 |
| 3 ISTD | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 85 | 0.00 |
| 4 | Alpha-Terpineol | 0.259 | 0.257 | 0.8 | 80 | 0.00 |
| 5 | Caprolactam | 0.132 | 0.144 | -9.1 | 82 | 0.00 |
| 6 ISTD | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 85 | 0.00 |
| 7 | 1,1'-Biphenyl | 1.609 | 1.630 | -1.3 | 86 | 0.00 |
| 8 ISTD | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 85 | 0.00 |
| 9 | Atrazine | 0.201 | 0.215 | -7.0 | 84 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\081617\19M000330.D Vial: 9
Acq On : 16 Aug 2017 3:45 pm Operator: SCB
Sample : WG626039-09 50PPM TCL/A-TERP ALT SRC Inst : HPMS19NEW
Misc : 1,1 STD81289 Multiplr: 1.00
Integrator: RTE
Quant Time: Aug 17 11:27:06 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 ISTD | 1,4-Dichlorobenzene-d4 | 40.000 | 40.000 | 0.0 | 84 | 0.00 |
| 2 | Benzaldehyde | 50.000 | 56.496 | -13.0 | 92 | 0.00 |
| 3 ISTD | Naphthalene-d8 | 40.000 | 40.000 | 0.0 | 85 | 0.00 |
| 4 | Alpha-Terpineol | 50.000 | 49.715 | 0.6 | 80 | 0.00 |
| 5 | Caprolactam | 50.000 | 50.168 | -0.3 | 82 | 0.00 |
| 6 ISTD | Acenaphthene-d10 | 40.000 | 40.000 | 0.0 | 85 | 0.00 |
| 7 | 1,1'-Biphenyl | 50.000 | 50.651 | -1.3 | 86 | 0.00 |
| 8 ISTD | Phenanthrene-d10 | 40.000 | 40.000 | 0.0 | 85 | 0.00 |
| 9 | Atrazine | 50.000 | 53.425 | -6.8 | 84 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64165.D Vial: 2
Acq On : 31 Aug 2017 9:39 am Operator: SCB
Sample : WG627960-02 50PPM 8270 STD Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 10:03:59 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 | 137292 | 40.0000 | ug/ml | 0.000 |
| 30) Naphthalene-d8 | 9.121 | 136 | 531324 | 40.0000 | ug/ml | 0.000 |
| 54) Acenaphthene-d10 | 10.932 | 164 | 287085 | 40.0000 | ug/ml | 0.000 |
| 87) Phenanthrene-d10 | 12.551 | 188 | 579985 | 40.0000 | ug/ml | 0.000 |
| 113) Chrysene-d12 | 16.243 | 240 | 573212 | 40.0000 | ug/ml | 0.000 |
| 128) Perylene-d12 | 19.090 | 264 | 583182 | 40.0000 | ug/ml | -0.011 |
| **System Monitoring Compounds** | | | | | | |
| 8) 2-Fluorophenol | 6.573 | 112 | 215404 | 51.5166443 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 21 - 100 | | Recovery = 51.52% | | | |
| 12) Phenol-d5 | 7.428 | 99 | 292055 | 54.6340176 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 94 | | Recovery = 54.63% | | | |
| 31) Nitrobenzene-d5 | 8.400 | 82 | 294460 | 55.5352779 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 35 - 114 | | Recovery = 111.07% | | | |
| 59) 2-Fluorobiphenyl | 10.190 | 172 | 511317 | 51.3004670 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 43 - 116 | | Recovery = 102.60% | | | |
| 86) 2,4,6-Tribromophenol | 11.760 | 330 | 76090 | 50.3206861 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 123 | | Recovery = 50.32% | | | |
| 117) p-Terphenyl-d14 | 14.581 | 244 | 644758 | 52.2491751 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 33 - 141 | | Recovery = 104.50% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.66 | 88 | 92483 | 51.4863 | ug/ml | 97 |
| 3) n-Nitrosodimethylamine | 5.13 | 74 | 138673 | 55.7339 | ug/ml | 98 |
| 4) Pyridine | 5.15 | 79 | 242048 | 53.2153 | ug/ml | 98 |
| 5) 2-Picoline | 5.99 | 93 | 271925 | 55.2829 | ug/ml | 98 |
| 6) n-Nitrosomethylethylamine | 6.11 | 88 | 112320 | 56.6907 | ug/ml | 93 |
| 7) Methyl Methanesulfonate | 6.41 | 80 | 178288 | 56.1667 | ug/ml | 100 |
| 9) n-Nitrosodiethylamine | 6.81 | 102 | 114714 | 54.8218 | ug/ml | 95 |
| 10) Ethyl Methanesulfonate | 7.07 | 79 | 193696 | 58.4388 | ug/ml | 94 |
| 11) Aniline | 7.52 | 66 | 162668 | 58.4618 | ug/ml | 96 |
| 13) Phenol | 7.44 | 94 | 306762 | 56.4608 | ug/ml | 97 |
| 14) bis(2-Chloroethyl)ether | 7.55 | 63 | 181004 | 56.6451 | ug/ml | 98 |
| 15) Pentachloroethane | 7.56 | 167 | 92495 | 51.0273 | ug/ml | 99 |
| 16) 2-Chlorophenol | 7.65 | 128 | 224997 | 49.2812 | ug/ml | 94 |
| 17) 1,3-Dichlorobenzene | 7.80 | 146 | 252235 | 50.4594 | ug/ml | 99 |
| 18) 1,4-Dichlorobenzene | 7.85 | 146 | 261586 | 51.4768 | ug/ml | 99 |
| 19) Benzyl Alcohol | 7.94 | 108 | 158550 | 54.5343 | ug/ml | 92 |
| 20) 1,2-Dichlorobenzene | 8.04 | 146 | 260872 | 53.9990 | ug/ml | 99 |
| 21) 2-Methylphenol | 8.04 | 107 | 213076 | 54.5921 | ug/ml | 95 |
| 22) bis(2-Chloroisopropyl)ethe | 8.08 | 45 | 209725 | 54.2069 | ug/ml | 95 |
| 23) 3-,4-Methylphenol | 8.17 | 107 | 255669 | 51.8080 | ug/ml | 93 |
| 24) n-Nitrosopyrrolidine | 8.22 | 100 | 123874 | 58.4895 | ug/ml | 97 |
| 25) n-Nitrosodipropylamine | 8.22 | 70 | 196403 | 57.8854 | ug/ml | 98 |
| 26) Acetophenone | 8.23 | 105 | 376848 | 56.3448 | ug/ml | 98 |
| 27) n-Nitrosomorpholine | 8.22 | 56 | 154362 | 58.7381 | ug/ml | 99 |
| 28) o-Toluidine | 8.27 | 106 | 377150 | 51.5857 | ug/ml | 99 |
| 29) Hexachloroethane | 8.36 | 117 | 113686 | 53.2303 | ug/ml | 99 |
| 32) Nitrobenzene | 8.42 | 77 | 293835 | 55.9640 | ug/ml | 93 |
| 33) n-Nitrosopiperidine | 8.56 | 114 | 115371 | 50.8141 | ug/ml | 89 |
| 34) Isophorone | 8.63 | 82 | 498368 | 54.6919 | ug/ml | 98 |
| 35) 2-Nitrophenol | 8.74 | 139 | 125255 | 50.2981 | ug/ml | 92 |
| 36) 2,4-Dimethylphenol | 8.70 | 122 | 202449 | 48.7933 | ug/ml | 93 |
| 37) 0,0,0-Triethyl Phosphoroth | 8.80 | 198 | 135543 | 55.7306 | ug/ml | 95 |
| 38) bis(2-Chloroethoxy)methane | 8.80 | 93 | 404096 | 56.3471 | ug/ml | 99 |

(#) = qualifier out of range (m) = manual integration

Data File : I:\MSDCHEM\1\DATA\083117\12M64165.D Vial: 2
Acq On : 31 Aug 2017 9:39 am Operator: SCB
Sample : WG627960-02 50PPM 8270 STD Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 10:03:59 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 | 8.74 | 105 | 53079m | 30.7612 ug/ml | |
| 40) | 2,4-Dichlorophenol | 8.96 | 162 | 199414 | 52.8771 ug/ml | 98 |
| 41) | a,a-Dimethylphenethylamine | 8.97 | 58 | 494304 | 55.8770 ug/ml | 97 |
| 42) | 1,2,4-Trichlorobenzene | 9.07 | 180 | 221522 | 50.7919 ug/ml | 99 |
| 43) | Naphthalene | 9.14 | 128 | 687787 | 48.7439 ug/ml# | 99 |
| 44) | 4-Chloroaniline | 9.17 | 65 | 111288 | 57.0758 ug/ml | 58 |
| 45) | 2,6-Dichlorophenol | 9.20 | 162 | 172709 | 49.7697 ug/ml | 98 |
| 46) | Hexachloropropene | 9.26 | 213 | 177108 | 54.8540 ug/ml | 99 |
| 47) | Hexachlorobutadiene | 9.29 | 225 | 134877 | 53.4007 ug/ml | 99 |
| 48) | n-Nitrosodi-n-Butylamine | 9.48 | 84 | 244298 | 57.2875 ug/ml | 97 |
| 49) | p-Phenylenediamine | 9.52 | 108 | 152308 | 47.9123 ug/ml | 96 |
| 50) | 4-Chloro-3-Methylphenol | 9.61 | 107 | 250599 | 53.2593 ug/ml | 99 |
| 51) | Safrole | 9.70 | 162 | 184895 | 50.8342 ug/ml | 95 |
| 52) | 2-Methylnaphthalene | 9.83 | 142 | 499305 | 52.1238 ug/ml | 100 |
| 53) | 1-Methylnaphthalene | 9.95 | 142 | 452684 | 51.6664 ug/ml | 98 |
| 55) | 1,2,4,5-Tetrachlorobenzene | 10.05 | 216 | 243662 | 53.3471 ug/ml | 99 |
| 56) | Hexachlorocyclopentadiene | 10.05 | 237 | 117841 | 52.5538 ug/ml | 100 |
| 57) | 2,4,6-Trichlorophenol | 10.13 | 196 | 156052 | 52.1141 ug/ml | 100 |
| 58) | 2,4,5-Trichlorophenol | 10.17 | 196 | 161856 | 51.6845 ug/ml | 99 |
| 60) | Isosafrole | 10.23 | 162 | 178267 | 49.2174 ug/ml | 93 |
| 61) | 2-Chloronaphthalene | 10.34 | 162 | 468034 | 51.3194 ug/ml | 100 |
| 62) | 1-Chloronaphthalene | 10.38 | 162 | 464604 | 53.0759 ug/ml | 99 |
| 63) | 2-Nitroaniline | 10.44 | 65 | 167238 | 56.7515 ug/ml | 93 |
| 64) | 1,4-Naphthoquinone | 10.50 | 158 | 118872 | 47.9402 ug/ml | 91 |
| 65) | Dimethylphthalate | 10.60 | 163 | 546047 | 51.4543 ug/ml | 99 |
| 66) | 1,3-Dinitrobenzene | 10.65 | 168 | 89207 | 49.3793 ug/ml | 85 |
| 67) | 2,6-Dinitrotoluene | 10.70 | 165 | 124904 | 50.6293 ug/ml | 89 |
| 68) | Acenaphthylene | 10.79 | 152 | 776656 | 53.8413 ug/ml | 99 |
| 69) | 3-Nitroaniline | 10.85 | 138 | 123771 | 48.9061 ug/ml | 91 |
| 70) | 2,4-Dinitrophenol | 10.96 | 184 | 88004 | 56.8179 ug/ml | 88 |
| 71) | Acenaphthene | 10.97 | 154 | 512379 | 55.6295 ug/ml | 100 |
| 72) | 4-Nitrophenol | 10.96 | 65 | 139695 | 60.9072 ug/ml | 95 |
| 73) | 2,4-Dinitrotoluene | 11.10 | 165 | 177051 | 52.2287 ug/ml | 90 |
| 74) | Pentachlorobenzene | 11.15 | 250 | 200411 | 54.3998 ug/ml | 99 |
| 75) | Dibenzofuran | 11.12 | 168 | 672706 | 51.8558 ug/ml | 97 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.27 | 232 | 159185 | 59.0394 ug/ml | 99 |
| 77) | 1-Naphthylamine | 11.20 | 143 | 460502 | 50.6692 ug/ml | 98 |
| 78) | 2-Naphthylamine | 11.27 | 143 | 505158 | 54.1900 ug/ml | 100 |
| 79) | Diethylphthalate | 11.30 | 149 | 581265 | 53.1570 ug/ml | 100 |
| 80) | Thionazin | 11.40 | 107 | 93310 | 52.1909 ug/ml | 93 |
| 81) | Fluorene | 11.48 | 166 | 620072 | 56.3182 ug/ml | 99 |
| 82) | 4-Chlorophenyl Phenyl Ethe | 11.43 | 204 | 285316 | 52.2959 ug/ml | 98 |
| 83) | 4-Nitroaniline | 11.49 | 138 | 152836 | 54.2570 ug/ml | 94 |
| 84) | 5-Nitro-o-Toluidine | 11.49 | 152 | 183926 | 57.7661 ug/ml | 96 |
| 85) | 1,2-Diphenylhydrazine | 11.60 | 77 | 635648 | 56.3348 ug/ml | 96 |
| 88) | 4,6-Dinitro-2-Methylphenol | 11.54 | 198 | 111681 | 48.8766 ug/ml | 94 |
| 89) | Diphenylamine/n-Nitrosodip | 11.55 | 169 | 505867 | 52.1713 ug/ml | 99 |
| 90) | Sulfotepp | 11.75 | 322 | 97173 | 50.7898 ug/ml | 94 |
| 91) | Sym-Trinitrobenzene | 11.84 | 75 | 203407 | 54.2954 ug/ml | 96 |
| 92) | Diallate | 11.87 | 86 | 225233 | 54.9251 ug/ml | 99 |
| 93) | Phenacetin | 11.87 | 108 | 342367 | 56.3188 ug/ml | 99 |
| 94) | Phorate | 11.89 | 75 | 353138 | 54.3472 ug/ml# | 95 |
| 95) | 4-Bromophenyl Phenyl Ether | 11.96 | 248 | 161324 | 53.0546 ug/ml | 99 |
| 96) | Hexachlorobenzene | 12.19 | 284 | 160452 | 50.8073 ug/ml | 95 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64165.D Vial: 2
Acq On : 31 Aug 2017 9:39 am Operator: SCB
Sample : WG627960-02 50PPM 8270 STD Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 10:03:59 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

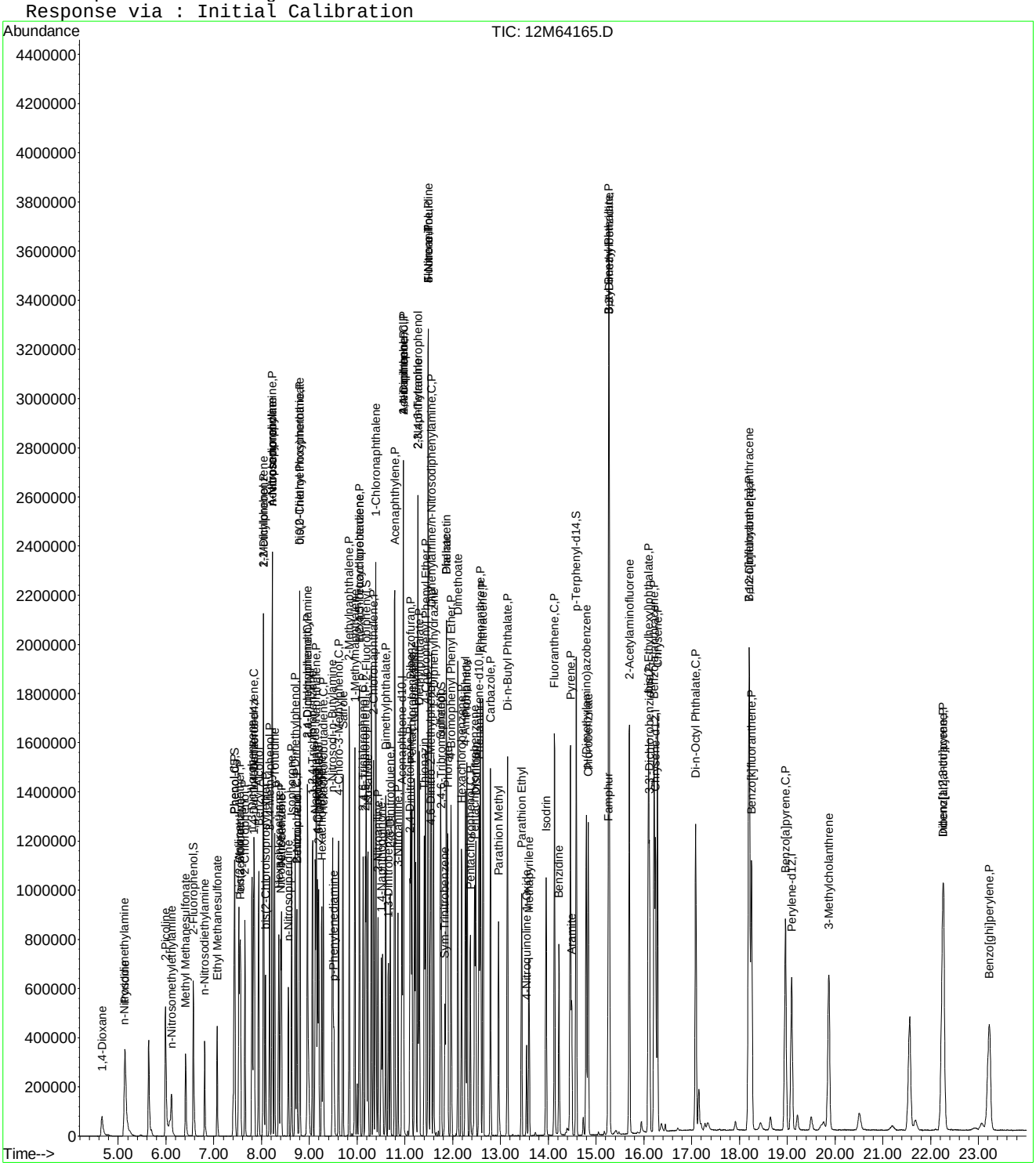
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 97) | Dimethoate | 12.11 | 87 | 204528 | 52.8913 | ug/ml | 97 |
| 98) | 4-Aminobiphenyl | 12.27 | 169 | 570993 | 49.8928 | ug/ml | 99 |
| 99) | Pentachlorophenol | 12.37 | 266 | 97126 | 49.3543 | ug/ml | 98 |
| 100) | Pronamide | 12.30 | 173 | 264266 | 52.9216 | ug/ml | 98 |
| 101) | Pentachloronitrobenzene | 12.45 | 237 | 86034 | 59.3291 | ug/ml | 96 |
| 102) | Disulfoton | 12.48 | 88 | 281314 | 53.5922 | ug/ml | 98 |
| 103) | Phenanthrene | 12.58 | 178 | 815361 | 50.9349 | ug/ml | 100 |
| 104) | Anthracene | 12.64 | 178 | 855831 | 51.3743 | ug/ml | 99 |
| 105) | Carbazole | 12.79 | 167 | 727857 | 50.6881 | ug/ml | 99 |
| 106) | Parathion Methyl | 12.96 | 109 | 184185 | 52.6937 | ug/ml | 96 |
| 107) | Di-n-Butyl Phthalate | 13.14 | 149 | 984573 | 51.7917 | ug/ml | 99 |
| 108) | Parathion Ethyl | 13.44 | 97 | 130668 | 55.4969 | ug/ml | 99 |
| 109) | 4-Nitroquinoline 1-Oxide | 13.54 | 190 | 41536 | 36.7790 | ug/ml | 90 |
| 110) | Methapyrilene | 13.59 | 58 | 244880 | 44.1360 | ug/ml | 100 |
| 111) | Isodrin | 13.96 | 193 | 92388 | 50.4182 | ug/ml | 97 |
| 112) | Fluoranthene | 14.13 | 202 | 901443 | 51.0131 | ug/ml | 100 |
| 114) | Benzidine | 14.22 | 184 | 365293 | 51.0921 | ug/ml | 100 |
| 115) | Pyrene | 14.46 | 202 | 931196 | 51.9619 | ug/ml | 99 |
| 116) | Aramite | 14.49 | 185 | 56248 | 51.2847 | ug/ml | 96 |
| 118) | p-(Dimethylamino)azobenzen | 14.79 | 225 | 182626 | 51.9368 | ug/ml | 94 |
| 119) | Chlorobenzilate | 14.84 | 251 | 262845 | 53.5302 | ug/ml | 100 |
| 120) | Famphur | 15.24 | 218 | 34166 | 30.2151 | ug/ml# | 71 |
| 121) | Butyl Benzyl Phthalate | 15.26 | 149 | 519281 | 57.7271 | ug/ml | 98 |
| 122) | 3,3'-Dimethylbenzidine | 15.28 | 212 | 953320 | 61.4805 | ug/ml | 99 |
| 123) | 2-Acetylaminofluorene | 15.70 | 181 | 431491 | 57.1311 | ug/ml | 98 |
| 124) | bis(2-Ethylhexyl)phthalate | 16.09 | 149 | 644213 | 55.7923 | ug/ml | 99 |
| 125) | 3,3'-Dichlorobenzidine | 16.12 | 252 | 322796 | 55.4019 | ug/ml | 98 |
| 126) | Benzo[a]anthracene | 16.22 | 228 | 923070 | 54.4139 | ug/ml | 100 |
| 127) | Chrysene | 16.29 | 228 | 838254 | 54.4621 | ug/ml | 100 |
| 129) | Di-n-Octyl Phthalate | 17.08 | 149 | 1104137 | 50.7324 | ug/ml | 100 |
| 130) | 7,12-Dimethylbenz[a]anthra | 18.20 | 256 | 494043 | 55.3492 | ug/ml | 94 |
| 131) | Benzo[b]fluoranthene | 18.20 | 252 | 1086407 | 55.8809 | ug/ml | 98 |
| 132) | Benzo[k]fluoranthene | 18.25 | 252 | 866438 | 53.1165 | ug/ml | 99 |
| 133) | Benzo[a]pyrene | 18.96 | 252 | 875597 | 54.4932 | ug/ml | 98 |
| 134) | 3-Methylcholanthrene | 19.87 | 268 | 443365 | 53.1262 | ug/ml | 98 |
| 135) | Indeno[1,2,3-cd]pyrene | 22.27 | 276 | 1031141 | 58.5438 | ug/ml | 97 |
| 136) | Dibenz[ah]anthracene | 22.26 | 278 | 836962 | 55.7084 | ug/ml | 98 |
| 137) | Benzo[ghi]perylene | 23.23 | 276 | 806310 | 57.6769 | ug/ml | 97 |

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

Quantitation Report (QT Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64165.D Vial: 2
Acq On : 31 Aug 2017 9:39 am Operator: SCB
Sample : WG627960-02 50PPM 8270 STD Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 10:35 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



Data File : I:\MSDCHEM\1\DATA\083117\12M64165.D Vial: 2
Acq On : 31 Aug 2017 9:39 am Operator: SCB
Sample : WG627960-02 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 | 104 | 0.00 |
| 2 | | 1,4-Dioxane | 0.523 | 0.539 | -3.1 | 96 | -0.01 |
| 3 | | n-Nitrosodimethylamine | 0.725 | 0.808 | -11.4 | 108 | -0.01 |
| 4 | | Pyridine | 1.325 | 1.410 | -6.4 | 102 | 0.00 |
| 5 | | 2-Picoline | 1.433 | 1.585 | -10.6 | 109 | 0.00 |
| 6 | | n-Nitrosomethylethylamine | 0.577 | 0.654 | -13.3 | 109 | 0.00 |
| 7 | | Methyl Methanesulfonate | 0.925 | 1.039 | -12.3 | 111 | 0.00 |
| 8 | S | 2-Fluorophenol | 1.218 | 1.255 | -3.0 | 102 | 0.00 |
| 9 | | n-Nitrosodiethylamine | 0.610 | 0.668 | -9.5 | 107 | 0.00 |
| 10 | | Ethyl Methanesulfonate | 0.966 | 1.129 | -16.9 | 114 | 0.00 |
| 11 | | Aniline | 0.811 | 0.948 | -16.9 | 113 | 0.00 |
| 12 | S | Phenol-d5 | 1.557 | 1.702 | -9.3 | 108 | 0.00 |
| 13 | C,P | Phenol | 1.583 | 1.788 | -13.0 | 112 | 0.00 |
| 14 | P | bis(2-Chloroethyl)ether | 0.931 | 1.055 | -13.3 | 112 | 0.00 |
| 15 | | Pentachloroethane | 0.528 | 0.539 | -2.1 | 105 | 0.00 |
| 16 | P | 2-Chlorophenol | 1.330 | 1.311 | 1.4 | 99 | 0.00 |
| 17 | | 1,3-Dichlorobenzene | 1.456 | 1.470 | -1.0 | 103 | 0.00 |
| 18 | C | 1,4-Dichlorobenzene | 1.481 | 1.524 | -2.9 | 106 | 0.00 |
| 19 | | Benzyl Alcohol | 0.847 | 0.924 | -9.1 | 108 | 0.00 |
| 20 | | 1,2-Dichlorobenzene | 1.408 | 1.520 | -8.0 | 109 | 0.00 |
| 21 | P | 2-Methylphenol | 1.137 | 1.242 | -9.2 | 108 | 0.00 |
| 22 | P | bis(2-Chloroisopropyl)ether | 1.127 | 1.222 | -8.4 | 107 | 0.00 |
| 23 | P | 3-,4-Methylphenol | 1.438 | 1.490 | -3.6 | 103 | 0.00 |
| 24 | | n-Nitrosopyrrolidine | 0.617 | 0.722 | -17.0 | 113 | 0.00 |
| 25 | P | n-Nitrosodipropylamine | 0.989 | 1.144 | -15.7 | 113 | 0.00 |
| 26 | | Acetophenone | 1.949 | 2.196 | -12.7 | 112 | 0.00 |
| 27 | | n-Nitrosomorpholine | 0.766 | 0.899 | -17.4 | 117 | 0.00 |
| 28 | | o-Toluidine | 2.130 | 2.198 | -3.2 | 102 | 0.00 |
| 29 | P | Hexachloroethane | 0.622 | 0.662 | -6.4 | 107 | 0.00 |
| 30 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 31 | S | Nitrobenzene-d5 | 0.399 | 0.443 | -11.0 | 113 | 0.00 |
| 32 | P | Nitrobenzene | 0.395 | 0.442 | -11.9 | 115 | 0.00 |
| 33 | | n-Nitrosopiperidine | 0.171 | 0.174 | -1.8 | 103 | 0.00 |
| 34 | P | Isophorone | 0.686 | 0.750 | -9.3 | 110 | 0.00 |
| 35 | C,P | 2-Nitrophenol | 0.187 | 0.189 | -1.1 | 104 | 0.00 |
| 36 | P | 2,4-Dimethylphenol | 0.312 | 0.305 | 2.2 | 99 | 0.00 |
| 37 | | 0,0,0-Triethyl Phosphorothi | 0.183 | 0.204 | -11.5 | 117 | 0.00 |
| 38 | P | bis(2-Chloroethoxy)methane | 0.540 | 0.608 | -12.6 | 113 | 0.00 |
| 39 | | Benzoic Acid | 0.156 | 0.080 | 48.7# | 57 | 0.00 |
| 40 | C,P | 2,4-Dichlorophenol | 0.284 | 0.300 | -5.6 | 107 | 0.00 |
| 41 | | a,a-Dimethylphenethylamine | 0.666 | 0.744 | -11.7 | 110 | 0.00 |
| 42 | | 1,2,4-Trichlorobenzene | 0.328 | 0.334 | -1.8 | 108 | 0.00 |
| 43 | P | Naphthalene | 1.062 | 1.036 | 2.4 | 101 | 0.00 |
| 44 | P | 4-Chloroaniline | 0.147 | 0.168 | -14.3 | 113 | 0.00 |
| 45 | | 2,6-Dichlorophenol | 0.261 | 0.260 | 0.4 | 104 | 0.00 |
| 46 | | Hexachloropropene | 0.243 | 0.267 | -9.9 | 116 | 0.00 |
| 47 | C,P | Hexachlorobutadiene | 0.190 | 0.203 | -6.8 | 117 | 0.00 |
| 48 | | n-Nitrosodi-n-Butylamine | 0.321 | 0.368 | -14.6 | 112 | 0.00 |
| 49 | | p-Phenylenediamine | 0.239 | 0.229 | 4.2 | 98 | 0.00 |
| 50 | C,P | 4-Chloro-3-Methylphenol | 0.354 | 0.377 | -6.5 | 107 | 0.00 |
| 51 | | Safrole | 0.274 | 0.278 | -1.5 | 105 | 0.00 |
| 52 | P | 2-Methylnaphthalene | 0.721 | 0.752 | -4.3 | 107 | 0.00 |
| 53 | | 1-Methylnaphthalene | 0.660 | 0.682 | -3.3 | 107 | 0.00 |

(#) = Out of Range

Data File : I:\MSDCHEM\1\DATA\083117\12M64165.D Vial: 2
Acq On : 31 Aug 2017 9:39 am Operator: SCB
Sample : WG627960-02 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 | 106 | 0.00 |
| 55 | | 1,2,4,5-Tetrachlorobenzene | 0.636 | 0.679 | -6.8 | 113 | 0.00 |
| 56 | P | Hexachlorocyclopentadiene | 0.283 | 0.328 | -15.9 | 113 | 0.00 |
| 57 | C,P | 2,4,6-Trichlorophenol | 0.417 | 0.435 | -4.3 | 109 | 0.00 |
| 58 | P | 2,4,5-Trichlorophenol | 0.436 | 0.451 | -3.4 | 110 | 0.00 |
| 59 | S | 2-Fluorobiphenyl | 1.389 | 1.425 | -2.6 | 109 | 0.00 |
| 60 | | Isosafrole | 0.505 | 0.497 | 1.6 | 104 | 0.00 |
| 61 | P | 2-Chloronaphthalene | 1.271 | 1.304 | -2.6 | 108 | 0.00 |
| 62 | | 1-Chloronaphthalene | 1.220 | 1.295 | -6.1 | 111 | 0.00 |
| 63 | P | 2-Nitroaniline | 0.411 | 0.466 | -13.4 | 116 | 0.00 |
| 64 | | 1,4-Naphthoquinone | 0.345 | 0.331 | 4.1 | 98 | 0.00 |
| 65 | P | Dimethylphthalate | 1.479 | 1.522 | -2.9 | 109 | 0.00 |
| 66 | | 1,3-Dinitrobenzene | 0.252 | 0.249 | 1.2 | 102 | 0.00 |
| 67 | P | 2,6-Dinitrotoluene | 0.344 | 0.348 | -1.2 | 105 | 0.00 |
| 68 | P | Acenaphthylene | 2.010 | 2.164 | -7.7 | 112 | 0.00 |
| 69 | P | 3-Nitroaniline | 0.353 | 0.345 | 2.3 | 101 | 0.00 |
| 70 | P | 2,4-Dinitrophenol | 0.192 | 0.245 | -27.6 | 123 | 0.00 |
| 71 | C,P | Acenaphthene | 1.283 | 1.428 | -11.3 | 114 | 0.00 |
| 72 | P | 4-Nitrophenol | 0.320 | 0.389 | -21.6 | 121 | 0.00 |
| 73 | P | 2,4-Dinitrotoluene | 0.472 | 0.493 | -4.4 | 108 | 0.00 |
| 74 | | Pentachlorobenzene | 0.513 | 0.558 | -8.8 | 118 | 0.00 |
| 75 | P | Dibenzofuran | 1.807 | 1.875 | -3.8 | 109 | 0.00 |
| 76 | | 2,3,4,6-Tetrachlorophenol | 0.376 | 0.444 | -18.1 | 122 | 0.00 |
| 77 | | 1-Naphthylamine | 1.266 | 1.283 | -1.3 | 105 | 0.00 |
| 78 | | 2-Naphthylamine | 1.299 | 1.408 | -8.4 | 112 | 0.00 |
| 79 | P | Diethylphthalate | 1.524 | 1.620 | -6.3 | 111 | 0.00 |
| 80 | | Thionazin | 0.249 | 0.260 | -4.4 | 105 | 0.00 |
| 81 | P | Fluorene | 1.534 | 1.728 | -12.6 | 115 | 0.00 |
| 82 | P | 4-Chlorophenyl Phenyl Ether | 0.760 | 0.795 | -4.6 | 112 | 0.00 |
| 83 | P | 4-Nitroaniline | 0.392 | 0.426 | -8.7 | 111 | 0.00 |
| 84 | | 5-Nitro-o-Toluidine | 0.444 | 0.513 | -15.5 | 117 | 0.00 |
| 85 | | 1,2-Diphenylhydrazine | 1.572 | 1.771 | -12.7 | 115 | 0.00 |
| 86 | S | 2,4,6-Tribromophenol | 0.211 | 0.212 | -0.5 | 106 | 0.00 |
| 87 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 109 | 0.00 |
| 88 | P | 4,6-Dinitro-2-Methylphenol | 0.143 | 0.154 | -7.7 | 110 | 0.00 |
| 89 | C,P | Diphenylamine/n-Nitrosodiph | 0.669 | 0.698 | -4.3 | 111 | 0.00 |
| 90 | | Sulfotepp | 0.132 | 0.134 | -1.5 | 111 | 0.00 |
| 91 | | Sym-Trinitrobenzene | 0.238 | 0.281 | -18.1 | 116 | 0.00 |
| 92 | | Diallate | 0.283 | 0.311 | -9.9 | 113 | 0.00 |
| 93 | | Phenacetin | 0.419 | 0.472 | -12.6 | 116 | 0.00 |
| 94 | | Phorate | 0.448 | 0.487 | -8.7 | 112 | 0.00 |
| 95 | P | 4-Bromophenyl Phenyl Ether | 0.210 | 0.223 | -6.2 | 114 | 0.00 |
| 96 | P | Hexachlorobenzene | 0.218 | 0.221 | -1.4 | 111 | 0.00 |
| 97 | | Dimethoate | 0.267 | 0.282 | -5.6 | 107 | 0.00 |
| 98 | | 4-Aminobiphenyl | 0.789 | 0.788 | 0.1 | 104 | 0.00 |
| 99 | C,P | Pentachlorophenol | 0.131 | 0.134 | -2.3 | 106 | 0.00 |
| 100 | | Pronamide | 0.344 | 0.365 | -6.1 | 112 | 0.00 |
| 101 | | Pentachloronitrobenzene | 0.100 | 0.119 | -19.0 | 127 | 0.00 |
| 102 | | Disulfoton | 0.362 | 0.388 | -7.2 | 109 | 0.00 |
| 103 | P | Phenanthrene | 1.104 | 1.125 | -1.9 | 109 | 0.00 |
| 104 | P | Anthracene | 1.149 | 1.180 | -2.7 | 109 | 0.00 |
| 105 | P | Carbazole | 0.990 | 1.004 | -1.4 | 106 | 0.00 |
| 106 | | Parathion Methyl | 0.241 | 0.254 | -5.4 | 106 | 0.00 |

(#) = Out of Range
12M64165.D MEGAMIX.M Thu Aug 31 10:36:12 2017 Page 2

Data File : I:\MSDCHEM\1\DATA\083117\12M64165.D Vial: 2
Acq On : 31 Aug 2017 9:39 am Operator: SCB
Sample : WG627960-02 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 | 1.358 | -3.6 | 108 | 0.00 |
| 108 | | Parathion Ethyl | 0.162 | 0.180 | -11.1 | 110 | 0.00 |
| 109 | | 4-Nitroquinoline 1-Oxide | 0.070 | 0.057 | 18.6 | 74 | 0.00 |
| 110 | | Methapyrilene | 0.360 | 0.338 | 6.1 | 101 | 0.00 |
| 111 | | Isodrin | 0.126 | 0.127 | -0.8 | 108 | 0.00 |
| 112 | C,P | Fluoranthene | 1.219 | 1.243 | -2.0 | 108 | 0.00 |
| 113 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 108 | 0.00 |
| 114 | | Benzidine | 0.499 | 0.510 | -2.2 | 100 | 0.00 |
| 115 | P | Pyrene | 1.251 | 1.300 | -3.9 | 108 | 0.00 |
| 116 | | Aramite | 0.077 | 0.079 | -2.6 | 102 | 0.00 |
| 117 | S | p-Terphenyl-d14 | 0.861 | 0.900 | -4.5 | 110 | 0.00 |
| 118 | | p-(Dimethylamino)azobenzene | 0.245 | 0.255 | -4.1 | 107 | 0.00 |
| 119 | | Chlorobenzilate | 0.343 | 0.367 | -7.0 | 113 | 0.00 |
| 120 | | Famphur | 0.079 | 0.048# | 39.2 | 65 | 0.00 |
| 121 | P | Butyl Benzyl Phthalate | 0.628 | 0.725 | -15.4 | 118 | 0.00 |
| 122 | | 3,3'-Dimethylbenzidine | 1.082 | 1.330 | -22.9 | 124 | 0.00 |
| 123 | | 2-Acetylaminofluorene | 0.527 | 0.602 | -14.2 | 112 | 0.00 |
| 124 | P | bis(2-Ethylhexyl)phthalate | 0.806 | 0.899 | -11.5 | 111 | 0.00 |
| 125 | P | 3,3'-Dichlorobenzidine | 0.407 | 0.451 | -10.8 | 116 | 0.00 |
| 126 | P | Benzo[a]anthracene | 1.184 | 1.288 | -8.8 | 114 | 0.00 |
| 127 | P | Chrysene | 1.074 | 1.170 | -8.9 | 115 | 0.00 |
| 128 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 117 | -0.01 |
| 129 | C,P | Di-n-Octyl Phthalate | 1.493 | 1.515 | -1.5 | 112 | 0.00 |
| 130 | | 7,12-Dimethylbenz[a]anthrac | 0.612 | 0.678 | -10.8 | 125 | 0.00 |
| 131 | P | Benzo[b]fluoranthene | 1.333 | 1.490 | -11.8 | 131 | 0.00 |
| 132 | P | Benzo[k]fluoranthene | 1.119 | 1.189 | -6.3 | 127 | 0.00 |
| 133 | C,P | Benzo[a]pyrene | 1.102 | 1.201 | -9.0 | 124 | 0.00 |
| 134 | | 3-Methylcholanthrene | 0.572 | 0.608 | -6.3 | 119 | 0.00 |
| 135 | P | Indeno[1,2,3-cd]pyrene | 1.208 | 1.415 | -17.1 | 129 | 0.00 |
| 136 | P | Dibenz[ah]anthracene | 1.030 | 1.148 | -11.5 | 122 | -0.01 |
| 137 | P | Benzo[ghi]perylene | 0.959 | 1.106 | -15.3 | 127 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
12M64165.D MEGAMIX.M Thu Aug 31 10:36:13 2017 Page 3

Data File : I:\MSDCHEM\1\DATA\083117\12M64165.D Vial: 2
Acq On : 31 Aug 2017 9:39 am Operator: SCB
Sample : WG627960-02 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 | 104 | 0.00 |
| 2 | | 1,4-Dioxane | 50.000 | 51.486 | -3.0 | 96 | -0.01 |
| 3 | | n-Nitrosodimethylamine | 50.000 | 55.734 | -11.5 | 108 | -0.01 |
| 4 | | Pyridine | 50.000 | 53.215 | -6.4 | 102 | 0.00 |
| 5 | | 2-Picoline | 50.000 | 55.283 | -10.6 | 109 | 0.00 |
| 6 | | n-Nitrosomethylethylamine | 50.000 | 56.691 | -13.4 | 109 | 0.00 |
| 7 | | Methyl Methanesulfonate | 50.000 | 56.167 | -12.3 | 111 | 0.00 |
| 8 | S | 2-Fluorophenol | 50.000 | 51.517 | -3.0 | 102 | 0.00 |
| 9 | | n-Nitrosodiethylamine | 50.000 | 54.822 | -9.6 | 107 | 0.00 |
| 10 | | Ethyl Methanesulfonate | 50.000 | 58.439 | -16.9 | 114 | 0.00 |
| 11 | | Aniline | 50.000 | 58.462 | -16.9 | 113 | 0.00 |
| 12 | S | Phenol-d5 | 50.000 | 54.634 | -9.3 | 108 | 0.00 |
| 13 | C,P | Phenol | 50.000 | 56.461 | -12.9 | 112 | 0.00 |
| 14 | P | bis(2-Chloroethyl)ether | 50.000 | 56.645 | -13.3 | 112 | 0.00 |
| 15 | | Pentachloroethane | 50.000 | 51.027 | -2.1 | 105 | 0.00 |
| 16 | P | 2-Chlorophenol | 50.000 | 49.281 | 1.4 | 99 | 0.00 |
| 17 | | 1,3-Dichlorobenzene | 50.000 | 50.459 | -0.9 | 103 | 0.00 |
| 18 | C | 1,4-Dichlorobenzene | 50.000 | 51.477 | -3.0 | 106 | 0.00 |
| 19 | | Benzyl Alcohol | 50.000 | 54.534 | -9.1 | 108 | 0.00 |
| 20 | | 1,2-Dichlorobenzene | 50.000 | 53.999 | -8.0 | 109 | 0.00 |
| 21 | P | 2-Methylphenol | 50.000 | 54.592 | -9.2 | 108 | 0.00 |
| 22 | P | bis(2-Chloroisopropyl)ether | 50.000 | 54.207 | -8.4 | 107 | 0.00 |
| 23 | P | 3-,4-Methylphenol | 50.000 | 51.808 | -3.6 | 103 | 0.00 |
| 24 | | n-Nitrosopyrrolidine | 50.000 | 58.490 | -17.0 | 113 | 0.00 |
| 25 | P | n-Nitrosodipropylamine | 50.000 | 57.885 | -15.8 | 113 | 0.00 |
| 26 | | Acetophenone | 50.000 | 56.345 | -12.7 | 112 | 0.00 |
| 27 | | n-Nitrosomorpholine | 50.000 | 58.738 | -17.5 | 117 | 0.00 |
| 28 | | o-Toluidine | 50.000 | 51.586 | -3.2 | 102 | 0.00 |
| 29 | P | Hexachloroethane | 50.000 | 53.230 | -6.5 | 107 | 0.00 |
| 30 | I | Naphthalene-d8 | 40.000 | 40.000 | 0.0 | 106 | 0.00 |
| 31 | S | Nitrobenzene-d5 | 50.000 | 55.535 | -11.1 | 113 | 0.00 |
| 32 | P | Nitrobenzene | 50.000 | 55.964 | -11.9 | 115 | 0.00 |
| 33 | | n-Nitrosopiperidine | 50.000 | 50.814 | -1.6 | 103 | 0.00 |
| 34 | P | Isophorone | 50.000 | 54.692 | -9.4 | 110 | 0.00 |
| 35 | C,P | 2-Nitrophenol | 50.000 | 50.298 | -0.6 | 104 | 0.00 |
| 36 | P | 2,4-Dimethylphenol | 50.000 | 48.793 | 2.4 | 99 | 0.00 |
| 37 | | 0,0,0-Triethyl Phosphorothi | 50.000 | 55.731 | -11.5 | 117 | 0.00 |
| 38 | P | bis(2-Chloroethoxy)methane | 50.000 | 56.347 | -12.7 | 113 | 0.00 |
| 39 | | Benzoic Acid | 50.000 | 30.761 | 38.5 | 57 | 0.00 |
| 40 | C,P | 2,4-Dichlorophenol | 50.000 | 52.877 | -5.8 | 107 | 0.00 |
| 41 | | a,a-Dimethylphenethylamine | 50.000 | 55.877 | -11.8 | 110 | 0.00 |
| 42 | | 1,2,4-Trichlorobenzene | 50.000 | 50.792 | -1.6 | 108 | 0.00 |
| 43 | P | Naphthalene | 50.000 | 48.744 | 2.5 | 101 | 0.00 |
| 44 | P | 4-Chloroaniline | 50.000 | 57.076 | -14.2 | 113 | 0.00 |
| 45 | | 2,6-Dichlorophenol | 50.000 | 49.770 | 0.5 | 104 | 0.00 |
| 46 | | Hexachloropropene | 50.000 | 54.854 | -9.7 | 116 | 0.00 |
| 47 | C,P | Hexachlorobutadiene | 50.000 | 53.401 | -6.8 | 117 | 0.00 |
| 48 | | n-Nitrosodi-n-Butylamine | 50.000 | 57.287 | -14.6 | 112 | 0.00 |
| 49 | | p-Phenylenediamine | 50.000 | 47.912 | 4.2 | 98 | 0.00 |
| 50 | C,P | 4-Chloro-3-Methylphenol | 50.000 | 53.259 | -6.5 | 107 | 0.00 |
| 51 | | Safrole | 50.000 | 50.834 | -1.7 | 105 | 0.00 |
| 52 | P | 2-Methylnaphthalene | 50.000 | 52.124 | -4.2 | 107 | 0.00 |
| 53 | | 1-Methylnaphthalene | 50.000 | 51.666 | -3.3 | 107 | 0.00 |

(#) = Out of Range
12M64165.D MEGAMIX.M Thu Aug 31 10:36:14 2017 Page 1

Data File : I:\MSDCHEM\1\DATA\083117\12M64165.D Vial: 2
Acq On : 31 Aug 2017 9:39 am Operator: SCB
Sample : WG627960-02 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 | 106 | 0.00 |
| 55 | | 1,2,4,5-Tetrachlorobenzene | 50.000 | 53.347 | -6.7 | 113 | 0.00 |
| 56 | P | Hexachlorocyclopentadiene | 50.000 | 52.554 | -5.1 | 113 | 0.00 |
| 57 | C,P | 2,4,6-Trichlorophenol | 50.000 | 52.114 | -4.2 | 109 | 0.00 |
| 58 | P | 2,4,5-Trichlorophenol | 50.000 | 51.684 | -3.4 | 110 | 0.00 |
| 59 | S | 2-Fluorobiphenyl | 50.000 | 51.300 | -2.6 | 109 | 0.00 |
| 60 | | Isosafrole | 50.000 | 49.217 | 1.6 | 104 | 0.00 |
| 61 | P | 2-Chloronaphthalene | 50.000 | 51.319 | -2.6 | 108 | 0.00 |
| 62 | | 1-Chloronaphthalene | 50.000 | 53.076 | -6.2 | 111 | 0.00 |
| 63 | P | 2-Nitroaniline | 50.000 | 56.752 | -13.5 | 116 | 0.00 |
| 64 | | 1,4-Naphthoquinone | 50.000 | 47.940 | 4.1 | 98 | 0.00 |
| 65 | P | Dimethylphthalate | 50.000 | 51.454 | -2.9 | 109 | 0.00 |
| 66 | | 1,3-Dinitrobenzene | 50.000 | 49.379 | 1.2 | 102 | 0.00 |
| 67 | P | 2,6-Dinitrotoluene | 50.000 | 50.629 | -1.3 | 105 | 0.00 |
| 68 | P | Acenaphthylene | 50.000 | 53.841 | -7.7 | 112 | 0.00 |
| 69 | P | 3-Nitroaniline | 50.000 | 48.906 | 2.2 | 101 | 0.00 |
| 70 | P | 2,4-Dinitrophenol | 50.000 | 56.818 | -13.6 | 123 | 0.00 |
| 71 | C,P | Acenaphthene | 50.000 | 55.629 | -11.3 | 114 | 0.00 |
| 72 | P | 4-Nitrophenol | 50.000 | 60.907 | -21.8 | 121 | 0.00 |
| 73 | P | 2,4-Dinitrotoluene | 50.000 | 52.229 | -4.5 | 108 | 0.00 |
| 74 | | Pentachlorobenzene | 50.000 | 54.400 | -8.8 | 118 | 0.00 |
| 75 | P | Dibenzofuran | 50.000 | 51.856 | -3.7 | 109 | 0.00 |
| 76 | | 2,3,4,6-Tetrachlorophenol | 50.000 | 59.039 | -18.1 | 122 | 0.00 |
| 77 | | 1-Naphthylamine | 50.000 | 50.669 | -1.3 | 105 | 0.00 |
| 78 | | 2-Naphthylamine | 50.000 | 54.190 | -8.4 | 112 | 0.00 |
| 79 | P | Diethylphthalate | 50.000 | 53.157 | -6.3 | 111 | 0.00 |
| 80 | | Thionazin | 50.000 | 52.191 | -4.4 | 105 | 0.00 |
| 81 | P | Fluorene | 50.000 | 56.318 | -12.6 | 115 | 0.00 |
| 82 | P | 4-Chlorophenyl Phenyl Ether | 50.000 | 52.296 | -4.6 | 112 | 0.00 |
| 83 | P | 4-Nitroaniline | 50.000 | 54.257 | -8.5 | 111 | 0.00 |
| 84 | | 5-Nitro-o-Toluidine | 50.000 | 57.766 | -15.5 | 117 | 0.00 |
| 85 | | 1,2-Diphenylhydrazine | 50.000 | 56.335 | -12.7 | 115 | 0.00 |
| 86 | S | 2,4,6-Tribromophenol | 50.000 | 50.321 | -0.6 | 106 | 0.00 |
| 87 | I | Phenanthrene-d10 | 40.000 | 40.000 | 0.0 | 109 | 0.00 |
| 88 | P | 4,6-Dinitro-2-Methylphenol | 50.000 | 48.877 | 2.2 | 110 | 0.00 |
| 89 | C,P | Diphenylamine/n-Nitrosodiph | 50.000 | 52.171 | -4.3 | 111 | 0.00 |
| 90 | | Sulfotepp | 50.000 | 50.790 | -1.6 | 111 | 0.00 |
| 91 | | Sym-Trinitrobenzene | 50.000 | 54.295 | -8.6 | 116 | 0.00 |
| 92 | | Diallate | 50.000 | 54.925 | -9.8 | 113 | 0.00 |
| 93 | | Phenacetin | 50.000 | 56.319 | -12.6 | 116 | 0.00 |
| 94 | | Phorate | 50.000 | 54.347 | -8.7 | 112 | 0.00 |
| 95 | P | 4-Bromophenyl Phenyl Ether | 50.000 | 53.055 | -6.1 | 114 | 0.00 |
| 96 | P | Hexachlorobenzene | 50.000 | 50.807 | -1.6 | 111 | 0.00 |
| 97 | | Dimethoate | 50.000 | 52.891 | -5.8 | 107 | 0.00 |
| 98 | | 4-Aminobiphenyl | 50.000 | 49.893 | 0.2 | 104 | 0.00 |
| 99 | C,P | Pentachlorophenol | 50.000 | 49.354 | 1.3 | 106 | 0.00 |
| 100 | | Pronamide | 50.000 | 52.922 | -5.8 | 112 | 0.00 |
| 101 | | Pentachloronitrobenzene | 50.000 | 59.329 | -18.7 | 127 | 0.00 |
| 102 | | Disulfoton | 50.000 | 53.592 | -7.2 | 109 | 0.00 |
| 103 | P | Phenanthrene | 50.000 | 50.935 | -1.9 | 109 | 0.00 |
| 104 | P | Anthracene | 50.000 | 51.374 | -2.7 | 109 | 0.00 |
| 105 | P | Carbazole | 50.000 | 50.688 | -1.4 | 106 | 0.00 |
| 106 | | Parathion Methyl | 50.000 | 52.694 | -5.4 | 106 | 0.00 |

(#) = Out of Range

Data File : I:\MSDCHEM\1\DATA\083117\12M64165.D Vial: 2
Acq On : 31 Aug 2017 9:39 am Operator: SCB
Sample : WG627960-02 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

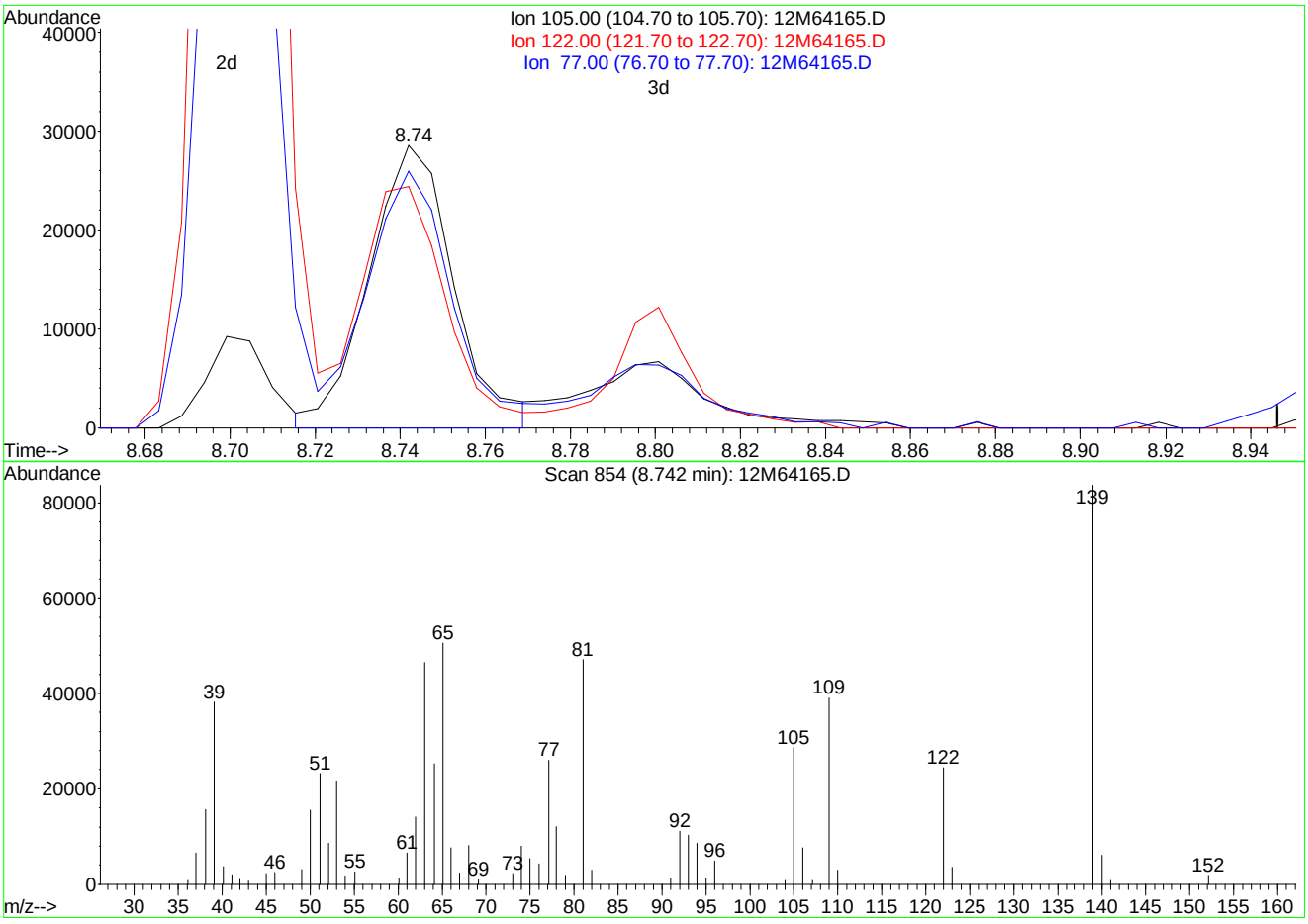
Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 40% Max. Rel. Area : 500%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 107 | P | Di-n-Butyl Phthalate | 50.000 | 51.792 | -3.6 | 108 | 0.00 |
| 108 | | Parathion Ethyl | 50.000 | 55.497 | -11.0 | 110 | 0.00 |
| 109 | | 4-Nitroquinoline 1-Oxide | 50.000 | 36.779 | 26.4 | 74 | 0.00 |
| 110 | | Methapyrilene | 50.000 | 44.136 | 11.7 | 101 | 0.00 |
| 111 | | Isodrin | 50.000 | 50.418 | -0.8 | 108 | 0.00 |
| 112 | C,P | Fluoranthene | 50.000 | 51.013 | -2.0 | 108 | 0.00 |
| 113 | I | Chrysene-d12 | 40.000 | 40.000 | 0.0 | 108 | 0.00 |
| 114 | | Benzidine | 50.000 | 51.092 | -2.2 | 100 | 0.00 |
| 115 | P | Pyrene | 50.000 | 51.962 | -3.9 | 108 | 0.00 |
| 116 | | Aramite | 50.000 | 51.285 | -2.6 | 102 | 0.00 |
| 117 | S | p-Terphenyl-d14 | 50.000 | 52.249 | -4.5 | 110 | 0.00 |
| 118 | | p-(Dimethylamino)azobenzene | 50.000 | 51.937 | -3.9 | 107 | 0.00 |
| 119 | | Chlorobenzilate | 50.000 | 53.530 | -7.1 | 113 | 0.00 |
| 120 | | Famphur | 50.000 | 30.215 | 39.6 | 65 | 0.00 |
| 121 | P | Butyl Benzyl Phthalate | 50.000 | 57.727 | -15.5 | 118 | 0.00 |
| 122 | | 3,3'-Dimethylbenzidine | 50.000 | 61.481 | -23.0 | 124 | 0.00 |
| 123 | | 2-Acetylaminofluorene | 50.000 | 57.131 | -14.3 | 112 | 0.00 |
| 124 | P | bis(2-Ethylhexyl)phthalate | 50.000 | 55.792 | -11.6 | 111 | 0.00 |
| 125 | P | 3,3'-Dichlorobenzidine | 50.000 | 55.402 | -10.8 | 116 | 0.00 |
| 126 | P | Benzo[a]anthracene | 50.000 | 54.414 | -8.8 | 114 | 0.00 |
| 127 | P | Chrysene | 50.000 | 54.462 | -8.9 | 115 | 0.00 |
| 128 | I | Perylene-d12 | 40.000 | 40.000 | 0.0 | 117 | -0.01 |
| 129 | C,P | Di-n-Octyl Phthalate | 50.000 | 50.732 | -1.5 | 112 | 0.00 |
| 130 | | 7,12-Dimethylbenz[a]anthrac | 50.000 | 55.349 | -10.7 | 125 | 0.00 |
| 131 | P | Benzo[b]fluoranthene | 50.000 | 55.881 | -11.8 | 131 | 0.00 |
| 132 | P | Benzo[k]fluoranthene | 50.000 | 53.116 | -6.2 | 127 | 0.00 |
| 133 | C,P | Benzo[a]pyrene | 50.000 | 54.493 | -9.0 | 124 | 0.00 |
| 134 | | 3-Methylcholanthrene | 50.000 | 53.126 | -6.3 | 119 | 0.00 |
| 135 | P | Indeno[1,2,3-cd]pyrene | 50.000 | 58.544 | -17.1 | 129 | 0.00 |
| 136 | P | Dibenz[ah]anthracene | 50.000 | 55.708 | -11.4 | 122 | -0.01 |
| 137 | P | Benzo[ghi]perylene | 50.000 | 57.677 | -15.4 | 127 | 0.00 |

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\083117\12M64165.D Vial: 2
Acq On : 31 Aug 2017 9:39 am Operator: SCB
Sample : WG627960-02 50PPM 8270 STD Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 10:04 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: 12M64165.D

(39) Benzoic Acid

8.74min 25.31ug/ml

response 39267

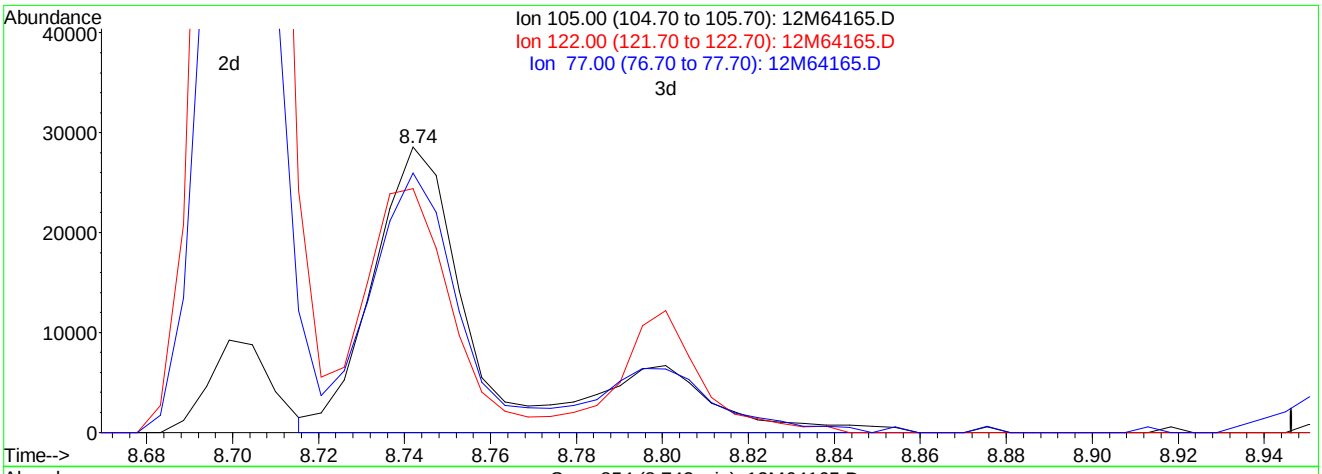
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 54.20 | 80.86# |
| 77.00 | 53.80 | 92.19# |
| 0.00 | 0.00 | 0.00 |

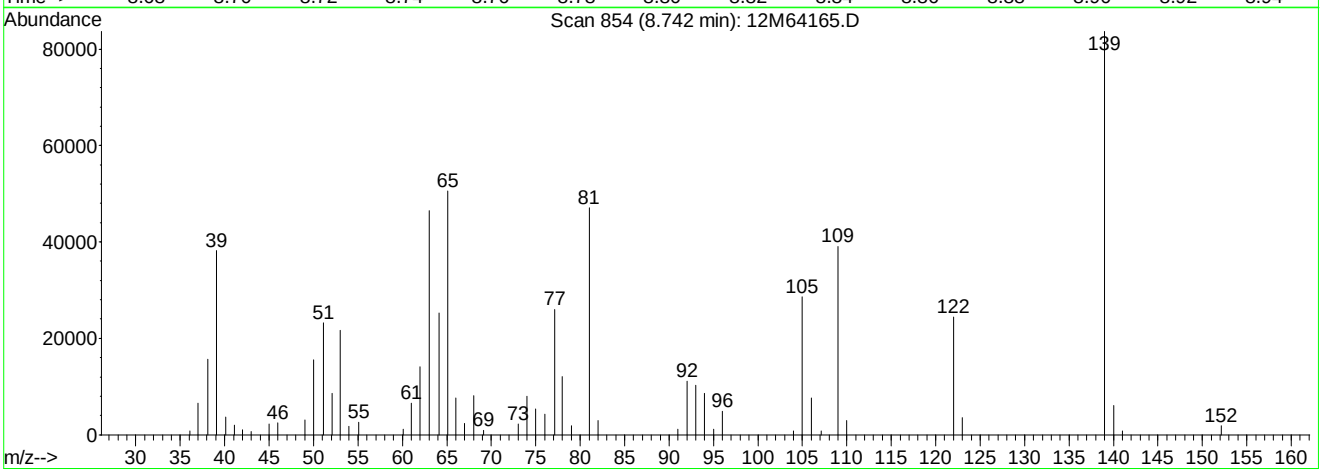
12M64165.D MEGAMIX.M Thu Aug 31 10:35:53 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\083117\12M64165.D Vial: 2
Acq On : 31 Aug 2017 9:39 am Operator: SCB
Sample : WG627960-02 50PPM 8270 STD Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 10:35 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: 12M64165.D

(39) Benzoic Acid

8.74min 30.76ug/ml mint

response 53079

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 54.20 | 59.82 |
| 77.00 | 53.80 | 68.20 |
| 0.00 | 0.00 | 0.00 |

12M64165.D MEGAMIX.M Thu Aug 31 17

Analyst: 09/05/2017 08:38 Supervisor: 09/05/2017 10:37

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000498.D Vial: 2
Acq On : 12 Sep 2017 2:21 pm Operator: MES
Sample : WG629380-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 14:42:49 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 147011 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.975 | 136 | 578835 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.780 | 164 | 292133 | 40.0000 | ug/mL | -0.0118 |
| 87) Phenanthrene-d10 | 12.369 | 188 | 559727 | 40.0000 | ug/mL | -0.0118 |
| 113) Chrysene-d12 | 16.021 | 240 | 539546 | 40.0000 | ug/mL | -0.0177 |
| 128) Perylene-d12 | 18.692 | 264 | 558287 | 40.0000 | ug/mL | -0.0236 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.428 | 112 | 248101 | 51.9417 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.281 | 99 | 298158 | 53.1270 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.245 | 82 | 257853 | 53.8402 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.039 | 172 | 499316 | 49.2761 | ug/mL | -0.0118 |
| 86) 2,4,6-Tribromophenol | 11.598 | 330 | 65365 | 54.6393 | ug/mL | -0.0118 |
| 117) p-Terphenyl-d14 | 14.380 | 244 | 529454 | 48.5142 | ug/mL | -0.0118 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.493 | 88 | 102503 | 48.001 | ug/mL | 99 |
| 3) n-Nitrosodimethylamine | 4.957 | 74 | 156085 | 51.670 | ug/mL | 97 |
| 4) Pyridine | 4.981 | 79 | 263712 | 49.238 | ug/mL | 98 |
| 5) 2-Picoline | 5.834 | 93 | 288450 | 51.304 | ug/mL | 100 |
| 6) n-Nitrosomethylethylamine | 5.957 | 88 | 129265 | 53.812 | ug/mL | 99 |
| 7) Methyl Methanesulfonate | 6.263 | 80 | 146865 | 50.608 | ug/mL | 98 |
| 9) n-Nitrosodiethylamine | 6.657 | 102 | 129601 | 53.502 | ug/mL | 100 |
| 10) Ethyl Methanesulfonate | 6.928 | 79 | 192943 | 51.830 | ug/mL | 99 |
| 11) Aniline | 7.375 | 66 | 149730 | 52.124 | ug/mL | 99 |
| 13) Phenol | 7.292 | 94 | 304967 | 50.803 | ug/mL | 98 |
| 14) bis(2-Chloroethyl)ether | 7.398 | 63 | 189772 | 49.807 | ug/mL | 84 |
| 15) Pentachloroethane | 7.410 | 167 | 91606 | 51.432 | ug/mL | 98 |
| 16) 2-Chlorophenol | 7.504 | 128 | 272164 | 52.688 | ug/mL | 99 |
| 17) 1,3-Dichlorobenzene | 7.651 | 146 | 282802 | 50.689 | ug/mL | 99 |
| 18) 1,4-Dichlorobenzene | 7.698 | 146 | 280586 | 50.353 | ug/mL | 99 |
| 19) Benzyl Alcohol | 7.792 | 108 | 174751 | 52.697 | ug/mL | 100 |
| 20) 1,2-Dichlorobenzene | 7.892 | 146 | 247367 | 49.300 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.892 | 107 | 184533 | 50.138 | ug/mL | 99 |
| 22) bis(2-Chloroisopropyl)... | 7.939 | 45 | 303148 | 49.409 | ug/mL | 100 |
| 23) 3-,4-Methylphenol | 8.022 | 107 | 264716 | 51.923 | ug/mL | 100 |
| 24) n-Nitrosopyrrolidine | 8.063 | 100 | 116251 | 52.318 | ug/mL | 98 |
| 25) n-Nitrosodipropylamine | 8.075 | 70 | 155688 | 49.277 | ug/mL | 98 |
| 26) Acetophenone | 8.081 | 105 | 300007 | 48.103 | ug/mL | 98 |
| 27) n-Nitrosomorpholine | 8.075 | 56 | 133827 | 50.344 | ug/mL | 99 |
| 28) o-Toluidine | 8.122 | 106 | 391994 | 50.766 | ug/mL | 99 |
| 29) Hexachloroethane | 8.210 | 117 | 109500 | 51.310 | ug/mL | 99 |
| 32) Nitrobenzene | 8.263 | 77 | 260143 | 52.041 | ug/mL | 100 |
| 33) n-Nitrosopiperidine | 8.410 | 114 | 135757 | 53.448 | ug/mL | 98 |
| 34) Isophorone | 8.481 | 82 | 478590 | 52.694 | ug/mL | 100 |
| 35) 2-Nitrophenol | 8.586 | 139 | 144857 | 55.253 | ug/mL | 99 |
| 36) 2,4-Dimethylphenol | 8.557 | 122 | 233160 | 52.335 | ug/mL | 100 |
| 37) 0,0,0-Triethyl Phospho... | 8.657 | 198 | 111417 | 49.934 | ug/mL | 98 |
| 38) bis(2-Chloroethoxy)met... | 8.657 | 93 | 338217 | 48.563 | ug/mL | 100 |
| 39) Benzoic Acid | 8.592 | 105 | 89191m | 39.763 | ug/mL | |
| 40) 2,4-Dichlorophenol | 8.810 | 162 | 197928 | 52.188 | ug/mL | 99 |
| 41) a,a-Dimethylphenethyla... | 8.804 | 58 | 643301 | 51.309 | ug/mL | 99 |
| 42) 1,2,4-Trichlorobenzene | 8.916 | 180 | 216314 | 50.264 | ug/mL | 100 |
| 43) Naphthalene | 8.992 | 128 | 766625 | 50.325 | ug/mL | 98 |

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Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 14:42:49 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 44) | 4-Chloroaniline | 9.022 | 65 | 93641 | 52.395 | ug/mL | 97 |
| 45) | 2,6-Dichlorophenol | 8.810 | 162 | 197928 | 52.188 | ug/mL | 99 |
| 46) | Hexachloropropene | 9.110 | 213 | 143687 | 56.493 | ug/mL | 99 |
| 47) | Hexachlorobutadiene | 9.145 | 225 | 109729 | 50.702 | ug/mL | 100 |
| 48) | n-Nitrosodi-n-Butylamine | 9.339 | 84 | 208075 | 51.443 | ug/mL | 98 |
| 49) | p-Phenylenediamine | 9.363 | 108 | 213298 | 52.473 | ug/mL | 99 |
| 50) | 4-Chloro-3-Methylphenol | 9.463 | 107 | 223992 | 53.777 | ug/mL | 99 |
| 51) | Safrole | 9.557 | 162 | 201297 | 51.961 | ug/mL | 99 |
| 52) | 2-Methylnaphthalene | 9.680 | 142 | 514261 | 50.621 | ug/mL | 100 |
| 53) | 1-Methylnaphthalene | 9.798 | 142 | 474095 | 50.689 | ug/mL | 100 |
| 55) | 1,2,4,5-Tetrachloroben... | 9.892 | 216 | 198239 | 48.272 | ug/mL | 100 |
| 56) | Hexachlorocyclopentadiene | 9.904 | 237 | 93307 | 57.249 | ug/mL | 99 |
| 57) | 2,4,6-Trichlorophenol | 9.975 | 196 | 148453 | 53.037 | ug/mL | 99 |
| 58) | 2,4,5-Trichlorophenol | 10.016 | 196 | 153810 | 53.386 | ug/mL | 99 |
| 60) | Isosafrole | 10.075 | 162 | 209002 | 52.121 | ug/mL | 98 |
| 61) | 2-Chloronaphthalene | 10.186 | 162 | 457217 | 48.617 | ug/mL | 100 |
| 62) | 1-Chloronaphthalene | 10.228 | 162 | 408925 | 47.892 | ug/mL | 99 |
| 63) | 2-Nitroaniline | 10.286 | 65 | 143930 | 53.129 | ug/mL | 100 |
| 64) | 1,4-Naphthoquinone | 10.351 | 158 | 155722 | 52.543 | ug/mL | 99 |
| 65) | Dimethylphthalate | 10.451 | 163 | 533438 | 50.340 | ug/mL | 100 |
| 66) | 1,3-Dinitrobenzene | 10.498 | 168 | 103686 | 56.843 | ug/mL | 98 |
| 67) | 2,6-Dinitrotoluene | 10.545 | 165 | 131474 | 53.188 | ug/mL | 98 |
| 68) | Acenaphthylene | 10.627 | 152 | 718589 | 49.549 | ug/mL | 100 |
| 69) | 3-Nitroaniline | 10.698 | 138 | 153207 | 52.513 | ug/mL | 100 |
| 70) | 2,4-Dinitrophenol | 10.804 | 184 | 62143 | 55.724 | ug/mL | 67 |
| 71) | Acenaphthene | 10.816 | 154 | 434319 | 48.919 | ug/mL | 99 |
| 72) | 4-Nitrophenol | 10.804 | 65 | 100309 | 55.033 | ug/mL | 97 |
| 73) | 2,4-Dinitrotoluene | 10.951 | 165 | 173187 | 54.371 | ug/mL | 98 |
| 74) | Pentachlorobenzene | 10.992 | 250 | 171404 | 49.010 | ug/mL | 99 |
| 75) | Dibenzofuran | 10.969 | 168 | 641227 | 48.839 | ug/mL | 100 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.116 | 232 | 111288 | 52.241 | ug/mL | 100 |
| 77) | 1-Naphthylamine | 11.045 | 143 | 506105 | 50.938 | ug/mL | 100 |
| 78) | 2-Naphthylamine | 11.116 | 143 | 473938 | 48.684 | ug/mL | 99 |
| 79) | Diethylphthalate | 11.157 | 149 | 541105 | 49.714 | ug/mL | 100 |
| 80) | Thionazin | 11.257 | 107 | 89488 | 52.479 | ug/mL | 97 |
| 81) | Fluorene | 11.322 | 166 | 475993 | 47.542 | ug/mL | 99 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.275 | 204 | 253495 | 49.353 | ug/mL | 99 |
| 83) | 4-Nitroaniline | 11.333 | 138 | 138440 | 50.851 | ug/mL | 99 |
| 84) | 5-Nitro-o-Toluidine | 11.327 | 152 | 147113 | 51.086 | ug/mL | 99 |
| 85) | 1,2-Diphenylhydrazine | 11.445 | 77 | 544944 | 50.659 | ug/mL | 100 |
| 88) | 4,6-Dinitro-2-Methylph... | 11.374 | 198 | 100360 | 53.719 | ug/mL | 95 |
| 89) | Diphenylamine/n-Nitros... | 11.398 | 169 | 469222 | 48.702 | ug/mL | 99 |
| 90) | Sulfotepp | 11.592 | 322 | 81144 | 50.341 | ug/mL | 97 |
| 91) | Sym-Trinitrobenzene | 11.674 | 75 | 145151 | 54.075 | ug/mL | 99 |
| 92) | Diallate | 11.716 | 86 | 203618 | 48.115 | ug/mL | 99 |
| 93) | Phenacetin | 11.704 | 108 | 274232 | 53.583 | ug/mL | 99 |
| 94) | Phorate | 11.733 | 75 | 314464 | 48.268 | ug/mL# | 100 |
| 95) | 4-Bromophenyl Phenyl E... | 11.798 | 248 | 141492 | 49.191 | ug/mL | 100 |
| 96) | Hexachlorobenzene | 12.010 | 284 | 144672 | 48.230 | ug/mL | 99 |
| 97) | Dimethoate | 11.939 | 87 | 181857 | 46.964 | ug/mL | 99 |
| 98) | 4-Aminobiphenyl | 12.092 | 169 | 612784 | 51.486 | ug/mL | 100 |
| 99) | Pentachlorophenol | 12.192 | 266 | 95738 | 53.951 | ug/mL | 99 |
| 100) | Pronamide | 12.133 | 173 | 242084 | 53.314 | ug/mL | 100 |
| 101) | Pentachloronitrobenzene | 12.280 | 237 | 58401 | 53.711 | ug/mL | 100 |
| 102) | Disulfoton | 12.310 | 88 | 276300 | 50.034 | ug/mL | 99 |

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Acq On : 12 Sep 2017 2:21 pm Operator: MES
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Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 14:42:49 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

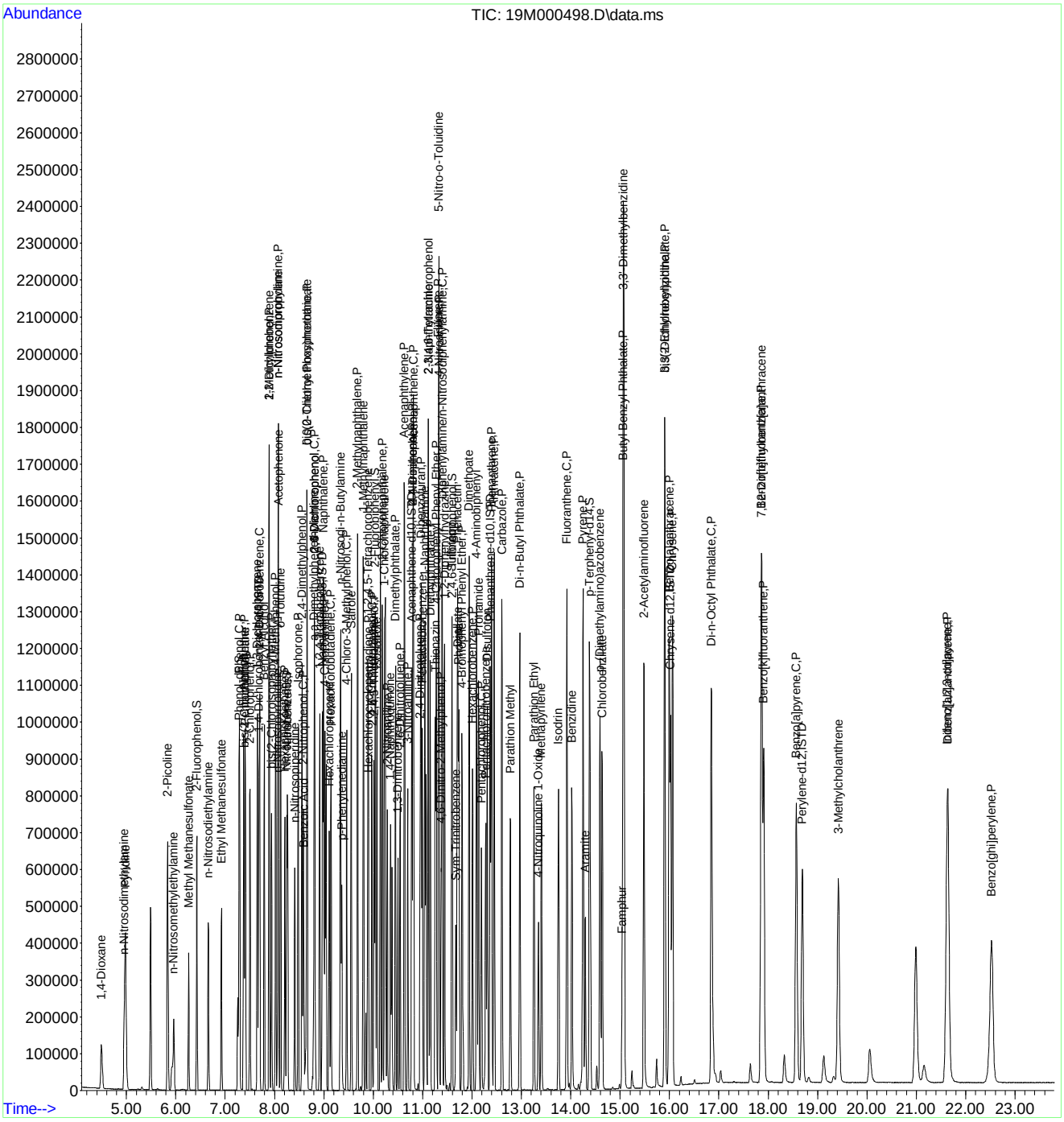
| Compound | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 103) Phenanthrene | 12.398 | 178 | 780966 | 49.227 ug/mL | 100 |
| 104) Anthracene | 12.451 | 178 | 817378 | 50.126 ug/mL | 100 |
| 105) Carbazole | 12.604 | 167 | 760977 | 50.826 ug/mL# | 100 |
| 106) Parathion Methyl | 12.774 | 109 | 187230 | 57.928 ug/mL | 100 |
| 107) Di-n-Butyl Phthalate | 12.969 | 149 | 959959 | 51.539 ug/mL | 100 |
| 108) Parathion Ethyl | 13.257 | 97 | 117424 | 54.643 ug/mL | 98 |
| 109) 4-Nitroquinoline 1-Oxide | 13.345 | 190 | 63022 | 56.101 ug/mL | 96 |
| 110) Methapyrilene | 13.404 | 58 | 323801 | 50.247 ug/mL | 100 |
| 111) Isodrin | 13.751 | 193 | 89045 | 50.336 ug/mL | 99 |
| 112) Fluoranthene | 13.921 | 202 | 873973 | 50.657 ug/mL | 100 |
| 114) Benzidine | 14.021 | 184 | 499543 | 61.798 ug/mL | 100 |
| 115) Pyrene | 14.251 | 202 | 903531 | 50.648 ug/mL | 100 |
| 116) Aramite | 14.298 | 185 | 57923 | 54.072 ug/mL | 100 |
| 118) p-(Dimethylamino)azobe... | 14.592 | 225 | 182214 | 55.626 ug/mL | 99 |
| 119) Chlorobenzilate | 14.639 | 251 | 232239 | 54.414 ug/mL | 99 |
| 120) Famphur | 15.039 | 218 | 82510 | 39.635 ug/mL | 96 |
| 121) Butyl Benzyl Phthalate | 15.057 | 149 | 386966 | 48.975 ug/mL | 98 |
| 122) 3,3'-Dimethylbenzidine | 15.068 | 212 | 722481 | 56.911 ug/mL | 99 |
| 123) 2-Acetylaminofluorene | 15.480 | 181 | 379245 | 54.841 ug/mL# | 99 |
| 124) bis(2-Ethylhexyl)phtha... | 15.904 | 149 | 565113 | 53.267 ug/mL | 99 |
| 125) 3,3'-Dichlorobenzidine | 15.904 | 252 | 271517 | 53.317 ug/mL | 99 |
| 126) Benzo[a]anthracene | 15.998 | 228 | 787148 | 49.994 ug/mL | 99 |
| 127) Chrysene | 16.062 | 228 | 732104 | 49.620 ug/mL | 100 |
| 129) Di-n-Octyl Phthalate | 16.851 | 149 | 1094184 | 54.313 ug/mL | 99 |
| 130) 7,12-Dimethylbenz[a]an... | 17.868 | 256 | 362246 | 50.094 ug/mL | 99 |
| 131) Benzo[b]fluoranthene | 17.862 | 252 | 805786 | 50.062 ug/mL | 99 |
| 132) Benzo[k]fluoranthene | 17.909 | 252 | 766123 | 49.362 ug/mL | 100 |
| 133) Benzo[a]pyrene | 18.568 | 252 | 774689 | 52.081 ug/mL | 99 |
| 134) 3-Methylcholanthrene | 19.421 | 268 | 399624 | 56.197 ug/mL | 99 |
| 135) Indeno[1,2,3-cd]pyrene | 21.633 | 276 | 795257 | 51.732 ug/mL | 99 |
| 136) Dibenz[ah]anthracene | 21.639 | 278 | 675557 | 52.100 ug/mL | 99 |
| 137) Benzo[ghi]perylene | 22.527 | 276 | 677260 | 52.768 ug/mL | 99 |

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

Quantitation Report (QT Reviewed)

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Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\091217\19M000498.D Vial: 2
Acq On : 12 Sep 2017 2:21 pm Operator: MES
Sample : WG629380-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 14:42:49 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 | ISTD | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 124 | 0.00 |
| 2 | | 1,4-Dioxane | 0.581 | 0.558 | 4.0 | 119 | -0.01 |
| 3 | | n-Nitrosodimethylamine | 0.822 | 0.849 | -3.3 | 125 | 0.00 |
| 4 | | Pyridine | 1.457 | 1.435 | 1.5 | 120 | 0.00 |
| 5 | | 2-Picoline | 1.530 | 1.570 | -2.6 | 124 | 0.00 |
| 6 | | n-Nitrosomethylethylamine | 0.654 | 0.703 | -7.5 | 131 | 0.00 |
| 7 | | Methyl Methanesulfonate | 0.790 | 0.799 | -1.1 | 123 | 0.00 |
| 8 | S | 2-Fluorophenol | 1.300 | 1.350 | -3.8 | 127 | 0.00 |
| 9 | | n-Nitrosodiethylamine | 0.659 | 0.705 | -7.0 | 131 | 0.00 |
| 10 | | Ethyl Methanesulfonate | 1.013 | 1.050 | -3.7 | 128 | 0.00 |
| 11 | | Aniline | 0.782 | 0.815 | -4.2 | 128 | 0.00 |
| 12 | S | Phenol-d5 | 1.527 | 1.623 | -6.3 | 130 | 0.00 |
| 13 | C,P | Phenol | 1.633 | 1.660 | -1.7 | 125 | 0.00 |
| 14 | P | bis(2-Chloroethyl)ether | 1.037 | 1.033 | 0.4 | 124 | 0.00 |
| 15 | | Pentachloroethane | 0.485 | 0.498 | -2.7 | 125 | 0.00 |
| 16 | P | 2-Chlorophenol | 1.406 | 1.481 | -5.3 | 128 | 0.00 |
| 17 | | 1,3-Dichlorobenzene | 1.518 | 1.539 | -1.4 | 125 | 0.00 |
| 18 | C | 1,4-Dichlorobenzene | 1.516 | 1.527 | -0.7 | 125 | 0.00 |
| 19 | | Benzyl Alcohol | 0.902 | 0.951 | -5.4 | 127 | 0.00 |
| 20 | | 1,2-Dichlorobenzene | 1.365 | 1.346 | 1.4 | 123 | 0.00 |
| 21 | P | 2-Methylphenol | 1.001 | 1.004 | -0.3 | 124 | 0.00 |
| 22 | P | bis(2-Chloroisopropyl)ether | 1.669 | 1.650 | 1.1 | 126 | 0.00 |
| 23 | P | 3-,4-Methylphenol | 1.387 | 1.441 | -3.9 | 126 | 0.00 |
| 24 | | n-Nitrosopyrrolidine | 0.605 | 0.633 | -4.6 | 128 | 0.00 |
| 25 | P | n-Nitrosodipropylamine | 0.860 | 0.847 | 1.5 | 122 | 0.00 |
| 26 | | Acetophenone | 1.697 | 1.633 | 3.8 | 119 | 0.00 |
| 27 | | n-Nitrosomorpholine | 0.735 | 0.728 | 1.0 | 124 | 0.00 |
| 28 | | o-Toluidine | 2.101 | 2.133 | -1.5 | 121 | 0.00 |
| 29 | P | Hexachloroethane | 0.581 | 0.596 | -2.6 | 122 | 0.00 |
| 30 | ISTD | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 119 | 0.00 |
| 31 | S | Nitrobenzene-d5 | 0.331 | 0.356 | -7.6 | 125 | 0.00 |
| 32 | P | Nitrobenzene | 0.345 | 0.360 | -4.3 | 122 | 0.00 |
| 33 | | n-Nitrosopiperidine | 0.176 | 0.188 | -6.8 | 123 | 0.00 |
| 34 | P | Isophorone | 0.628 | 0.661 | -5.3 | 123 | 0.00 |
| 35 | C,P | 2-Nitrophenol | 0.181 | 0.200 | -10.5 | 126 | 0.00 |
| 36 | P | 2,4-Dimethylphenol | 0.308 | 0.322 | -4.5 | 122 | 0.00 |
| 37 | | 0,0,0-Triethyl Phosphorothi | 0.154 | 0.154 | 0.0 | 120 | 0.00 |
| 38 | P | bis(2-Chloroethoxy)methane | 0.481 | 0.467 | 2.9 | 116 | 0.00 |
| 39 | | Benzoic Acid | 0.151 | 0.123 | 18.5 | 99 | -0.04 |
| 40 | C,P | 2,4-Dichlorophenol | 0.262 | 0.274 | -4.6 | 123 | 0.00 |
| 41 | | a,a-Dimethylphenethylamine | 0.813 | 0.889 | -9.3 | 123 | 0.00 |
| 42 | | 1,2,4-Trichlorobenzene | 0.297 | 0.299 | -0.7 | 120 | 0.00 |
| 43 | P | Naphthalene | 1.053 | 1.060 | -0.7 | 121 | 0.00 |
| 44 | P | 4-Chloroaniline | 0.124 | 0.129 | -4.0 | 120 | 0.00 |
| 45 | | 2,6-Dichlorophenol | 0.262 | 0.274 | -4.6 | 123 | 0.00 |
| 46 | | Hexachloropropene | 0.176 | 0.199 | -13.1 | 129 | 0.00 |
| 47 | C,P | Hexachlorobutadiene | 0.150 | 0.152 | -1.3 | 121 | 0.00 |
| 48 | | n-Nitrosodi-n-Butylamine | 0.280 | 0.288 | -2.9 | 119 | 0.00 |
| 49 | | p-Phenylenediamine | 0.281 | 0.295 | -5.0 | 117 | 0.00 |
| 50 | C,P | 4-Chloro-3-Methylphenol | 0.288 | 0.310 | -7.6 | 122 | 0.00 |

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QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 51 | | Safrole | 0.268 | 0.278 | -3.7 | 122 | 0.00 |
| 52 | P | 2-Methylnaphthalene | 0.702 | 0.711 | -1.3 | 122 | -0.01 |
| 53 | | 1-Methylnaphthalene | 0.646 | 0.655 | -1.4 | 122 | -0.01 |
| 54 | ISTD | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 124 | -0.01 |
| 55 | | 1,2,4,5-Tetrachlorobenzene | 0.562 | 0.543 | 3.4 | 121 | 0.00 |
| 56 | P | Hexachlorocyclopentadiene | 0.223 | 0.256 | -14.8 | 128 | 0.00 |
| 57 | C,P | 2,4,6-Trichlorophenol | 0.383 | 0.407 | -6.3 | 126 | 0.00 |
| 58 | P | 2,4,5-Trichlorophenol | 0.394 | 0.421 | -6.9 | 125 | 0.00 |
| 59 | S | 2-Fluorobiphenyl | 1.387 | 1.367 | 1.4 | 122 | -0.01 |
| 60 | | Isosafrole | 0.549 | 0.572 | -4.2 | 127 | -0.01 |
| 61 | P | 2-Chloronaphthalene | 1.288 | 1.252 | 2.8 | 122 | -0.01 |
| 62 | | 1-Chloronaphthalene | 1.169 | 1.120 | 4.2 | 120 | -0.01 |
| 63 | P | 2-Nitroaniline | 0.371 | 0.394 | -6.2 | 129 | 0.00 |
| 64 | | 1,4-Naphthoquinone | 0.406 | 0.426 | -4.9 | 120 | 0.00 |
| 65 | P | Dimethylphthalate | 1.451 | 1.461 | -0.7 | 125 | 0.00 |
| 66 | | 1,3-Dinitrobenzene | 0.250 | 0.284 | -13.6 | 133 | -0.01 |
| 67 | P | 2,6-Dinitrotoluene | 0.338 | 0.360 | -6.5 | 129 | 0.00 |
| 68 | P | Acenaphthylene | 1.986 | 1.968 | 0.9 | 123 | -0.01 |
| 69 | P | 3-Nitroaniline | 0.399 | 0.420 | -5.3 | 127 | -0.01 |
| 70 | P | 2,4-Dinitrophenol | 0.130 | 0.170 | -30.8 | 146 | 0.00 |
| 71 | C,P | Acenaphthene | 1.216 | 1.189 | 2.2 | 121 | 0.00 |
| 72 | P | 4-Nitrophenol | 0.250 | 0.275 | -10.0 | 128 | 0.00 |
| 73 | P | 2,4-Dinitrotoluene | 0.436 | 0.474 | -8.7 | 127 | -0.01 |
| 74 | | Pentachlorobenzene | 0.479 | 0.469 | 2.1 | 123 | -0.01 |
| 75 | P | Dibenzofuran | 1.798 | 1.756 | 2.3 | 122 | -0.01 |
| 76 | | 2,3,4,6-Tetrachlorophenol | 0.292 | 0.305 | -4.5 | 124 | -0.01 |
| 77 | | 1-Naphthylamine | 1.360 | 1.386 | -1.9 | 124 | -0.01 |
| 78 | | 2-Naphthylamine | 1.333 | 1.298 | 2.6 | 123 | 0.00 |
| 79 | P | Diethylphthalate | 1.490 | 1.482 | 0.5 | 123 | 0.00 |
| 80 | | Thionazin | 0.233 | 0.245 | -5.2 | 125 | 0.00 |
| 81 | P | Fluorene | 1.371 | 1.303 | 5.0 | 120 | -0.01 |
| 82 | P | 4-Chlorophenyl Phenyl Ether | 0.703 | 0.694 | 1.3 | 123 | -0.01 |
| 83 | P | 4-Nitroaniline | 0.373 | 0.379 | -1.6 | 125 | -0.01 |
| 84 | | 5-Nitro-o-Toluidine | 0.394 | 0.403 | -2.3 | 124 | -0.01 |
| 85 | | 1,2-Diphenylhydrazine | 1.473 | 1.492 | -1.3 | 124 | 0.00 |
| 86 | S | 2,4,6-Tribromophenol | 0.164 | 0.179 | -9.1 | 129 | -0.01 |
| 87 | ISTD | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 126 | -0.01 |
| 88 | P | 4,6-Dinitro-2-Methylphenol | 0.119 | 0.143 | -20.2 | 139 | -0.01 |
| 89 | C,P | Diphenylamine/n-Nitrosodiph | 0.689 | 0.671 | 2.6 | 124 | 0.00 |
| 90 | | Sulfotepp | 0.115 | 0.116 | -0.9 | 125 | -0.01 |
| 91 | | Sym-Trinitrobenzene | 0.167 | 0.207 | -24.0 | 138 | 0.00 |
| 92 | | Diallate | 0.302 | 0.291 | 3.6 | 120 | -0.01 |
| 93 | | Phenacetin | 0.366 | 0.392 | -7.1 | 123 | 0.00 |
| 94 | | Phorate | 0.466 | 0.449 | 3.6 | 121 | -0.01 |
| 95 | P | 4-Bromophenyl Phenyl Ether | 0.206 | 0.202 | 1.9 | 124 | -0.01 |
| 96 | P | Hexachlorobenzene | 0.214 | 0.207 | 3.3 | 122 | -0.01 |
| 97 | | Dimethoate | 0.264 | 0.260 | 1.5 | 121 | -0.01 |
| 98 | | 4-Aminobiphenyl | 0.851 | 0.876 | -2.9 | 124 | -0.01 |
| 99 | C,P | Pentachlorophenol | 0.115 | 0.137 | -19.1 | 135 | -0.01 |

Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\091217\19M000498.D Vial: 2
Acq On : 12 Sep 2017 2:21 pm Operator: MES
Sample : WG629380-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 14:42:49 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 100 | | Pronamide | 0.324 | 0.346 | -6.8 | 126 | -0.01 |
| 101 | | Pentachloronitrobenzene | 0.078 | 0.083 | -6.4 | 126 | -0.01 |
| 102 | | Disulfoton | 0.395 | 0.395 | 0.0 | 121 | -0.01 |
| 103 | P | Phenanthrene | 1.134 | 1.116 | 1.6 | 124 | -0.01 |
| 104 | P | Anthracene | 1.165 | 1.168 | -0.3 | 124 | -0.01 |
| 105 | P | Carbazole | 1.070 | 1.088 | -1.7 | 125 | -0.01 |
| 106 | | Parathion Methyl | 0.227 | 0.268 | -18.1 | 132 | -0.01 |
| 107 | P | Di-n-Butyl Phthalate | 1.331 | 1.372 | -3.1 | 122 | -0.01 |
| 108 | | Parathion Ethyl | 0.139 | 0.168 | -20.9 | 130 | -0.01 |
| 109 | | 4-Nitroquinoline 1-Oxide | 0.068 | 0.090 | -32.4 | 151 | -0.01 |
| 110 | | Methapyrilene | 0.450 | 0.463 | -2.9 | 127 | -0.01 |
| 111 | | Isodrin | 0.126 | 0.127 | -0.8 | 125 | -0.02 |
| 112 | C,P | Fluoranthene | 1.233 | 1.249 | -1.3 | 126 | -0.01 |
| 113 | ISTD | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 124 | -0.02 |
| 114 | | Benzidine | 0.599 | 0.741 | -23.7 | 142 | -0.01 |
| 115 | P | Pyrene | 1.323 | 1.340 | -1.3 | 125 | -0.01 |
| 116 | | Aramite | 0.070 | 0.086 | -22.9 | 133 | -0.01 |
| 117 | S | p-Terphenyl-d14 | 0.809 | 0.785 | 3.0 | 121 | -0.01 |
| 118 | | p-(Dimethylamino)azobenzene | 0.243 | 0.270 | -11.1 | 128 | -0.02 |
| 119 | | Chlorobenzilate | 0.316 | 0.344 | -8.9 | 127 | -0.01 |
| 120 | | Famphur | 0.154 | 0.122 | 20.8 | 98 | -0.02 |
| 121 | P | Butyl Benzyl Phthalate | 0.586 | 0.574 | 2.0 | 118 | -0.02 |
| 122 | | 3,3'-Dimethylbenzidine | 0.941 | 1.071 | -13.8 | 131 | -0.02 |
| 123 | | 2-Acetylaminofluorene | 0.436 | 0.562 | -28.9 | 133 | -0.02 |
| 124 | P | bis(2-Ethylhexyl)phthalate | 0.737 | 0.838 | -13.7 | 121 | -0.02 |
| 125 | P | 3,3'-Dichlorobenzidine | 0.378 | 0.403 | -6.6 | 125 | -0.02 |
| 126 | P | Benzo[a]anthracene | 1.167 | 1.167 | 0.0 | 122 | -0.01 |
| 127 | P | Chrysene | 1.094 | 1.086 | 0.7 | 123 | -0.02 |
| 128 | ISTD | Perylene-d12 | 1.000 | 1.000 | 0.0 | 122 | -0.02 |
| 129 | C,P | Di-n-Octyl Phthalate | 1.443 | 1.568 | -8.7 | 126 | -0.02 |
| 130 | | 7,12-Dimethylbenz[a]anthrac | 0.518 | 0.519 | -0.2 | 122 | -0.02 |
| 131 | P | Benzo[b]fluoranthene | 1.153 | 1.155 | -0.2 | 121 | 0.01 |
| 132 | P | Benzo[k]fluoranthene | 1.112 | 1.098 | 1.3 | 116 | -0.02 |
| 133 | C,P | Benzo[a]pyrene | 1.066 | 1.110 | -4.1 | 119 | -0.02 |
| 134 | | 3-Methylcholanthrene | 0.509 | 0.573 | -12.6 | 123 | -0.02 |
| 135 | P | Indeno[1,2,3-cd]pyrene | 1.101 | 1.140 | -3.5 | 114 | -0.03 |
| 136 | P | Dibenz[ah]anthracene | 0.929 | 0.968 | -4.2 | 114 | -0.02 |
| 137 | P | Benzo[ghi]perylene | 0.920 | 0.970 | -5.4 | 114 | -0.03 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\091217\19M000498.D Vial: 2
Acq On : 12 Sep 2017 2:21 pm Operator: MES
Sample : WG629380-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 14:42:49 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 | ISTD | 1,4-Dichlorobenzene-d4 | 40.000 | 40.000 | 0.0 | 124 | 0.00 |
| 2 | | 1,4-Dioxane | 50.000 | 48.001 | 4.0 | 119 | -0.01 |
| 3 | | n-Nitrosodimethylamine | 50.000 | 51.670 | -3.3 | 125 | 0.00 |
| 4 | | Pyridine | 50.000 | 49.238 | 1.5 | 120 | 0.00 |
| 5 | | 2-Picoline | 50.000 | 51.304 | -2.6 | 124 | 0.00 |
| 6 | | n-Nitrosomethylethylamine | 50.000 | 53.812 | -7.6 | 131 | 0.00 |
| 7 | | Methyl Methanesulfonate | 50.000 | 50.608 | -1.2 | 123 | 0.00 |
| 8 | S | 2-Fluorophenol | 50.000 | 51.942 | -3.9 | 127 | 0.00 |
| 9 | | n-Nitrosodiethylamine | 50.000 | 53.502 | -7.0 | 131 | 0.00 |
| 10 | | Ethyl Methanesulfonate | 50.000 | 51.830 | -3.7 | 128 | 0.00 |
| 11 | | Aniline | 50.000 | 52.124 | -4.2 | 128 | 0.00 |
| 12 | S | Phenol-d5 | 50.000 | 53.127 | -6.3 | 130 | 0.00 |
| 13 | C,P | Phenol | 50.000 | 50.803 | -1.6 | 125 | 0.00 |
| 14 | P | bis(2-Chloroethyl)ether | 50.000 | 49.807 | 0.4 | 124 | 0.00 |
| 15 | | Pentachloroethane | 50.000 | 51.432 | -2.9 | 125 | 0.00 |
| 16 | P | 2-Chlorophenol | 50.000 | 52.688 | -5.4 | 128 | 0.00 |
| 17 | | 1,3-Dichlorobenzene | 50.000 | 50.689 | -1.4 | 125 | 0.00 |
| 18 | C | 1,4-Dichlorobenzene | 50.000 | 50.353 | -0.7 | 125 | 0.00 |
| 19 | | Benzyl Alcohol | 50.000 | 52.697 | -5.4 | 127 | 0.00 |
| 20 | | 1,2-Dichlorobenzene | 50.000 | 49.300 | 1.4 | 123 | 0.00 |
| 21 | P | 2-Methylphenol | 50.000 | 50.138 | -0.3 | 124 | 0.00 |
| 22 | P | bis(2-Chloroisopropyl)ether | 50.000 | 49.409 | 1.2 | 126 | 0.00 |
| 23 | P | 3-,4-Methylphenol | 50.000 | 51.923 | -3.8 | 126 | 0.00 |
| 24 | | n-Nitrosopyrrolidine | 50.000 | 52.318 | -4.6 | 128 | 0.00 |
| 25 | P | n-Nitrosodipropylamine | 50.000 | 49.277 | 1.4 | 122 | 0.00 |
| 26 | | Acetophenone | 50.000 | 48.103 | 3.8 | 119 | 0.00 |
| 27 | | n-Nitrosomorpholine | 50.000 | 50.344 | -0.7 | 124 | 0.00 |
| 28 | | o-Toluidine | 50.000 | 50.766 | -1.5 | 121 | 0.00 |
| 29 | P | Hexachloroethane | 50.000 | 51.310 | -2.6 | 122 | 0.00 |
| 30 | ISTD | Naphthalene-d8 | 40.000 | 40.000 | 0.0 | 119 | 0.00 |
| 31 | S | Nitrobenzene-d5 | 50.000 | 53.840 | -7.7 | 125 | 0.00 |
| 32 | P | Nitrobenzene | 50.000 | 52.041 | -4.1 | 122 | 0.00 |
| 33 | | n-Nitrosopiperidine | 50.000 | 53.448 | -6.9 | 123 | 0.00 |
| 34 | P | Isophorone | 50.000 | 52.694 | -5.4 | 123 | 0.00 |
| 35 | C,P | 2-Nitrophenol | 50.000 | 55.253 | -10.5 | 126 | 0.00 |
| 36 | P | 2,4-Dimethylphenol | 50.000 | 52.335 | -4.7 | 122 | 0.00 |
| 37 | | 0,0,0-Triethyl Phosphorothi | 50.000 | 49.934 | 0.1 | 120 | 0.00 |
| 38 | P | bis(2-Chloroethoxy)methane | 50.000 | 48.563 | 2.9 | 116 | 0.00 |
| 39 | | Benzoic Acid | 50.000 | 39.763 | 20.5 | 99 | -0.04 |
| 40 | C,P | 2,4-Dichlorophenol | 50.000 | 52.188 | -4.4 | 123 | 0.00 |
| 41 | | a,a-Dimethylphenethylamine | 50.000 | 51.309 | -2.6 | 123 | 0.00 |
| 42 | | 1,2,4-Trichlorobenzene | 50.000 | 50.264 | -0.5 | 120 | 0.00 |
| 43 | P | Naphthalene | 50.000 | 50.325 | -0.7 | 121 | 0.00 |
| 44 | P | 4-Chloroaniline | 50.000 | 52.395 | -4.8 | 120 | 0.00 |
| 45 | | 2,6-Dichlorophenol | 50.000 | 52.188 | -4.4 | 123 | 0.00 |
| 46 | | Hexachloropropene | 50.000 | 56.493 | -13.0 | 129 | 0.00 |
| 47 | C,P | Hexachlorobutadiene | 50.000 | 50.702 | -1.4 | 121 | 0.00 |
| 48 | | n-Nitrosodi-n-Butylamine | 50.000 | 51.443 | -2.9 | 119 | 0.00 |
| 49 | | p-Phenylenediamine | 50.000 | 52.473 | -4.9 | 117 | 0.00 |
| 50 | C,P | 4-Chloro-3-Methylphenol | 50.000 | 53.777 | -7.6 | 122 | 0.00 |

Data File : C:\msdchem\4\DATA\091217\19M000498.D Vial: 2
Acq On : 12 Sep 2017 2:21 pm Operator: MES
Sample : WG629380-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 14:42:49 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 51 | | Safrole | 50.000 | 51.961 | -3.9 | 122 | 0.00 |
| 52 | P | 2-Methylnaphthalene | 50.000 | 50.621 | -1.2 | 122 | -0.01 |
| 53 | | 1-Methylnaphthalene | 50.000 | 50.689 | -1.4 | 122 | -0.01 |
| 54 | ISTD | Acenaphthene-d10 | 40.000 | 40.000 | 0.0 | 124 | -0.01 |
| 55 | | 1,2,4,5-Tetrachlorobenzene | 50.000 | 48.272 | 3.5 | 121 | 0.00 |
| 56 | P | Hexachlorocyclopentadiene | 50.000 | 57.249 | -14.5 | 128 | 0.00 |
| 57 | C,P | 2,4,6-Trichlorophenol | 50.000 | 53.037 | -6.1 | 126 | 0.00 |
| 58 | P | 2,4,5-Trichlorophenol | 50.000 | 53.386 | -6.8 | 125 | 0.00 |
| 59 | S | 2-Fluorobiphenyl | 50.000 | 49.276 | 1.4 | 122 | -0.01 |
| 60 | | Isosafrole | 50.000 | 52.121 | -4.2 | 127 | -0.01 |
| 61 | P | 2-Chloronaphthalene | 50.000 | 48.617 | 2.8 | 122 | -0.01 |
| 62 | | 1-Chloronaphthalene | 50.000 | 47.892 | 4.2 | 120 | -0.01 |
| 63 | P | 2-Nitroaniline | 50.000 | 53.129 | -6.3 | 129 | 0.00 |
| 64 | | 1,4-Naphthoquinone | 50.000 | 52.543 | -5.1 | 120 | 0.00 |
| 65 | P | Dimethylphthalate | 50.000 | 50.340 | -0.7 | 125 | 0.00 |
| 66 | | 1,3-Dinitrobenzene | 50.000 | 56.843 | -13.7 | 133 | -0.01 |
| 67 | P | 2,6-Dinitrotoluene | 50.000 | 53.188 | -6.4 | 129 | 0.00 |
| 68 | P | Acenaphthylene | 50.000 | 49.549 | 0.9 | 123 | -0.01 |
| 69 | P | 3-Nitroaniline | 50.000 | 52.513 | -5.0 | 127 | -0.01 |
| 70 | P | 2,4-Dinitrophenol | 50.000 | 55.724 | -11.4 | 146 | 0.00 |
| 71 | C,P | Acenaphthene | 50.000 | 48.919 | 2.2 | 121 | 0.00 |
| 72 | P | 4-Nitrophenol | 50.000 | 55.033 | -10.1 | 128 | 0.00 |
| 73 | P | 2,4-Dinitrotoluene | 50.000 | 54.371 | -8.7 | 127 | -0.01 |
| 74 | | Pentachlorobenzene | 50.000 | 49.010 | 2.0 | 123 | -0.01 |
| 75 | P | Dibenzofuran | 50.000 | 48.839 | 2.3 | 122 | -0.01 |
| 76 | | 2,3,4,6-Tetrachlorophenol | 50.000 | 52.241 | -4.5 | 124 | -0.01 |
| 77 | | 1-Naphthylamine | 50.000 | 50.938 | -1.9 | 124 | -0.01 |
| 78 | | 2-Naphthylamine | 50.000 | 48.684 | 2.6 | 123 | 0.00 |
| 79 | P | Diethylphthalate | 50.000 | 49.714 | 0.6 | 123 | 0.00 |
| 80 | | Thionazin | 50.000 | 52.479 | -5.0 | 125 | 0.00 |
| 81 | P | Fluorene | 50.000 | 47.542 | 4.9 | 120 | -0.01 |
| 82 | P | 4-Chlorophenyl Phenyl Ether | 50.000 | 49.353 | 1.3 | 123 | -0.01 |
| 83 | P | 4-Nitroaniline | 50.000 | 50.851 | -1.7 | 125 | -0.01 |
| 84 | | 5-Nitro-o-Toluidine | 50.000 | 51.086 | -2.2 | 124 | -0.01 |
| 85 | | 1,2-Diphenylhydrazine | 50.000 | 50.659 | -1.3 | 124 | 0.00 |
| 86 | S | 2,4,6-Tribromophenol | 50.000 | 54.639 | -9.3 | 129 | -0.01 |
| 87 | ISTD | Phenanthrene-d10 | 40.000 | 40.000 | 0.0 | 126 | -0.01 |
| 88 | P | 4,6-Dinitro-2-Methylphenol | 50.000 | 53.719 | -7.4 | 139 | -0.01 |
| 89 | C,P | Diphenylamine/n-Nitrosodiph | 50.000 | 48.702 | 2.6 | 124 | 0.00 |
| 90 | | Sulfotepp | 50.000 | 50.341 | -0.7 | 125 | -0.01 |
| 91 | | Sym-Trinitrobenzene | 50.000 | 54.075 | -8.2 | 138 | 0.00 |
| 92 | | Diallate | 50.000 | 48.115 | 3.8 | 120 | -0.01 |
| 93 | | Phenacetin | 50.000 | 53.583 | -7.2 | 123 | 0.00 |
| 94 | | Phorate | 50.000 | 48.268 | 3.5 | 121 | -0.01 |
| 95 | P | 4-Bromophenyl Phenyl Ether | 50.000 | 49.191 | 1.6 | 124 | -0.01 |
| 96 | P | Hexachlorobenzene | 50.000 | 48.230 | 3.5 | 122 | -0.01 |
| 97 | | Dimethoate | 50.000 | 46.964 | 6.1 | 121 | -0.01 |
| 98 | | 4-Aminobiphenyl | 50.000 | 51.486 | -3.0 | 124 | -0.01 |
| 99 | C,P | Pentachlorophenol | 50.000 | 53.951 | -7.9 | 135 | -0.01 |

Data File : C:\msdchem\4\DATA\091217\19M000498.D Vial: 2
Acq On : 12 Sep 2017 2:21 pm Operator: MES
Sample : WG629380-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 14:42:49 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 40% Max. Rel. Area : 500%

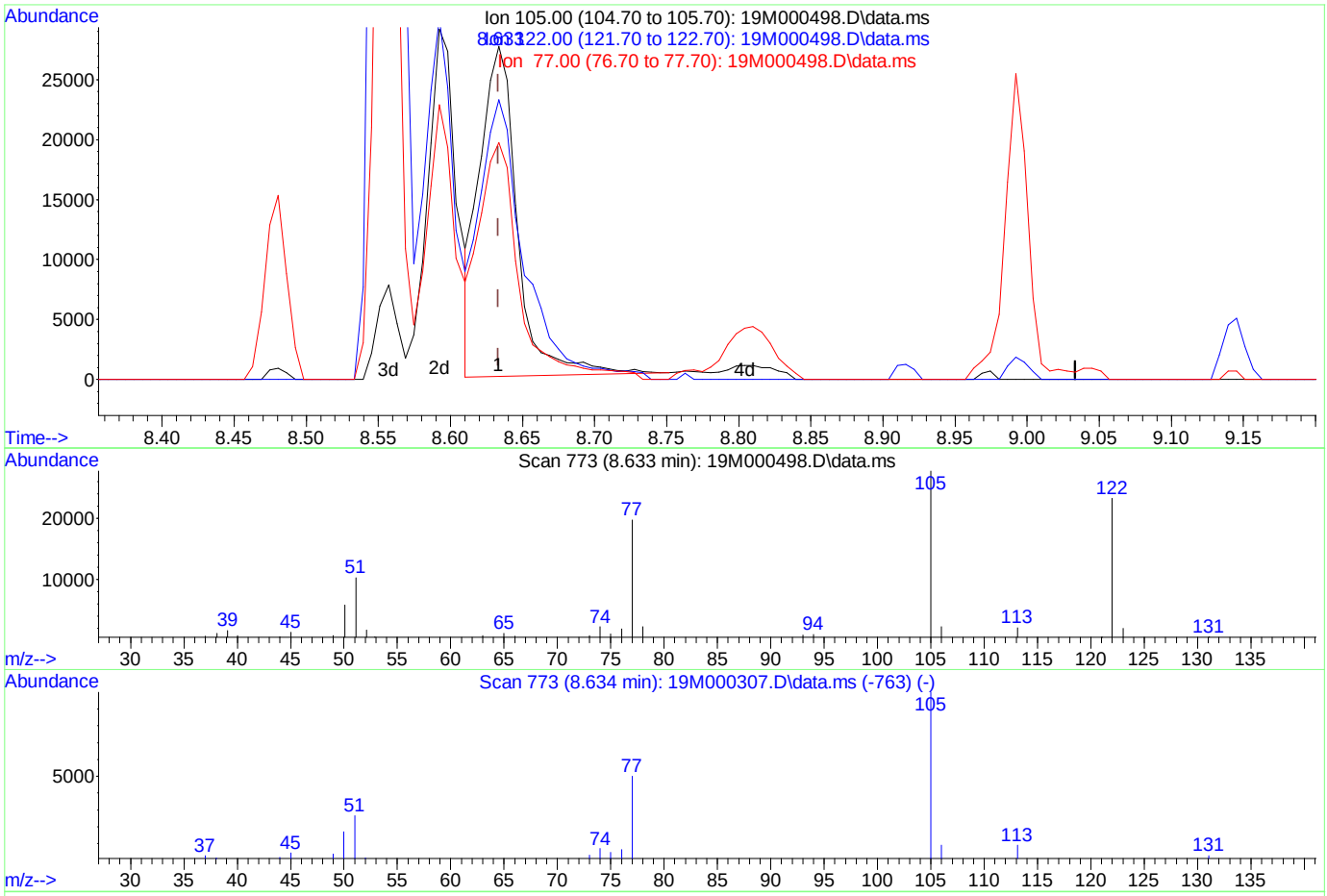
| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 100 | | Pronamide | 50.000 | 53.314 | -6.6 | 126 | -0.01 |
| 101 | | Pentachloronitrobenzene | 50.000 | 53.711 | -7.4 | 126 | -0.01 |
| 102 | | Disulfoton | 50.000 | 50.034 | -0.1 | 121 | -0.01 |
| 103 | P | Phenanthrene | 50.000 | 49.227 | 1.5 | 124 | -0.01 |
| 104 | P | Anthracene | 50.000 | 50.126 | -0.3 | 124 | -0.01 |
| 105 | P | Carbazole | 50.000 | 50.826 | -1.7 | 125 | -0.01 |
| 106 | | Parathion Methyl | 50.000 | 57.928 | -15.9 | 132 | -0.01 |
| 107 | P | Di-n-Butyl Phthalate | 50.000 | 51.539 | -3.1 | 122 | -0.01 |
| 108 | | Parathion Ethyl | 50.000 | 54.643 | -9.3 | 130 | -0.01 |
| 109 | | 4-Nitroquinoline 1-Oxide | 50.000 | 56.101 | -12.2 | 151 | -0.01 |
| 110 | | Methapyrilene | 50.000 | 50.247 | -0.5 | 127 | -0.01 |
| 111 | | Isodrin | 50.000 | 50.336 | -0.7 | 125 | -0.02 |
| 112 | C,P | Fluoranthene | 50.000 | 50.657 | -1.3 | 126 | -0.01 |
| 113 | ISTD | Chrysene-d12 | 40.000 | 40.000 | 0.0 | 124 | -0.02 |
| 114 | | Benzidine | 50.000 | 61.798 | -23.6 | 142 | -0.01 |
| 115 | P | Pyrene | 50.000 | 50.648 | -1.3 | 125 | -0.01 |
| 116 | | Aramite | 50.000 | 54.072 | -8.1 | 133 | -0.01 |
| 117 | S | p-Terphenyl-d14 | 50.000 | 48.514 | 3.0 | 121 | -0.01 |
| 118 | | p-(Dimethylamino)azobenzene | 50.000 | 55.626 | -11.3 | 128 | -0.02 |
| 119 | | Chlorobenzilate | 50.000 | 54.414 | -8.8 | 127 | -0.01 |
| 120 | | Famphur | 50.000 | 39.635 | 20.7 | 98 | -0.02 |
| 121 | P | Butyl Benzyl Phthalate | 50.000 | 48.975 | 2.0 | 118 | -0.02 |
| 122 | | 3,3'-Dimethylbenzidine | 50.000 | 56.911 | -13.8 | 131 | -0.02 |
| 123 | | 2-Acetylaminofluorene | 50.000 | 54.841 | -9.7 | 133 | -0.02 |
| 124 | P | bis(2-Ethylhexyl)phthalate | 50.000 | 53.267 | -6.5 | 121 | -0.02 |
| 125 | P | 3,3'-Dichlorobenzidine | 50.000 | 53.317 | -6.6 | 125 | -0.02 |
| 126 | P | Benzo[a]anthracene | 50.000 | 49.994 | 0.0 | 122 | -0.01 |
| 127 | P | Chrysene | 50.000 | 49.620 | 0.8 | 123 | -0.02 |
| 128 | ISTD | Perylene-d12 | 40.000 | 40.000 | 0.0 | 122 | -0.02 |
| 129 | C,P | Di-n-Octyl Phthalate | 50.000 | 54.313 | -8.6 | 126 | -0.02 |
| 130 | | 7,12-Dimethylbenz[a]anthrac | 50.000 | 50.094 | -0.2 | 122 | -0.02 |
| 131 | P | Benzo[b]fluoranthene | 50.000 | 50.062 | -0.1 | 121 | 0.01 |
| 132 | P | Benzo[k]fluoranthene | 50.000 | 49.362 | 1.3 | 116 | -0.02 |
| 133 | C,P | Benzo[a]pyrene | 50.000 | 52.081 | -4.2 | 119 | -0.02 |
| 134 | | 3-Methylcholanthrene | 50.000 | 56.197 | -12.4 | 123 | -0.02 |
| 135 | P | Indeno[1,2,3-cd]pyrene | 50.000 | 51.732 | -3.5 | 114 | -0.03 |
| 136 | P | Dibenz[ah]anthracene | 50.000 | 52.100 | -4.2 | 114 | -0.02 |
| 137 | P | Benzo[ghi]perylene | 50.000 | 52.768 | -5.5 | 114 | -0.03 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\091217\19M000498.D  Vial: 2
Acq On : 12 Sep 2017 2:21 pm  Operator: MES
Sample : WG629380-02 50PPM 8270 STD  Inst : HPMS19NEW
Misc : 1,1 STD81744  Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 14:42:32 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




TIC: 19M000498.D\data.ms

(39) Benzoic Acid

8.633min (-0.000) 27.140 ug/mL

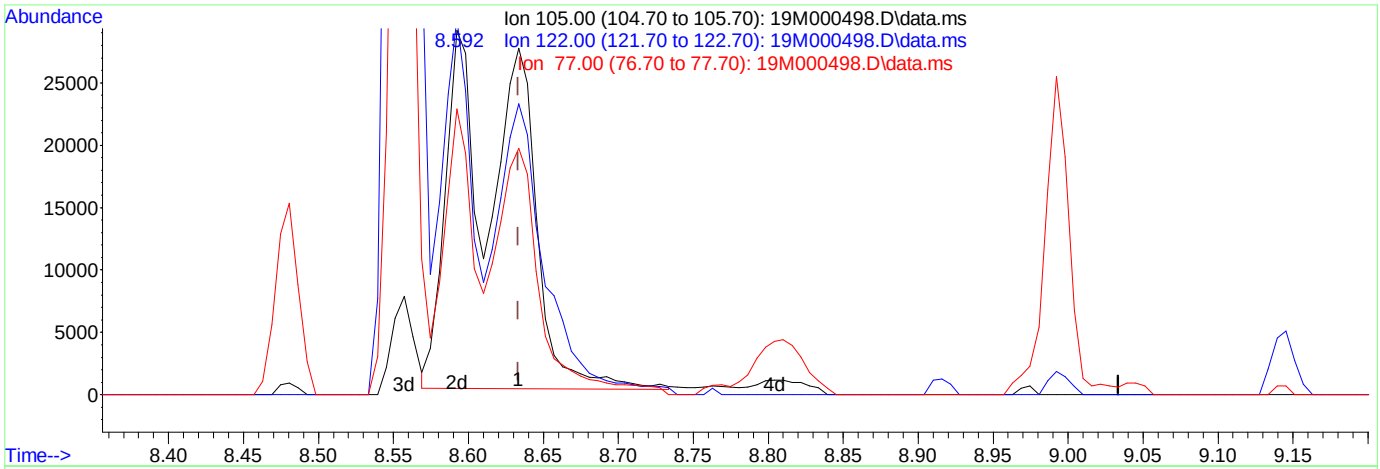
response 50604

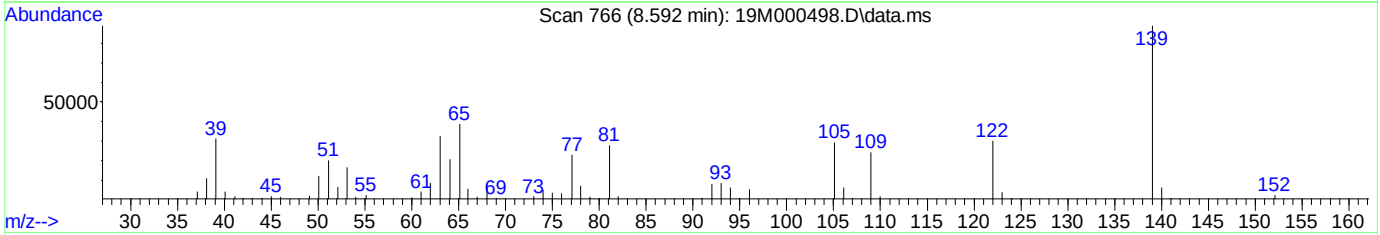
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 51.80 | 100.25# |
| 77.00 | 44.60 | 77.20# |
| 0.00 | 0.00 | 0.00 |

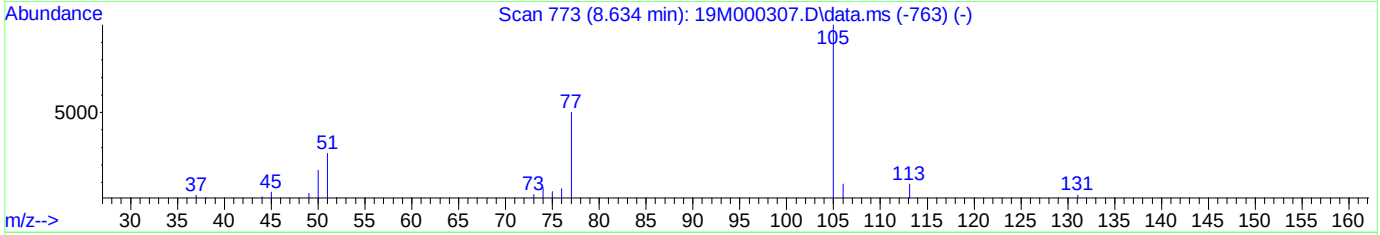
Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\091217\19M000498.D  Vial: 2
Acq On : 12 Sep 2017 2:21 pm  Operator: MES
Sample : WG629380-02 50PPM 8270 STD  Inst : HPMS19NEW
Misc : 1,1 STD81744  Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 14:42:32 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




TIC: 19M000498.D\data.ms

(39) Benzoic Acid

8.592min (-0.041) 39.763 ug/mL mint

response 89191

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 51.80 | 56.88 |
| 77.00 | 44.60 | 43.80 |
| 0.00 | 0.00 | 0.00 |

Analyst: 09/13/2017 10:04  Supervisor: 09/13/2017 12:11

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000499.D Vial: 3
Acq On : 12 Sep 2017 2:52 pm Operator: MES
Sample : WG629382-01 50PPM TCL STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 07:14:18 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

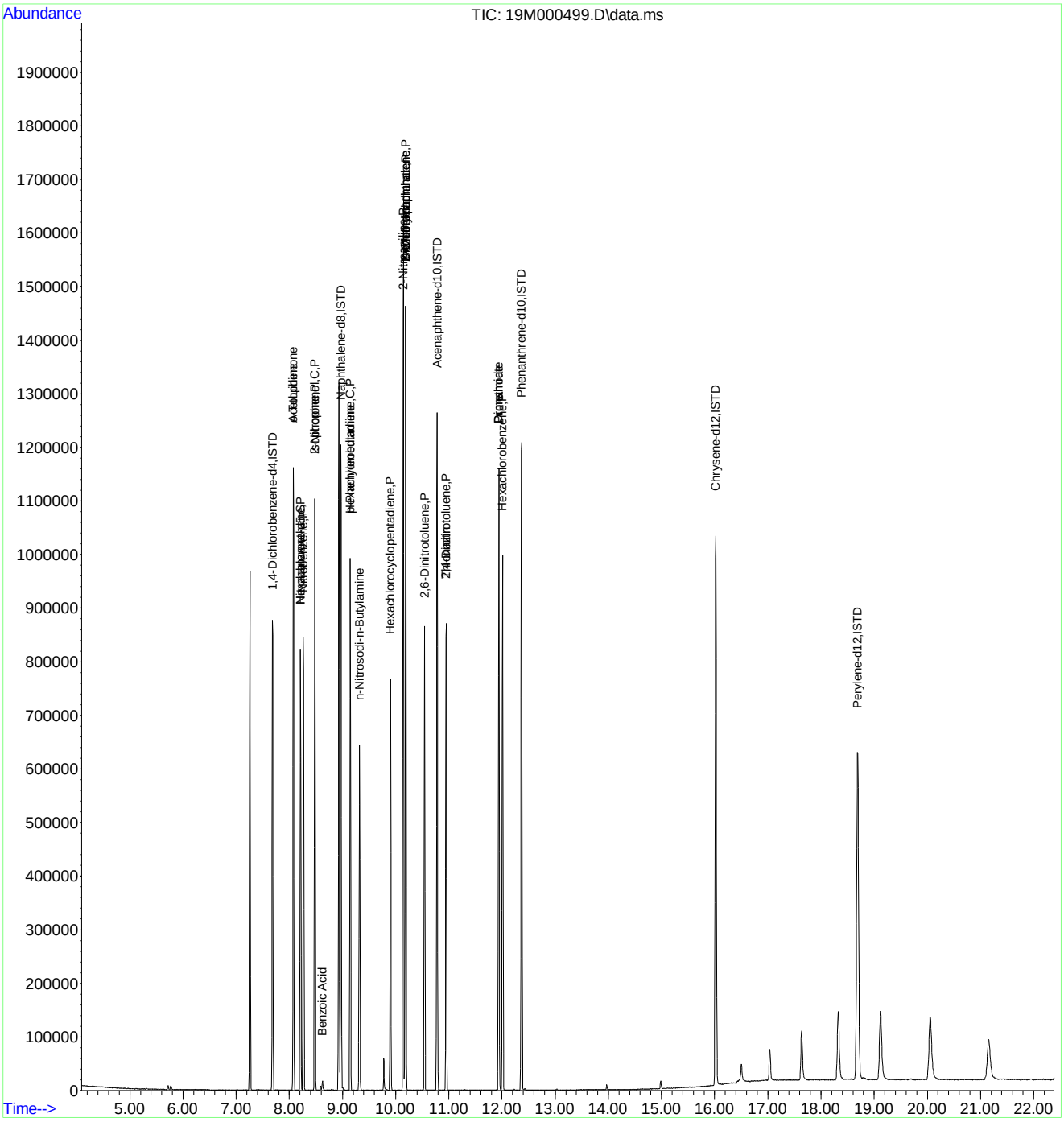
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 168915 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.969 | 136 | 652204 | 40.0000 | ug/mL | -0.0117 |
| 54) Acenaphthene-d10 | 10.781 | 164 | 331033 | 40.0000 | ug/mL | -0.0117 |
| 87) Phenanthrene-d10 | 12.369 | 188 | 633627 | 40.0000 | ug/mL | -0.0117 |
| 113) Chrysene-d12 | 16.021 | 240 | 609752 | 40.0000 | ug/mL | -0.0176 |
| 128) Perylene-d12 | 18.692 | 264 | 600624 | 40.0000 | ug/mL | -0.0235 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 0.000 | 112 | 0 | 0.0000 | ug/mL | |
| 12) Phenol-d5 | 0.000 | 99 | 0 | 0.0000 | ug/mL | |
| 31) Nitrobenzene-d5 | 8.210 | 82 | 27373 | 5.0726 | ug/mL | -0.0411 |
| 59) 2-Fluorobiphenyl | 0.000 | 172 | 0 | 0.0000 | ug/mL | |
| 86) 2,4,6-Tribromophenol | 0.000 | 330 | 0 | 0.0000 | ug/mL | |
| 117) p-Terphenyl-d14 | 0.000 | 244 | 0 | 0.0000 | ug/mL | |
| Target Compounds | | | | | | Qvalue |
| 26) Acetophenone | 8.075 | 105 | 381656 | 53.259 | ug/mL | 98 |
| 28) o-Toluidine | 8.075 | 106 | 29872 | 3.367 | ug/mL# | 1 |
| 29) Hexachloroethane | 8.210 | 117 | 123861 | 50.513 | ug/mL | 99 |
| 32) Nitrobenzene | 8.263 | 77 | 293100 | 52.038 | ug/mL | 100 |
| 34) Isophorone | 8.481 | 82 | 545037 | 53.259 | ug/mL | 99 |
| 35) 2-Nitrophenol | 8.481 | 139 | 11396 | 3.858 | ug/mL# | 59 |
| 39) Benzoic Acid | 8.622 | 105 | 6742 | 11.132 | ug/mL# | 44 |
| 47) Hexachlorobutadiene | 9.145 | 225 | 124691 | 51.134 | ug/mL | 100 |
| 48) n-Nitrosodi-n-Butylamine | 9.322 | 84 | 57744 | 12.670 | ug/mL# | 50 |
| 49) p-Phenylenediamine | 9.145 | 108 | 10042 | 2.193 | ug/mL# | 41 |
| 56) Hexachlorocyclopentadiene | 9.904 | 237 | 140796 | 76.234 | ug/mL | 99 |
| 60) Isosafrole | 10.186 | 162 | 497185 | 109.417 | ug/mL# | 32 |
| 61) 2-Chloronaphthalene | 10.186 | 162 | 497185 | 46.654 | ug/mL | 100 |
| 62) 1-Chloronaphthalene | 10.186 | 162 | 497185 | 51.386 | ug/mL | 100 |
| 63) 2-Nitroaniline | 10.145 | 65 | 6710 | 2.186 | ug/mL# | 6 |
| 65) Dimethylphthalate | 10.186 | 163 | 56602 | 4.714 | ug/mL# | 1 |
| 67) 2,6-Dinitrotoluene | 10.545 | 165 | 142228 | 50.777 | ug/mL | 99 |
| 73) 2,4-Dinitrotoluene | 10.951 | 165 | 197701 | 54.773 | ug/mL | 80 |
| 80) Thionazin | 10.951 | 107 | 10212 | 5.285 | ug/mL# | 1 |
| 96) Hexachlorobenzene | 12.010 | 284 | 165782 | 48.822 | ug/mL | 99 |
| 97) Dimethoate | 11.939 | 87 | 8319 | 2.072 | ug/mL# | 19 |
| 100) Pronamide | 11.939 | 173 | 47965 | 9.331 | ug/mL# | 71 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000499.D Vial: 3
Acq On : 12 Sep 2017 2:52 pm Operator: MES
Sample : WG629382-01 50PPM TCL STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 07:14:18 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000499.D Vial: 3
Acq On : 12 Sep 2017 2:52 pm Operator: MES
Sample : WG629382-01 50PPM TCL STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 15:10:36 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

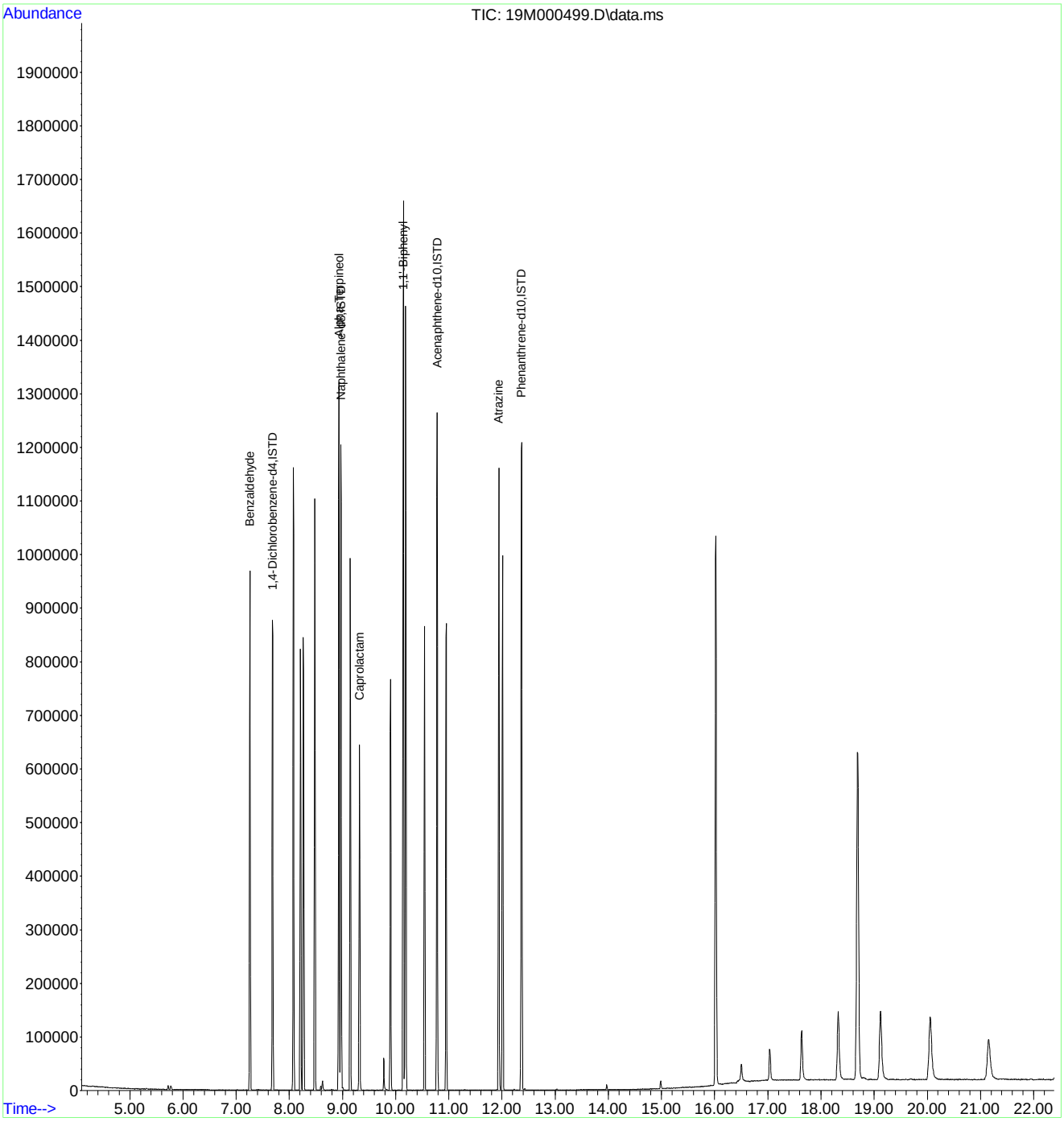
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.687 | 152 | 168915 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.969 | 136 | 652204 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.781 | 164 | 331033 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.369 | 188 | 633627 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.257 | 105 | 209603 | 52.028 | ug/mL | 99 |
| 4) Alpha-Terpineol | 8.934 | 59 | 230475 | 54.618 | ug/mL | 99 |
| 5) Caprolactam | 9.322 | 55 | 128601 | 54.901 | ug/mL | 100 |
| 7) 1,1'-Biphenyl | 10.145 | 154 | 653489 | 49.087 | ug/mL | 99 |
| 9) Atrazine | 11.939 | 200 | 174986 | 54.994 | ug/mL | 98 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000499.D Vial: 3
Acq On : 12 Sep 2017 2:52 pm Operator: MES
Sample : WG629382-01 50PPM TCL STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 15:10:36 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\091217\19M000499.D Vial: 3
Acq On : 12 Sep 2017 2:52 pm Operator: MES
Sample : WG629382-01 50PPM TCL STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 15:10:36 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 ISTD | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 118 | 0.00 |
| 2 | Benzaldehyde | 0.954 | 0.993 | -4.1 | 118 | 0.00 |
| 3 ISTD | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 116 | 0.00 |
| 4 | Alpha-Terpineol | 0.259 | 0.283 | -9.3 | 119 | 0.00 |
| 5 | Caprolactam | 0.132 | 0.158 | -19.7 | 122 | 0.00 |
| 6 ISTD | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 118 | 0.00 |
| 7 | 1,1'-Biphenyl | 1.609 | 1.579 | 1.9 | 115 | 0.00 |
| 8 ISTD | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 121 | 0.00 |
| 9 | Atrazine | 0.201 | 0.221 | -10.0 | 123 | -0.01 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\091217\19M000499.D Vial: 3
Acq On : 12 Sep 2017 2:52 pm Operator: MES
Sample : WG629382-01 50PPM TCL STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 12 15:10:36 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 ISTD | 1,4-Dichlorobenzene-d4 | 40.000 | 40.000 | 0.0 | 118 | 0.00 |
| 2 | Benzaldehyde | 50.000 | 52.028 | -4.1 | 118 | 0.00 |
| 3 ISTD | Naphthalene-d8 | 40.000 | 40.000 | 0.0 | 116 | 0.00 |
| 4 | Alpha-Terpineol | 50.000 | 54.618 | -9.2 | 119 | 0.00 |
| 5 | Caprolactam | 50.000 | 54.901 | -9.8 | 122 | 0.00 |
| 6 ISTD | Acenaphthene-d10 | 40.000 | 40.000 | 0.0 | 118 | 0.00 |
| 7 | 1,1'-Biphenyl | 50.000 | 49.087 | 1.8 | 115 | 0.00 |
| 8 ISTD | Phenanthrene-d10 | 40.000 | 40.000 | 0.0 | 121 | 0.00 |
| 9 | Atrazine | 50.000 | 54.994 | -10.0 | 123 | -0.01 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000540.D Vial: 2
Acq On : 13 Sep 2017 1:54 pm Operator: SCB
Sample : WG629552-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:42:23 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 138971 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.975 | 136 | 550473 | 40.0000 | ug/mL | 0.0000 |
| 54) Acenaphthene-d10 | 10.780 | 164 | 277971 | 40.0000 | ug/mL | -0.0118 |
| 87) Phenanthrene-d10 | 12.374 | 188 | 531657 | 40.0000 | ug/mL | 0.0000 |
| 113) Chrysene-d12 | 16.027 | 240 | 510914 | 40.0000 | ug/mL | -0.0118 |
| 128) Perylene-d12 | 18.692 | 264 | 535804 | 40.0000 | ug/mL | -0.0236 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.428 | 112 | 229581 | 50.8451 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.281 | 99 | 278699 | 52.5327 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.245 | 82 | 244181 | 53.6124 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.045 | 172 | 476130 | 49.3818 | ug/mL | 0.0000 |
| 86) 2,4,6-Tribromophenol | 11.604 | 330 | 60694 | 53.3196 | ug/mL | 0.0000 |
| 117) p-Terphenyl-d14 | 14.380 | 244 | 503370 | 48.7089 | ug/mL | -0.0118 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.493 | 88 | 87129 | 43.162 | ug/mL | 100 |
| 3) n-Nitrosodimethylamine | 4.957 | 74 | 135688 | 47.517 | ug/mL | 95 |
| 4) Pyridine | 4.981 | 79 | 236530 | 46.718 | ug/mL | 99 |
| 5) 2-Picoline | 5.834 | 93 | 266193 | 50.084 | ug/mL | 100 |
| 6) n-Nitrosomethylethylamine | 5.957 | 88 | 114938 | 50.616 | ug/mL | 99 |
| 7) Methyl Methanesulfonate | 6.263 | 80 | 133956 | 48.830 | ug/mL | 99 |
| 9) n-Nitrosodiethylamine | 6.657 | 102 | 120902 | 52.798 | ug/mL | 98 |
| 10) Ethyl Methanesulfonate | 6.928 | 79 | 174559 | 49.605 | ug/mL | 100 |
| 11) Aniline | 7.375 | 66 | 141212 | 52.003 | ug/mL | 99 |
| 13) Phenol | 7.292 | 94 | 287527 | 50.668 | ug/mL | 98 |
| 14) bis(2-Chloroethyl)ether | 7.398 | 63 | 180822 | 50.204 | ug/mL# | 44 |
| 15) Pentachloroethane | 7.410 | 167 | 86495 | 51.372 | ug/mL | 99 |
| 16) 2-Chlorophenol | 7.504 | 128 | 253239 | 51.860 | ug/mL | 100 |
| 17) 1,3-Dichlorobenzene | 7.651 | 146 | 264764 | 50.201 | ug/mL | 100 |
| 18) 1,4-Dichlorobenzene | 7.698 | 146 | 262407 | 49.815 | ug/mL | 99 |
| 19) Benzyl Alcohol | 7.792 | 108 | 165497 | 52.793 | ug/mL | 99 |
| 20) 1,2-Dichlorobenzene | 7.892 | 146 | 230896 | 48.679 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.892 | 107 | 173209 | 49.784 | ug/mL | 99 |
| 22) bis(2-Chloroisopropyl)... | 7.939 | 45 | 291963 | 50.339 | ug/mL | 99 |
| 23) 3-,4-Methylphenol | 8.022 | 107 | 249692 | 51.810 | ug/mL | 100 |
| 24) n-Nitrosopyrrolidine | 8.063 | 100 | 108009 | 51.421 | ug/mL | 100 |
| 25) n-Nitrosodipropylamine | 8.075 | 70 | 148307 | 49.656 | ug/mL | 98 |
| 26) Acetophenone | 8.081 | 105 | 285062 | 48.351 | ug/mL | 99 |
| 27) n-Nitrosomorpholine | 8.075 | 56 | 127038 | 50.593 | ug/mL | 98 |
| 28) o-Toluidine | 8.122 | 106 | 370914 | 50.815 | ug/mL | 99 |
| 29) Hexachloroethane | 8.210 | 117 | 104098 | 51.601 | ug/mL | 99 |
| 32) Nitrobenzene | 8.263 | 77 | 248160 | 52.202 | ug/mL | 99 |
| 33) n-Nitrosopiperidine | 8.410 | 114 | 128243 | 53.091 | ug/mL | 97 |
| 34) Isophorone | 8.481 | 82 | 451376 | 52.258 | ug/mL | 100 |
| 35) 2-Nitrophenol | 8.586 | 139 | 138681 | 55.623 | ug/mL | 100 |
| 36) 2,4-Dimethylphenol | 8.557 | 122 | 226591 | 53.481 | ug/mL | 98 |
| 37) 0,0,0-Triethyl Phospho... | 8.657 | 198 | 105167 | 49.561 | ug/mL | 99 |
| 38) bis(2-Chloroethoxy)met... | 8.657 | 93 | 324379 | 48.976 | ug/mL | 100 |
| 39) Benzoic Acid | 8.634 | 105 | 44163m | 25.715 | ug/mL | |
| 40) 2,4-Dichlorophenol | 8.810 | 162 | 187003 | 51.848 | ug/mL | 99 |
| 41) a,a-Dimethylphenethyla... | 8.804 | 58 | 605104 | 50.757 | ug/mL | 99 |
| 42) 1,2,4-Trichlorobenzene | 8.916 | 180 | 205345 | 50.174 | ug/mL | 99 |
| 43) Naphthalene | 8.992 | 128 | 718184 | 49.574 | ug/mL | 100 |

Data File : C:\msdchem\4\DATA\091317\19M000540.D Vial: 2
Acq On : 13 Sep 2017 1:54 pm Operator: SCB
Sample : WG629552-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:42:23 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 44) | 4-Chloroaniline | 9.022 | 65 | 88726 | 52.203 | ug/mL | 99 |
| 45) | 2,6-Dichlorophenol | 8.810 | 162 | 187003 | 51.848 | ug/mL | 99 |
| 46) | Hexachloropropene | 9.110 | 213 | 135327 | 55.948 | ug/mL | 99 |
| 47) | Hexachlorobutadiene | 9.145 | 225 | 103752 | 50.410 | ug/mL | 99 |
| 48) | n-Nitrosodi-n-Butylamine | 9.339 | 84 | 195887 | 50.925 | ug/mL | 98 |
| 49) | p-Phenylenediamine | 9.363 | 108 | 203325 | 52.597 | ug/mL | 100 |
| 50) | 4-Chloro-3-Methylphenol | 9.463 | 107 | 209377 | 52.858 | ug/mL | 100 |
| 51) | Safrole | 9.557 | 162 | 191552 | 51.993 | ug/mL | 99 |
| 52) | 2-Methylnaphthalene | 9.686 | 142 | 487058 | 50.413 | ug/mL | 99 |
| 53) | 1-Methylnaphthalene | 9.798 | 142 | 449697 | 50.558 | ug/mL | 100 |
| 55) | 1,2,4,5-Tetrachloroben... | 9.892 | 216 | 186959 | 47.845 | ug/mL | 100 |
| 56) | Hexachlorocyclopentadiene | 9.904 | 237 | 87056 | 56.135 | ug/mL | 99 |
| 57) | 2,4,6-Trichlorophenol | 9.975 | 196 | 140160 | 52.626 | ug/mL | 99 |
| 58) | 2,4,5-Trichlorophenol | 10.022 | 196 | 143431 | 52.320 | ug/mL | 99 |
| 60) | Isosafrole | 10.080 | 162 | 196547 | 51.512 | ug/mL | 99 |
| 61) | 2-Chloronaphthalene | 10.192 | 162 | 434197 | 48.521 | ug/mL | 100 |
| 62) | 1-Chloronaphthalene | 10.233 | 162 | 391272 | 48.159 | ug/mL | 100 |
| 63) | 2-Nitroaniline | 10.286 | 65 | 137417 | 53.309 | ug/mL | 100 |
| 64) | 1,4-Naphthoquinone | 10.351 | 158 | 150717 | 53.445 | ug/mL | 99 |
| 65) | Dimethylphthalate | 10.451 | 163 | 502129 | 49.799 | ug/mL | 100 |
| 66) | 1,3-Dinitrobenzene | 10.504 | 168 | 97633 | 56.252 | ug/mL | 99 |
| 67) | 2,6-Dinitrotoluene | 10.545 | 165 | 123994 | 52.717 | ug/mL | 99 |
| 68) | Acenaphthylene | 10.633 | 152 | 679066 | 49.209 | ug/mL | 100 |
| 69) | 3-Nitroaniline | 10.704 | 138 | 145794 | 52.518 | ug/mL | 100 |
| 70) | 2,4-Dinitrophenol | 10.804 | 184 | 62174 | 58.128 | ug/mL | 60 |
| 71) | Acenaphthene | 10.816 | 154 | 415205 | 49.149 | ug/mL | 99 |
| 72) | 4-Nitrophenol | 10.810 | 65 | 93084 | 53.671 | ug/mL | 99 |
| 73) | 2,4-Dinitrotoluene | 10.957 | 165 | 162018 | 53.456 | ug/mL | 100 |
| 74) | Pentachlorobenzene | 10.998 | 250 | 160597 | 48.259 | ug/mL | 99 |
| 75) | Dibenzofuran | 10.969 | 168 | 608210 | 48.684 | ug/mL | 100 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.122 | 232 | 103999 | 51.307 | ug/mL | 99 |
| 77) | 1-Naphthylamine | 11.051 | 143 | 479962 | 50.768 | ug/mL | 99 |
| 78) | 2-Naphthylamine | 11.116 | 143 | 447700 | 48.332 | ug/mL | 100 |
| 79) | Diethylphthalate | 11.157 | 149 | 509499 | 49.195 | ug/mL | 99 |
| 80) | Thionazin | 11.257 | 107 | 83444 | 51.427 | ug/mL | 99 |
| 81) | Fluorene | 11.327 | 166 | 454989 | 47.760 | ug/mL | 99 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.280 | 204 | 240902 | 49.291 | ug/mL | 99 |
| 83) | 4-Nitroaniline | 11.339 | 138 | 130271 | 50.288 | ug/mL | 99 |
| 84) | 5-Nitro-o-Toluidine | 11.333 | 152 | 139530 | 50.921 | ug/mL | 99 |
| 85) | 1,2-Diphenylhydrazine | 11.445 | 77 | 519568 | 50.761 | ug/mL | 100 |
| 88) | 4,6-Dinitro-2-Methylph... | 11.380 | 198 | 97514 | 54.824 | ug/mL | 94 |
| 89) | Diphenylamine/n-Nitros... | 11.398 | 169 | 444085 | 48.527 | ug/mL | 100 |
| 90) | Sulfotepp | 11.598 | 322 | 75192 | 49.111 | ug/mL | 99 |
| 91) | Sym-Trinitrobenzene | 11.675 | 75 | 140610 | 55.105 | ug/mL | 99 |
| 92) | Diallate | 11.722 | 86 | 191774 | 47.709 | ug/mL | 98 |
| 93) | Phenacetin | 11.704 | 108 | 261091 | 53.709 | ug/mL | 99 |
| 94) | Phorate | 11.739 | 75 | 300623 | 48.579 | ug/mL# | 100 |
| 95) | 4-Bromophenyl Phenyl E... | 11.804 | 248 | 133939 | 49.024 | ug/mL | 100 |
| 96) | Hexachlorobenzene | 12.016 | 284 | 136026 | 47.742 | ug/mL | 99 |
| 97) | Dimethoate | 11.945 | 87 | 176266 | 48.154 | ug/mL | 99 |
| 98) | 4-Aminobiphenyl | 12.098 | 169 | 584737 | 51.723 | ug/mL | 100 |
| 99) | Pentachlorophenol | 12.192 | 266 | 84757 | 50.480 | ug/mL | 99 |
| 100) | Pronamide | 12.139 | 173 | 228486 | 52.976 | ug/mL | 100 |
| 101) | Pentachloronitrobenzene | 12.280 | 237 | 54582 | 52.849 | ug/mL | 99 |
| 102) | Disulfoton | 12.316 | 88 | 263078 | 50.155 | ug/mL | 99 |

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000540.D Vial: 2
Acq On : 13 Sep 2017 1:54 pm Operator: SCB
Sample : WG629552-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:42:23 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

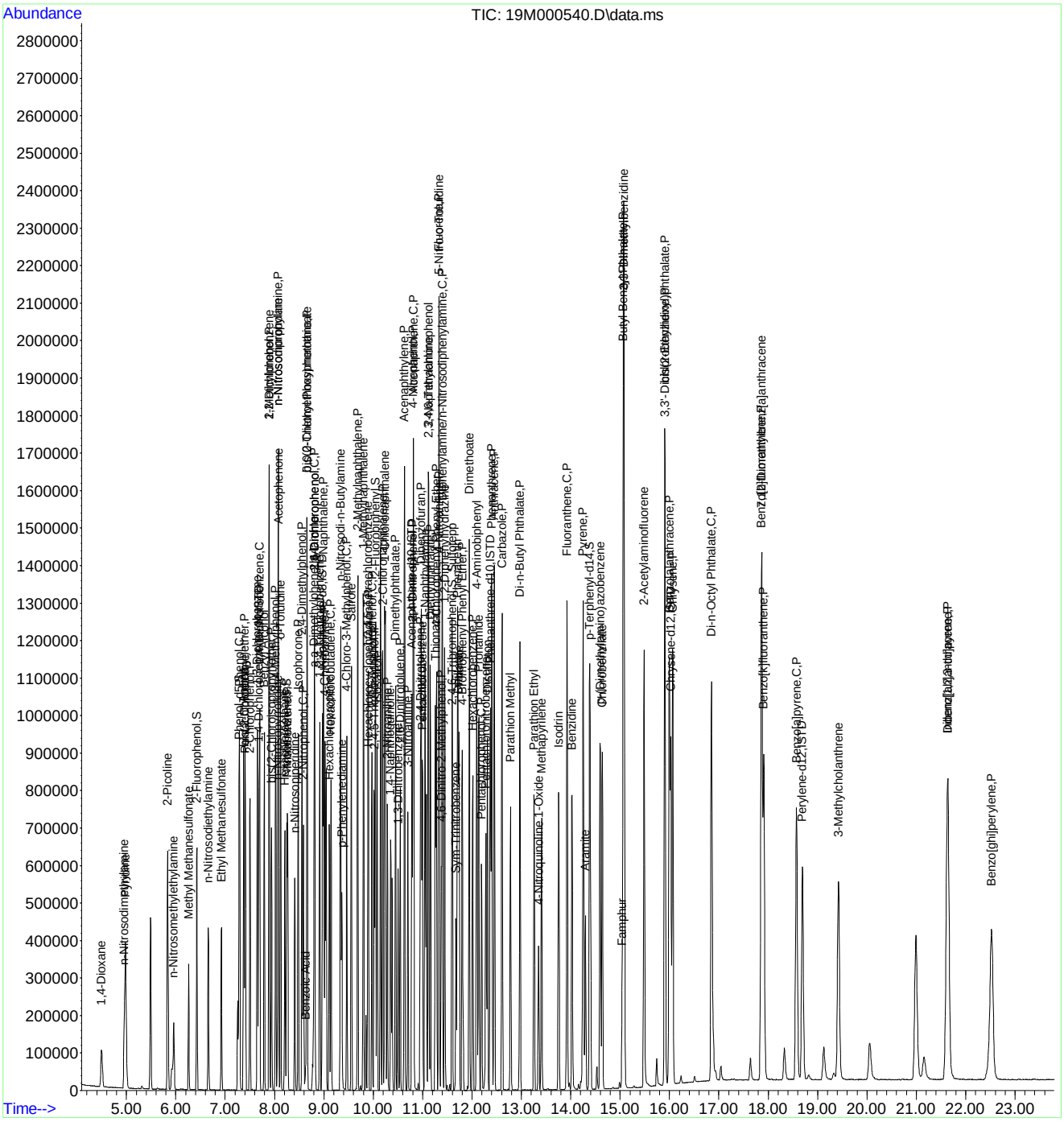
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 103) Phenanthrene | 12.398 | 178 | 736871 | 48.900 | ug/mL | 100 |
| 104) Anthracene | 12.451 | 178 | 773633 | 49.948 | ug/mL | 100 |
| 105) Carbazole | 12.610 | 167 | 727881 | 51.182 | ug/mL# | 100 |
| 106) Parathion Methyl | 12.780 | 109 | 180693 | 58.852 | ug/mL | 99 |
| 107) Di-n-Butyl Phthalate | 12.969 | 149 | 908242 | 51.337 | ug/mL | 100 |
| 108) Parathion Ethyl | 13.257 | 97 | 111942 | 54.837 | ug/mL | 99 |
| 109) 4-Nitroquinoline 1-Oxide | 13.351 | 190 | 54544 | 51.957 | ug/mL | 97 |
| 110) Methapyrilene | 13.410 | 58 | 298557 | 48.330 | ug/mL | 100 |
| 111) Isodrin | 13.757 | 193 | 83932 | 49.951 | ug/mL | 99 |
| 112) Fluoranthene | 13.927 | 202 | 823398 | 50.246 | ug/mL | 100 |
| 114) Benzidine | 14.027 | 184 | 483370 | 63.149 | ug/mL | 100 |
| 115) Pyrene | 14.251 | 202 | 864390 | 51.169 | ug/mL | 100 |
| 116) Aramite | 14.298 | 185 | 55518 | 54.705 | ug/mL | 98 |
| 118) p-(Dimethylamino)azobe... | 14.598 | 225 | 172858 | 55.727 | ug/mL | 99 |
| 119) Chlorobenzilate | 14.639 | 251 | 222146 | 54.966 | ug/mL | 100 |
| 120) Famphur | 15.039 | 218 | 87876 | 44.578 | ug/mL | 97 |
| 121) Butyl Benzyl Phthalate | 15.063 | 149 | 363829 | 48.628 | ug/mL | 98 |
| 122) 3,3'-Dimethylbenzidine | 15.074 | 212 | 712386 | 59.260 | ug/mL | 99 |
| 123) 2-Acetylaminofluorene | 15.486 | 181 | 369095 | 56.293 | ug/mL# | 99 |
| 124) bis(2-Ethylhexyl)phtha... | 15.904 | 149 | 538179 | 53.568 | ug/mL | 99 |
| 125) 3,3'-Dichlorobenzidine | 15.910 | 252 | 261800 | 54.289 | ug/mL | 99 |
| 126) Benzo[a]anthracene | 15.998 | 228 | 750976 | 50.370 | ug/mL | 99 |
| 127) Chrysene | 16.068 | 228 | 696373 | 49.843 | ug/mL | 100 |
| 129) Di-n-Octyl Phthalate | 16.851 | 149 | 1061708 | 54.912 | ug/mL | 99 |
| 130) 7,12-Dimethylbenz[a]an... | 17.868 | 256 | 346647 | 49.948 | ug/mL | 98 |
| 131) Benzo[b]fluoranthene | 17.862 | 252 | 739164 | 47.849 | ug/mL | 100 |
| 132) Benzo[k]fluoranthene | 17.909 | 252 | 761447 | 51.120 | ug/mL | 97 |
| 133) Benzo[a]pyrene | 18.574 | 252 | 760009 | 53.238 | ug/mL | 100 |
| 134) 3-Methylcholanthrene | 19.427 | 268 | 388517 | 56.928 | ug/mL | 100 |
| 135) Indeno[1,2,3-cd]pyrene | 21.639 | 276 | 805313 | 54.584 | ug/mL | 99 |
| 136) Dibenz[ah]anthracene | 21.639 | 278 | 675685 | 54.297 | ug/mL | 100 |
| 137) Benzo[ghi]perylene | 22.527 | 276 | 696213 | 56.521 | ug/mL | 99 |

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

Quantitation Report (QT Reviewed)

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Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:42:23 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\091317\19M000540.D Vial: 2
Acq On : 13 Sep 2017 1:54 pm Operator: SCB
Sample : WG629552-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:42:23 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 | ISTD | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 118 | 0.00 |
| 2 | | 1,4-Dioxane | 0.581 | 0.502 | 13.6 | 101 | -0.01 |
| 3 | | n-Nitrosodimethylamine | 0.822 | 0.781 | 5.0 | 109 | 0.00 |
| 4 | | Pyridine | 1.457 | 1.362 | 6.5 | 107 | 0.00 |
| 5 | | 2-Picoline | 1.530 | 1.532 | -0.1 | 115 | 0.00 |
| 6 | | n-Nitrosomethylethylamine | 0.654 | 0.662 | -1.2 | 116 | 0.00 |
| 7 | | Methyl Methanesulfonate | 0.790 | 0.771 | 2.4 | 112 | 0.00 |
| 8 | S | 2-Fluorophenol | 1.300 | 1.322 | -1.7 | 118 | 0.00 |
| 9 | | n-Nitrosodiethylamine | 0.659 | 0.696 | -5.6 | 122 | 0.00 |
| 10 | | Ethyl Methanesulfonate | 1.013 | 1.005 | 0.8 | 116 | 0.00 |
| 11 | | Aniline | 0.782 | 0.813 | -4.0 | 121 | 0.00 |
| 12 | S | Phenol-d5 | 1.527 | 1.604 | -5.0 | 121 | 0.00 |
| 13 | C,P | Phenol | 1.633 | 1.655 | -1.3 | 118 | 0.00 |
| 14 | P | bis(2-Chloroethyl)ether | 1.037 | 1.041 | -0.4 | 118 | 0.00 |
| 15 | | Pentachloroethane | 0.485 | 0.498 | -2.7 | 118 | 0.00 |
| 16 | P | 2-Chlorophenol | 1.406 | 1.458 | -3.7 | 119 | 0.00 |
| 17 | | 1,3-Dichlorobenzene | 1.518 | 1.524 | -0.4 | 117 | 0.00 |
| 18 | C | 1,4-Dichlorobenzene | 1.516 | 1.511 | 0.3 | 117 | 0.00 |
| 19 | | Benzyl Alcohol | 0.902 | 0.953 | -5.7 | 121 | 0.00 |
| 20 | | 1,2-Dichlorobenzene | 1.365 | 1.329 | 2.6 | 115 | 0.00 |
| 21 | P | 2-Methylphenol | 1.001 | 0.997 | 0.4 | 116 | 0.00 |
| 22 | P | bis(2-Chloroisopropyl)ether | 1.669 | 1.681 | -0.7 | 121 | 0.00 |
| 23 | P | 3-,4-Methylphenol | 1.387 | 1.437 | -3.6 | 119 | 0.00 |
| 24 | | n-Nitrosopyrrolidine | 0.605 | 0.622 | -2.8 | 119 | 0.00 |
| 25 | P | n-Nitrosodipropylamine | 0.860 | 0.854 | 0.7 | 116 | 0.00 |
| 26 | | Acetophenone | 1.697 | 1.641 | 3.3 | 113 | 0.00 |
| 27 | | n-Nitrosomorpholine | 0.735 | 0.731 | 0.5 | 118 | 0.00 |
| 28 | | o-Toluidine | 2.101 | 2.135 | -1.6 | 114 | 0.00 |
| 29 | P | Hexachloroethane | 0.581 | 0.599 | -3.1 | 116 | 0.00 |
| 30 | ISTD | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 113 | 0.00 |
| 31 | S | Nitrobenzene-d5 | 0.331 | 0.355 | -7.3 | 118 | 0.00 |
| 32 | P | Nitrobenzene | 0.345 | 0.361 | -4.6 | 117 | 0.00 |
| 33 | | n-Nitrosopiperidine | 0.176 | 0.186 | -5.7 | 116 | 0.00 |
| 34 | P | Isophorone | 0.628 | 0.656 | -4.5 | 116 | 0.00 |
| 35 | C,P | 2-Nitrophenol | 0.181 | 0.202 | -11.6 | 121 | 0.00 |
| 36 | P | 2,4-Dimethylphenol | 0.308 | 0.329 | -6.8 | 118 | 0.00 |
| 37 | | 0,0,0-Triethyl Phosphorothi | 0.154 | 0.153 | 0.6 | 113 | 0.00 |
| 38 | P | bis(2-Chloroethoxy)methane | 0.481 | 0.471 | 2.1 | 111 | 0.00 |
| 39 | | Benzoic Acid | 0.151 | 0.064 | 57.6# | 49 | 0.00 |
| 40 | C,P | 2,4-Dichlorophenol | 0.262 | 0.272 | -3.8 | 116 | 0.00 |
| 41 | | a,a-Dimethylphenethylamine | 0.813 | 0.879 | -8.1 | 116 | 0.00 |
| 42 | | 1,2,4-Trichlorobenzene | 0.297 | 0.298 | -0.3 | 114 | 0.00 |
| 43 | P | Naphthalene | 1.053 | 1.044 | 0.9 | 113 | 0.00 |
| 44 | P | 4-Chloroaniline | 0.124 | 0.129 | -4.0 | 114 | 0.00 |
| 45 | | 2,6-Dichlorophenol | 0.262 | 0.272 | -3.8 | 116 | 0.00 |
| 46 | | Hexachloropropene | 0.176 | 0.197 | -11.9 | 121 | 0.00 |
| 47 | C,P | Hexachlorobutadiene | 0.150 | 0.151 | -0.7 | 114 | 0.00 |
| 48 | | n-Nitrosodi-n-Butylamine | 0.280 | 0.285 | -1.8 | 112 | 0.00 |
| 49 | | p-Phenylenediamine | 0.281 | 0.295 | -5.0 | 112 | 0.00 |
| 50 | C,P | 4-Chloro-3-Methylphenol | 0.288 | 0.304 | -5.6 | 114 | 0.00 |

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Acq On : 13 Sep 2017 1:54 pm Operator: SCB
Sample : WG629552-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:42:23 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 51 | | Safrole | 0.268 | 0.278 | -3.7 | 116 | 0.00 |
| 52 | P | 2-Methylnaphthalene | 0.702 | 0.708 | -0.9 | 116 | 0.00 |
| 53 | | 1-Methylnaphthalene | 0.646 | 0.654 | -1.2 | 116 | -0.01 |
| 54 | ISTD | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 118 | -0.01 |
| 55 | | 1,2,4,5-Tetrachlorobenzene | 0.562 | 0.538 | 4.3 | 115 | 0.00 |
| 56 | P | Hexachlorocyclopentadiene | 0.223 | 0.251 | -12.6 | 119 | 0.00 |
| 57 | C,P | 2,4,6-Trichlorophenol | 0.383 | 0.403 | -5.2 | 119 | 0.00 |
| 58 | P | 2,4,5-Trichlorophenol | 0.394 | 0.413 | -4.8 | 117 | 0.00 |
| 59 | S | 2-Fluorobiphenyl | 1.387 | 1.370 | 1.2 | 117 | 0.00 |
| 60 | | Isosafrole | 0.549 | 0.566 | -3.1 | 120 | 0.00 |
| 61 | P | 2-Chloronaphthalene | 1.288 | 1.250 | 3.0 | 116 | 0.00 |
| 62 | | 1-Chloronaphthalene | 1.169 | 1.126 | 3.7 | 115 | 0.00 |
| 63 | P | 2-Nitroaniline | 0.371 | 0.395 | -6.5 | 123 | 0.00 |
| 64 | | 1,4-Naphthoquinone | 0.406 | 0.434 | -6.9 | 117 | 0.00 |
| 65 | P | Dimethylphthalate | 1.451 | 1.445 | 0.4 | 117 | 0.00 |
| 66 | | 1,3-Dinitrobenzene | 0.250 | 0.281 | -12.4 | 125 | 0.00 |
| 67 | P | 2,6-Dinitrotoluene | 0.338 | 0.357 | -5.6 | 122 | 0.00 |
| 68 | P | Acenaphthylene | 1.986 | 1.954 | 1.6 | 116 | 0.00 |
| 69 | P | 3-Nitroaniline | 0.399 | 0.420 | -5.3 | 121 | 0.00 |
| 70 | P | 2,4-Dinitrophenol | 0.130 | 0.179 | -37.7 | 147 | 0.00 |
| 71 | C,P | Acenaphthene | 1.216 | 1.195 | 1.7 | 116 | 0.00 |
| 72 | P | 4-Nitrophenol | 0.250 | 0.268 | -7.2 | 119 | 0.00 |
| 73 | P | 2,4-Dinitrotoluene | 0.436 | 0.466 | -6.9 | 119 | 0.00 |
| 74 | | Pentachlorobenzene | 0.479 | 0.462 | 3.5 | 115 | 0.00 |
| 75 | P | Dibenzofuran | 1.798 | 1.750 | 2.7 | 116 | -0.01 |
| 76 | | 2,3,4,6-Tetrachlorophenol | 0.292 | 0.299 | -2.4 | 115 | 0.00 |
| 77 | | 1-Naphthylamine | 1.360 | 1.381 | -1.5 | 117 | 0.00 |
| 78 | | 2-Naphthylamine | 1.333 | 1.288 | 3.4 | 116 | 0.00 |
| 79 | P | Diethylphthalate | 1.490 | 1.466 | 1.6 | 115 | 0.00 |
| 80 | | Thionazin | 0.233 | 0.240 | -3.0 | 117 | 0.00 |
| 81 | P | Fluorene | 1.371 | 1.309 | 4.5 | 115 | 0.00 |
| 82 | P | 4-Chlorophenyl Phenyl Ether | 0.703 | 0.693 | 1.4 | 117 | 0.00 |
| 83 | P | 4-Nitroaniline | 0.373 | 0.375 | -0.5 | 118 | 0.00 |
| 84 | | 5-Nitro-o-Toluidine | 0.394 | 0.402 | -2.0 | 118 | 0.00 |
| 85 | | 1,2-Diphenylhydrazine | 1.473 | 1.495 | -1.5 | 118 | 0.00 |
| 86 | S | 2,4,6-Tribromophenol | 0.164 | 0.175 | -6.7 | 120 | 0.00 |
| 87 | ISTD | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 120 | 0.00 |
| 88 | P | 4,6-Dinitro-2-Methylphenol | 0.119 | 0.147 | -23.5 | 135 | 0.00 |
| 89 | C,P | Diphenylamine/n-Nitrosodiph | 0.689 | 0.668 | 3.0 | 117 | 0.00 |
| 90 | | Sulfotepp | 0.115 | 0.113 | 1.7 | 116 | 0.00 |
| 91 | | Sym-Trinitrobenzene | 0.167 | 0.212 | -26.9 | 134 | 0.00 |
| 92 | | Diallate | 0.302 | 0.289 | 4.3 | 113 | 0.00 |
| 93 | | Phenacetin | 0.366 | 0.393 | -7.4 | 117 | 0.00 |
| 94 | | Phorate | 0.466 | 0.452 | 3.0 | 115 | 0.00 |
| 95 | P | 4-Bromophenyl Phenyl Ether | 0.206 | 0.202 | 1.9 | 117 | 0.00 |
| 96 | P | Hexachlorobenzene | 0.214 | 0.205 | 4.2 | 114 | 0.00 |
| 97 | | Dimethoate | 0.264 | 0.265 | -0.4 | 117 | 0.00 |
| 98 | | 4-Aminobiphenyl | 0.851 | 0.880 | -3.4 | 118 | 0.00 |
| 99 | C,P | Pentachlorophenol | 0.115 | 0.128 | -11.3 | 120 | -0.01 |

Evaluate Continuing Calibration Report

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Acq On : 13 Sep 2017 1:54 pm Operator: SCB
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Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 100 | | Pronamide | 0.324 | 0.344 | -6.2 | 119 | 0.00 |
| 101 | | Pentachloronitrobenzene | 0.078 | 0.082 | -5.1 | 118 | -0.01 |
| 102 | | Disulfoton | 0.395 | 0.396 | -0.3 | 116 | 0.00 |
| 103 | P | Phenanthrene | 1.134 | 1.109 | 2.2 | 117 | -0.01 |
| 104 | P | Anthracene | 1.165 | 1.164 | 0.1 | 118 | -0.01 |
| 105 | P | Carbazole | 1.070 | 1.095 | -2.3 | 120 | 0.00 |
| 106 | | Parathion Methyl | 0.227 | 0.272 | -19.8 | 127 | 0.00 |
| 107 | P | Di-n-Butyl Phthalate | 1.331 | 1.367 | -2.7 | 116 | -0.01 |
| 108 | | Parathion Ethyl | 0.139 | 0.168 | -20.9 | 124 | -0.01 |
| 109 | | 4-Nitroquinoline 1-Oxide | 0.068 | 0.082 | -20.6 | 130 | 0.00 |
| 110 | | Methapyrilene | 0.450 | 0.449 | 0.2 | 117 | 0.00 |
| 111 | | Isodrin | 0.126 | 0.126 | 0.0 | 117 | -0.01 |
| 112 | C,P | Fluoranthene | 1.233 | 1.239 | -0.5 | 118 | 0.00 |
| 113 | ISTD | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 117 | -0.01 |
| 114 | | Benzidine | 0.599 | 0.757 | -26.4 | 137 | 0.00 |
| 115 | P | Pyrene | 1.323 | 1.353 | -2.3 | 120 | -0.01 |
| 116 | | Aramite | 0.070 | 0.087 | -24.3 | 127 | -0.01 |
| 117 | S | p-Terphenyl-d14 | 0.809 | 0.788 | 2.6 | 115 | -0.01 |
| 118 | | p-(Dimethylamino)azobenzene | 0.243 | 0.271 | -11.5 | 121 | -0.01 |
| 119 | | Chlorobenzilate | 0.316 | 0.348 | -10.1 | 121 | -0.01 |
| 120 | | Famphur | 0.154 | 0.138 | 10.4 | 104 | -0.02 |
| 121 | P | Butyl Benzyl Phthalate | 0.586 | 0.570 | 2.7 | 111 | -0.01 |
| 122 | | 3,3'-Dimethylbenzidine | 0.941 | 1.115 | -18.5 | 129 | -0.01 |
| 123 | | 2-Acetylaminofluorene | 0.436 | 0.578 | -32.6 | 129 | -0.01 |
| 124 | P | bis(2-Ethylhexyl)phthalate | 0.737 | 0.843 | -14.4 | 115 | -0.02 |
| 125 | P | 3,3'-Dichlorobenzidine | 0.378 | 0.410 | -8.5 | 121 | -0.01 |
| 126 | P | Benzo[a]anthracene | 1.167 | 1.176 | -0.8 | 116 | -0.01 |
| 127 | P | Chrysene | 1.094 | 1.090 | 0.4 | 117 | -0.01 |
| 128 | ISTD | Perylene-d12 | 1.000 | 1.000 | 0.0 | 117 | -0.02 |
| 129 | C,P | Di-n-Octyl Phthalate | 1.443 | 1.585 | -9.8 | 122 | -0.02 |
| 130 | | 7,12-Dimethylbenz[a]anthrac | 0.518 | 0.518 | 0.0 | 117 | -0.02 |
| 131 | P | Benzo[b]fluoranthene | 1.153 | 1.104 | 4.2 | 111 | 0.01 |
| 132 | P | Benzo[k]fluoranthene | 1.112 | 1.137 | -2.2 | 116 | -0.02 |
| 133 | C,P | Benzo[a]pyrene | 1.066 | 1.135 | -6.5 | 117 | -0.02 |
| 134 | | 3-Methylcholanthrene | 0.509 | 0.580 | -13.9 | 120 | -0.02 |
| 135 | P | Indeno[1,2,3-cd]pyrene | 1.101 | 1.202 | -9.2 | 116 | -0.02 |
| 136 | P | Dibenz[ah]anthracene | 0.929 | 1.009 | -8.6 | 114 | -0.02 |
| 137 | P | Benzo[ghi]perylene | 0.920 | 1.040 | -13.0 | 118 | -0.03 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\091317\19M000540.D Vial: 2
Acq On : 13 Sep 2017 1:54 pm Operator: SCB
Sample : WG629552-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:42:23 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 | ISTD | 1,4-Dichlorobenzene-d4 | 40.000 | 40.000 | 0.0 | 118 | 0.00 |
| 2 | | 1,4-Dioxane | 50.000 | 43.162 | 13.7 | 101 | -0.01 |
| 3 | | n-Nitrosodimethylamine | 50.000 | 47.517 | 5.0 | 109 | 0.00 |
| 4 | | Pyridine | 50.000 | 46.718 | 6.6 | 107 | 0.00 |
| 5 | | 2-Picoline | 50.000 | 50.084 | -0.2 | 115 | 0.00 |
| 6 | | n-Nitrosomethylethylamine | 50.000 | 50.616 | -1.2 | 116 | 0.00 |
| 7 | | Methyl Methanesulfonate | 50.000 | 48.830 | 2.3 | 112 | 0.00 |
| 8 | S | 2-Fluorophenol | 50.000 | 50.845 | -1.7 | 118 | 0.00 |
| 9 | | n-Nitrosodiethylamine | 50.000 | 52.798 | -5.6 | 122 | 0.00 |
| 10 | | Ethyl Methanesulfonate | 50.000 | 49.605 | 0.8 | 116 | 0.00 |
| 11 | | Aniline | 50.000 | 52.003 | -4.0 | 121 | 0.00 |
| 12 | S | Phenol-d5 | 50.000 | 52.533 | -5.1 | 121 | 0.00 |
| 13 | C,P | Phenol | 50.000 | 50.668 | -1.3 | 118 | 0.00 |
| 14 | P | bis(2-Chloroethyl)ether | 50.000 | 50.204 | -0.4 | 118 | 0.00 |
| 15 | | Pentachloroethane | 50.000 | 51.372 | -2.7 | 118 | 0.00 |
| 16 | P | 2-Chlorophenol | 50.000 | 51.860 | -3.7 | 119 | 0.00 |
| 17 | | 1,3-Dichlorobenzene | 50.000 | 50.201 | -0.4 | 117 | 0.00 |
| 18 | C | 1,4-Dichlorobenzene | 50.000 | 49.815 | 0.4 | 117 | 0.00 |
| 19 | | Benzyl Alcohol | 50.000 | 52.793 | -5.6 | 121 | 0.00 |
| 20 | | 1,2-Dichlorobenzene | 50.000 | 48.679 | 2.6 | 115 | 0.00 |
| 21 | P | 2-Methylphenol | 50.000 | 49.784 | 0.4 | 116 | 0.00 |
| 22 | P | bis(2-Chloroisopropyl)ether | 50.000 | 50.339 | -0.7 | 121 | 0.00 |
| 23 | P | 3-,4-Methylphenol | 50.000 | 51.810 | -3.6 | 119 | 0.00 |
| 24 | | n-Nitrosopyrrolidine | 50.000 | 51.421 | -2.8 | 119 | 0.00 |
| 25 | P | n-Nitrosodipropylamine | 50.000 | 49.656 | 0.7 | 116 | 0.00 |
| 26 | | Acetophenone | 50.000 | 48.351 | 3.3 | 113 | 0.00 |
| 27 | | n-Nitrosomorpholine | 50.000 | 50.593 | -1.2 | 118 | 0.00 |
| 28 | | o-Toluidine | 50.000 | 50.815 | -1.6 | 114 | 0.00 |
| 29 | P | Hexachloroethane | 50.000 | 51.601 | -3.2 | 116 | 0.00 |
| 30 | ISTD | Naphthalene-d8 | 40.000 | 40.000 | 0.0 | 113 | 0.00 |
| 31 | S | Nitrobenzene-d5 | 50.000 | 53.612 | -7.2 | 118 | 0.00 |
| 32 | P | Nitrobenzene | 50.000 | 52.202 | -4.4 | 117 | 0.00 |
| 33 | | n-Nitrosopiperidine | 50.000 | 53.091 | -6.2 | 116 | 0.00 |
| 34 | P | Isophorone | 50.000 | 52.258 | -4.5 | 116 | 0.00 |
| 35 | C,P | 2-Nitrophenol | 50.000 | 55.623 | -11.2 | 121 | 0.00 |
| 36 | P | 2,4-Dimethylphenol | 50.000 | 53.481 | -7.0 | 118 | 0.00 |
| 37 | | 0,0,0-Triethyl Phosphorothi | 50.000 | 49.561 | 0.9 | 113 | 0.00 |
| 38 | P | bis(2-Chloroethoxy)methane | 50.000 | 48.976 | 2.0 | 111 | 0.00 |
| 39 | | Benzoic Acid | 50.000 | 25.715 | 48.6# | 49 | 0.00 |
| 40 | C,P | 2,4-Dichlorophenol | 50.000 | 51.848 | -3.7 | 116 | 0.00 |
| 41 | | a,a-Dimethylphenethylamine | 50.000 | 50.757 | -1.5 | 116 | 0.00 |
| 42 | | 1,2,4-Trichlorobenzene | 50.000 | 50.174 | -0.3 | 114 | 0.00 |
| 43 | P | Naphthalene | 50.000 | 49.574 | 0.9 | 113 | 0.00 |
| 44 | P | 4-Chloroaniline | 50.000 | 52.203 | -4.4 | 114 | 0.00 |
| 45 | | 2,6-Dichlorophenol | 50.000 | 51.848 | -3.7 | 116 | 0.00 |
| 46 | | Hexachloropropene | 50.000 | 55.948 | -11.9 | 121 | 0.00 |
| 47 | C,P | Hexachlorobutadiene | 50.000 | 50.410 | -0.8 | 114 | 0.00 |
| 48 | | n-Nitrosodi-n-Butylamine | 50.000 | 50.925 | -1.8 | 112 | 0.00 |
| 49 | | p-Phenylenediamine | 50.000 | 52.597 | -5.2 | 112 | 0.00 |
| 50 | C,P | 4-Chloro-3-Methylphenol | 50.000 | 52.858 | -5.7 | 114 | 0.00 |

Data File : C:\msdchem\4\DATA\091317\19M000540.D Vial: 2
Acq On : 13 Sep 2017 1:54 pm Operator: SCB
Sample : WG629552-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:42:23 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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) |
|---|---|---|---|---|---|---|---|
| 51 | | Safrole | 50.000 | 51.993 | -4.0 | 116 | 0.00 |
| 52 | P | 2-Methylnaphthalene | 50.000 | 50.413 | -0.8 | 116 | 0.00 |
| 53 | | 1-Methylnaphthalene | 50.000 | 50.558 | -1.1 | 116 | -0.01 |
| 54 | ISTD | Acenaphthene-d10 | 40.000 | 40.000 | 0.0 | 118 | -0.01 |
| 55 | | 1,2,4,5-Tetrachlorobenzene | 50.000 | 47.845 | 4.3 | 115 | 0.00 |
| 56 | P | Hexachlorocyclopentadiene | 50.000 | 56.135 | -12.3 | 119 | 0.00 |
| 57 | C,P | 2,4,6-Trichlorophenol | 50.000 | 52.626 | -5.3 | 119 | 0.00 |
| 58 | P | 2,4,5-Trichlorophenol | 50.000 | 52.320 | -4.6 | 117 | 0.00 |
| 59 | S | 2-Fluorobiphenyl | 50.000 | 49.382 | 1.2 | 117 | 0.00 |
| 60 | | Isosafrole | 50.000 | 51.512 | -3.0 | 120 | 0.00 |
| 61 | P | 2-Chloronaphthalene | 50.000 | 48.521 | 3.0 | 116 | 0.00 |
| 62 | | 1-Chloronaphthalene | 50.000 | 48.159 | 3.7 | 115 | 0.00 |
| 63 | P | 2-Nitroaniline | 50.000 | 53.309 | -6.6 | 123 | 0.00 |
| 64 | | 1,4-Naphthoquinone | 50.000 | 53.445 | -6.9 | 117 | 0.00 |
| 65 | P | Dimethylphthalate | 50.000 | 49.799 | 0.4 | 117 | 0.00 |
| 66 | | 1,3-Dinitrobenzene | 50.000 | 56.252 | -12.5 | 125 | 0.00 |
| 67 | P | 2,6-Dinitrotoluene | 50.000 | 52.717 | -5.4 | 122 | 0.00 |
| 68 | P | Acenaphthylene | 50.000 | 49.209 | 1.6 | 116 | 0.00 |
| 69 | P | 3-Nitroaniline | 50.000 | 52.518 | -5.0 | 121 | 0.00 |
| 70 | P | 2,4-Dinitrophenol | 50.000 | 58.128 | -16.3 | 147 | 0.00 |
| 71 | C,P | Acenaphthene | 50.000 | 49.149 | 1.7 | 116 | 0.00 |
| 72 | P | 4-Nitrophenol | 50.000 | 53.671 | -7.3 | 119 | 0.00 |
| 73 | P | 2,4-Dinitrotoluene | 50.000 | 53.456 | -6.9 | 119 | 0.00 |
| 74 | | Pentachlorobenzene | 50.000 | 48.259 | 3.5 | 115 | 0.00 |
| 75 | P | Dibenzofuran | 50.000 | 48.684 | 2.6 | 116 | -0.01 |
| 76 | | 2,3,4,6-Tetrachlorophenol | 50.000 | 51.307 | -2.6 | 115 | 0.00 |
| 77 | | 1-Naphthylamine | 50.000 | 50.768 | -1.5 | 117 | 0.00 |
| 78 | | 2-Naphthylamine | 50.000 | 48.332 | 3.3 | 116 | 0.00 |
| 79 | P | Diethylphthalate | 50.000 | 49.195 | 1.6 | 115 | 0.00 |
| 80 | | Thionazin | 50.000 | 51.427 | -2.9 | 117 | 0.00 |
| 81 | P | Fluorene | 50.000 | 47.760 | 4.5 | 115 | 0.00 |
| 82 | P | 4-Chlorophenyl Phenyl Ether | 50.000 | 49.291 | 1.4 | 117 | 0.00 |
| 83 | P | 4-Nitroaniline | 50.000 | 50.288 | -0.6 | 118 | 0.00 |
| 84 | | 5-Nitro-o-Toluidine | 50.000 | 50.921 | -1.8 | 118 | 0.00 |
| 85 | | 1,2-Diphenylhydrazine | 50.000 | 50.761 | -1.5 | 118 | 0.00 |
| 86 | S | 2,4,6-Tribromophenol | 50.000 | 53.320 | -6.6 | 120 | 0.00 |
| 87 | ISTD | Phenanthrene-d10 | 40.000 | 40.000 | 0.0 | 120 | 0.00 |
| 88 | P | 4,6-Dinitro-2-Methylphenol | 50.000 | 54.824 | -9.6 | 135 | 0.00 |
| 89 | C,P | Diphenylamine/n-Nitrosodiph | 50.000 | 48.527 | 2.9 | 117 | 0.00 |
| 90 | | Sulfotepp | 50.000 | 49.111 | 1.8 | 116 | 0.00 |
| 91 | | Sym-Trinitrobenzene | 50.000 | 55.105 | -10.2 | 134 | 0.00 |
| 92 | | Diallate | 50.000 | 47.709 | 4.6 | 113 | 0.00 |
| 93 | | Phenacetin | 50.000 | 53.709 | -7.4 | 117 | 0.00 |
| 94 | | Phorate | 50.000 | 48.579 | 2.8 | 115 | 0.00 |
| 95 | P | 4-Bromophenyl Phenyl Ether | 50.000 | 49.024 | 2.0 | 117 | 0.00 |
| 96 | P | Hexachlorobenzene | 50.000 | 47.742 | 4.5 | 114 | 0.00 |
| 97 | | Dimethoate | 50.000 | 48.154 | 3.7 | 117 | 0.00 |
| 98 | | 4-Aminobiphenyl | 50.000 | 51.723 | -3.4 | 118 | 0.00 |
| 99 | C,P | Pentachlorophenol | 50.000 | 50.480 | -1.0 | 120 | -0.01 |

Data File : C:\msdchem\4\DATA\091317\19M000540.D Vial: 2
Acq On : 13 Sep 2017 1:54 pm Operator: SCB
Sample : WG629552-02 50PPM 8270 STD Inst : HPMS19NEW
Misc : 1,1 STD81744 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:42:23 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

Min. RRF : 0.050 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 40% Max. Rel. Area : 500%

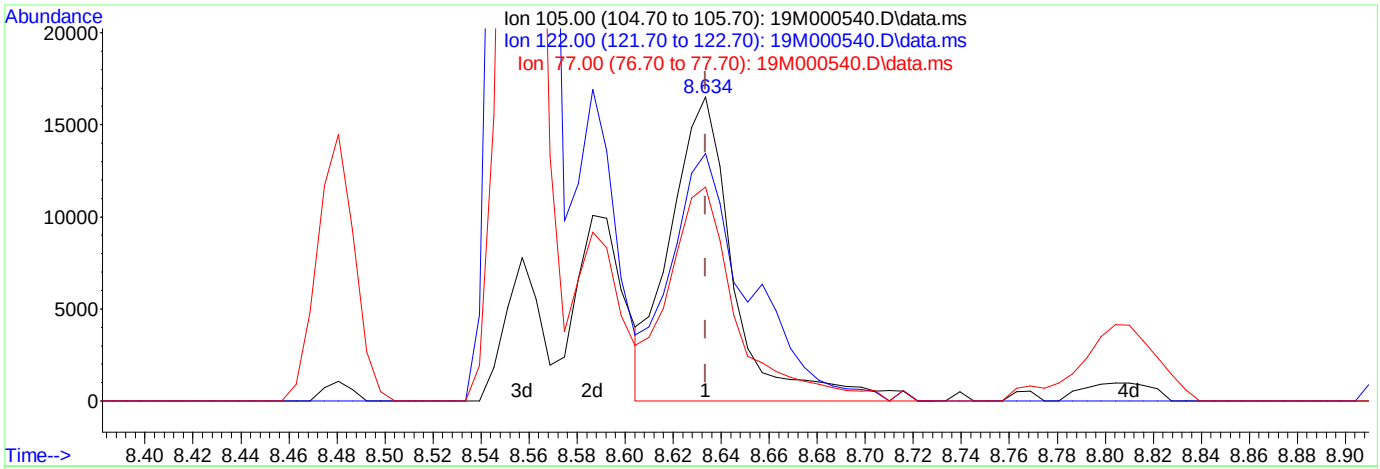
| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 100 | | Pronamide | 50.000 | 52.976 | -6.0 | 119 | 0.00 |
| 101 | | Pentachloronitrobenzene | 50.000 | 52.849 | -5.7 | 118 | -0.01 |
| 102 | | Disulfoton | 50.000 | 50.155 | -0.3 | 116 | 0.00 |
| 103 | P | Phenanthrene | 50.000 | 48.900 | 2.2 | 117 | -0.01 |
| 104 | P | Anthracene | 50.000 | 49.948 | 0.1 | 118 | -0.01 |
| 105 | P | Carbazole | 50.000 | 51.182 | -2.4 | 120 | 0.00 |
| 106 | | Parathion Methyl | 50.000 | 58.852 | -17.7 | 127 | 0.00 |
| 107 | P | Di-n-Butyl Phthalate | 50.000 | 51.337 | -2.7 | 116 | -0.01 |
| 108 | | Parathion Ethyl | 50.000 | 54.837 | -9.7 | 124 | -0.01 |
| 109 | | 4-Nitroquinoline 1-Oxide | 50.000 | 51.957 | -3.9 | 130 | 0.00 |
| 110 | | Methapyrilene | 50.000 | 48.330 | 3.3 | 117 | 0.00 |
| 111 | | Isodrin | 50.000 | 49.951 | 0.1 | 117 | -0.01 |
| 112 | C,P | Fluoranthene | 50.000 | 50.246 | -0.5 | 118 | 0.00 |
| 113 | ISTD | Chrysene-d12 | 40.000 | 40.000 | 0.0 | 117 | -0.01 |
| 114 | | Benzidine | 50.000 | 63.149 | -26.3 | 137 | 0.00 |
| 115 | P | Pyrene | 50.000 | 51.169 | -2.3 | 120 | -0.01 |
| 116 | | Aramite | 50.000 | 54.705 | -9.4 | 127 | -0.01 |
| 117 | S | p-Terphenyl-d14 | 50.000 | 48.709 | 2.6 | 115 | -0.01 |
| 118 | | p-(Dimethylamino)azobenzene | 50.000 | 55.727 | -11.5 | 121 | -0.01 |
| 119 | | Chlorobenzilate | 50.000 | 54.966 | -9.9 | 121 | -0.01 |
| 120 | | Famphur | 50.000 | 44.578 | 10.8 | 104 | -0.02 |
| 121 | P | Butyl Benzyl Phthalate | 50.000 | 48.628 | 2.7 | 111 | -0.01 |
| 122 | | 3,3'-Dimethylbenzidine | 50.000 | 59.260 | -18.5 | 129 | -0.01 |
| 123 | | 2-Acetylaminofluorene | 50.000 | 56.293 | -12.6 | 129 | -0.01 |
| 124 | P | bis(2-Ethylhexyl)phthalate | 50.000 | 53.568 | -7.1 | 115 | -0.02 |
| 125 | P | 3,3'-Dichlorobenzidine | 50.000 | 54.289 | -8.6 | 121 | -0.01 |
| 126 | P | Benzo[a]anthracene | 50.000 | 50.370 | -0.7 | 116 | -0.01 |
| 127 | P | Chrysene | 50.000 | 49.843 | 0.3 | 117 | -0.01 |
| 128 | ISTD | Perylene-d12 | 40.000 | 40.000 | 0.0 | 117 | -0.02 |
| 129 | C,P | Di-n-Octyl Phthalate | 50.000 | 54.912 | -9.8 | 122 | -0.02 |
| 130 | | 7,12-Dimethylbenz[a]anthrac | 50.000 | 49.948 | 0.1 | 117 | -0.02 |
| 131 | P | Benzo[b]fluoranthene | 50.000 | 47.849 | 4.3 | 111 | 0.01 |
| 132 | P | Benzo[k]fluoranthene | 50.000 | 51.120 | -2.2 | 116 | -0.02 |
| 133 | C,P | Benzo[a]pyrene | 50.000 | 53.238 | -6.5 | 117 | -0.02 |
| 134 | | 3-Methylcholanthrene | 50.000 | 56.928 | -13.9 | 120 | -0.02 |
| 135 | P | Indeno[1,2,3-cd]pyrene | 50.000 | 54.584 | -9.2 | 116 | -0.02 |
| 136 | P | Dibenz[ah]anthracene | 50.000 | 54.297 | -8.6 | 114 | -0.02 |
| 137 | P | Benzo[ghi]perylene | 50.000 | 56.521 | -13.0 | 118 | -0.03 |

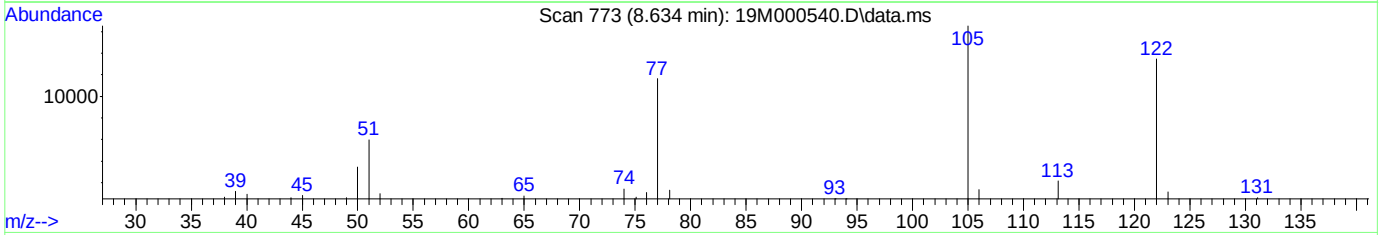
(#) = Out of Range SPCC's out = 0 CCC's out = 0

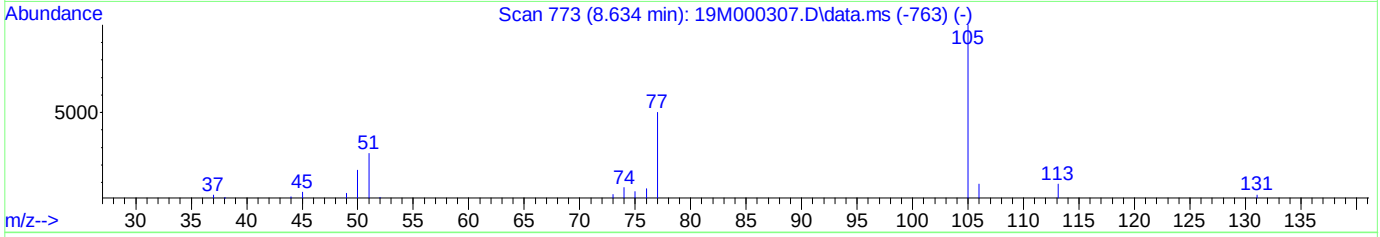
Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\091317\19M000540.D  Vial: 2
Acq On : 13 Sep 2017 1:54 pm  Operator: SCB
Sample : WG629552-02 50PPM 8270 STD  Inst : HPMS19NEW
Misc : 1,1 STD81744  Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:15:28 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




TIC: 19M000540.D\data.ms

(39) Benzoic Acid

8.634min (-0.000) 20.645 ug/mL

response 30355

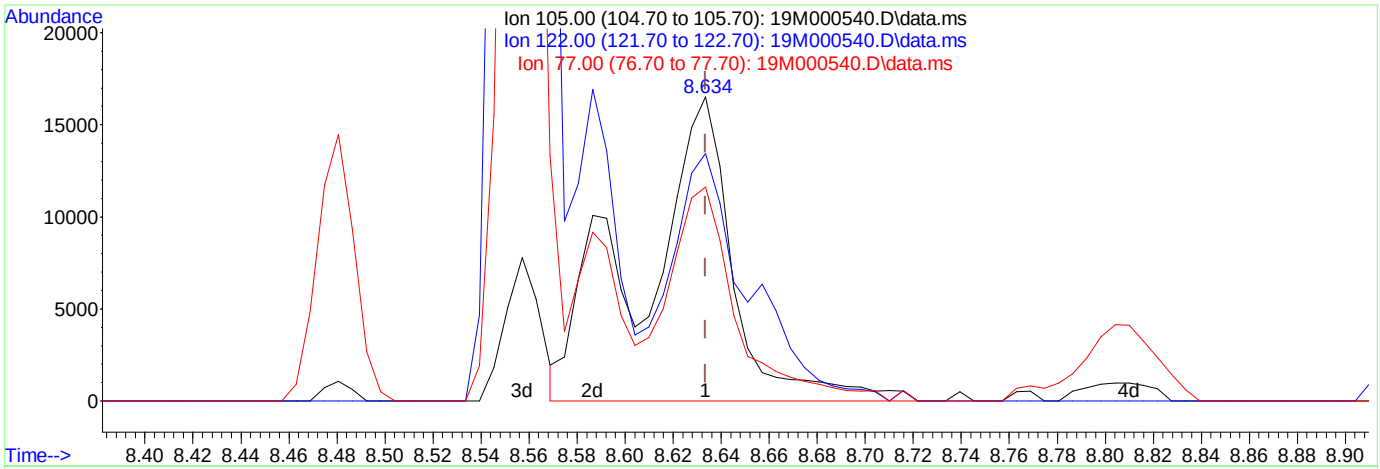
| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 51.80 | 101.17# |
| 77.00 | 44.60 | 75.57# |
| 0.00 | 0.00 | 0.00 |

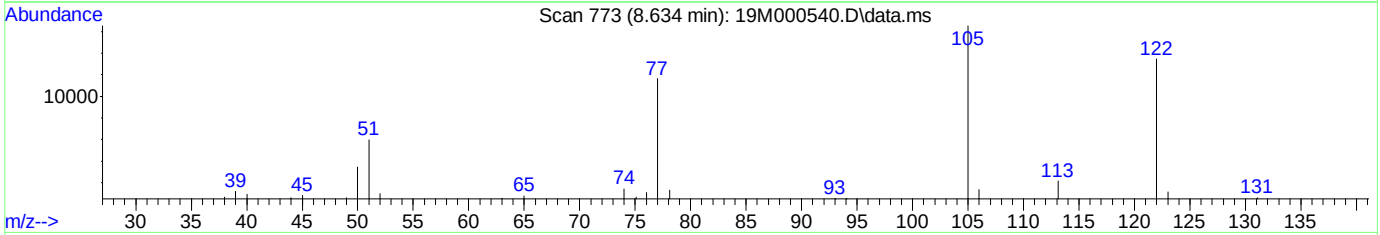
19M000540.D MEGAMIX.M Wed Sep 13 14:42:15 2017  SVOA1  Page: 1

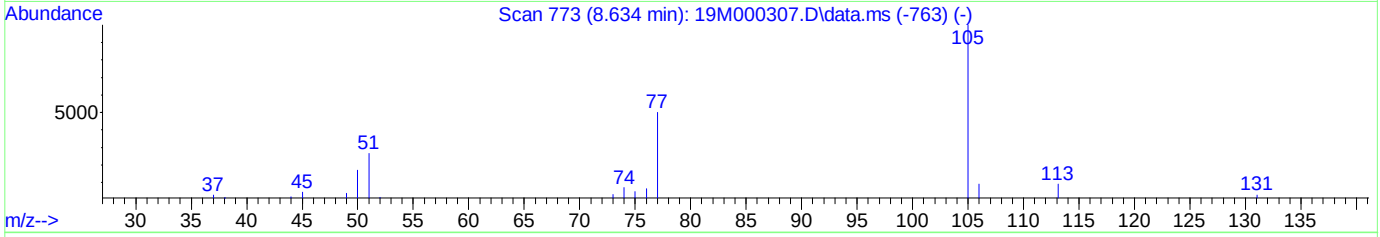
Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\091317\19M000540.D  Vial: 2
Acq On : 13 Sep 2017 1:54 pm  Operator: SCB
Sample : WG629552-02 50PPM 8270 STD  Inst : HPMS19NEW
Misc : 1,1 STD81744  Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:15:28 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M




TIC: 19M000540.D\data.ms

(39) Benzoic Acid

8.634min (-0.000) 25.715 ug/mL mint

response 44163

| Ion | Exp% | Act% |
|---|---|---|
| 105.00 | 100 | 100 |
| 122.00 | 51.80 | 69.54 |
| 77.00 | 44.60 | 51.94 |
| 0.00 | 0.00 | 0.00 |

Analyst: 09/14/2017 16:19 Supervisor: 09/14/2017 16:26

#2 - Data system splits the peak incorrectly or integrates a false peak as a rider peak

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000541.D Vial: 3
Acq On : 13 Sep 2017 2:25 pm Operator: SCB
Sample : WG629570-01 50PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:45:03 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

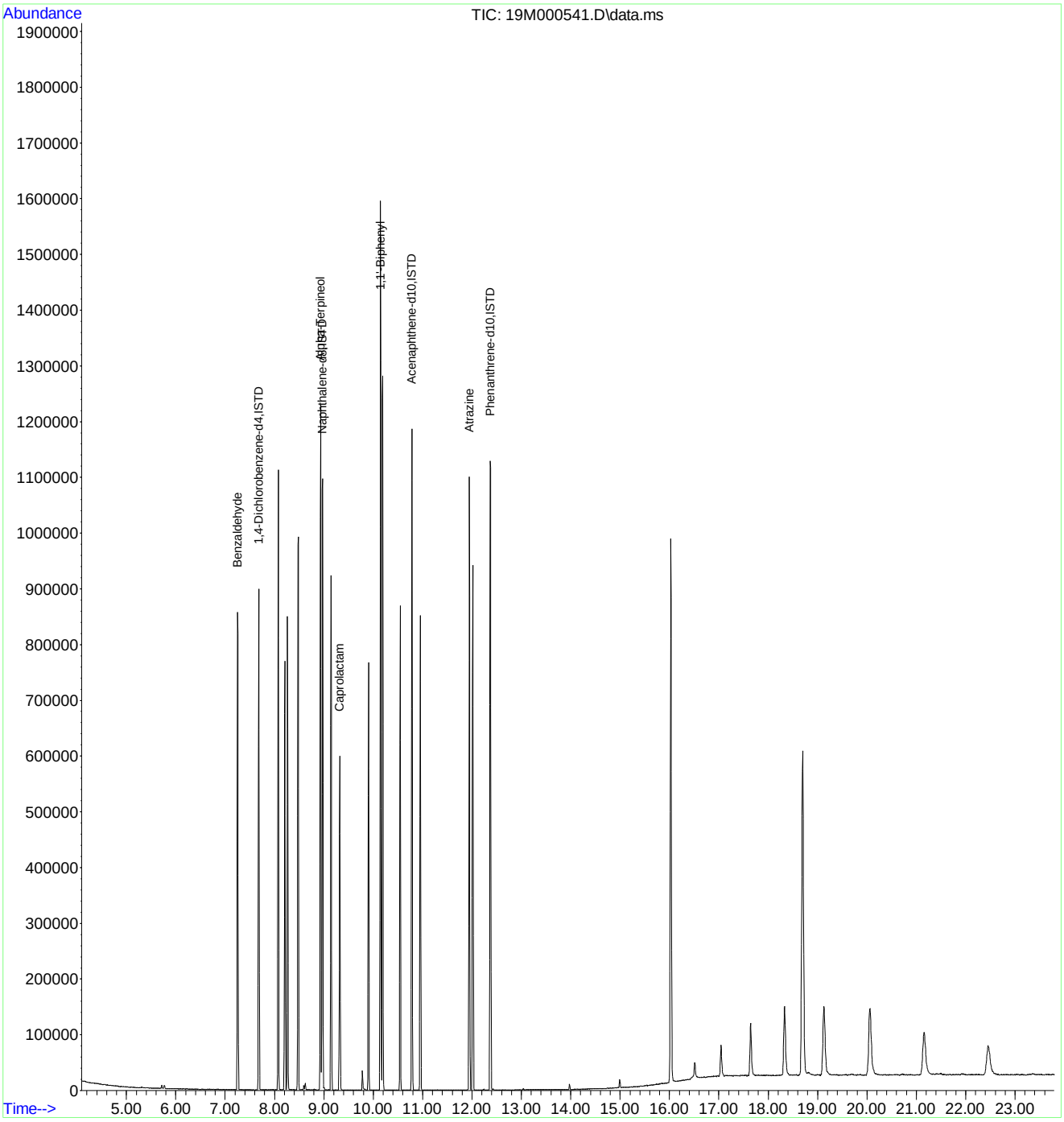
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 156901 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.975 | 136 | 617295 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.781 | 164 | 313258 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.369 | 188 | 586010 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.251 | 105 | 199196 | 53.231 | ug/mL | 100 |
| 4) Alpha-Terpineol | 8.934 | 59 | 215732 | 54.016 | ug/mL | 99 |
| 5) Caprolactam | 9.322 | 55 | 119521 | 53.936 | ug/mL | 100 |
| 7) 1,1'-Biphenyl | 10.145 | 154 | 620638 | 49.264 | ug/mL | 100 |
| 9) Atrazine | 11.945 | 200 | 162901 | 55.355 | ug/mL | 99 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091317\19M000541.D Vial: 3
Acq On : 13 Sep 2017 2:25 pm Operator: SCB
Sample : WG629570-01 50PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:45:03 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\091317\19M000541.D Vial: 3
Acq On : 13 Sep 2017 2:25 pm Operator: SCB
Sample : WG629570-01 50PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:45:03 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

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 ISTD | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 109 | 0.00 |
| 2 | Benzaldehyde | 0.954 | 1.016 | -6.5 | 112 | -0.01 |
| 3 ISTD | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 110 | 0.00 |
| 4 | Alpha-Terpineol | 0.259 | 0.280 | -8.1 | 111 | 0.00 |
| 5 | Caprolactam | 0.132 | 0.155 | -17.4 | 114 | 0.00 |
| 6 ISTD | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 111 | 0.00 |
| 7 | 1,1'-Biphenyl | 1.609 | 1.585 | 1.5 | 110 | 0.00 |
| 8 ISTD | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 112 | 0.00 |
| 9 | Atrazine | 0.201 | 0.222 | -10.4 | 114 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\msdchem\4\DATA\091317\19M000541.D Vial: 3
Acq On : 13 Sep 2017 2:25 pm Operator: SCB
Sample : WG629570-01 50PPM TCL/A-TERP STD Inst : HPMS19NEW
Misc : 1,1 STD81291 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 14:45:03 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

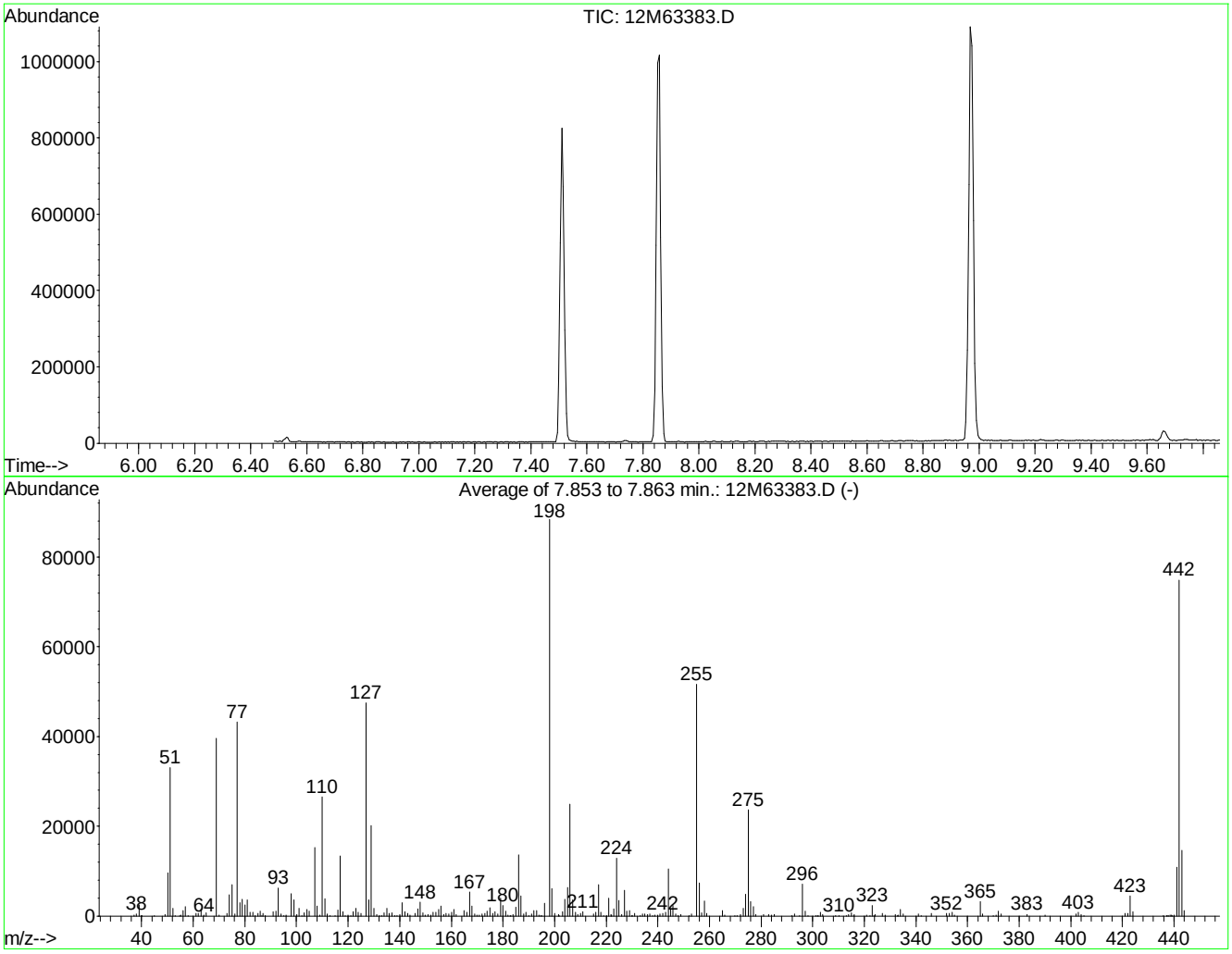
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 ISTD | 1,4-Dichlorobenzene-d4 | 40.000 | 40.000 | 0.0 | 109 | 0.00 |
| 2 | Benzaldehyde | 50.000 | 53.231 | -6.5 | 112 | -0.01 |
| 3 ISTD | Naphthalene-d8 | 40.000 | 40.000 | 0.0 | 110 | 0.00 |
| 4 | Alpha-Terpineol | 50.000 | 54.016 | -8.0 | 111 | 0.00 |
| 5 | Caprolactam | 50.000 | 53.936 | -7.9 | 114 | 0.00 |
| 6 ISTD | Acenaphthene-d10 | 40.000 | 40.000 | 0.0 | 111 | 0.00 |
| 7 | 1,1'-Biphenyl | 50.000 | 49.264 | 1.5 | 110 | 0.00 |
| 8 ISTD | Phenanthrene-d10 | 40.000 | 40.000 | 0.0 | 112 | 0.00 |
| 9 | Atrazine | 50.000 | 55.355 | -10.7 | 114 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

# 2.2.1.5 Raw QC Data

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
Method : I:\MSDCHEM\1\METHODS\DFTPP.M (RTE Integrator)
Title : DFTPP




AutoFind: Scans 257, 258, 259; Background Corrected with Scan 251

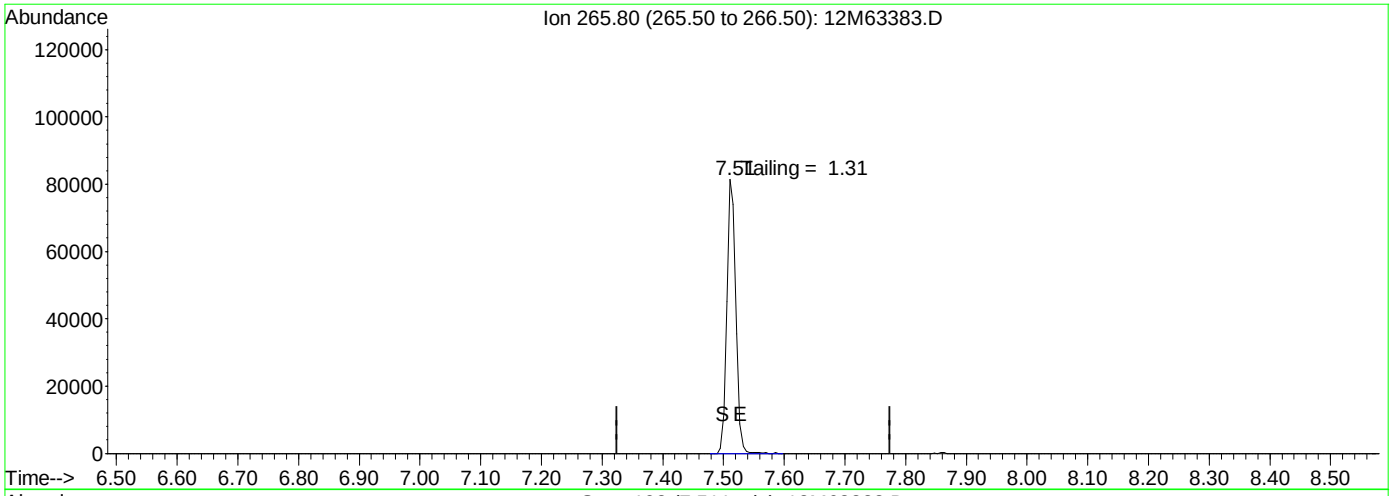
| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 37.3 | 33025 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 44.8 | 39589 | PASS |
| 70 | 69 | 0.00 | 2 | 0.4 | 152 | PASS |
| 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 |

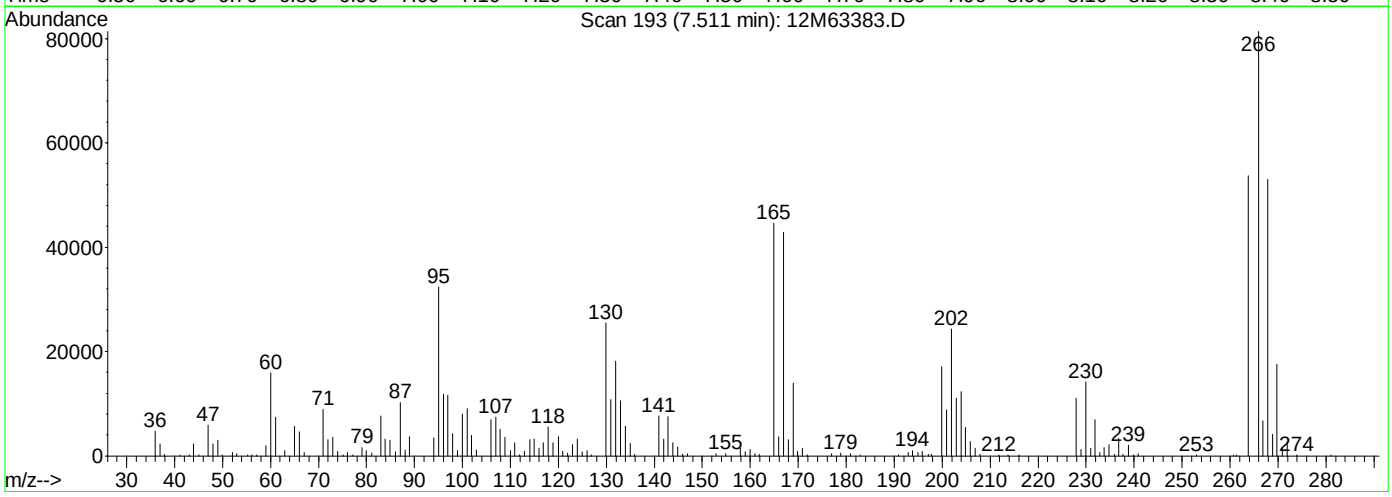
12M63383.D DFTPP.M Mon Jul 17 11:03:05 2017

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

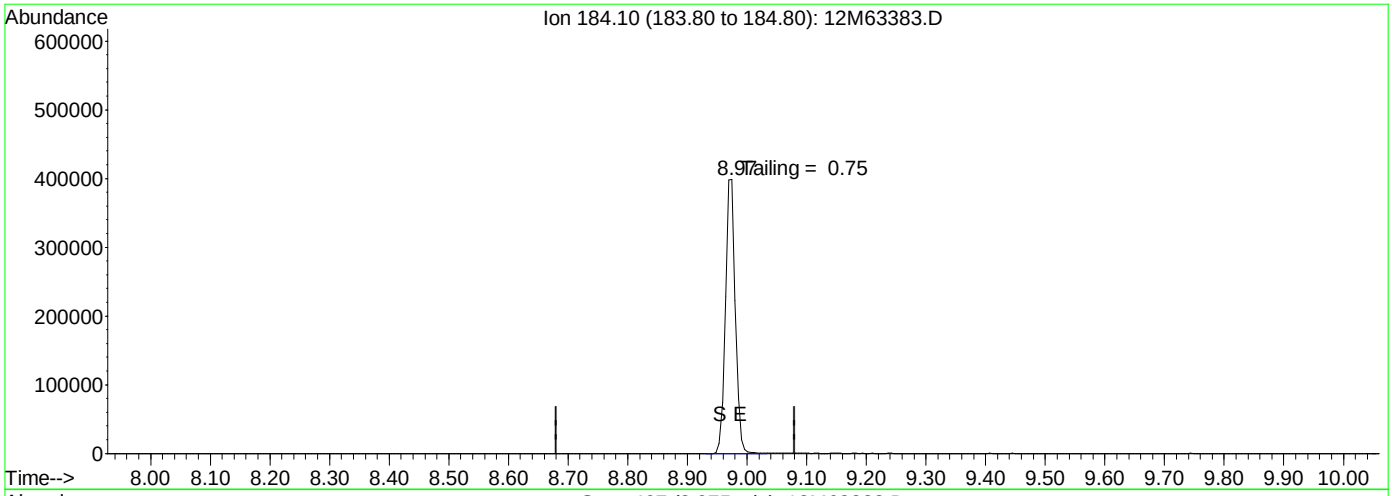
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

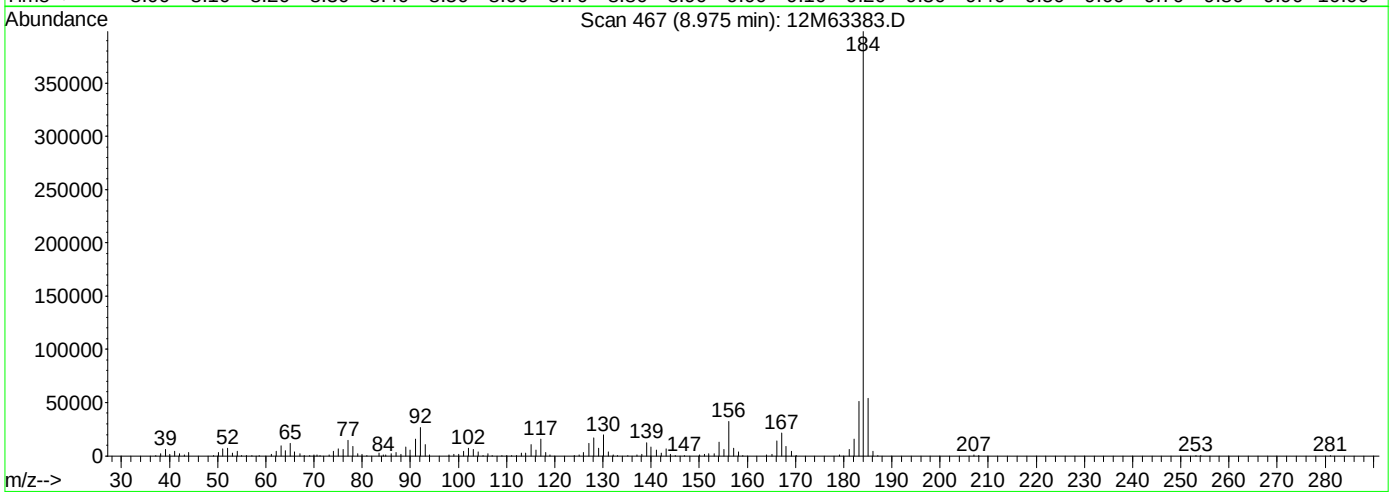
12M63383.D DFTPP.M Mon Jul 17 11:03:19 2017

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

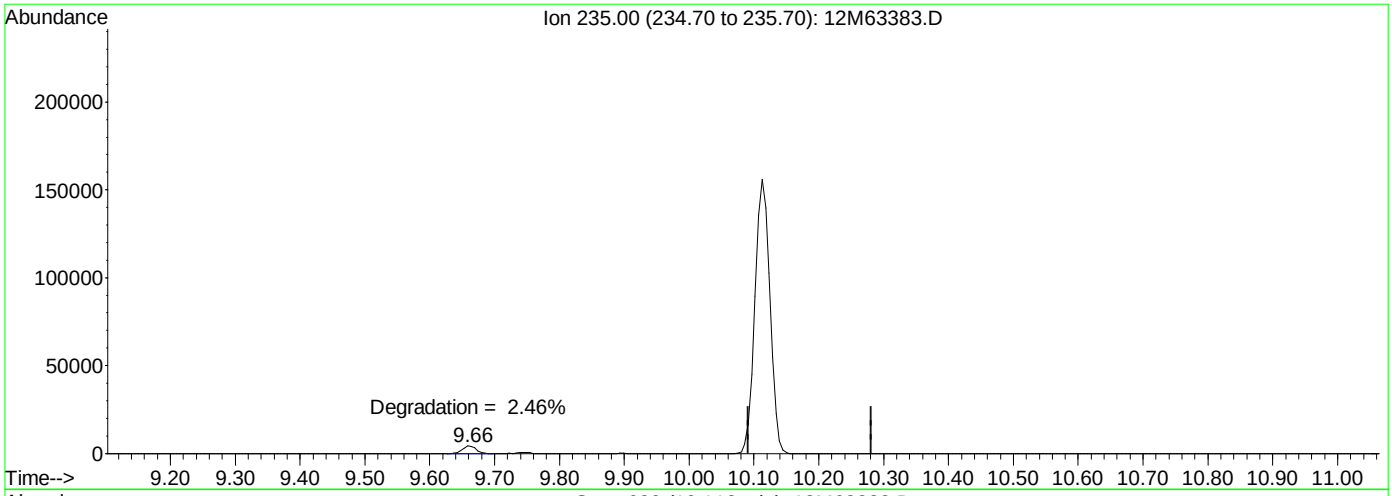
| Ion | Exp% | Act% |
|---|---|---|
| 184.10 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

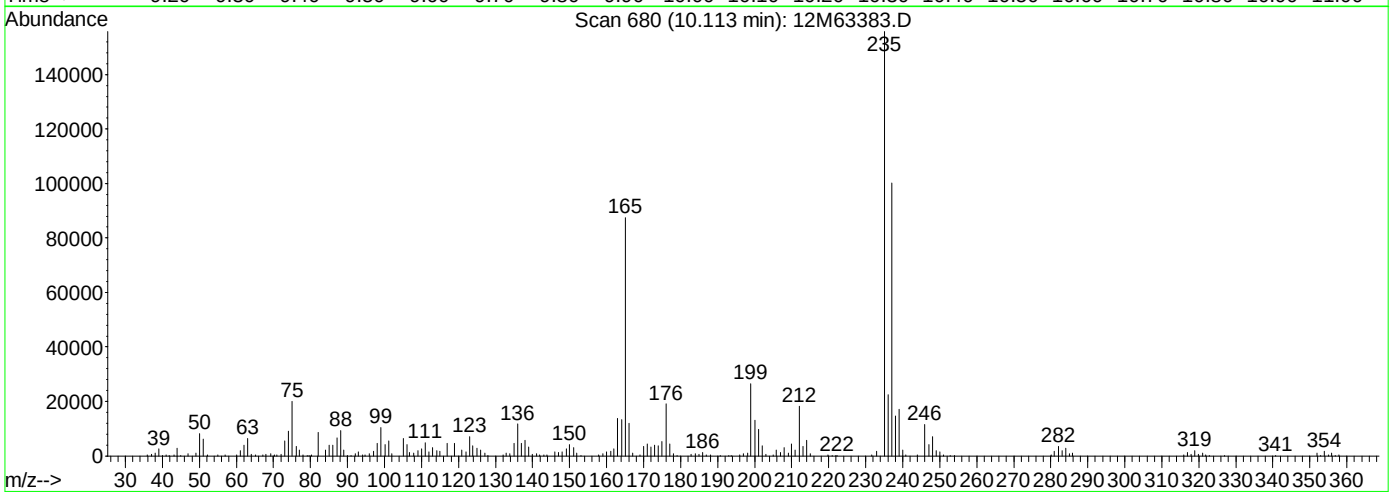
12M63383.D DFTPP.M Mon Jul 17 11:03:29 2017

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

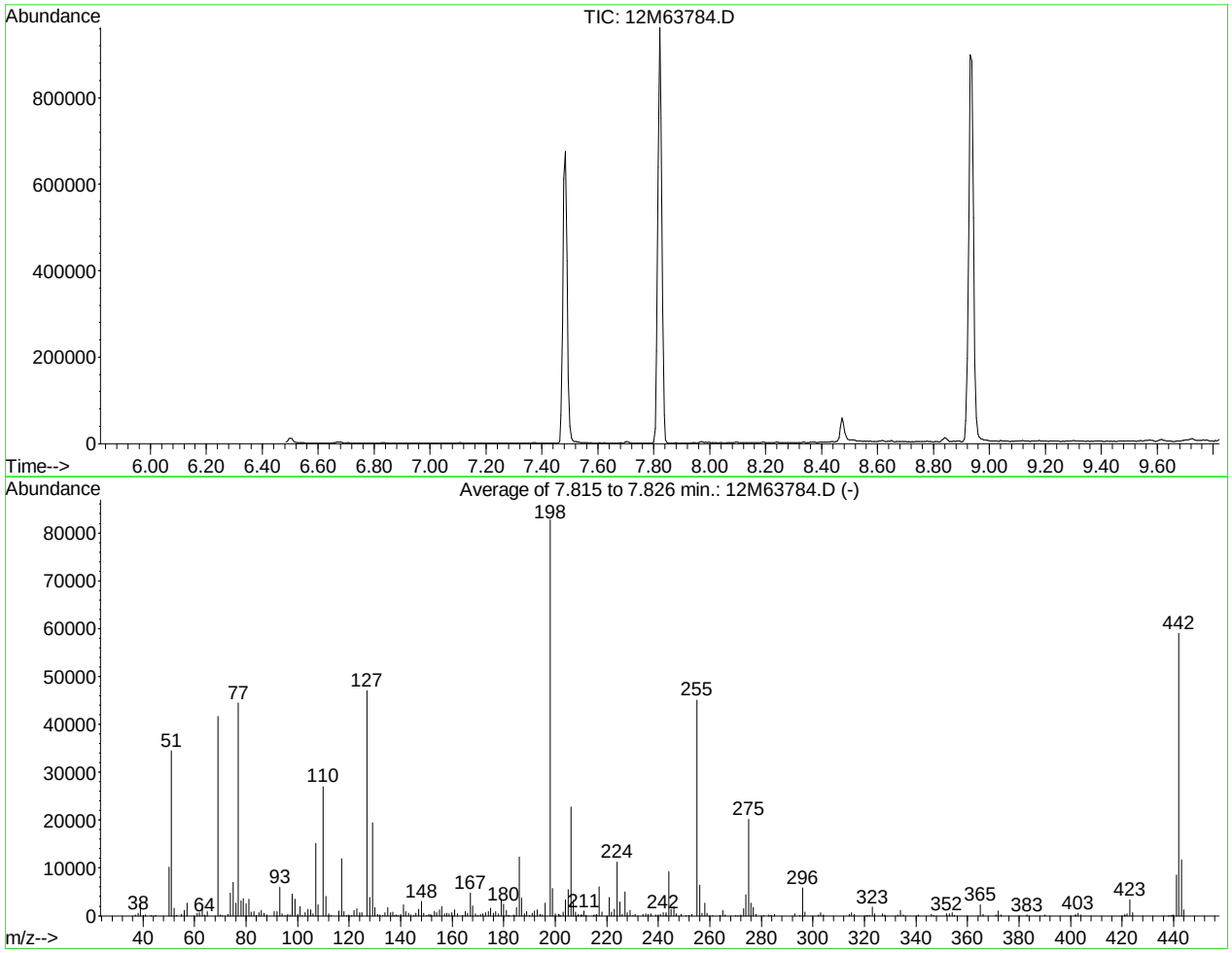
10.11min 0.00ug/ml

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

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

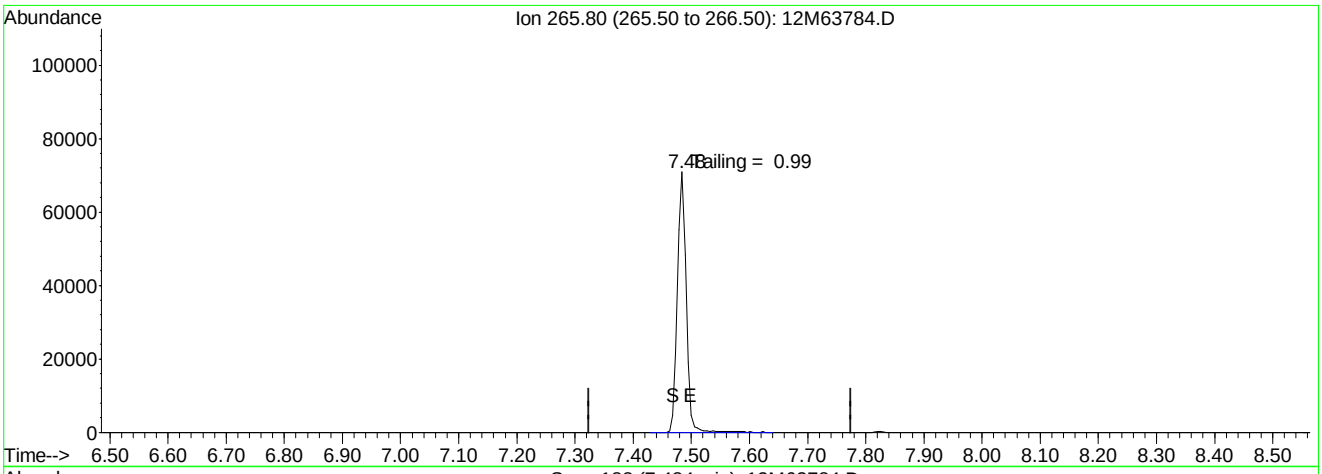
| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 41.7 | 34533 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 50.4 | 41696 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 219 | PASS |
| 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 |

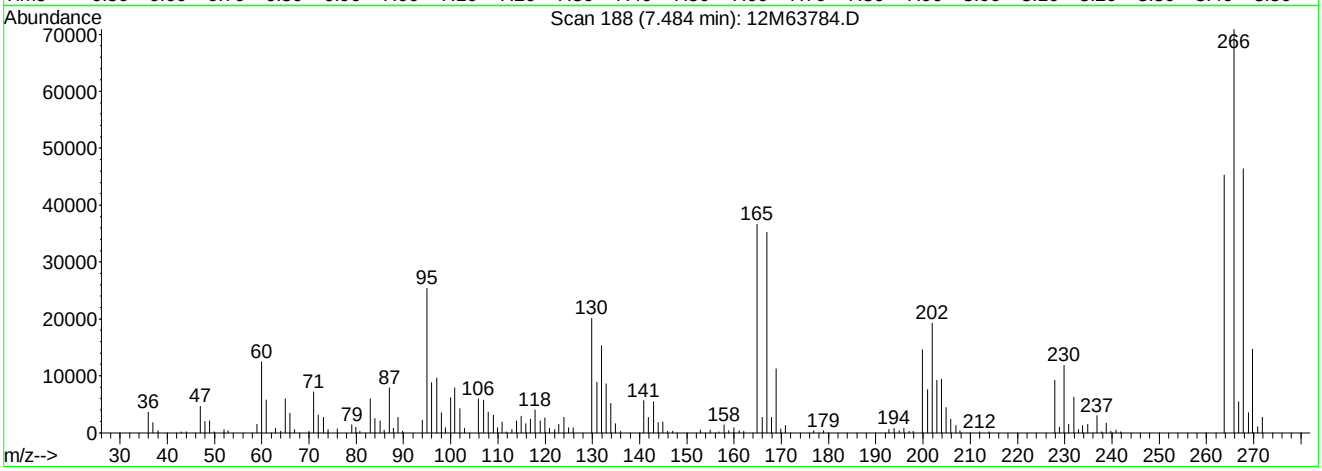
12M63784.D DFTPP.M Thu Aug 03 09:16:11 2017

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

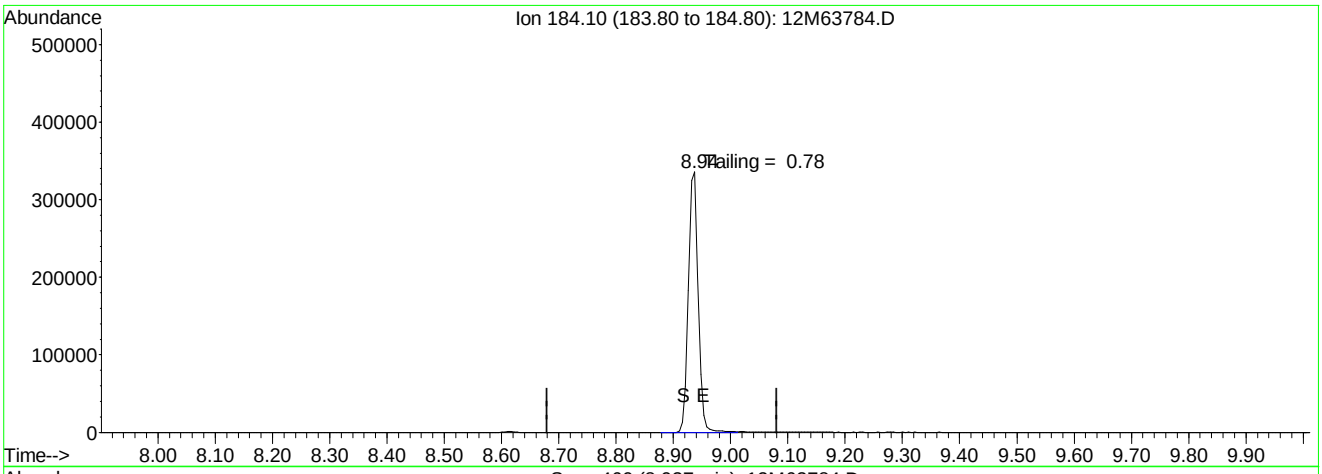
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

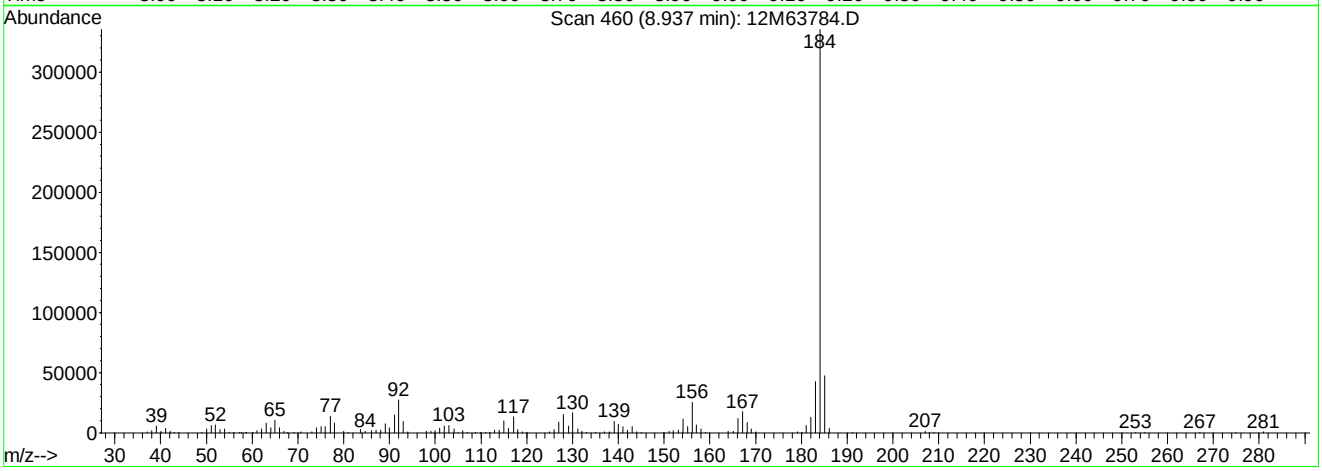
12M63784.D DFTPP.M Thu Aug 03 09:16:22 2017

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

(2) Benzidine

8.94min 0.00ug/ml

response 397912

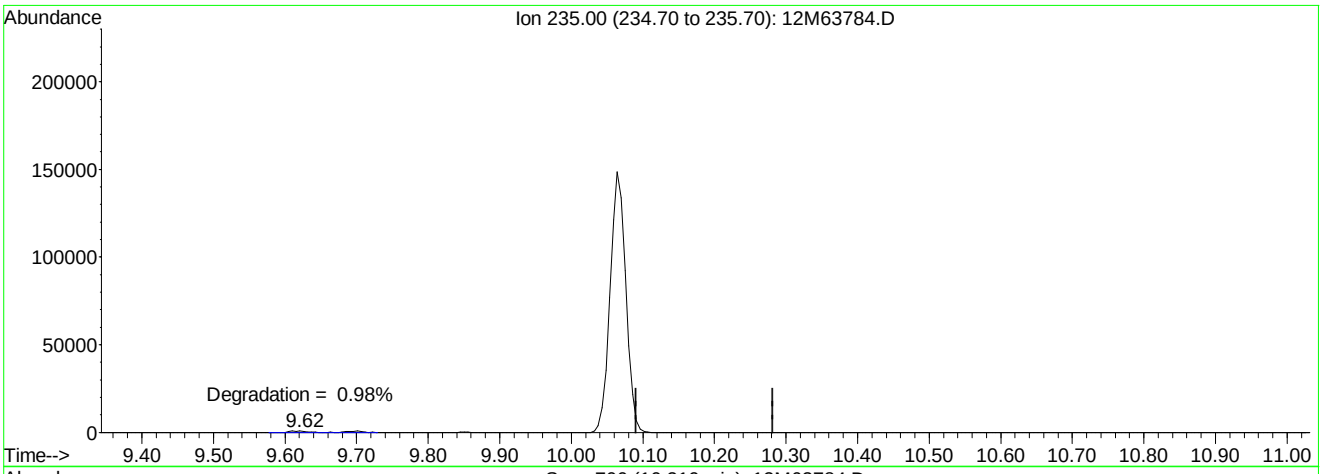
| Ion | Exp% | Act% |
|---|---|---|
| 184.10 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

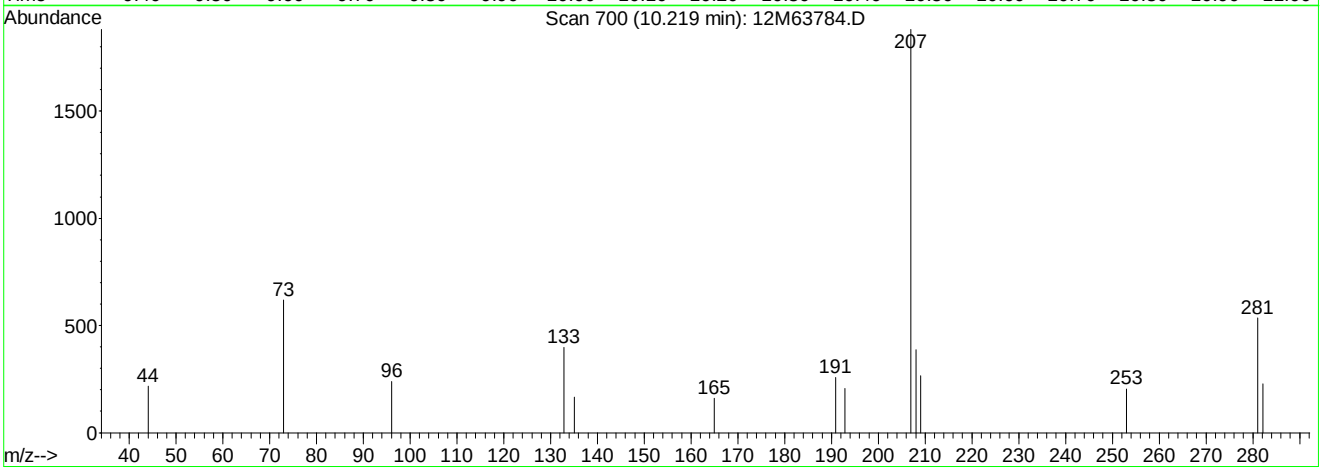
12M63784.D DFTPP.M Thu Aug 03 09:16:32 2017

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

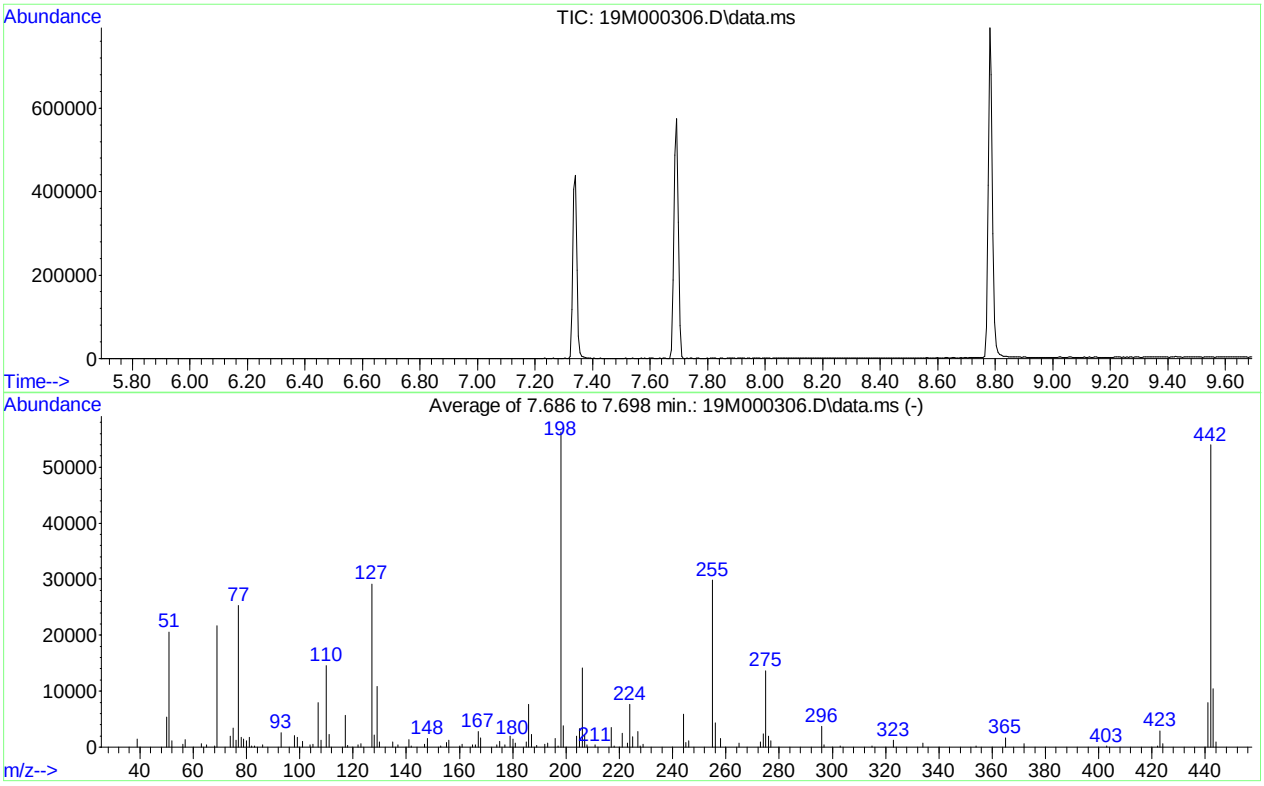
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

12M63784.D DFTPP.M Thu Aug 03 09:16:42 2017

Data Path : C:\msdchem\4\DATA\081517\
Data File : 19M000306.D
InstName  : HPMS19NEW
Acq On    : 15 Aug 2017   4:11 pm
Operator  : SCB
Sample    : WG625881-01 50PPM DFTPP
Misc      : 1,1 STD83235
ALS Vial  : 1   Sample Multiplier: 1

Integration File: events.e

Method    : C:\msdchem\4\METHODS\DFTPP.M
Title     :
Last Update  :




AutoFind: Scans 612, 613, 614; Background Corrected with Scan 607

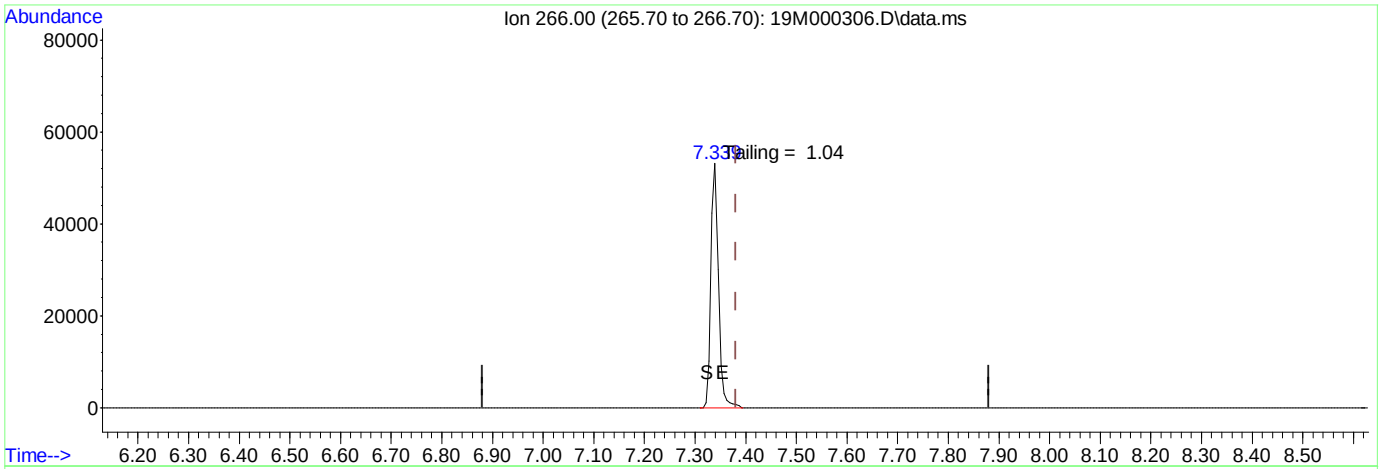
AUTOFIND via AUTOINTEGRATE

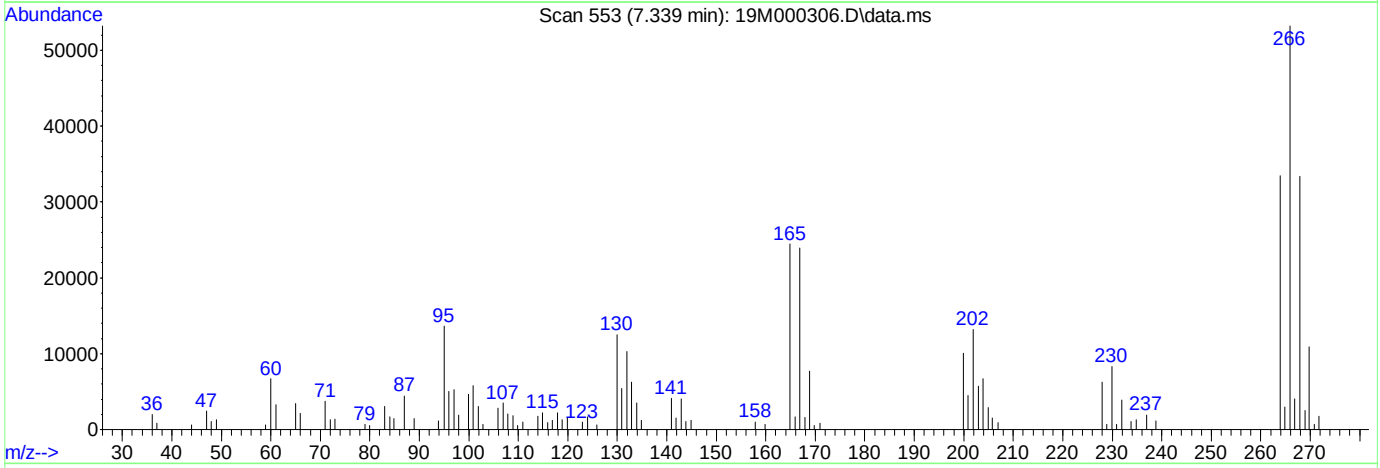
| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 36.6 | 20581 | PASS |
| 68 | 69 | 0.00 | 2 | 0.8 | 167 | PASS |
| 69 | 198 | 0.00 | 100 | 38.6 | 21704 | PASS |
| 70 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 127 | 198 | 40 | 60 | 51.8 | 29157 | PASS |
| 197 | 198 | 0.00 | 1 | 0.3 | 168 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 56240 | PASS |
| 199 | 198 | 5 | 9 | 6.9 | 3861 | PASS |
| 275 | 198 | 10 | 30 | 24.3 | 13643 | PASS |
| 365 | 198 | 1 | 100 | 3.0 | 1692 | PASS |
| 441 | 443 | 0.01 | 100 | 76.2 | 7930 | PASS |
| 442 | 198 | 40 | 100 | 96.0 | 53973 | PASS |
| 443 | 442 | 17 | 23 | 19.3 | 10413 | PASS |

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081517\19M000306.D  Vial: 1
Acq On : 15 Aug 2017 4:11 pm  Operator: SCB
Sample : WG625881-01 50PPM DFTPP  Inst : HPMS19NEW
Misc : 1,1 STD83235  Multiplr: 1.00
Integrator: ChemStation
Quant Time: Aug 15 16:21:00 2017
Quant Results File: DFTPP.RES

Quant Method : C:\msdchem\4\METHODS\DFTPP.M
Quant Title :
QLast Update :
Response via : Initial Calibration
DataAcq Meth:DFTPP.M




TIC: 19M000306.D\data.ms

(1) Pentachlorophenol

7.341min (-0.039) 0.000

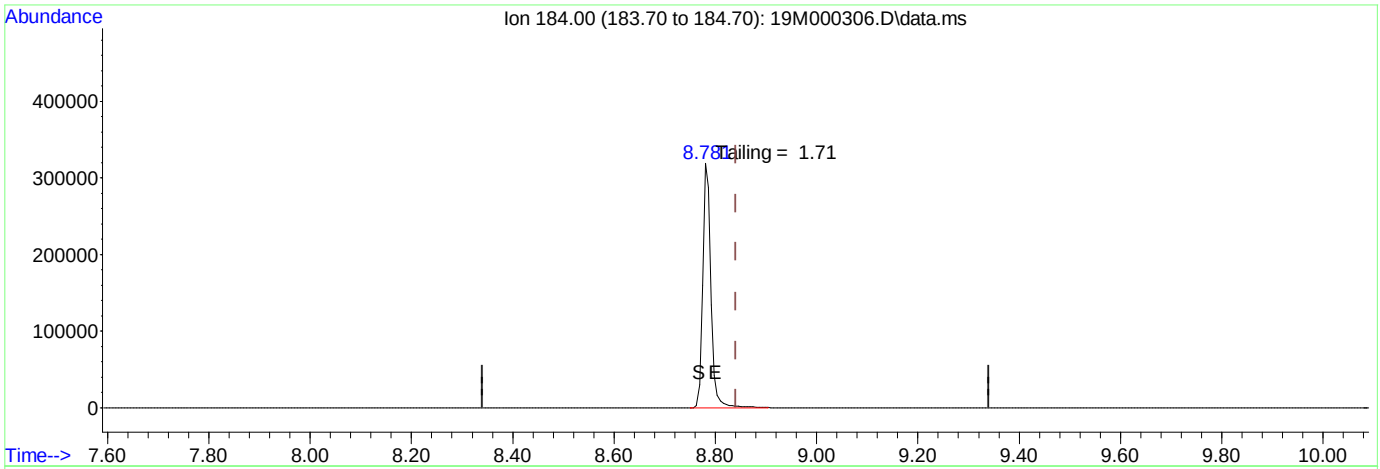
response 543066

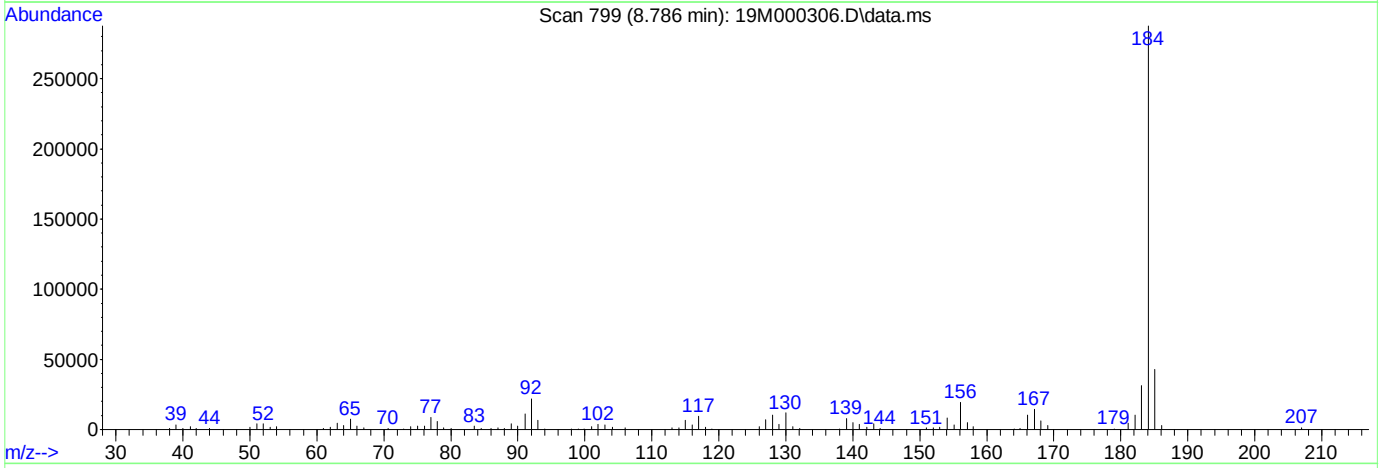
| Ion | Exp% | Act% |
|---|---|---|
| 266.00 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081517\19M000306.D  Vial: 1
Acq On : 15 Aug 2017 4:11 pm  Operator: SCB
Sample : WG625881-01 50PPM DFTPP  Inst : HPMS19NEW
Misc : 1,1 STD83235  Multiplr: 1.00
Integrator: ChemStation
Quant Time: Aug 15 16:21:00 2017
Quant Results File: DFTPP.RES

Quant Method : C:\msdchem\4\METHODS\DFTPP.M
Quant Title :
QLast Update :
Response via : Initial Calibration
DataAcq Meth:DFTPP.M




TIC: 19M000306.D\data.ms

(2) Benzidine

8.785min (-0.055) 0.000

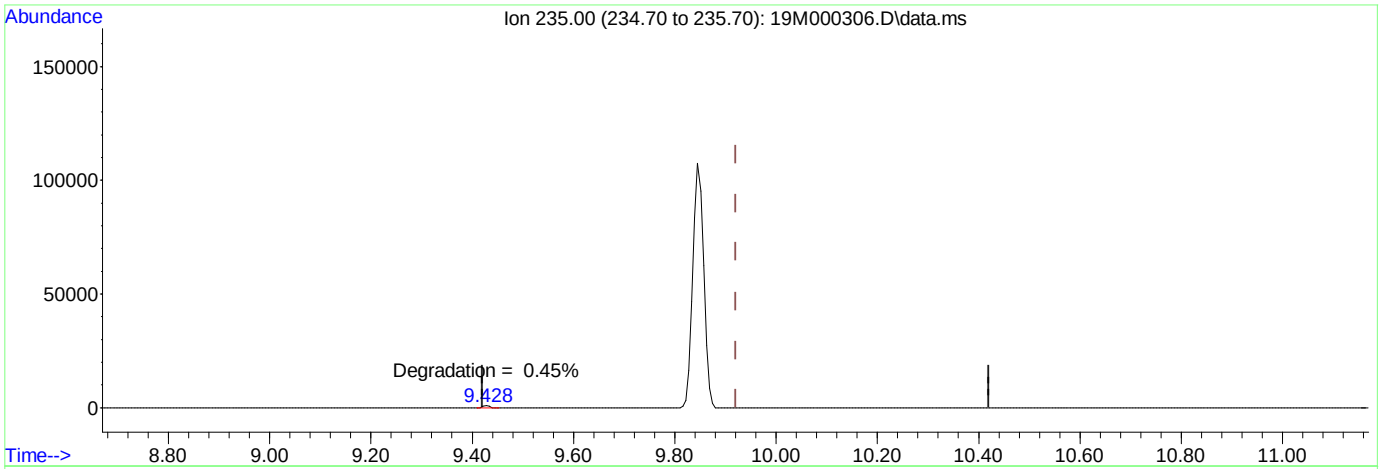
response 3577698

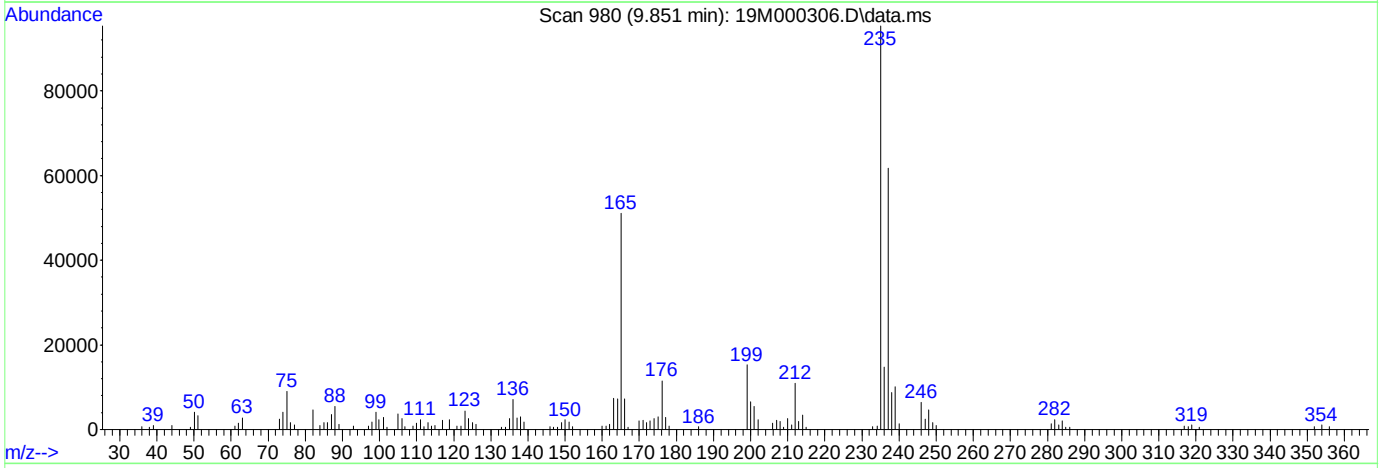
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081517\19M000306.D  Vial: 1
Acq On : 15 Aug 2017 4:11 pm  Operator: SCB
Sample : WG625881-01 50PPM DFTPP  Inst : HPMS19NEW
Misc : 1,1 STD83235  Multiplr: 1.00
Integrator: ChemStation
Quant Time: Aug 15 16:21:00 2017
Quant Results File: DFTPP.RES

Quant Method : C:\msdchem\4\METHODS\DFTPP.M
Quant Title :
QLast Update :
Response via : Initial Calibration
DataAcq Meth:DFTPP.M




TIC: 19M000306.D\data.ms

(3) DDT

9.849min (-0.071) 0.000

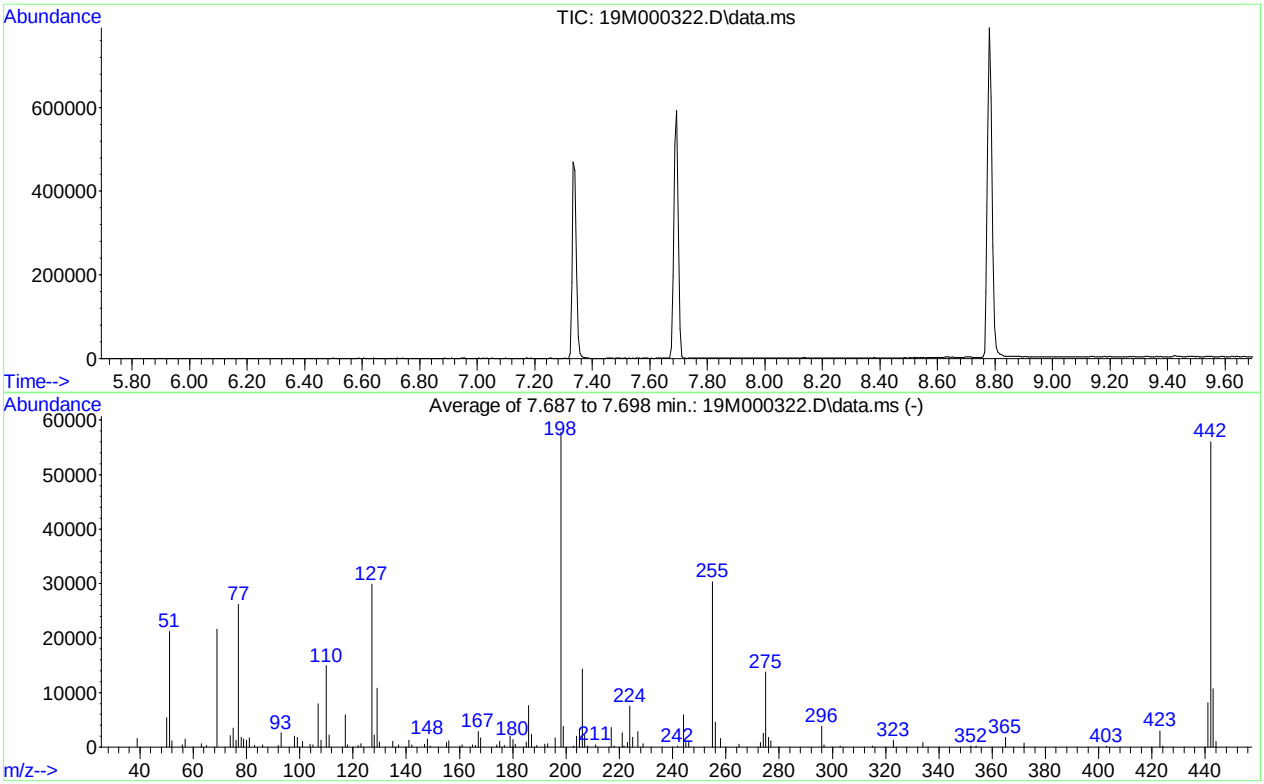
response 1601217

| 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 |

Data Path : C:\msdchem\4\DATA\081617\
Data File : 19M000322.D
InstName  : HPMS19NEW
Acq On    : 16 Aug 2017  11:56 am
Operator  : SCB
Sample    : WG626039-01 50PPM DFTPP
Misc      : 1,1 STD83235
ALS Vial  : 1   Sample Multiplier: 1

Integration File: events.e

Method    : C:\msdchem\4\METHODS\DFTPP.M
Title     :
Last Update  :




AutoFind: Scans 612, 613, 614; Background Corrected with Scan 607

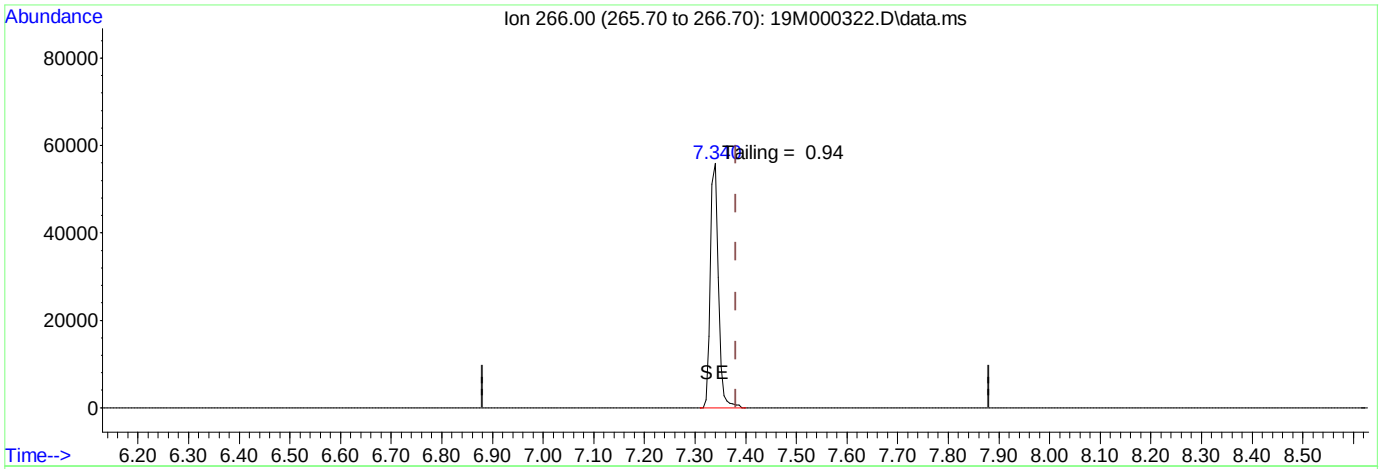
AUTOFIND via AUTOINTEGRATE

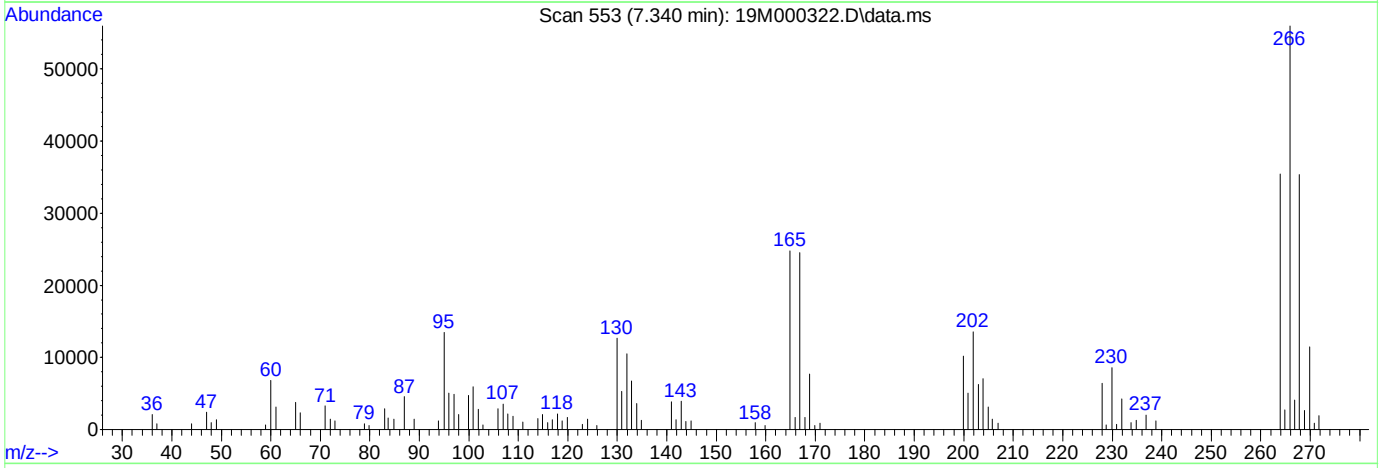
| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 36.7 | 21190 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 37.5 | 21660 | PASS |
| 70 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 127 | 198 | 40 | 60 | 51.7 | 29875 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 57789 | PASS |
| 199 | 198 | 5 | 9 | 6.6 | 3812 | PASS |
| 275 | 198 | 10 | 30 | 23.8 | 13771 | PASS |
| 365 | 198 | 1 | 100 | 3.2 | 1849 | PASS |
| 441 | 443 | 0.01 | 100 | 76.1 | 8190 | PASS |
| 442 | 198 | 40 | 100 | 97.0 | 56045 | PASS |
| 443 | 442 | 17 | 23 | 19.2 | 10759 | PASS |

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081617\19M000322.D  Vial: 1
Acq On : 16 Aug 2017 11:56 am  Operator: SCB
Sample : WG626039-01 50PPM DFTPP  Inst : HPMS19NEW
Misc : 1,1 STD83235  Multiplr: 1.00
Integrator: ChemStation
Quant Time: Aug 16 12:05:32 2017
Quant Results File: DFTPP.RES

Quant Method : C:\msdchem\4\METHODS\DFTPP.M
Quant Title :
QLast Update :
Response via : Initial Calibration
DataAcq Meth:DFTPP.M




TIC: 19M000322.D\data.ms

(1) Pentachlorophenol

7.340min (-0.040) 0.000

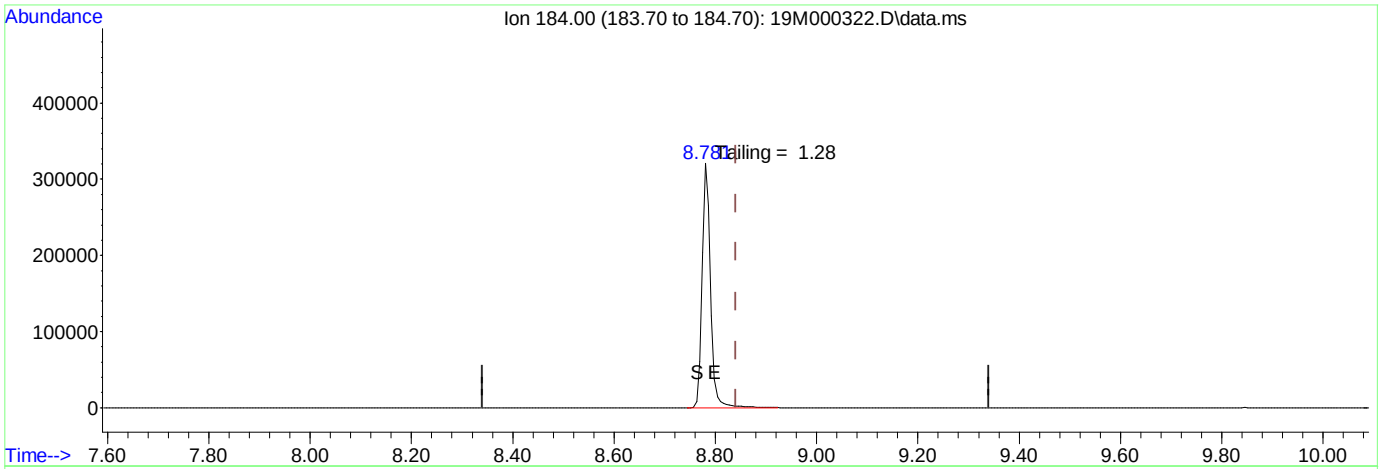
response 606434

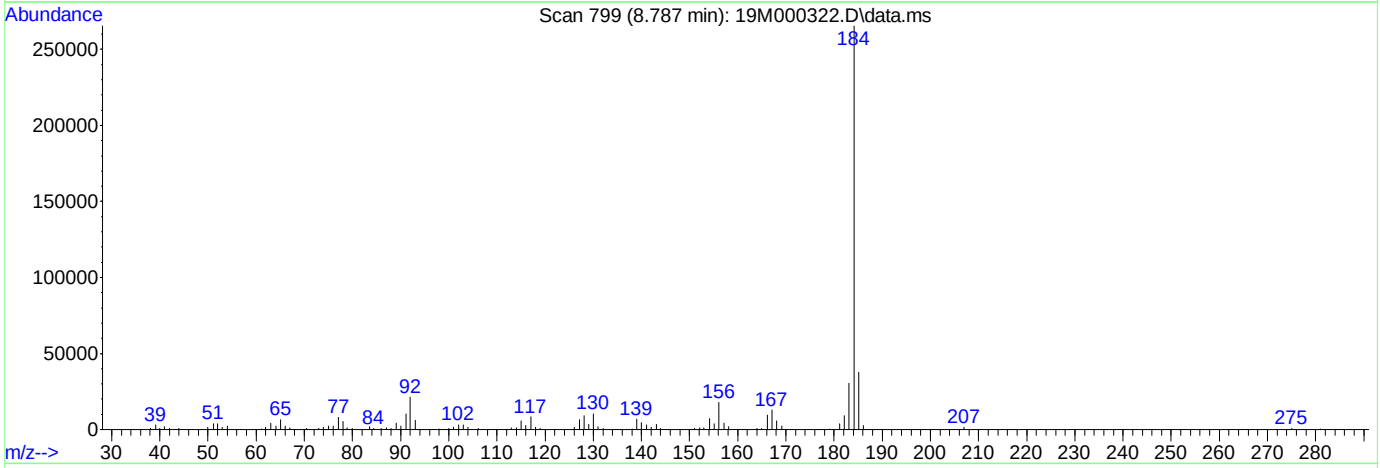
| Ion | Exp% | Act% |
|---|---|---|
| 266.00 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081617\19M000322.D  Vial: 1
Acq On : 16 Aug 2017 11:56 am  Operator: SCB
Sample : WG626039-01 50PPM DFTPP  Inst : HPMS19NEW
Misc : 1,1 STD83235  Multiplr: 1.00
Integrator: ChemStation
Quant Time: Aug 16 12:05:32 2017
Quant Results File: DFTPP.RES

Quant Method : C:\msdchem\4\METHODS\DFTPP.M
Quant Title :
QLast Update :
Response via : Initial Calibration
DataAcq Meth:DFTPP.M




TIC: 19M000322.D\data.ms

(2) Benzidine

8.784min (-0.056) 0.000

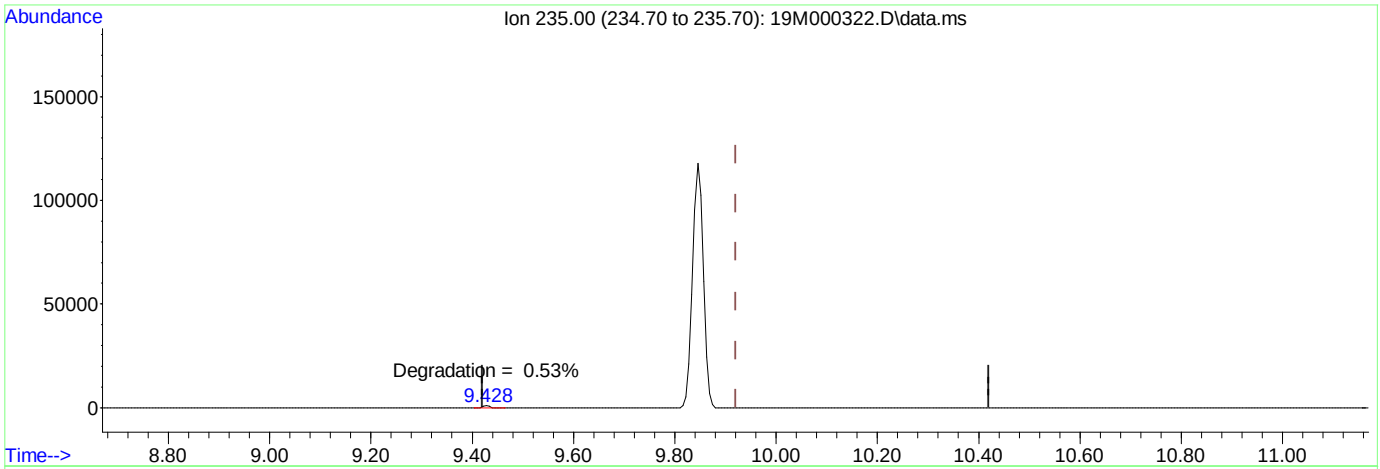
response 3723358

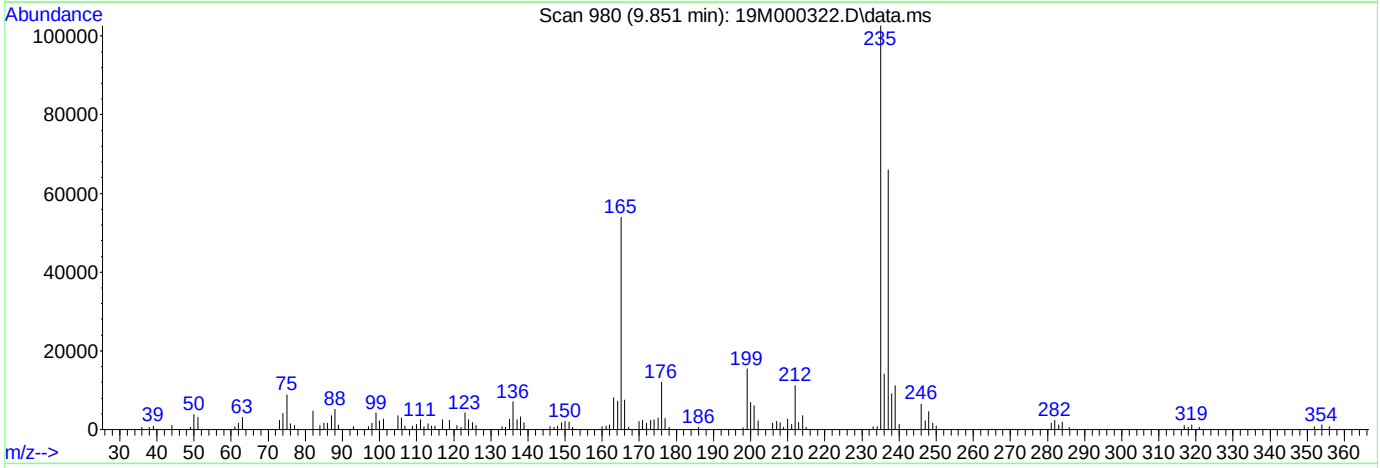
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\081617\19M000322.D  Vial: 1
Acq On : 16 Aug 2017 11:56 am  Operator: SCB
Sample : WG626039-01 50PPM DFTPP  Inst : HPMS19NEW
Misc : 1,1 STD83235  Multiplr: 1.00
Integrator: ChemStation
Quant Time: Aug 16 12:05:32 2017
Quant Results File: DFTPP.RES

Quant Method : C:\msdchem\4\METHODS\DFTPP.M
Quant Title :
QLast Update :
Response via : Initial Calibration
DataAcq Meth:DFTPP.M




TIC: 19M000322.D\data.ms

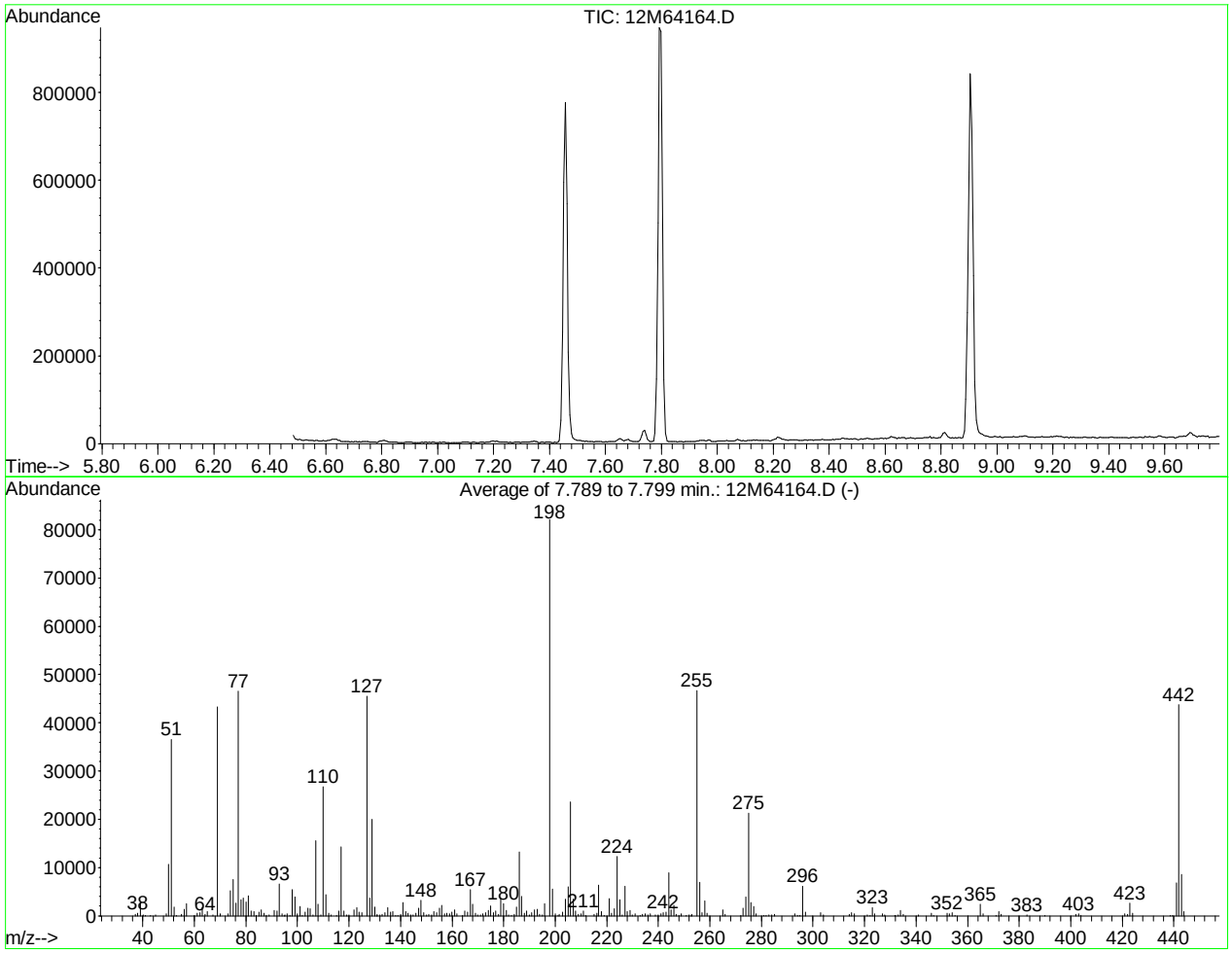
(3) DDT

9.848min (-0.072) 0.000

response 1734857

| 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 |

Data File : I:\MSDCHEM\1\DATA\083117\12M64164.D Vial: 1
Acq On : 31 Aug 2017 9:21 am Operator: SCB
Sample : WG627960-01 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

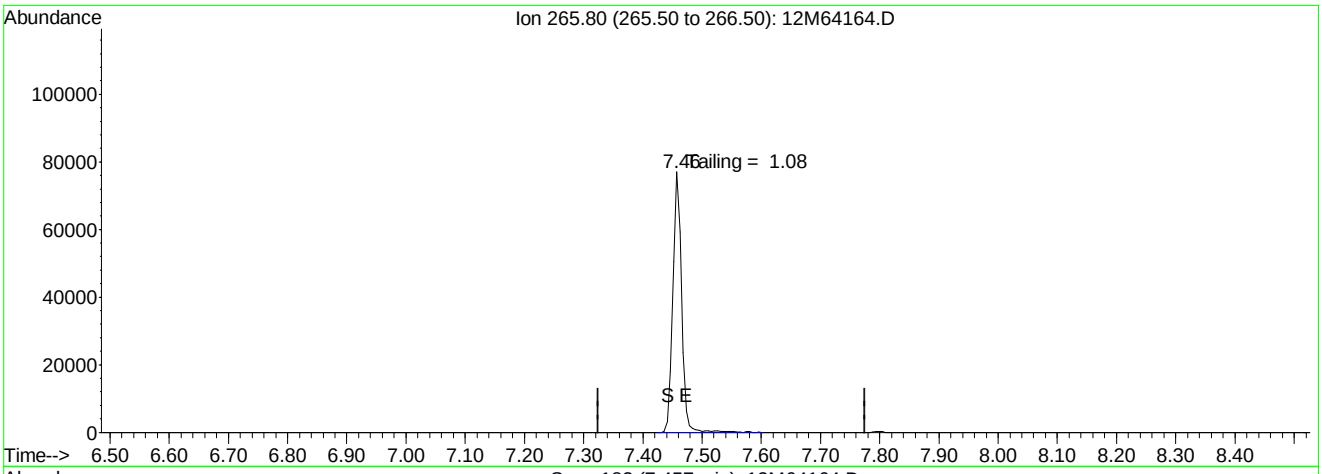
| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 44.4 | 36496 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 52.8 | 43341 | PASS |
| 70 | 69 | 0.00 | 2 | 0.9 | 385 | PASS |
| 127 | 198 | 40 | 60 | 55.5 | 45554 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 82136 | PASS |
| 199 | 198 | 5 | 9 | 6.8 | 5599 | PASS |
| 275 | 198 | 10 | 30 | 25.9 | 21299 | PASS |
| 365 | 198 | 1 | 100 | 2.9 | 2373 | PASS |
| 441 | 443 | 0.01 | 100 | 79.4 | 6767 | PASS |
| 442 | 198 | 40 | 100 | 53.3 | 43746 | PASS |
| 443 | 442 | 17 | 23 | 19.5 | 8528 | PASS |

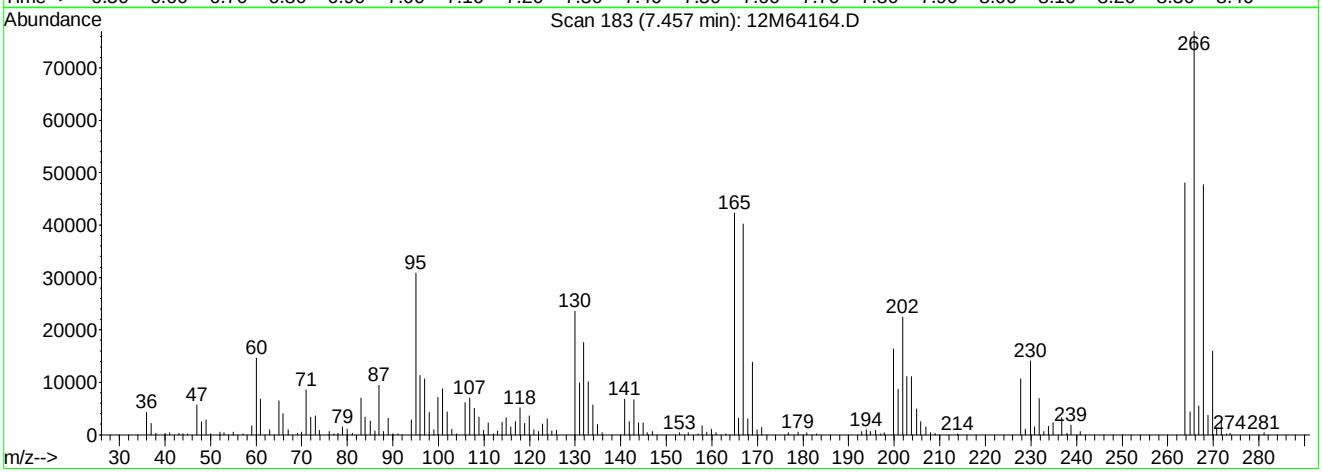
12M64164.D DFTPP.M Thu Aug 31 11:00:07 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\083117\12M64164.D Vial: 1
Acq On : 31 Aug 2017 9:21 am Operator: SCB
Sample : WG627960-01 50PPM DFTPP STD Inst : MSD12
Misc : 1,1 STD83235 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 9:38 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: 12M64164.D

(1) Pentachlorophenol

7.46min 0.00ug/ml

response 78272

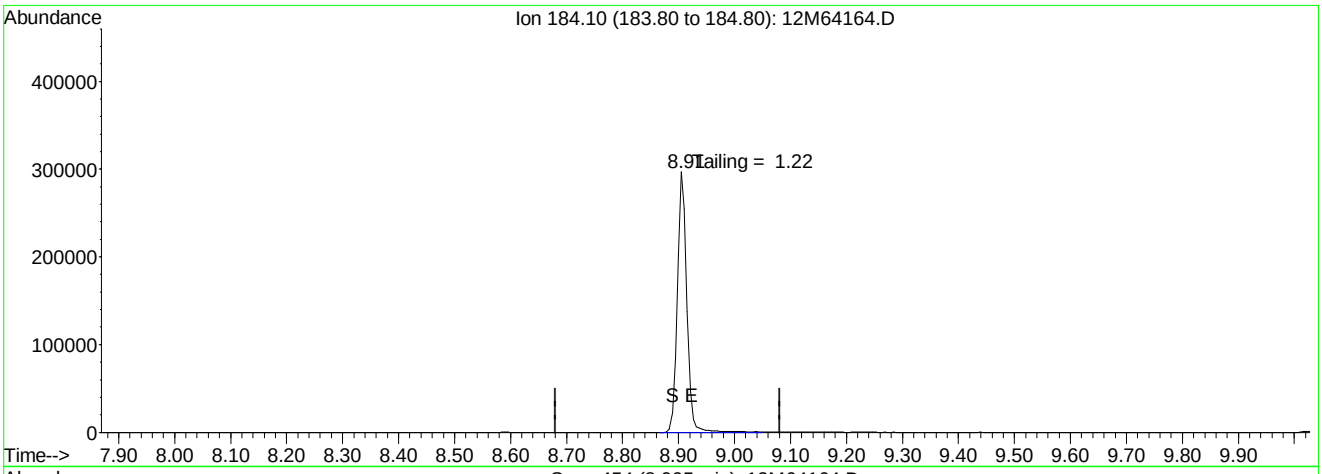
| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

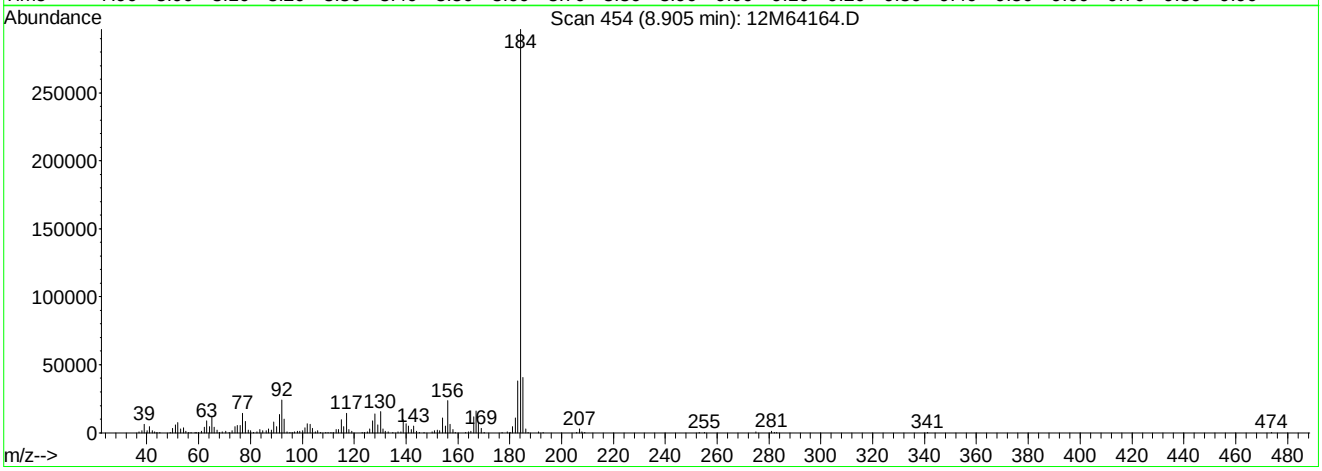
12M64164.D DFTPP.M Thu Aug 31 11:00:17 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\083117\12M64164.D Vial: 1
Acq On : 31 Aug 2017 9:21 am Operator: SCB
Sample : WG627960-01 50PPM DFTPP STD Inst : MSD12
Misc : 1,1 STD83235 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 9:38 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: 12M64164.D

(2) Benzidine

8.91min 0.00ug/ml

response 352253

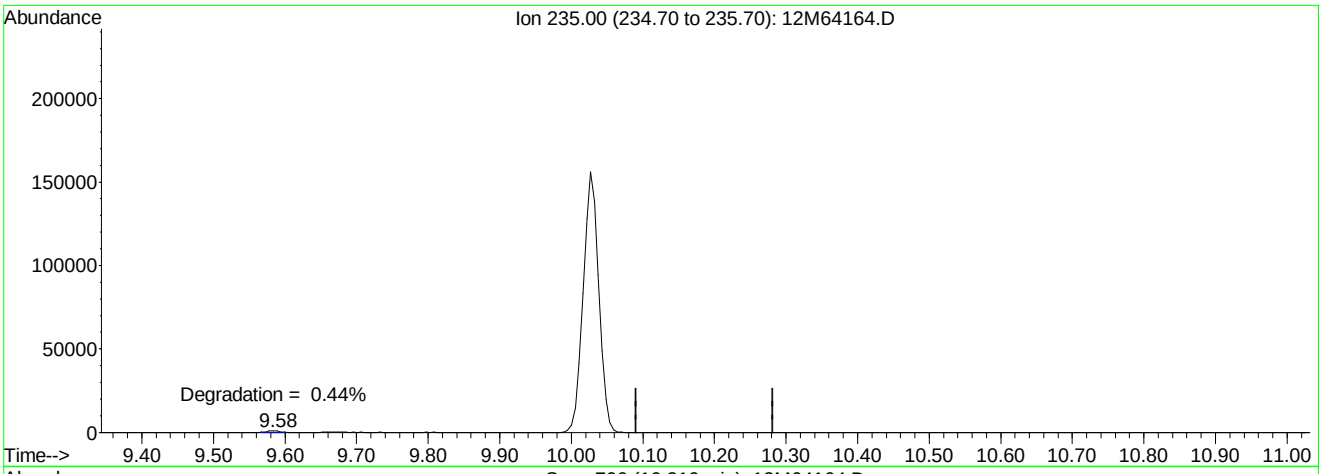
| Ion | Exp% | Act% |
|---|---|---|
| 184.10 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

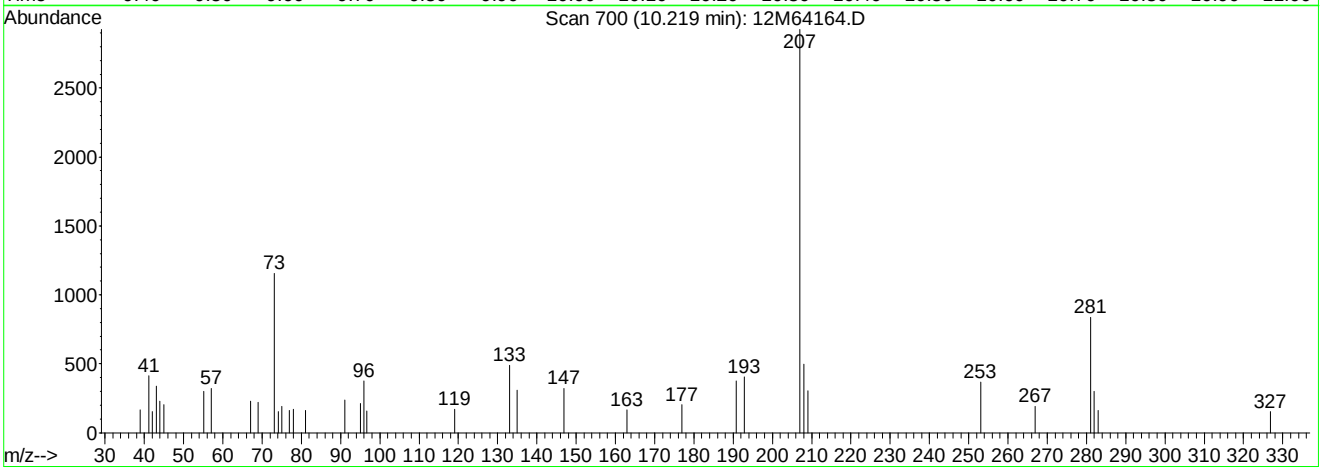
12M64164.D DFTPP.M Thu Aug 31 11:00:34 2017

Quantitation Report (Qedit)

Data File : I:\MSDCHEM\1\DATA\083117\12M64164.D Vial: 1
Acq On : 31 Aug 2017 9:21 am Operator: SCB
Sample : WG627960-01 50PPM DFTPP STD Inst : MSD12
Misc : 1,1 STD83235 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 9:38 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: 12M64164.D

(3) DDT

10.22min 0.00ug/ml

response 0

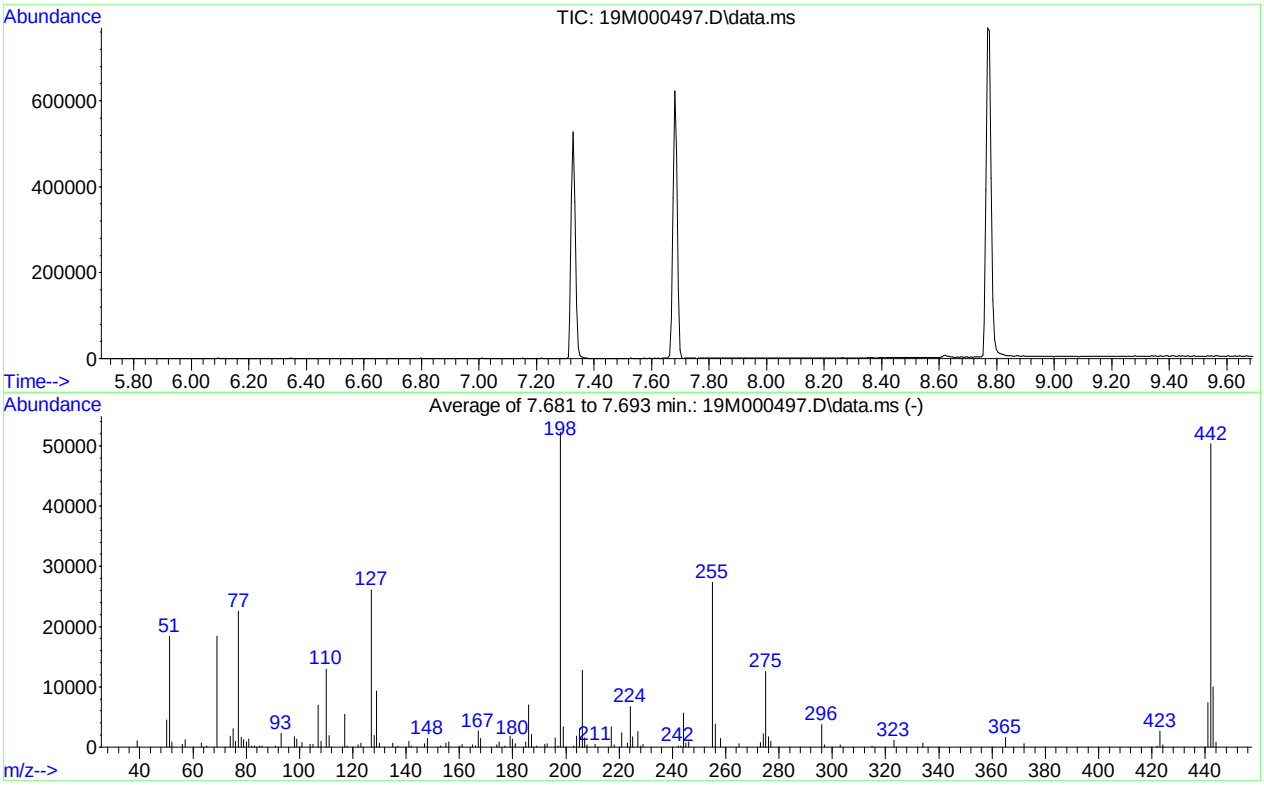
| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

12M64164.D DFTPP.M Thu Aug 31 11:00:46 2017

Data Path : C:\msdchem\4\DATA\091217\
Data File : 19M000497.D
InstName  : HPMS19NEW
Acq On    : 12 Sep 2017   2:04 pm
Operator  : MES
Sample    : WG629380-01 50PPM DFTPP
Misc      : 1,1 STD83235
ALS Vial  : 1   Sample Multiplier: 1

Integration File: events.e

Method    : C:\msdchem\4\METHODS\DFTPP.M
Title     :
Last Update  :




AutoFind: Scans 611, 612, 613; Background Corrected with Scan 606

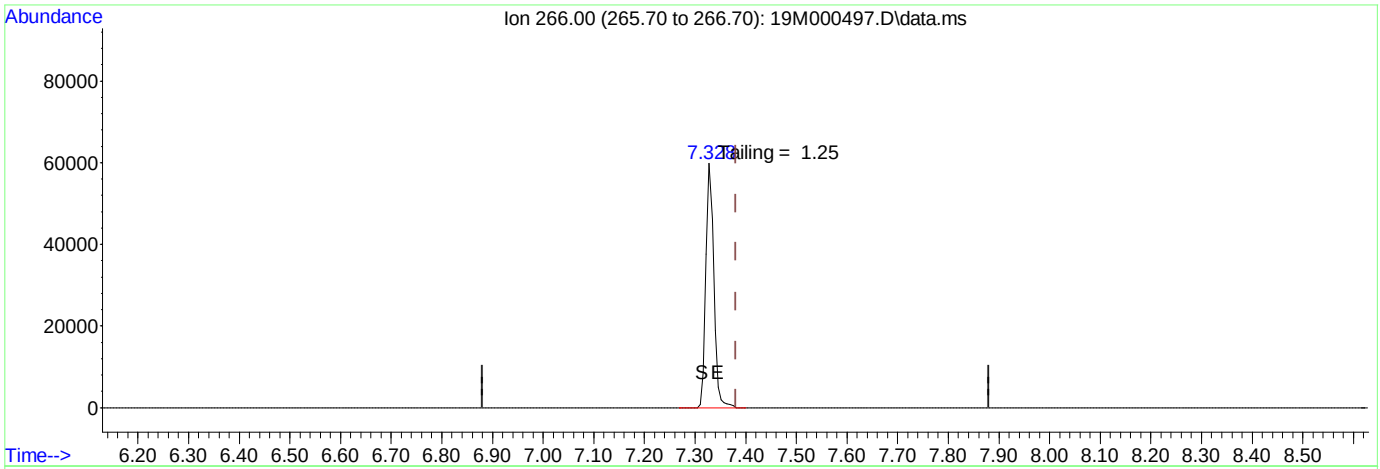
AUTOFIND via AUTOINTEGRATE

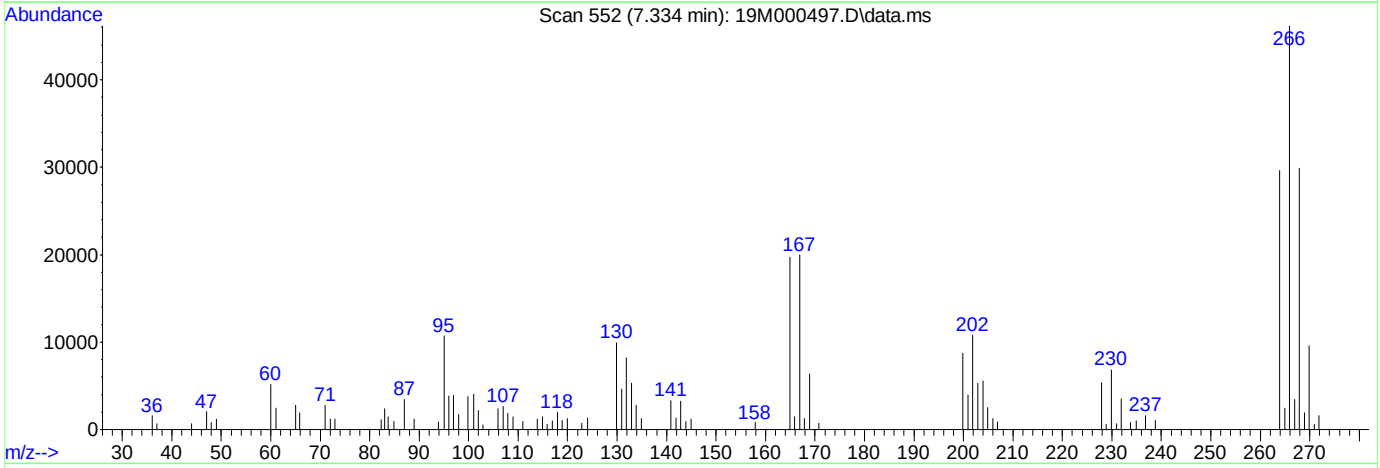
| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 35.2 | 18386 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 35.2 | 18404 | PASS |
| 70 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 127 | 198 | 40 | 60 | 50.0 | 26140 | PASS |
| 197 | 198 | 0.00 | 1 | 0.3 | 173 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 52261 | PASS |
| 199 | 198 | 5 | 9 | 6.5 | 3406 | PASS |
| 275 | 198 | 10 | 30 | 24.1 | 12605 | PASS |
| 365 | 198 | 1 | 100 | 3.2 | 1649 | PASS |
| 441 | 443 | 0.01 | 100 | 74.5 | 7412 | PASS |
| 442 | 198 | 40 | 100 | 96.3 | 50349 | PASS |
| 443 | 442 | 17 | 23 | 19.8 | 9954 | PASS |

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\091217\19M000497.D  Vial: 1
Acq On : 12 Sep 2017 2:04 pm  Operator: MES
Sample : WG629380-01 50PPM DFTPP  Inst : HPMS19NEW
Misc : 1,1 STD83235  Multiplr: 1.00
Integrator: ChemStation
Quant Time: Sep 12 14:12:21 2017
Quant Results File: DFTPP.RES

Quant Method : C:\msdchem\4\METHODS\DFTPP.M
Quant Title :
QLast Update :
Response via : Initial Calibration
DataAcq Meth:DFTPP.M




TIC: 19M000497.D\data.ms

(1) Pentachlorophenol

7.331min (-0.049) 0.000

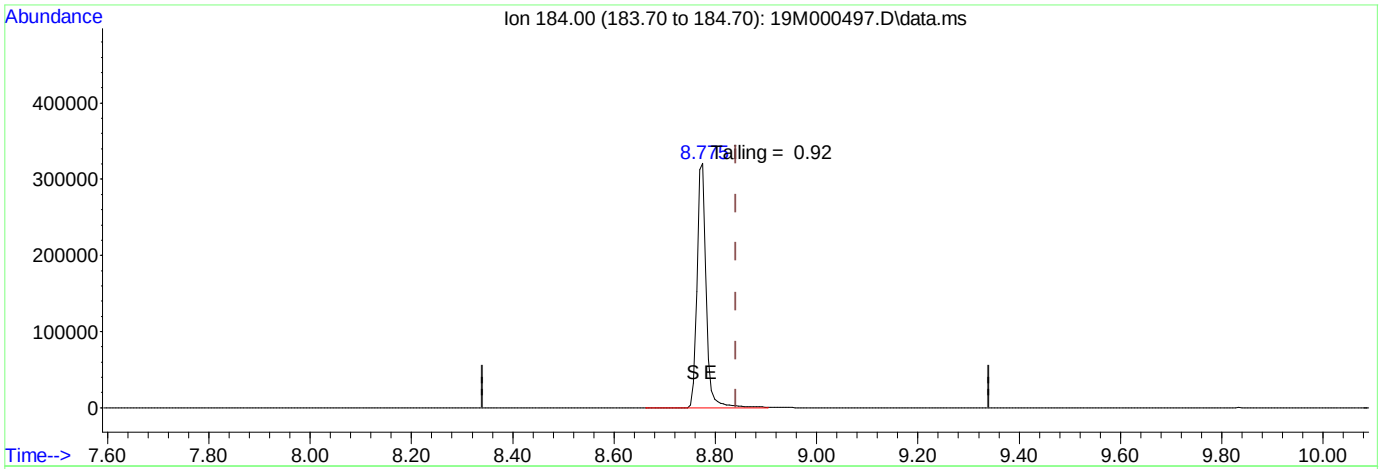
response 644229

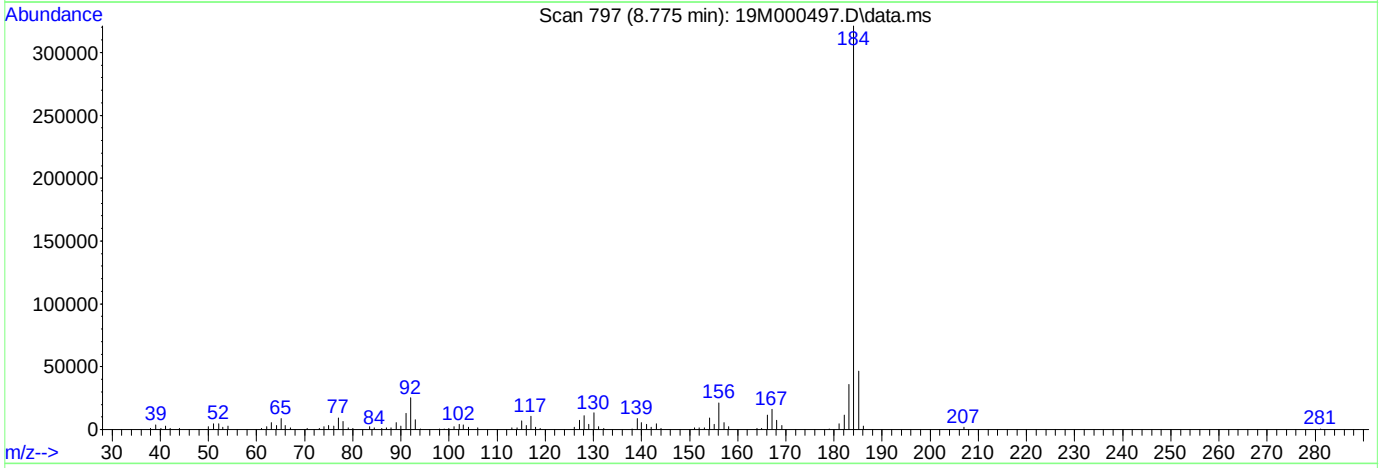
| Ion | Exp% | Act% |
|---|---|---|
| 266.00 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\091217\19M000497.D  Vial: 1
Acq On : 12 Sep 2017 2:04 pm  Operator: MES
Sample : WG629380-01 50PPM DFTPP  Inst : HPMS19NEW
Misc : 1,1 STD83235  Multiplr: 1.00
Integrator: ChemStation
Quant Time: Sep 12 14:12:21 2017
Quant Results File: DFTPP.RES

Quant Method : C:\msdchem\4\METHODS\DFTPP.M
Quant Title :
QLast Update :
Response via : Initial Calibration
DataAcq Meth:DFTPP.M




TIC: 19M000497.D\data.ms

(2) Benzidine

8.775min (-0.065) 0.000

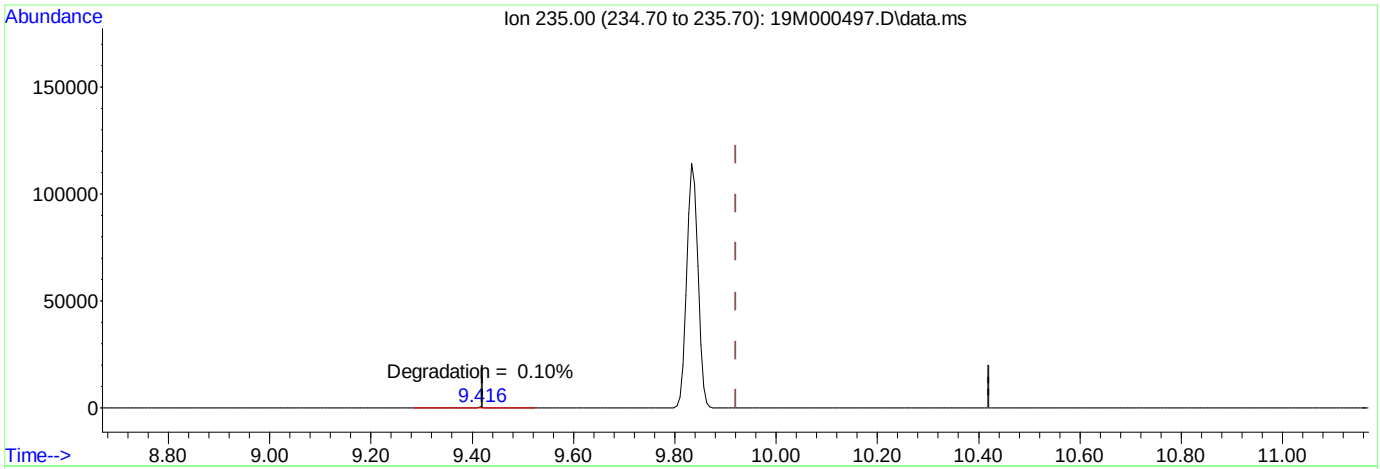
response 3966741

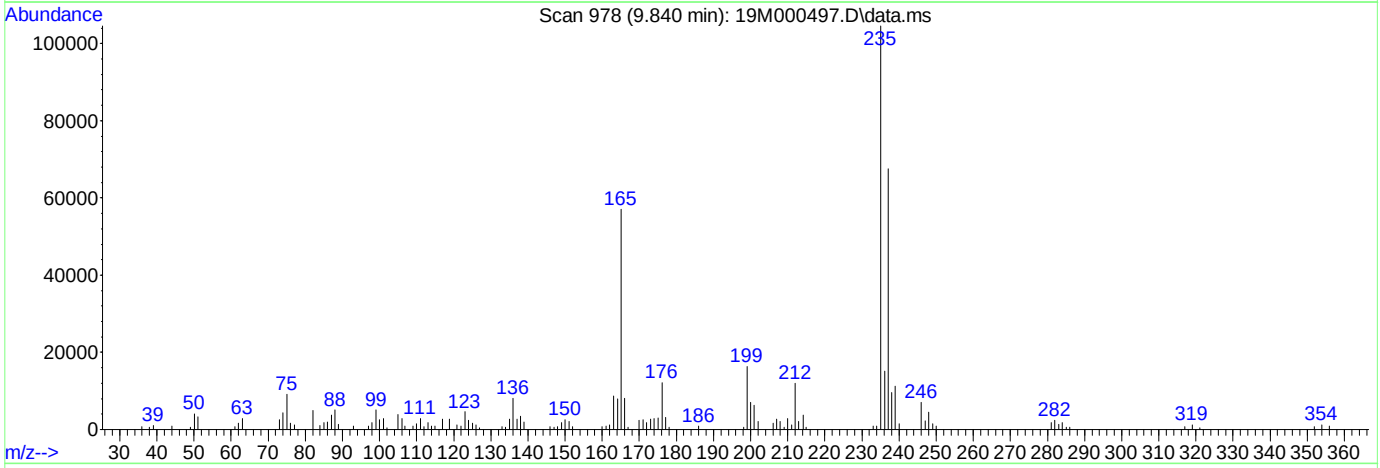
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\091217\19M000497.D  Vial: 1
Acq On : 12 Sep 2017 2:04 pm  Operator: MES
Sample : WG629380-01 50PPM DFTPP  Inst : HPMS19NEW
Misc : 1,1 STD83235  Multiplr: 1.00
Integrator: ChemStation
Quant Time: Sep 12 14:12:21 2017
Quant Results File: DFTPP.RES

Quant Method : C:\msdchem\4\METHODS\DFTPP.M
Quant Title :
QLast Update :
Response via : Initial Calibration
DataAcq Meth:DFTPP.M




TIC: 19M000497.D\data.ms

(3) DDT

9.837min (-0.083) 0.000

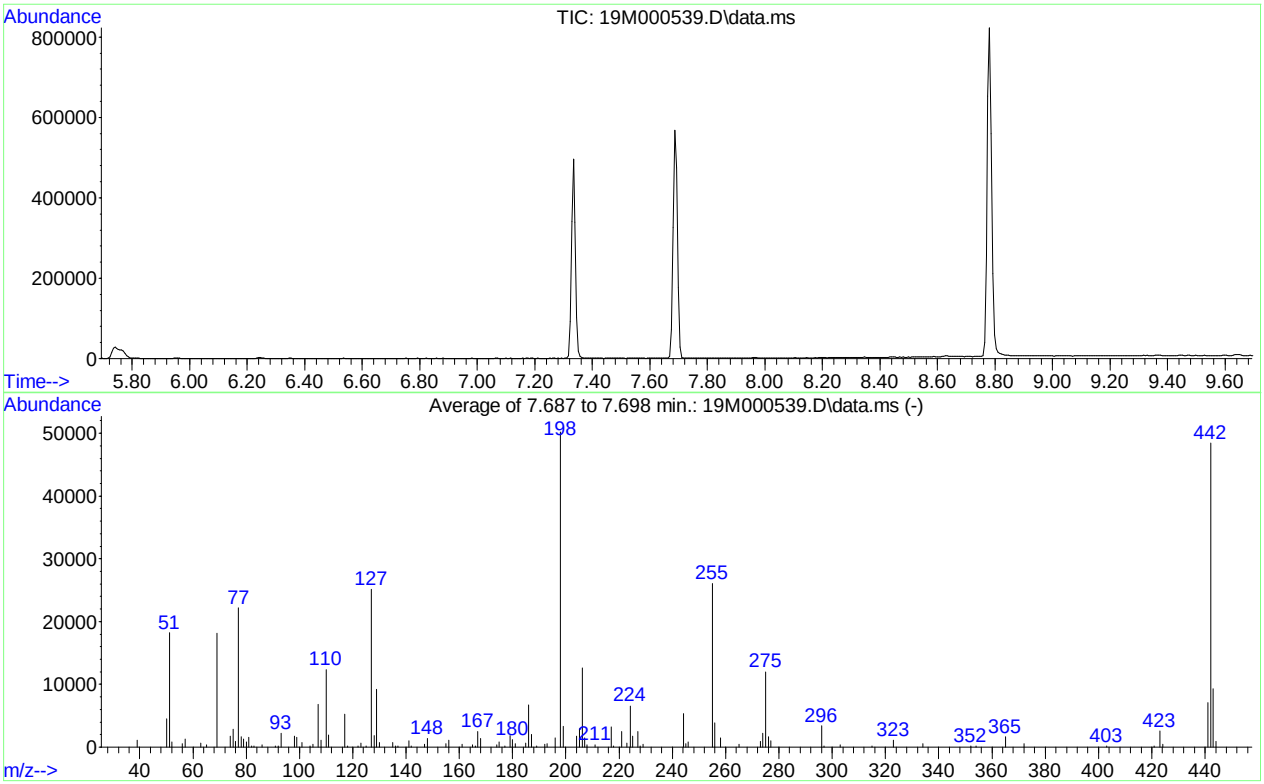
response 1751775

| 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 |

Data Path : C:\msdchem\4\DATA\091317\
Data File : 19M000539.D
InstName  : HPMS19NEW
Acq On    : 13 Sep 2017   1:36 pm
Operator  : SCB
Sample    : WG629552-01 50PPM DFTPP
Misc      : 1,1 STD83235
ALS Vial  : 1   Sample Multiplier: 1

Integration File: events.e

Method    : C:\msdchem\4\METHODS\DFTPP.M
Title     :
Last Update  :




AutoFind: Scans 612, 613, 614; Background Corrected with Scan 606

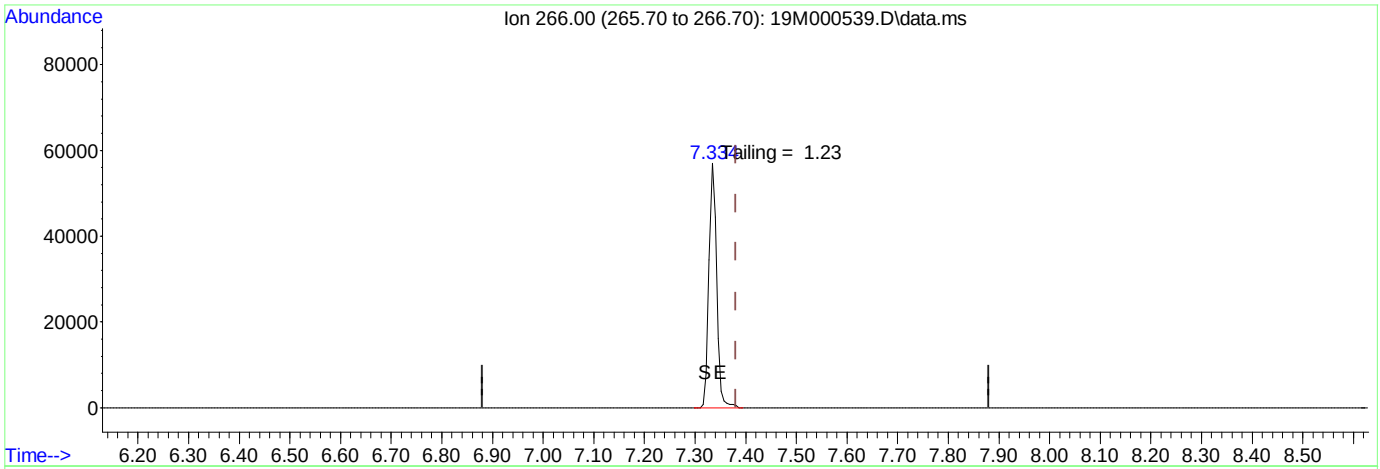
AUTOFIND via AUTOINTEGRATE

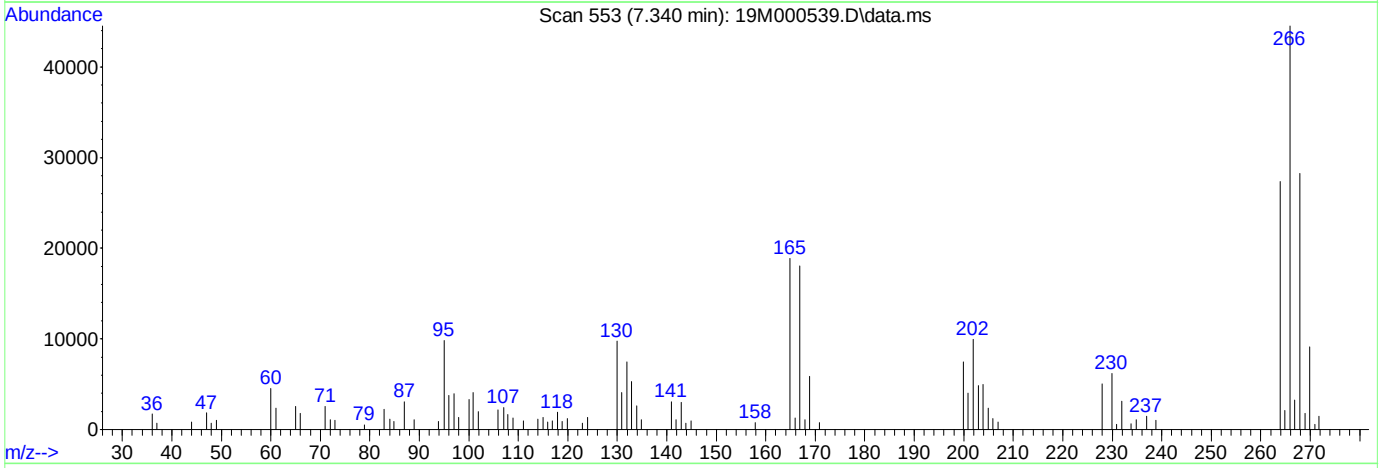
| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 36.3 | 18197 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.00 | 100 | 36.2 | 18162 | PASS |
| 70 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 127 | 198 | 40 | 60 | 50.0 | 25107 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 50173 | PASS |
| 199 | 198 | 5 | 9 | 6.5 | 3281 | PASS |
| 275 | 198 | 10 | 30 | 24.0 | 12018 | PASS |
| 365 | 198 | 1 | 100 | 3.2 | 1624 | PASS |
| 441 | 443 | 0.01 | 100 | 76.8 | 7131 | PASS |
| 442 | 198 | 40 | 100 | 96.5 | 48408 | PASS |
| 443 | 442 | 17 | 23 | 19.2 | 9284 | PASS |

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\091317\19M000539.D  Vial: 1
Acq On : 13 Sep 2017 1:36 pm  Operator: SCB
Sample : WG629552-01 50PPM DFTPP  Inst : HPMS19NEW
Misc : 1,1 STD83235  Multiplr: 1.00
Integrator: ChemStation
Quant Time: Sep 13 13:45:26 2017
Quant Results File: DFTPP.RES

Quant Method : C:\msdchem\4\METHODS\DFTPP.M
Quant Title :
QLast Update :
Response via : Initial Calibration
DataAcq Meth:DFTPP.M




TIC: 19M000539.D\data.ms

(1) Pentachlorophenol

7.337min (-0.043) 0.000

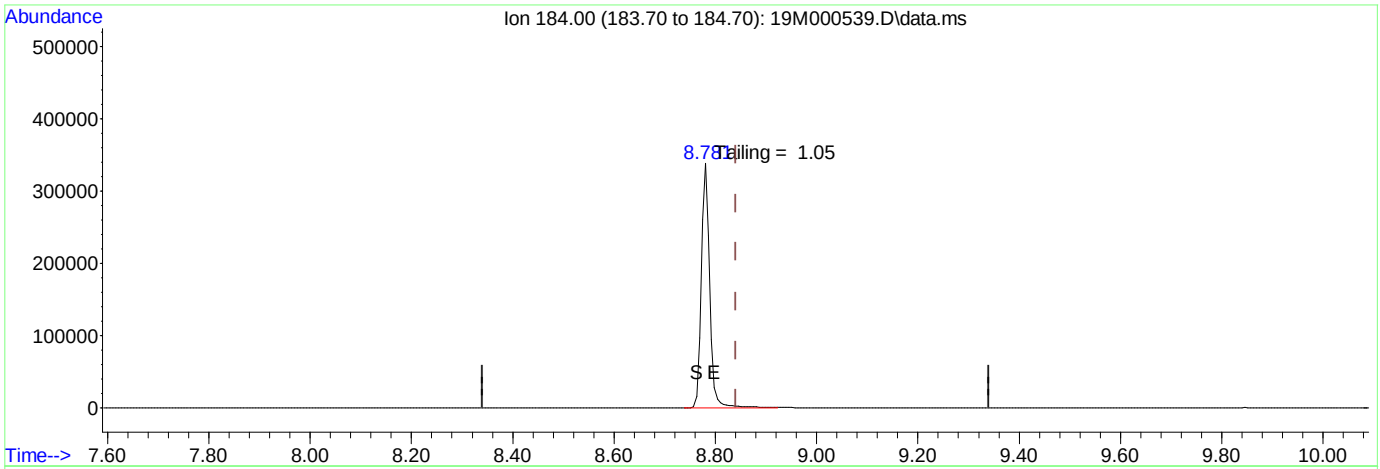
response 598361

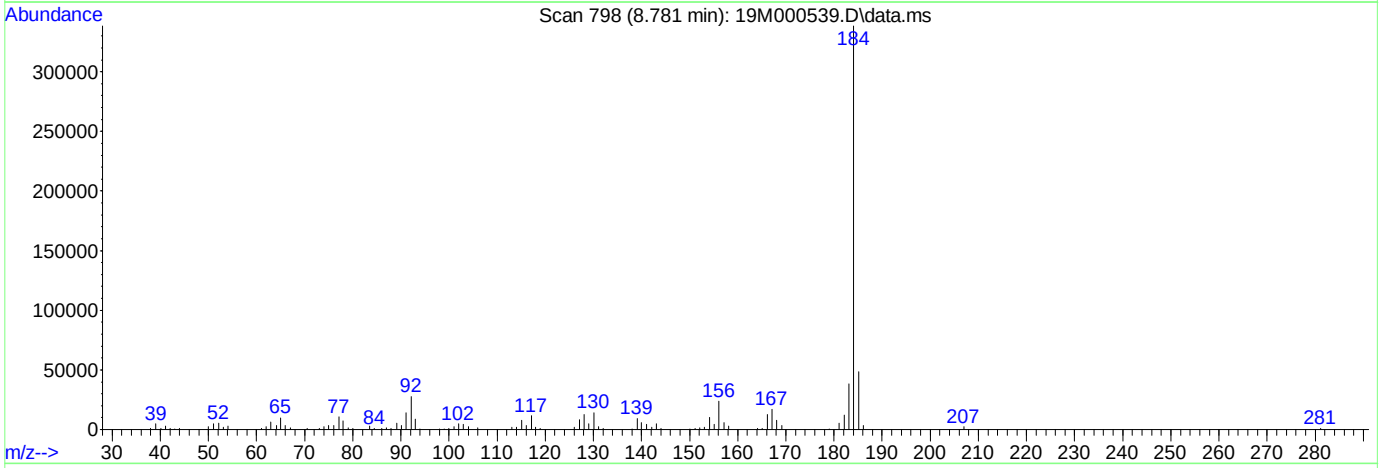
| Ion | Exp% | Act% |
|---|---|---|
| 266.00 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\091317\19M000539.D  Vial: 1
Acq On : 13 Sep 2017 1:36 pm  Operator: SCB
Sample : WG629552-01 50PPM DFTPP  Inst : HPMS19NEW
Misc : 1,1 STD83235  Multiplr: 1.00
Integrator: ChemStation
Quant Time: Sep 13 13:45:26 2017
Quant Results File: DFTPP.RES

Quant Method : C:\msdchem\4\METHODS\DFTPP.M
Quant Title :
QLast Update :
Response via : Initial Calibration
DataAcq Meth:DFTPP.M




TIC: 19M000539.D\data.ms

(2) Benzidine

8.783min (-0.057) 0.000

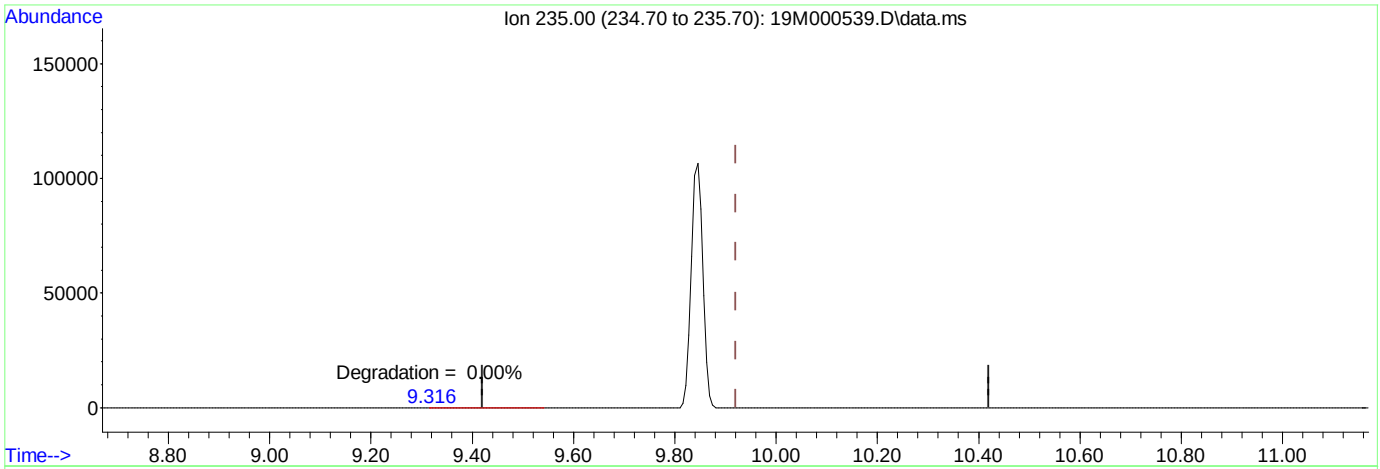
response 3897334

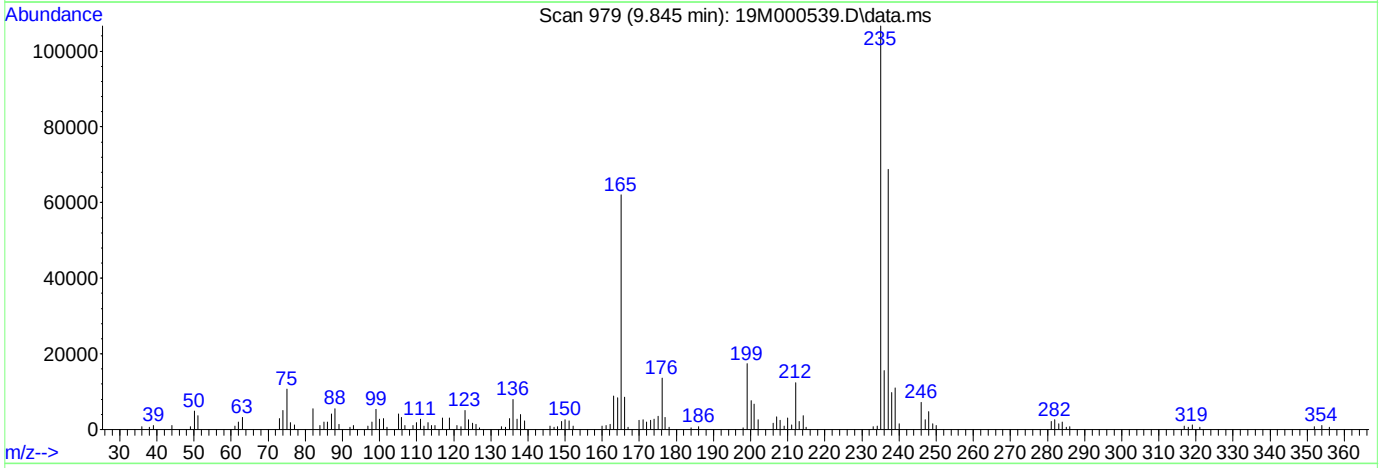
| Ion | Exp% | Act% |
|---|---|---|
| 184.00 | 100 | 100 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data File : C:\msdchem\4\DATA\091317\19M000539.D  Vial: 1
Acq On : 13 Sep 2017 1:36 pm  Operator: SCB
Sample : WG629552-01 50PPM DFTPP  Inst : HPMS19NEW
Misc : 1,1 STD83235  Multiplr: 1.00
Integrator: ChemStation
Quant Time: Sep 13 13:45:26 2017
Quant Results File: DFTPP.RES

Quant Method : C:\msdchem\4\METHODS\DFTPP.M
Quant Title :
QLast Update :
Response via : Initial Calibration
DataAcq Meth:DFTPP.M




TIC: 19M000539.D\data.ms

(3) DDT

9.846min (-0.074) 0.000

response 1691127

| 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 |

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64166.D Vial: 3
Acq On : 31 Aug 2017 10:11 am Operator: SCB
Sample : WG627757-01 BLANK 8/30 Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 01 09:08:23 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

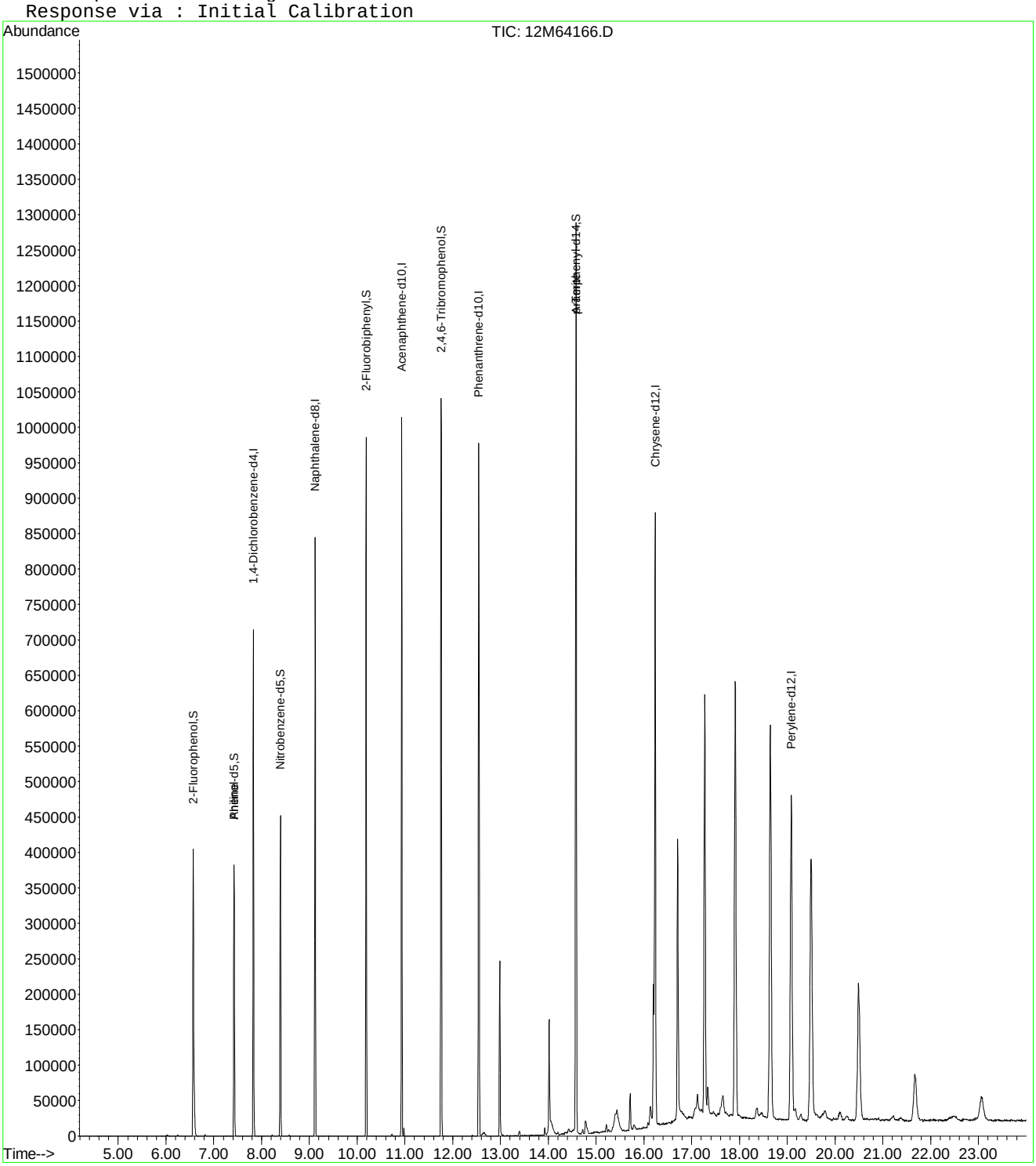
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.828 | 152 | 113492 | 40.0000 | ug/ml | 0.000 |
| 30) Naphthalene-d8 | 9.121 | 136 | 422424 | 40.0000 | ug/ml | 0.000 |
| 54) Acenaphthene-d10 | 10.932 | 164 | 234091 | 40.0000 | ug/ml | 0.000 |
| 87) Phenanthrene-d10 | 12.546 | 188 | 459520 | 40.0000 | ug/ml | -0.011 |
| 113) Chrysene-d12 | 16.237 | 240 | 453669 | 40.0000 | ug/ml | -0.011 |
| 128) Perylene-d12 | 19.085 | 264 | 447901 | 40.0000 | ug/ml | -0.016 |
| **System Monitoring Compounds** | | | | | | |
| 8) 2-Fluorophenol | 6.573 | 112 | 150631 | 43.5800921 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 21 - 100 | | Recovery = 43.58% | | | |
| 12) Phenol-d5 | 7.422 | 99 | 139987 | 31.6786146 | ug/ml | -0.01 |
| Spiked Amount 100.000 | Range 10 - 94 | | Recovery = 31.68% | | | |
| 31) Nitrobenzene-d5 | 8.395 | 82 | 166407 | 39.4752675 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 35 - 114 | | Recovery = 78.95% | | | |
| 59) 2-Fluorobiphenyl | 10.190 | 172 | 316669 | 38.9639002 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 43 - 116 | | Recovery = 77.93% | | | |
| 86) 2,4,6-Tribromophenol | 11.760 | 330 | 134632 | 109.1925609 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 123 | | Recovery = 109.19% | | | |
| 117) p-Terphenyl-d14 | 14.581 | 244 | 561732 | 57.5159150 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 33 - 141 | | Recovery = 115.03% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 11) Aniline | 7.42 | 66 | 9389 | 4.0820 | ug/ml# | 1 |
| 116) Aramite | 14.58 | 185 | 1599 | 1.8421 | ug/ml# | 34 |

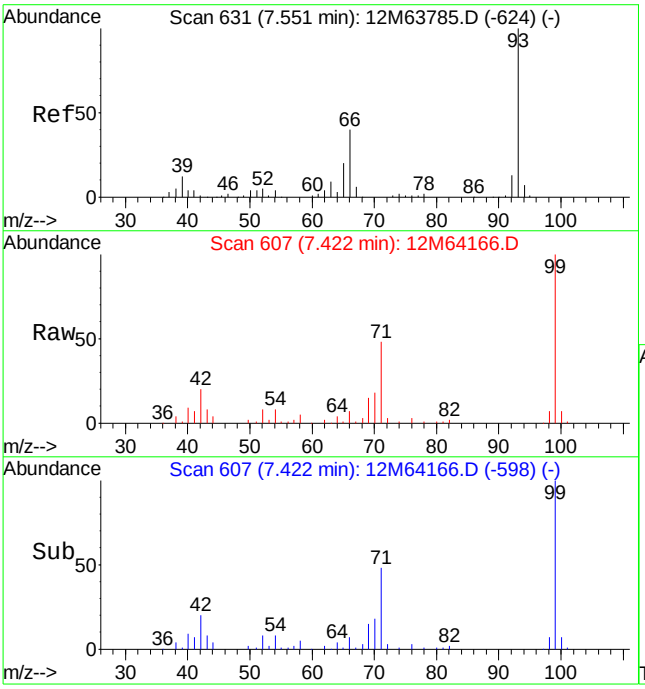
(#) = qualifier out of range (m) = manual integration (+) = signals summed
12M64166.D MEGAMIX.M Fri Sep 01 09:08:25 2017 Page 1

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64166.D Vial: 3
Acq On : 31 Aug 2017 10:11 am Operator: SCB
Sample : WG627757-01 BLANK 8/30 Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 1 9:08 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

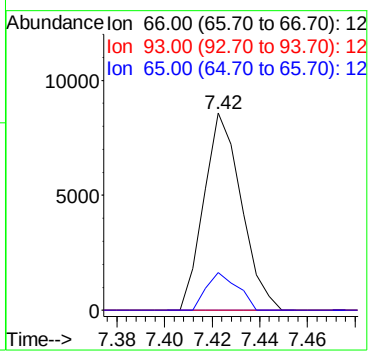


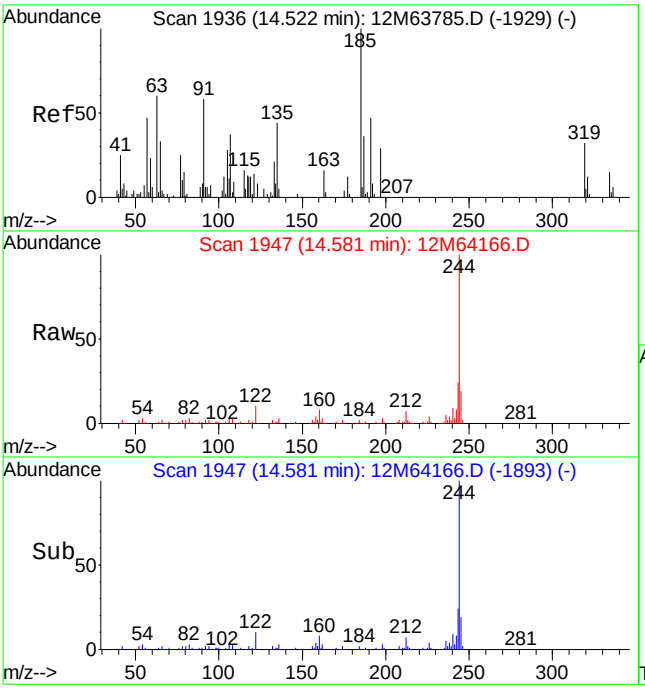



#11
Aniline
Concen: 4.0820 ug/ml
RT: 7.42 min Scan# 607
Delta R.T. -0.10 min
Lab File: 12M64166.D
Acq: 31 Aug 2017 10:11 am

Tgt Ion: 66 Resp: 9389

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 66 | 100 | | |
| 93 | 0.0 | 231.9 | 541.1# |
| 65 | 15.9 | 48.5 | 113.1# |

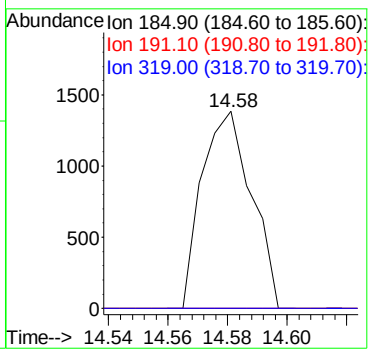



#116
Aramite
Concen: 1.8421 ug/ml
RT: 14.58 min Scan# 1947
Delta R.T. 0.09 min
Lab File: 12M64166.D
Acq: 31 Aug 2017 10:11 am

Tgt Ion:185 Resp: 1599

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 185 | 100 | | |
| 191 | 0.0 | 38.6 | 57.8# |
| 319 | 0.0 | 25.8 | 38.6# |



LSC Area Percent Report

Data File : I:\MSDCHEM\1\DATA\083117\12M64166.D Vial: 3
Acq On : 31 Aug 2017 10:11 am Operator: SCB
Sample : WG627757-01 BLANK 8/30 Inst : MSD12
Misc : 1,1 STD81744 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

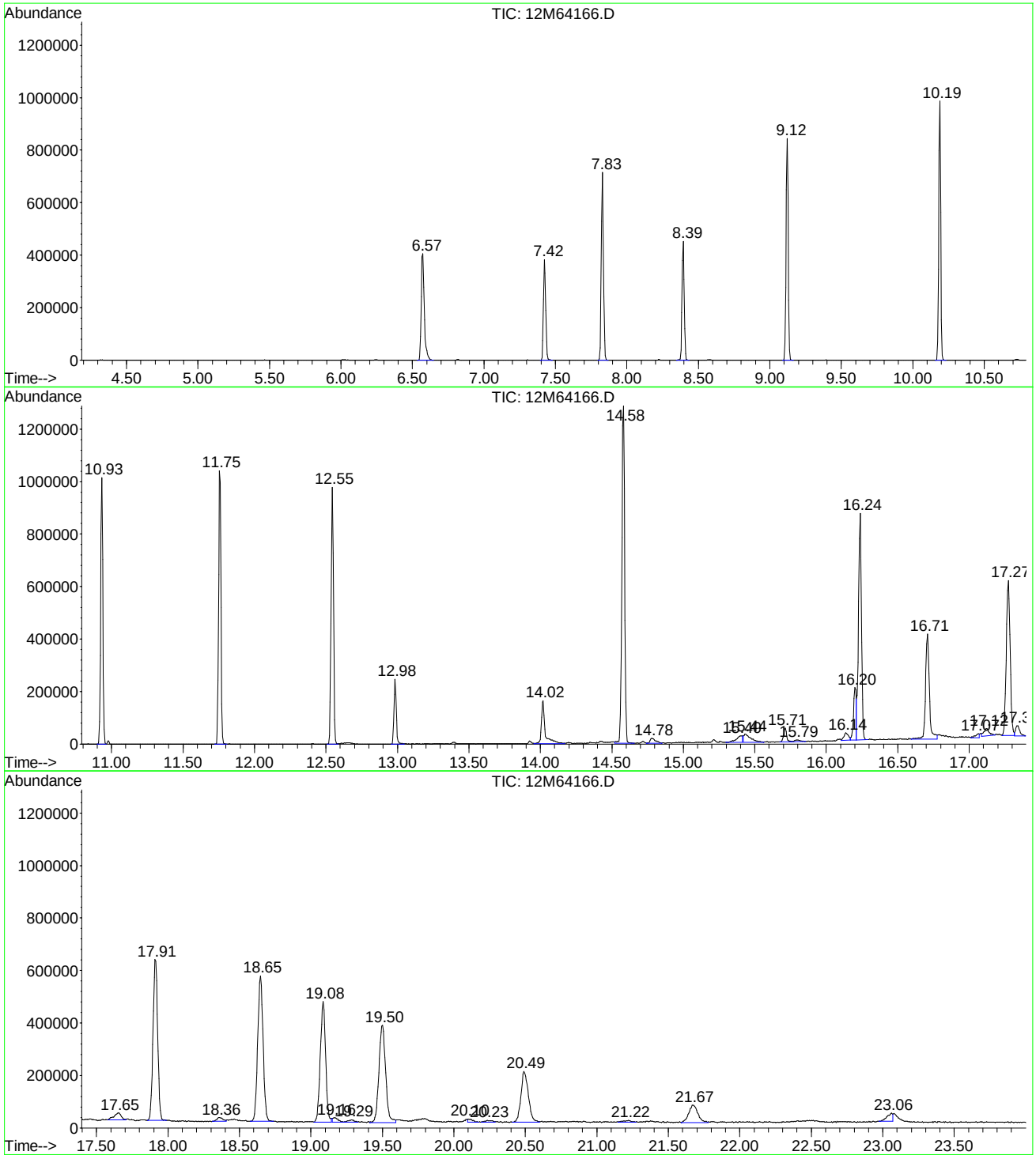
If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

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 | 441 | 448 | 461 | rBB | 404782 | 574794 | 33.01% | 2.835% |
| 2 | 7.422 | 602 | 607 | 617 | rBB | 382366 | 422849 | 24.28% | 2.086% |
| 3 | 7.828 | 677 | 683 | 690 | rBB | 714757 | 759183 | 43.60% | 3.745% |
| 4 | 8.395 | 780 | 789 | 796 | rBB | 452431 | 483799 | 27.78% | 2.386% |
| 5 | 9.121 | 919 | 925 | 932 | rBB | 844766 | 874450 | 50.22% | 4.313% |
| 6 | 10.190 | 1119 | 1125 | 1132 | rBB | 986413 | 942428 | 54.12% | 4.649% |
| 7 | 10.932 | 1258 | 1264 | 1269 | rBB | 1014139 | 1050442 | 60.32% | 5.182% |
| 8 | 11.755 | 1412 | 1418 | 1427 | rBB | 1041031 | 1181588 | 67.86% | 5.829% |
| 9 | 12.546 | 1559 | 1566 | 1573 | rBV | 977907 | 1158815 | 66.55% | 5.716% |
| 10 | 12.984 | 1643 | 1648 | 1660 | rBV | 247051 | 275957 | 15.85% | 1.361% |
| 11 | 14.020 | 1830 | 1842 | 1870 | rVV3 | 163601 | 297746 | 17.10% | 1.469% |
| 12 | 14.581 | 1936 | 1947 | 1960 | rVB | 1286620 | 1741305 | 100.00% | 8.590% |
| 13 | 14.779 | 1977 | 1984 | 1997 | rVB4 | 18138 | 48104 | 2.76% | 0.237% |
| 14 | 15.398 | 2081 | 2100 | 2103 | rBV2 | 25508 | 77969 | 4.48% | 0.385% |
| 15 | 15.436 | 2104 | 2107 | 2130 | rVB2 | 30275 | 102606 | 5.89% | 0.506% |
| 16 | 15.714 | 2152 | 2159 | 2166 | rBV | 52926 | 79354 | 4.56% | 0.391% |
| 17 | 15.794 | 2167 | 2174 | 2185 | rVB6 | 6665 | 19807 | 1.14% | 0.098% |
| 18 | 16.136 | 2232 | 2238 | 2244 | rVV3 | 28885 | 66192 | 3.80% | 0.327% |
| 19 | 16.200 | 2244 | 2250 | 2252 | rVV | 199704 | 278020 | 15.97% | 1.371% |
| 20 | 16.237 | 2252 | 2257 | 2266 | rVB | 862986 | 1251061 | 71.85% | 6.171% |
| 21 | 16.707 | 2324 | 2345 | 2358 | rBV | 400897 | 744830 | 42.77% | 3.674% |
| 22 | 17.065 | 2402 | 2412 | 2413 | rBV6 | 15101 | 28904 | 1.66% | 0.143% |
| 23 | 17.124 | 2416 | 2423 | 2433 | rVB8 | 26145 | 68335 | 3.92% | 0.337% |
| 24 | 17.274 | 2443 | 2451 | 2459 | rBV | 589978 | 1113361 | 63.94% | 5.492% |
| 25 | 17.338 | 2459 | 2463 | 2473 | rVB4 | 38110 | 73899 | 4.24% | 0.365% |
| 26 | 17.647 | 2508 | 2521 | 2532 | rBV9 | 26498 | 96286 | 5.53% | 0.475% |
| 27 | 17.909 | 2560 | 2570 | 2584 | rVB | 613291 | 1384620 | 79.52% | 6.830% |
| 28 | 18.358 | 2645 | 2654 | 2663 | rBV9 | 14295 | 43042 | 2.47% | 0.212% |
| 29 | 18.646 | 2695 | 2708 | 2724 | rVB | 554990 | 1447477 | 83.13% | 7.140% |
| 30 | 19.085 | 2778 | 2790 | 2801 | rBV2 | 458813 | 1189496 | 68.31% | 5.868% |
| 31 | 19.165 | 2802 | 2805 | 2817 | rVV5 | 16217 | 39766 | 2.28% | 0.196% |
| 32 | 19.288 | 2819 | 2828 | 2835 | rVB8 | 8385 | 22434 | 1.29% | 0.111% |
| 33 | 19.501 | 2851 | 2868 | 2885 | rBV2 | 370797 | 1196934 | 68.74% | 5.904% |
| 34 | 20.100 | 2979 | 2980 | 2993 | rVB5 | 11771 | 25482 | 1.46% | 0.126% |
| 35 | 20.233 | 2997 | 3005 | 3015 | rBV8 | 5586 | 19334 | 1.11% | 0.095% |
| 36 | 20.490 | 3038 | 3053 | 3073 | rBV2 | 194549 | 687538 | 39.48% | 3.391% |
| 37 | 21.221 | 3176 | 3190 | 3199 | rBV2 | 7597 | 26546 | 1.52% | 0.131% |
| 38 | 21.670 | 3259 | 3274 | 3294 | rBV3 | 66316 | 290322 | 16.67% | 1.432% |
| 39 | 23.059 | 3518 | 3534 | 3536 | rBV7 | 31076 | 87347 | 5.02% | 0.431% |

Sum of corrected areas: 20272422

File : I:\MSDCHEM\1\DATA\083117\12M64166.D
Operator : SCB
Acquired : 31 Aug 2017 10:11 am using AcqMethod BNARUN
Instrument : MSD12
Sample Name: WG627757-01 BLANK 8/30
Misc Info : 1,1 STD81744
Vial Number: 3
Quant File :MEGAMIX.RES (RTE Integrator)



Data File : I:\MSDCHEM\1\DATA\083117\12M64166.D Vial: 3
Acq On : 31 Aug 2017 10:11 am Operator: SCB
Sample : WG627757-01 BLANK 8/30 Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: LSCINT.P

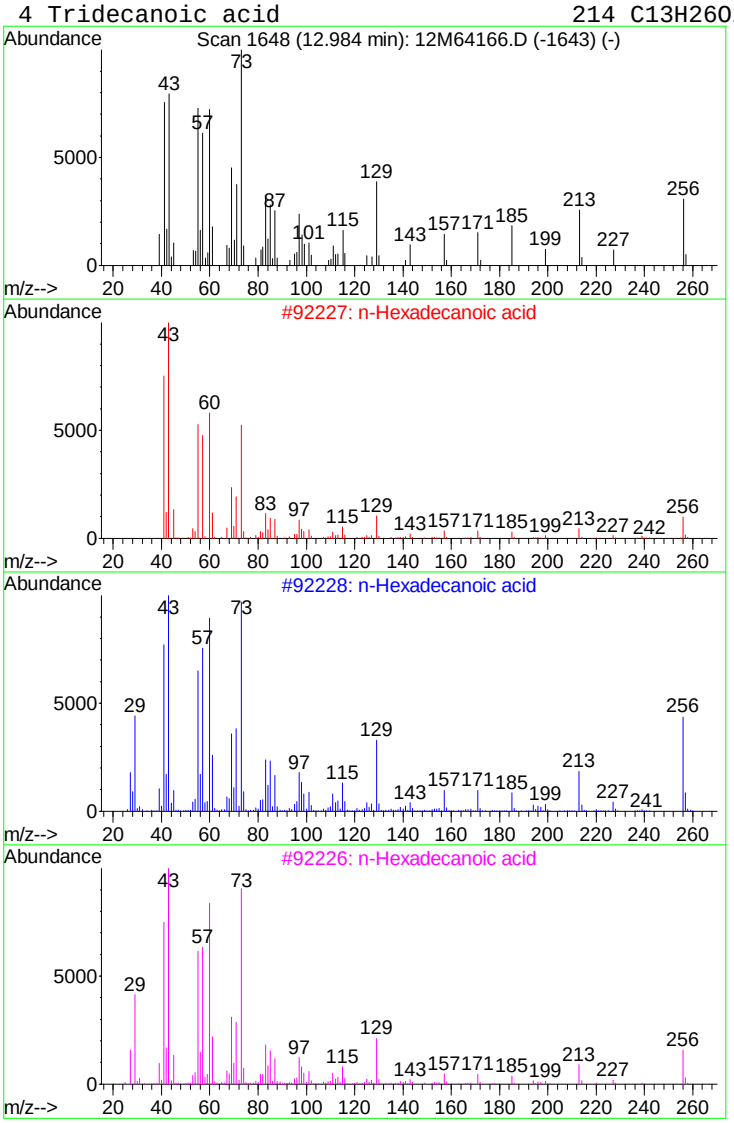
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

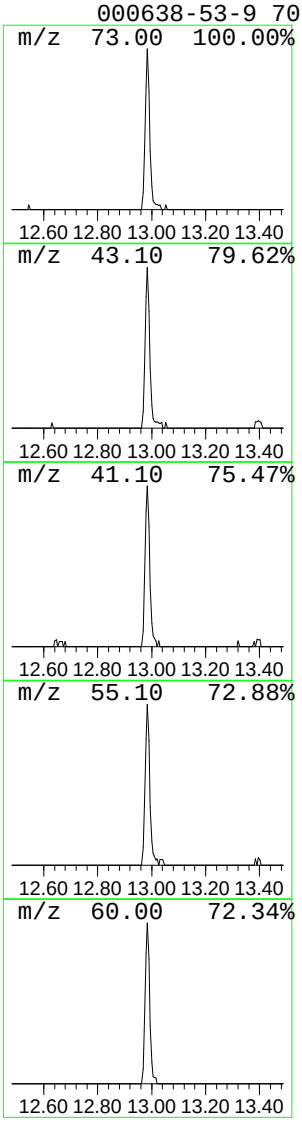
**********

Peak Number 1 n-Hexadecanoic acid Concentration Rank 9

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.98 | 9.53 ug/ml | 275957 | Phenanthrene-d10 | 12.55 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | n-Hexadecanoic acid | 256 | C16H32O2 | 000057-10-3 | 96 |
| 2 | n-Hexadecanoic acid | 256 | C16H32O2 | 000057-10-3 | 95 |
| 3 | n-Hexadecanoic acid | 256 | C16H32O2 | 000057-10-3 | 93 |
| 4 | Tridecanoic acid | 214 | C13H26O2 | 000638-53-9 | 70 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64166.D Vial: 3
Acq On : 31 Aug 2017 10:11 am Operator: SCB
Sample : WG627757-01 BLANK 8/30 Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: LSCINT.P

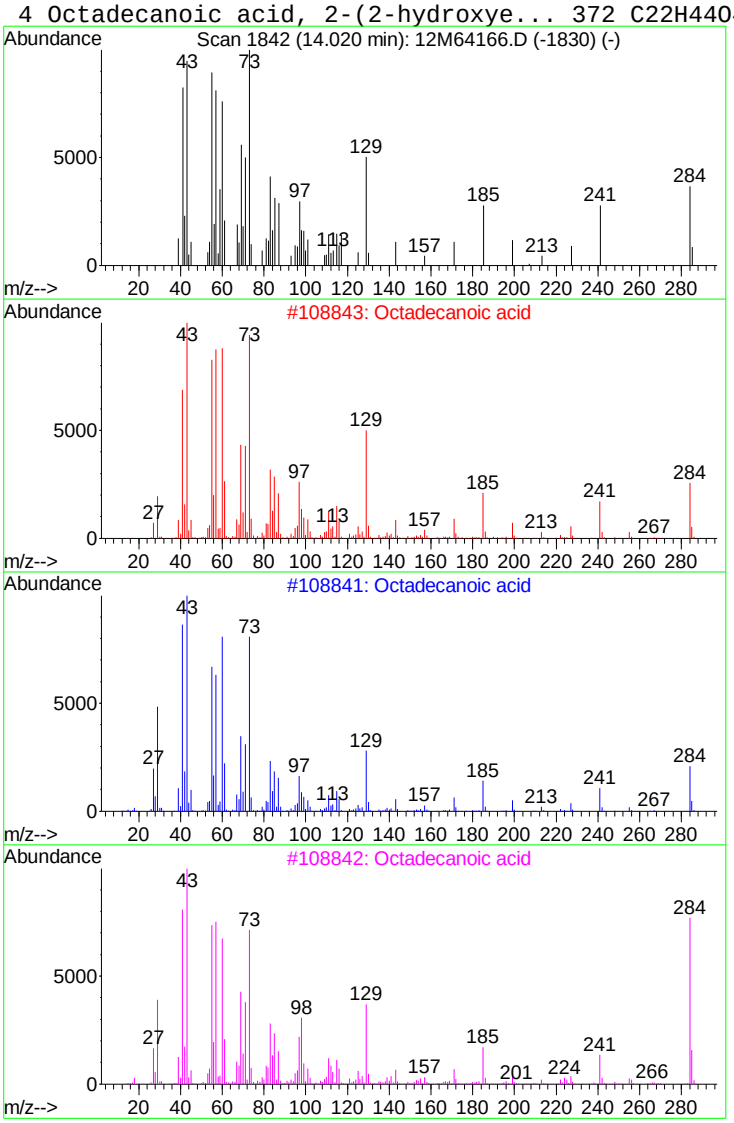
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

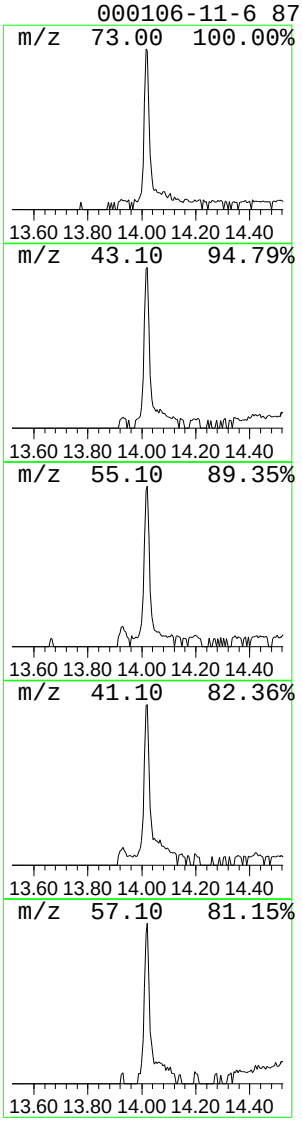
**********

Peak Number 2 Octadecanoic acid Concentration Rank 7

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.02 | 10.28 ug/ml | 297746 | Phenanthrene-d10 | 12.55 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Octadecanoic acid | 284 | C18H36O2 | 000057-11-4 | 98 |
| 2 | Octadecanoic acid | 284 | C18H36O2 | 000057-11-4 | 95 |
| 3 | Octadecanoic acid | 284 | C18H36O2 | 000057-11-4 | 95 |
| 4 | Octadecanoic acid, 2-(2-hydroxye... | 372 | C22H44O4 | 000106-11-6 | 87 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64166.D Vial: 3
Acq On : 31 Aug 2017 10:11 am Operator: SCB
Sample : WG627757-01 BLANK 8/30 Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: LSCINT.P

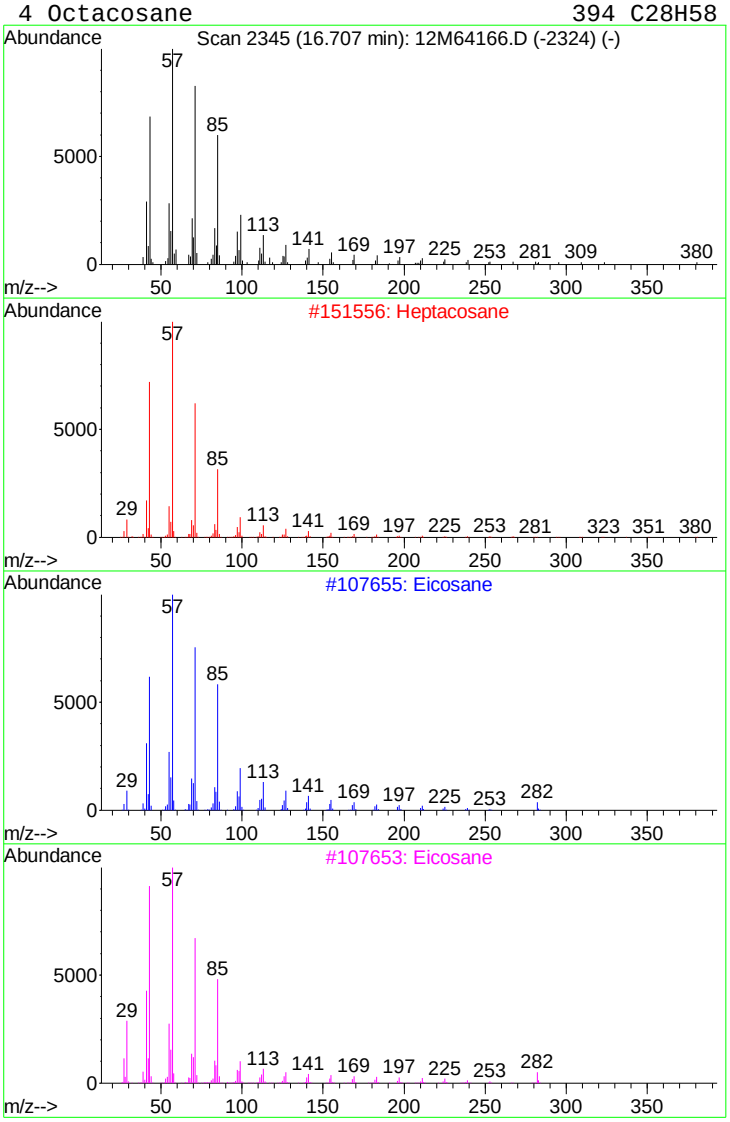
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

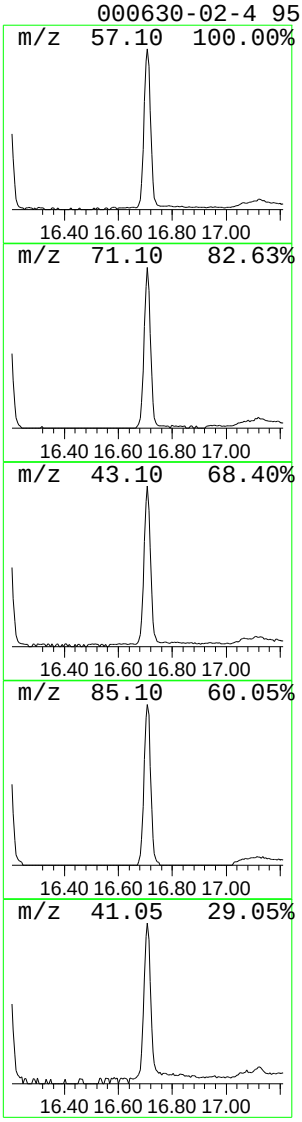
**********

Peak Number 3 Heptacosane Concentration Rank 5

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.71 | 23.81 ug/ml | 744830 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Heptacosane | 380 | C27H56 | 000593-49-7 | 98 |
| 2 | Eicosane | 282 | C20H42 | 000112-95-8 | 98 |
| 3 | Eicosane | 282 | C20H42 | 000112-95-8 | 95 |
| 4 | Octacosane | 394 | C28H58 | 000630-02-4 | 95 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64166.D Vial: 3
Acq On : 31 Aug 2017 10:11 am Operator: SCB
Sample : WG627757-01 BLANK 8/30 Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: LSCINT.P

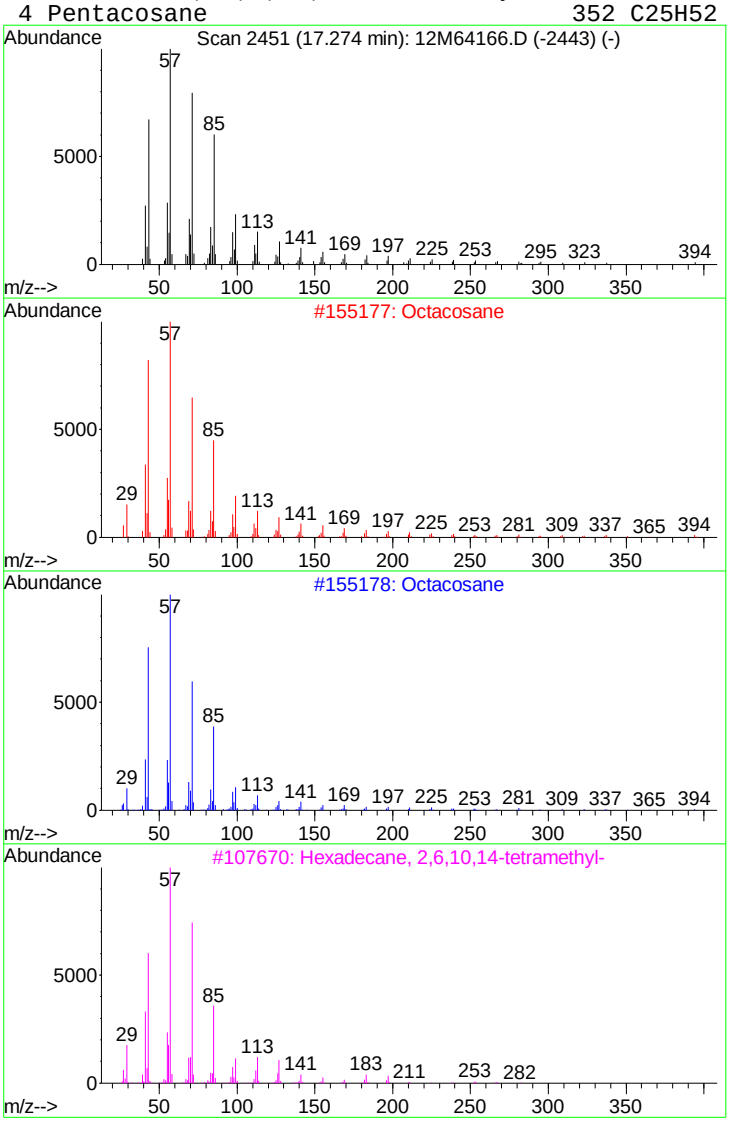
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

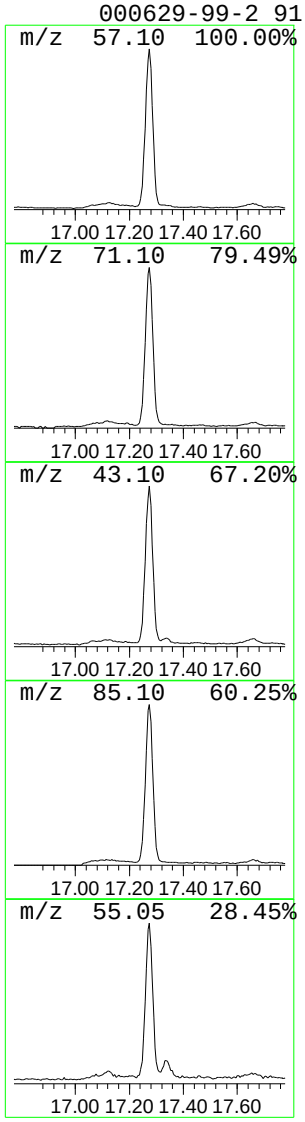
**********

Peak Number 4 Octacosane Concentration Rank 4

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.27 | 35.60 ug/ml | 1113360 | Chrysene-d12 | 16.24 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Octacosane | 394 | C28H58 | 000630-02-4 | 99 |
| 2 | Octacosane | 394 | C28H58 | 000630-02-4 | 94 |
| 3 | Hexadecane, 2,6,10,14-tetramethyl- | 282 | C20H42 | 000638-36-8 | 93 |
| 4 | Pentacosane | 352 | C25H52 | 000629-99-2 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64166.D Vial: 3
Acq On : 31 Aug 2017 10:11 am Operator: SCB
Sample : WG627757-01 BLANK 8/30 Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: LSCINT.P

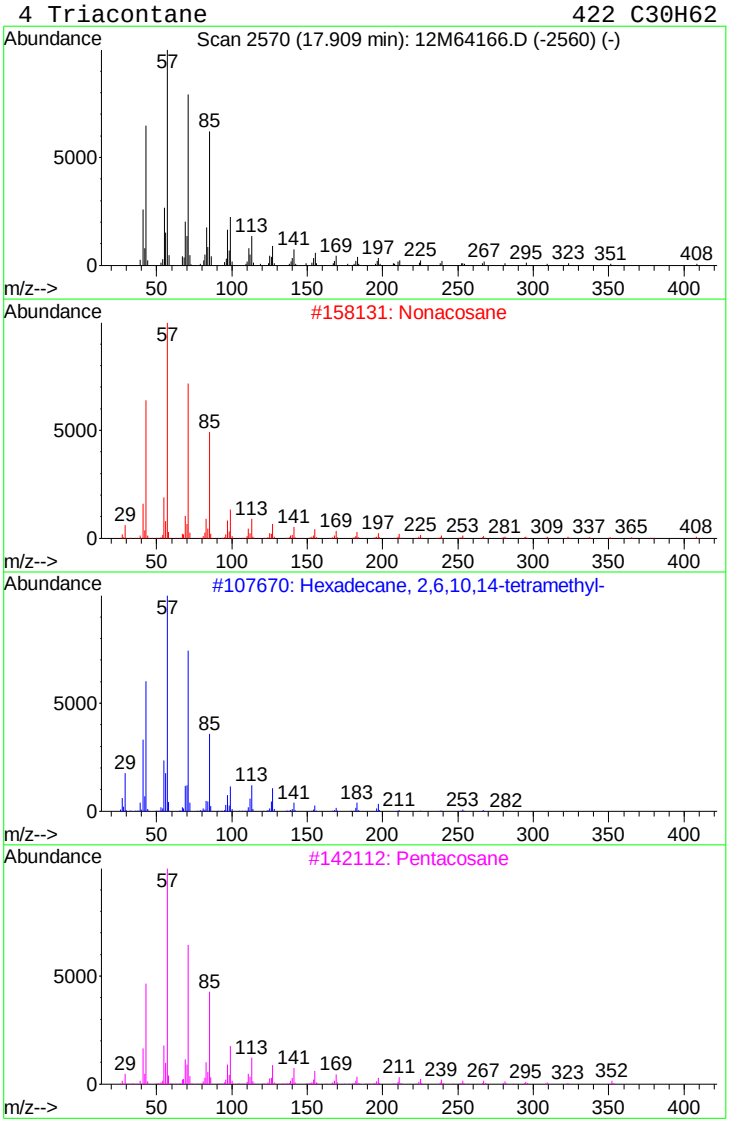
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

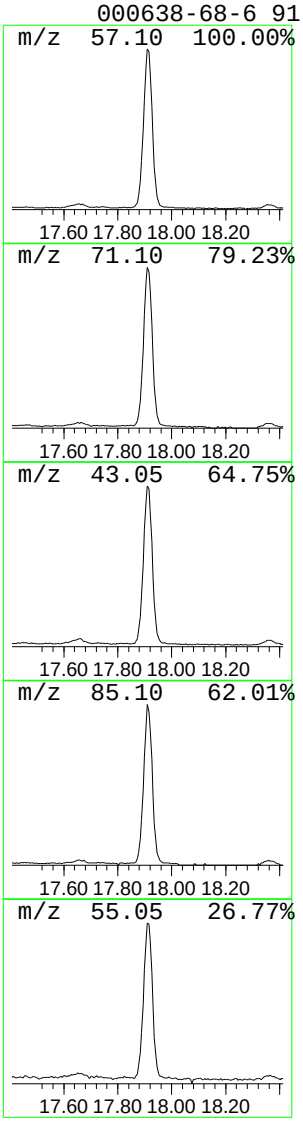
**********

Peak Number 5 Nonacosane Concentration Rank 2

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 17.91 | 46.56 ug/ml | 1384620 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Nonacosane | 408 | C29H60 | 000630-03-5 | 98 |
| 2 | Hexadecane, 2,6,10,14-tetramethyl- | 282 | C20H42 | 000638-36-8 | 94 |
| 3 | Pentacosane | 352 | C25H52 | 000629-99-2 | 91 |
| 4 | Triacontane | 422 | C30H62 | 000638-68-6 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64166.D Vial: 3
Acq On : 31 Aug 2017 10:11 am Operator: SCB
Sample : WG627757-01 BLANK 8/30 Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: LSCINT.P

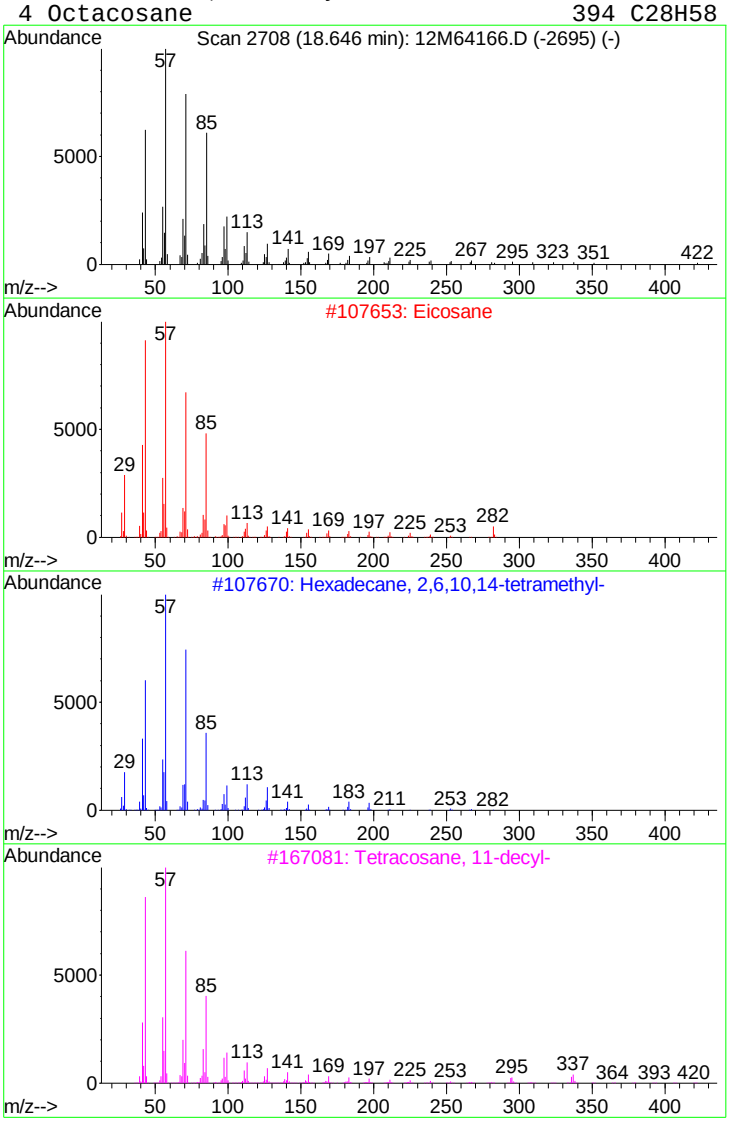
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

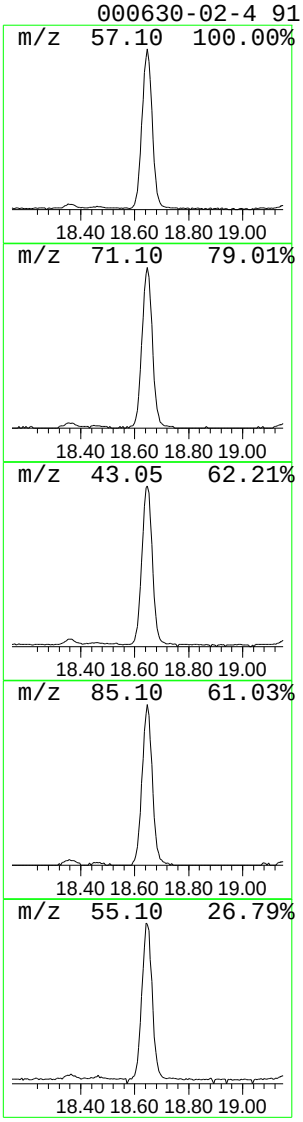
**********

Peak Number 6 Eicosane Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 18.65 | 48.68 ug/ml | 1447480 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Eicosane | 282 | C20H42 | 000112-95-8 | 95 |
| 2 | Hexadecane, 2,6,10,14-tetramethyl- | 282 | C20H42 | 000638-36-8 | 93 |
| 3 | Tetracosane, 11-decyl- | 479 | C34H70 | 055429-84-0 | 91 |
| 4 | Octacosane | 394 | C28H58 | 000630-02-4 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64166.D Vial: 3
Acq On : 31 Aug 2017 10:11 am Operator: SCB
Sample : WG627757-01 BLANK 8/30 Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: LSCINT.P

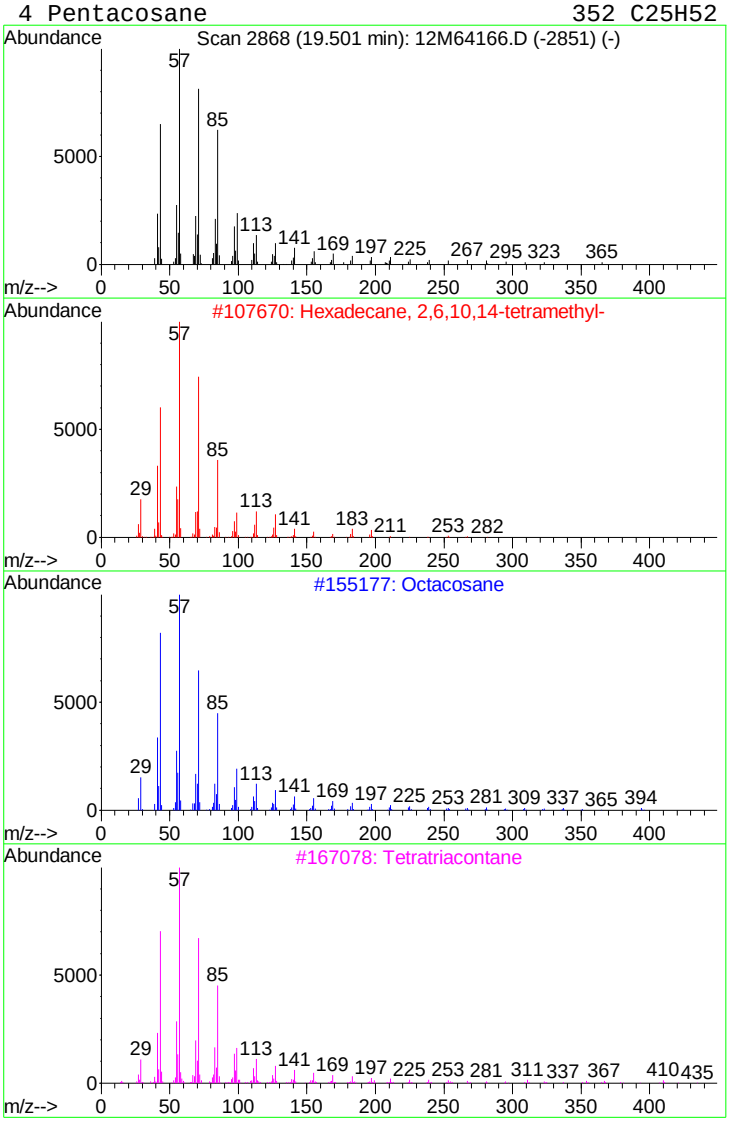
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

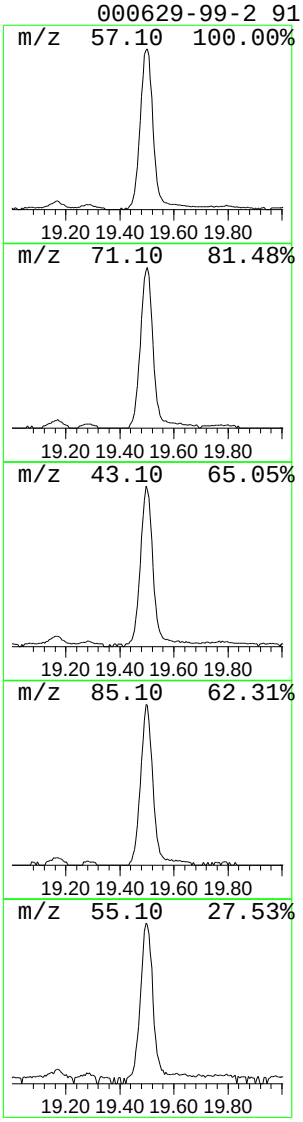
**********

Peak Number 7 Hexadecane, 2,6,10,14-tetra... Concentration Rank 3

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 19.50 | 40.25 ug/ml | 1196930 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Hexadecane, 2,6,10,14-tetramethyl- | 282 | C20H42 | 000638-36-8 | 93 |
| 2 | Octacosane | 394 | C28H58 | 000630-02-4 | 91 |
| 3 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 4 | Pentacosane | 352 | C25H52 | 000629-99-2 | 91 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64166.D Vial: 3
Acq On : 31 Aug 2017 10:11 am Operator: SCB
Sample : WG627757-01 BLANK 8/30 Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: LSCINT.P

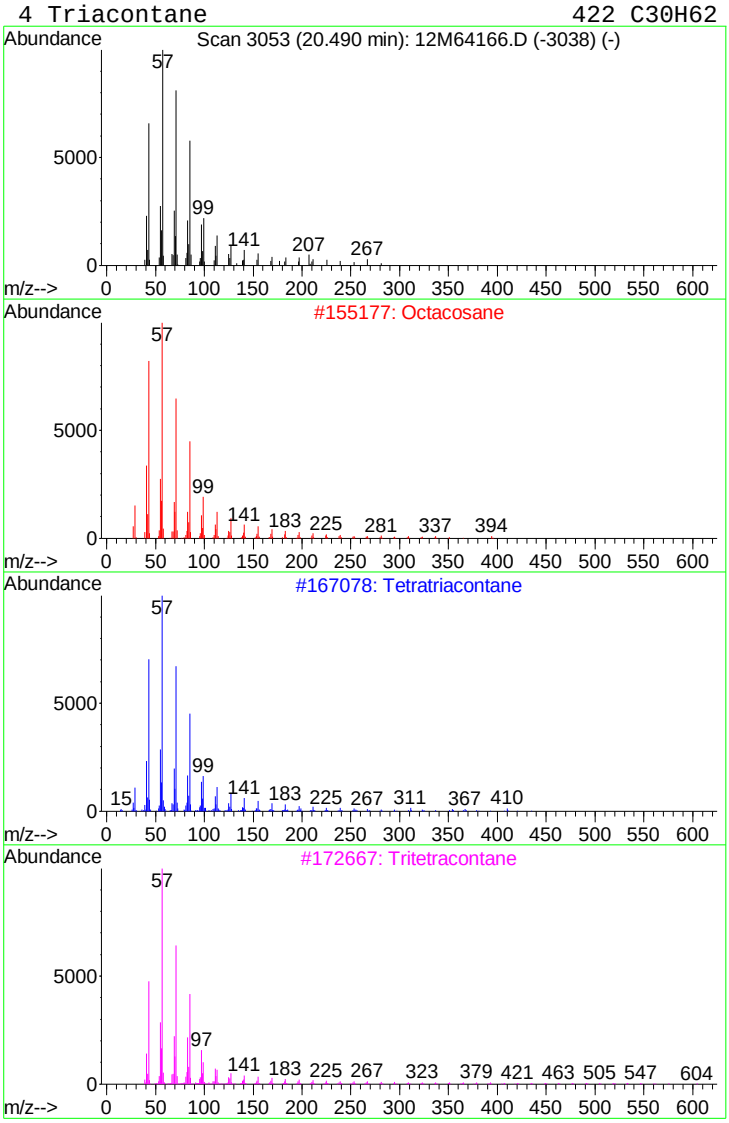
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

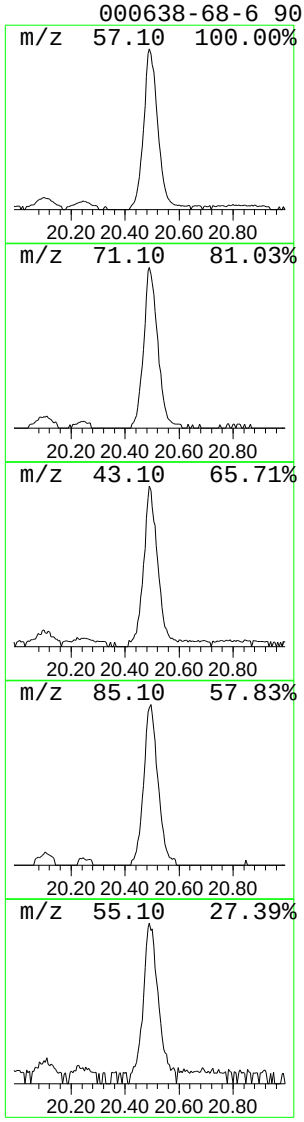
**********

Peak Number 8 Octacosane Concentration Rank 6

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 20.49 | 23.12 ug/ml | 687538 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Octacosane | 394 | C28H58 | 000630-02-4 | 91 |
| 2 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 91 |
| 3 | Tritetracontane | 605 | C43H88 | 007098-21-7 | 91 |
| 4 | Triacontane | 422 | C30H62 | 000638-68-6 | 90 |



Data File : I:\MSDCHEM\1\DATA\083117\12M64166.D Vial: 3
Acq On : 31 Aug 2017 10:11 am Operator: SCB
Sample : WG627757-01 BLANK 8/30 Inst : MSD12
Misc : 1,1 STD81744 Multiplr: 1.00
MS Integration Params: LSCINT.P

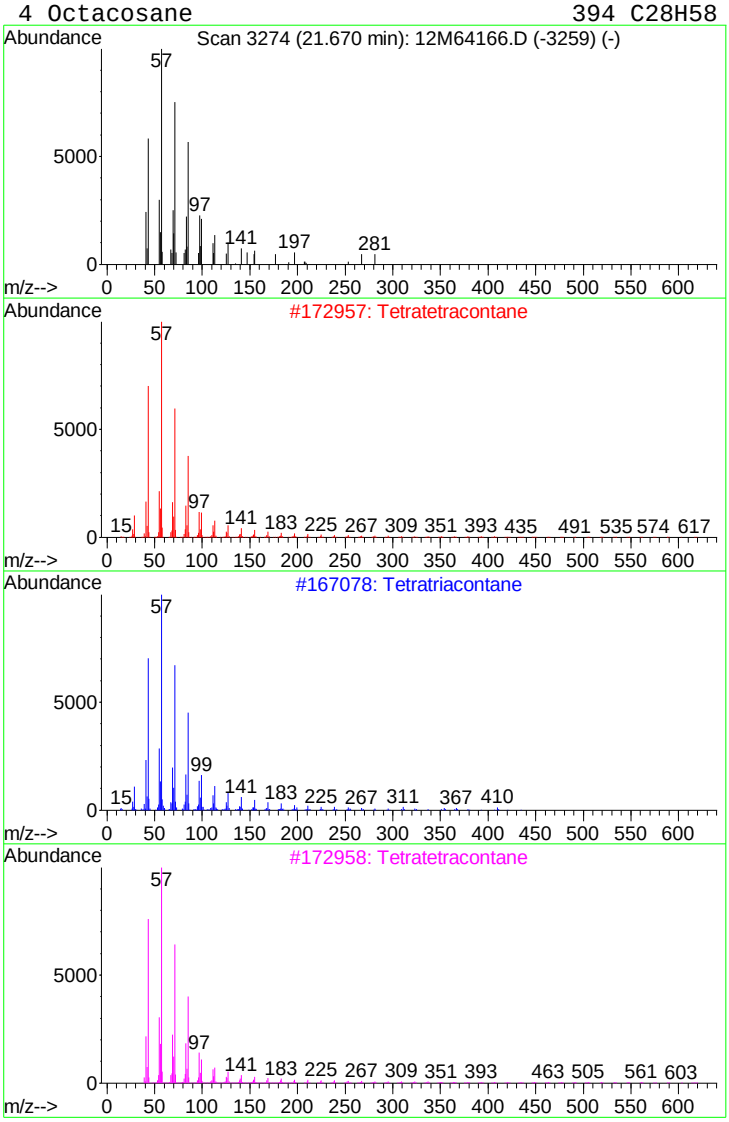
Quant Method : I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title : OVD MSS01 8270/625 ICAL 08/3/17
Library : I:\DATABASE\NIST02.L

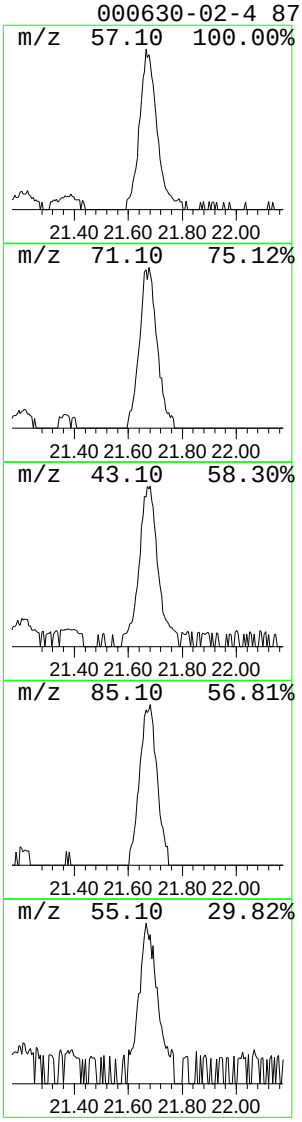
**********

Peak Number 9 Tetratetracontane Concentration Rank 8

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 21.67 | 9.76 ug/ml | 290322 | Perylene-d12 | 19.08 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 91 |
| 2 | Tetratriacontane | 479 | C34H70 | 014167-59-0 | 90 |
| 3 | Tetratetracontane | 619 | C44H90 | 007098-22-8 | 90 |
| 4 | Octacosane | 394 | C28H58 | 000630-02-4 | 87 |



Tentatively Identified Compound (LSC) summary

Operator ID: SCB  Date Acquired: 31 Aug 2017  10:11 am
Data File: I:\MSDCHEM\1\DATA\083117\12M64166.D
Name: WG627757-01 BLANK 8/30
Misc: 1,1 STD81744
Method: I:\MSDCHEM\1\METHODS\MEGAMIX.M (RTE Integrator)
Title: OVD MSS01 8270/625 ICAL 08/3/17
Library Searched: I:\DATABASE\NIST02.L

| | | | | | Internal Standard | | | |
|---|---|---|---|---|---|---|---|---|
| TIC Top Hit name | RT | EstConc | Units | Response | # | RT | Resp | Conc |
| n-Hexadecanoic acid | 12.98 | 9.5 | ug/ml | 275957 | 4 | 12.55 | 1158820 | 40.0 |
| Octadecanoic acid | 14.02 | 10.3 | ug/ml | 297746 | 4 | 12.55 | 1158820 | 40.0 |
| Heptacosane | 16.71 | 23.8 | ug/ml | 744830 | 5 | 16.24 | 1251060 | 40.0 |
| Octacosane | 17.27 | 35.6 | ug/ml | 1113360 | 5 | 16.24 | 1251060 | 40.0 |
| Nonacosane | 17.91 | 46.6 | ug/ml | 1384620 | 6 | 19.08 | 1189500 | 40.0 |
| Eicosane | 18.65 | 48.7 | ug/ml | 1447480 | 6 | 19.08 | 1189500 | 40.0 |
| Hexadecane, 2,6,1... | 19.50 | 40.3 | ug/ml | 1196930 | 6 | 19.08 | 1189500 | 40.0 |
| Octacosane | 20.49 | 23.1 | ug/ml | 687538 | 6 | 19.08 | 1189500 | 40.0 |
| Tetratetracontane | 21.67 | 9.8 | ug/ml | 290322 | 6 | 19.08 | 1189500 | 40.0 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000503.D Vial: 7
Acq On : 12 Sep 2017 4:50 pm Operator: MES
Sample : WG628510-01 BLANK 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 07:52:57 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

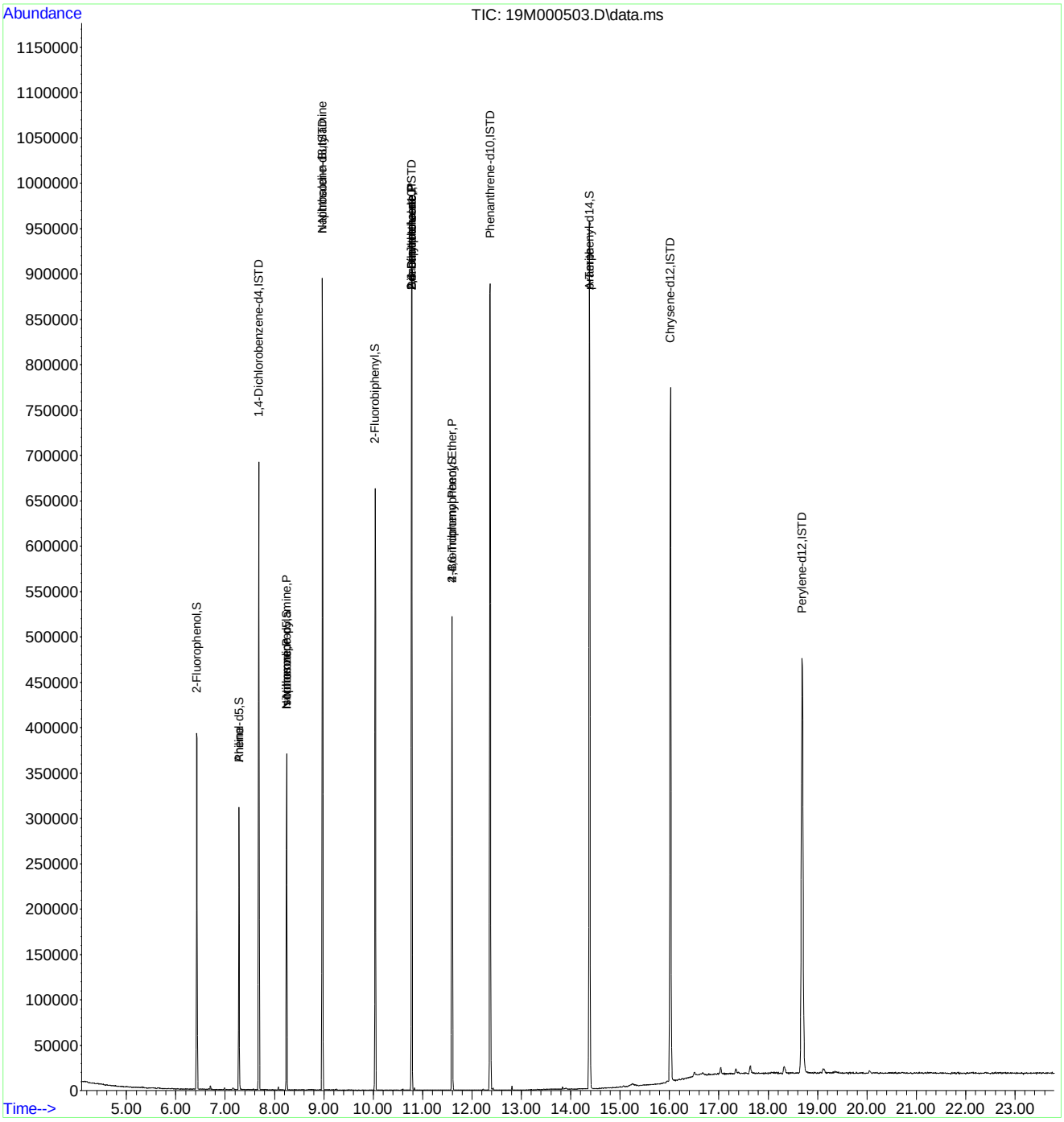
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 123066 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.969 | 136 | 486933 | 40.0000 | ug/mL | -0.0117 |
| 54) Acenaphthene-d10 | 10.780 | 164 | 245282 | 40.0000 | ug/mL | -0.0117 |
| 87) Phenanthrene-d10 | 12.369 | 188 | 468068 | 40.0000 | ug/mL | -0.0117 |
| 113) Chrysene-d12 | 16.021 | 240 | 446471 | 40.0000 | ug/mL | -0.0176 |
| 128) Perylene-d12 | 18.686 | 264 | 431214 | 40.0000 | ug/mL | -0.0294 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.428 | 112 | 141497 | 35.3872 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.281 | 99 | 115529 | 24.5907 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.245 | 82 | 121393 | 30.1310 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.039 | 172 | 243143 | 28.5784 | ug/mL | -0.0117 |
| 86) 2,4,6-Tribromophenol | 11.598 | 330 | 69438 | 69.1309 | ug/mL | -0.0117 |
| 117) p-Terphenyl-d14 | 14.380 | 244 | 456286 | 50.5258 | ug/mL | -0.0118 |
| Target Compounds | | | | | | Qvalue |
| 11) Aniline | 7.281 | 66 | 5351 | 2.225 | ug/mL# | 1 |
| 25) n-Nitrosodipropylamine | 8.245 | 70 | 16191 | 6.122 | ug/mL# | 47 |
| 34) Isophorone | 8.245 | 82 | 121393 | 15.888 | ug/mL# | 61 |
| 48) n-Nitrosodi-n-Butylamine | 8.969 | 84 | 10767 | 3.164 | ug/mL# | 17 |
| 65) Dimethylphthalate | 10.780 | 163 | 69842 | 7.850 | ug/mL# | 1 |
| 67) 2,6-Dinitrotoluene | 10.780 | 165 | 31630 | 15.240 | ug/mL# | 24 |
| 73) 2,4-Dinitrotoluene | 10.780 | 165 | 31630 | 11.827 | ug/mL# | 13 |
| 95) 4-Bromophenyl Phenyl E... | 11.598 | 248 | 4358 | 1.812 | ug/mL# | 1 |
| 116) Aramite | 14.380 | 185 | 765 | 2.924 | ug/mL# | 33 |

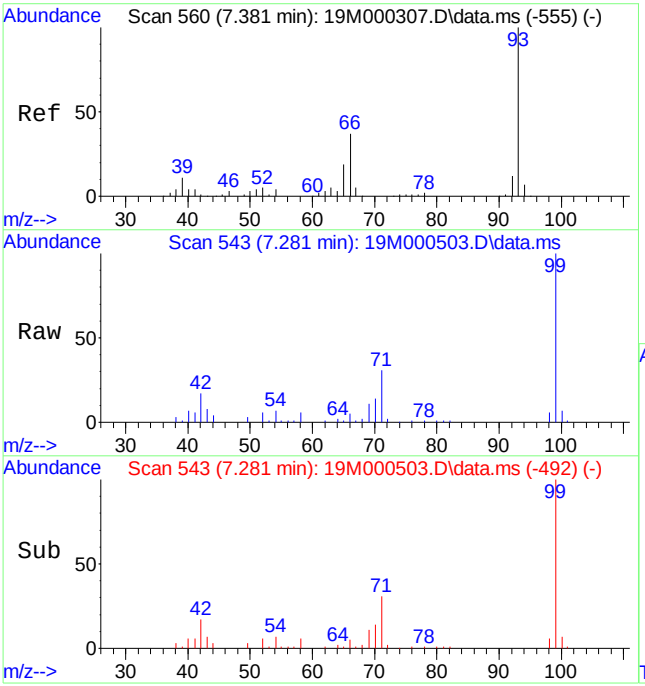
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000503.D Vial: 7
Acq On : 12 Sep 2017 4:50 pm Operator: MES
Sample : WG628510-01 BLANK 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 07:52:57 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

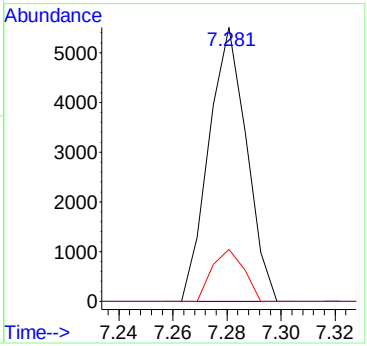


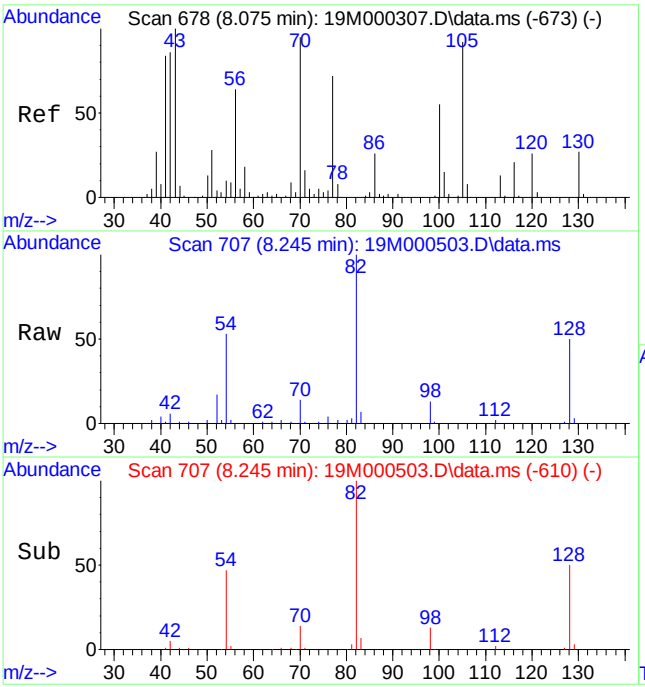



#11
Aniline
Concen: 2.23 ug/mL
RT: 7.281 min Scan# 543
Delta R.T. -0.100 min
Lab File: 19M000503.D
Acq: 12 Sep 2017 4:50 pm

Tgt Ion: 66 Resp: 5351

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 66 | 100 | | |
| 93 | 0.0 | 161.8 | 377.6# |
| 65 | 15.9 | 31.4 | 73.4# |

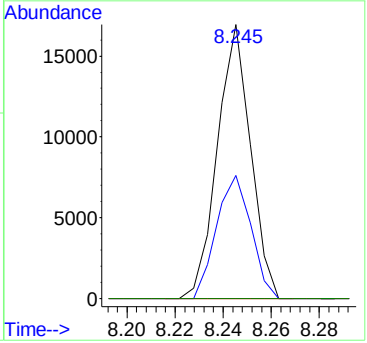


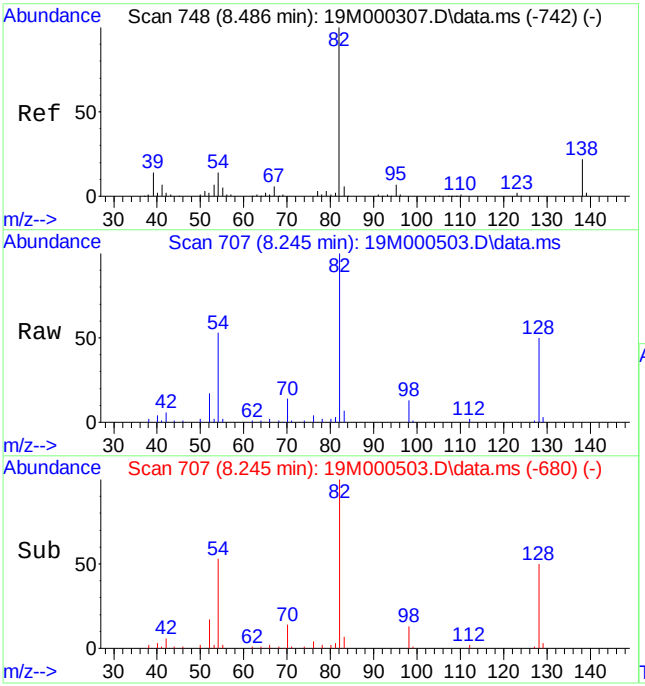




#25
n-Nitrosodipropylamine
Concen: 6.12 ug/mL
RT: 8.245 min Scan# 707
Delta R.T. 0.171 min
Lab File: 19M000503.D
Acq: 12 Sep 2017 4:50 pm

Tgt Ion: 70 Resp: 16191

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 70 | 100 | | |
| 42 | 46.8 | 61.9 | 144.3# |
| 101 | 0.0 | 9.7 | 22.5# |
| 130 | 0.0 | 17.3 | 40.5# |

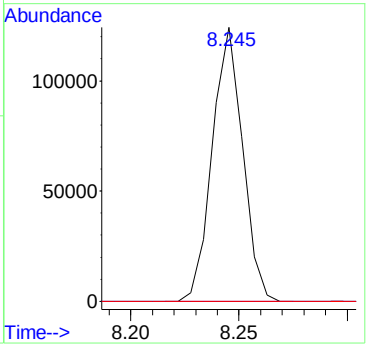


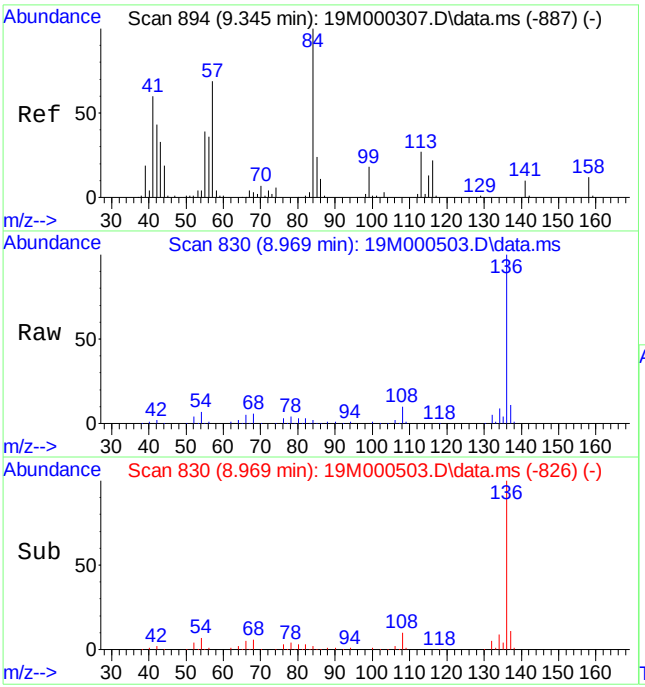



#34
Isophorone
Concen: 15.89 ug/mL
RT: 8.245 min Scan# 707
Delta R.T. -0.241 min
Lab File: 19M000503.D
Acq: 12 Sep 2017 4:50 pm

Tgt Ion: 82 Resp: 121393

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 82 | 100 | | |
| 95 | 0.0 | 4.3 | 9.9# |
| 138 | 0.0 | 12.8 | 29.8# |

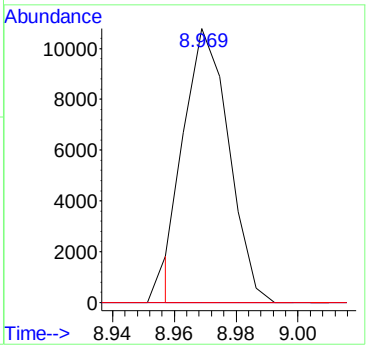


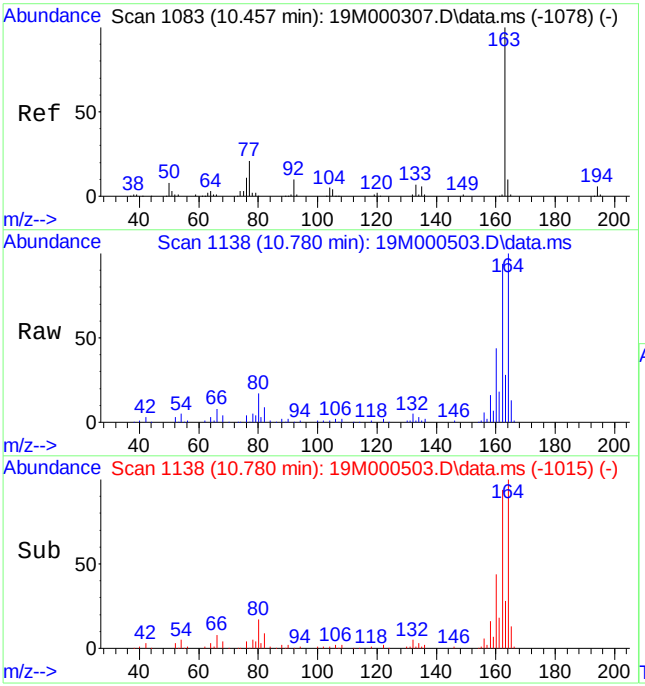




#48
n-Nitrosodi-n-Butylamine
Concen: 3.16 ug/mL
RT: 8.969 min Scan# 830
Delta R.T. -0.376 min
Lab File: 19M000503.D
Acq: 12 Sep 2017 4:50 pm

Tgt Ion: 84 Resp: 10767

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 84 | 100 | | |
| 57 | 0.0 | 52.2 | 78.2# |
| 41 | 0.0 | 54.5 | 81.7# |

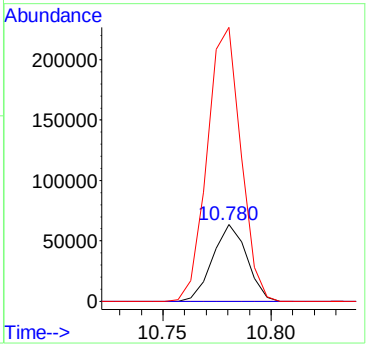


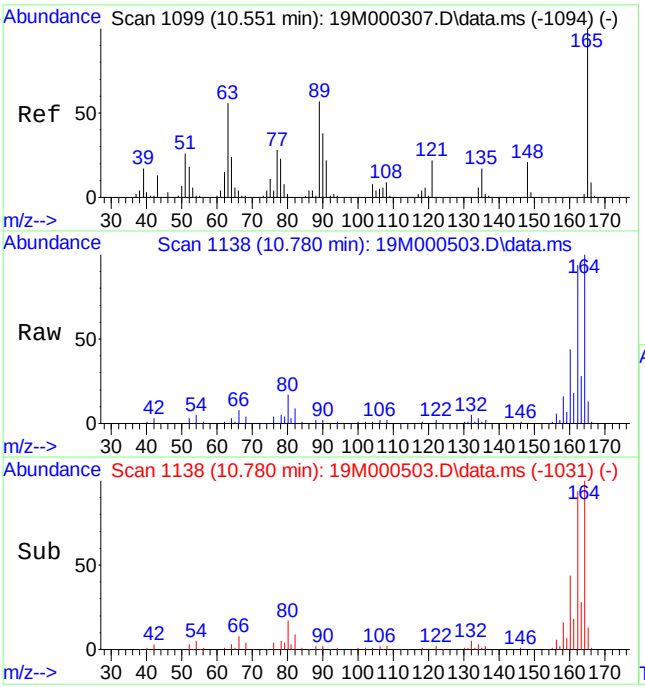



#65
Dimethylphthalate
Concen: 7.85 ug/mL
RT: 10.780 min Scan# 1138
Delta R.T. 0.324 min
Lab File: 19M000503.D
Acq: 12 Sep 2017 4:50 pm

Tgt Ion:163 Resp: 69842

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 163 | 100 | | |
| 194 | 0.0 | 3.6 | 8.4# |
| 164 | 351.2 | 6.1 | 14.1# |

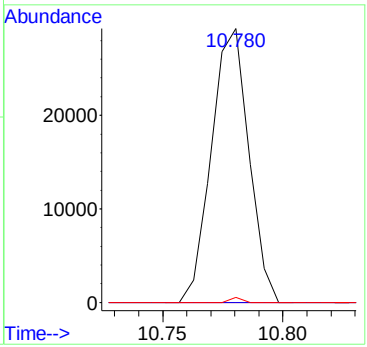


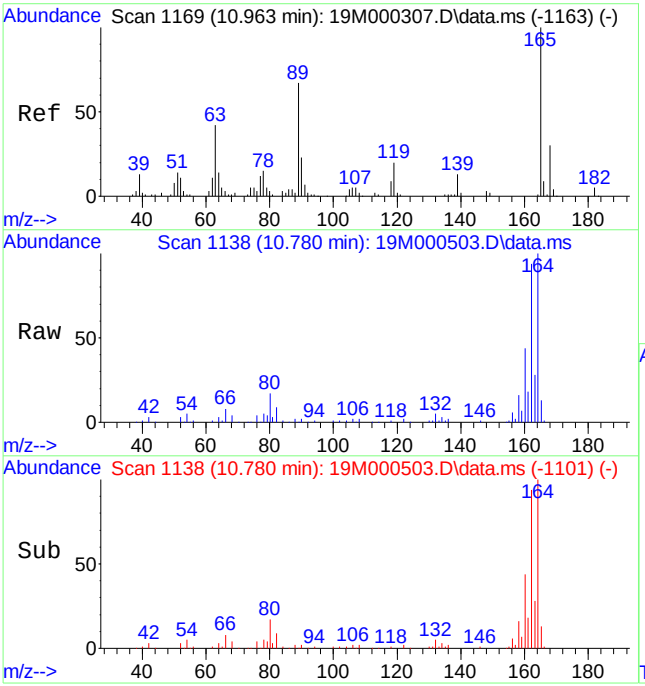




#67
2,6-Dinitrotoluene
Concen: 15.24 ug/mL
RT: 10.780 min Scan# 1138
Delta R.T. 0.229 min
Lab File: 19M000503.D
Acq: 12 Sep 2017 4:50 pm

Tgt Ion:165 Resp: 31630

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 165 | 100 | | |
| 63 | 0.0 | 33.3 | 77.7# |
| 89 | 0.6 | 33.2 | 77.6# |

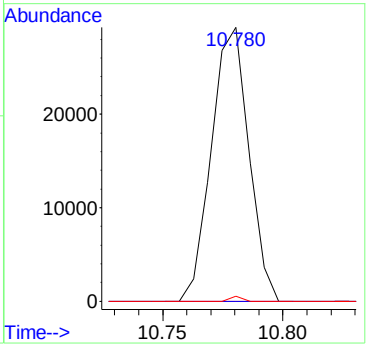


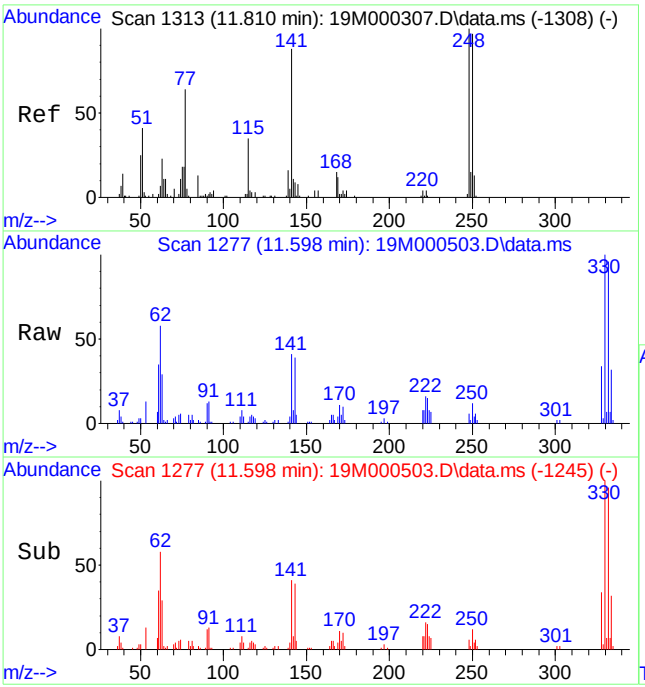



#73
2,4-Dinitrotoluene
Concen: 11.83 ug/mL
RT: 10.780 min Scan# 1138
Delta R.T. -0.182 min
Lab File: 19M000503.D
Acq: 12 Sep 2017 4:50 pm

Tgt Ion:165 Resp: 31630

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 165 | 100 | | |
| 63 | 0.0 | 37.6 | 87.6# |
| 89 | 0.6 | 50.2 | 117.0# |

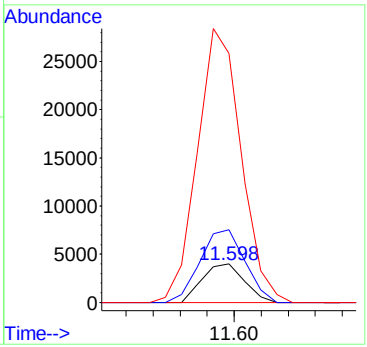


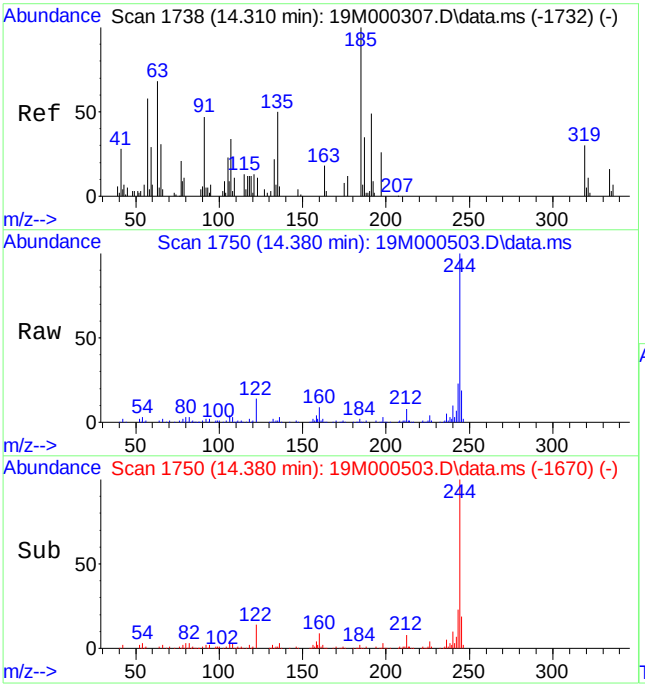




#95
4-Bromophenyl Phenyl Ether
Concen: 1.81 ug/mL
RT: 11.598 min Scan# 1277
Delta R.T. -0.212 min
Lab File: 19M000503.D
Acq: 12 Sep 2017 4:50 pm

Tgt Ion:248 Resp: 4358

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 248 | 100 | | |
| 250 | 200.0 | 58.0 | 135.2# |
| 141 | 733.5 | 51.6 | 120.4# |

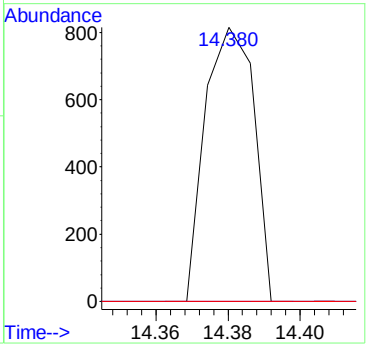





#116
Aramite
Concen: 2.92 ug/mL
RT: 14.380 min Scan# 1750
Delta R.T. 0.071 min
Lab File: 19M000503.D
Acq: 12 Sep 2017 4:50 pm

Tgt Ion:185 Resp: 765

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 185 | 100 | | |
| 191 | 0.0 | 41.6 | 62.4# |
| 319 | 0.0 | 24.2 | 36.2# |



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000503.D Vial: 7
Acq On : 12 Sep 2017 4:50 pm Operator: MES
Sample : WG628510-01 BLANK 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 08:41:10 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

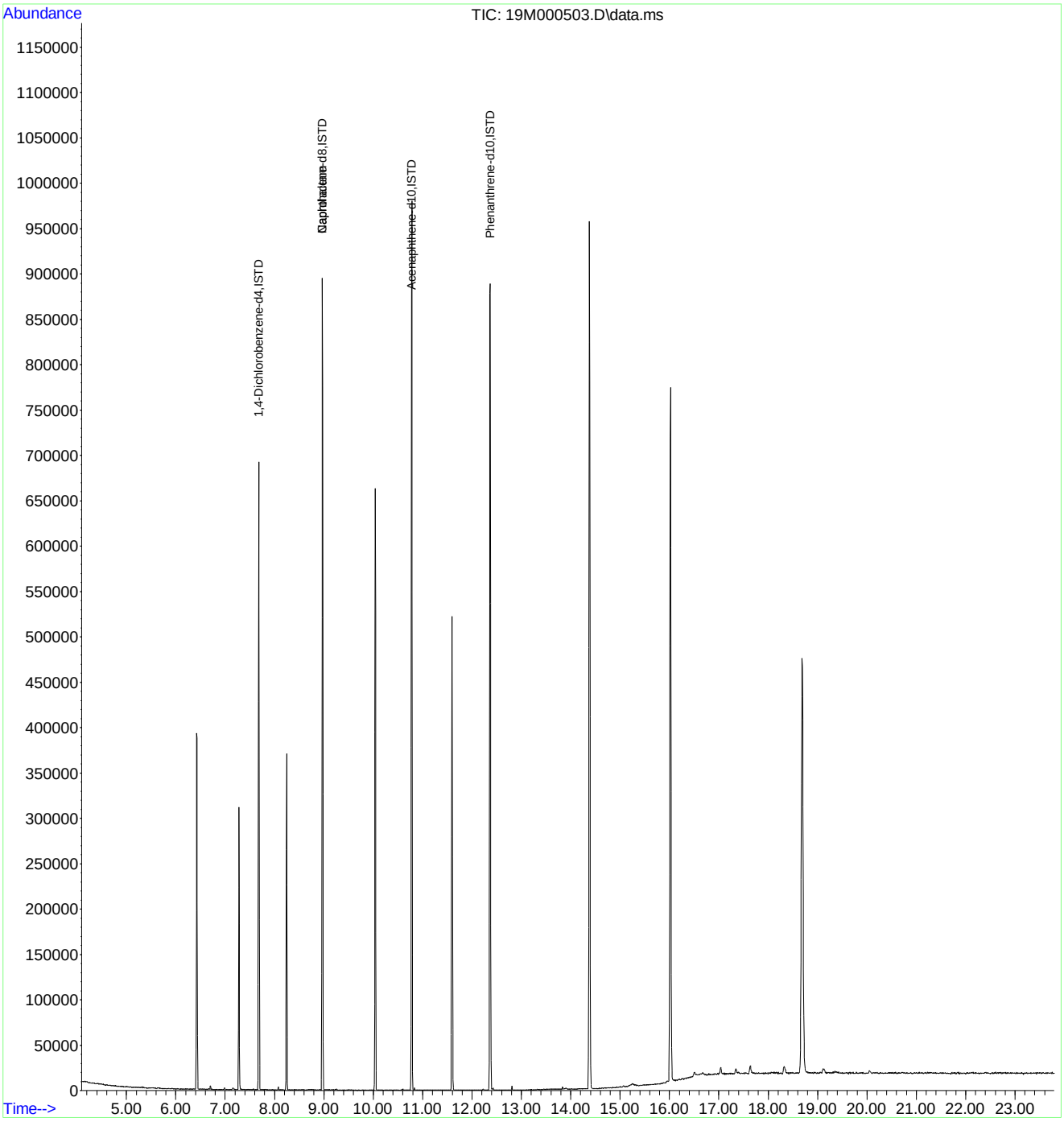
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 123066 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.969 | 136 | 486933 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.780 | 164 | 245282 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.369 | 188 | 468068 | 40.0000 | ug/mL | 0.0000 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 5) Caprolactam | 8.969 | 55 | 961 | 1.968 | ug/mL# | 1 |

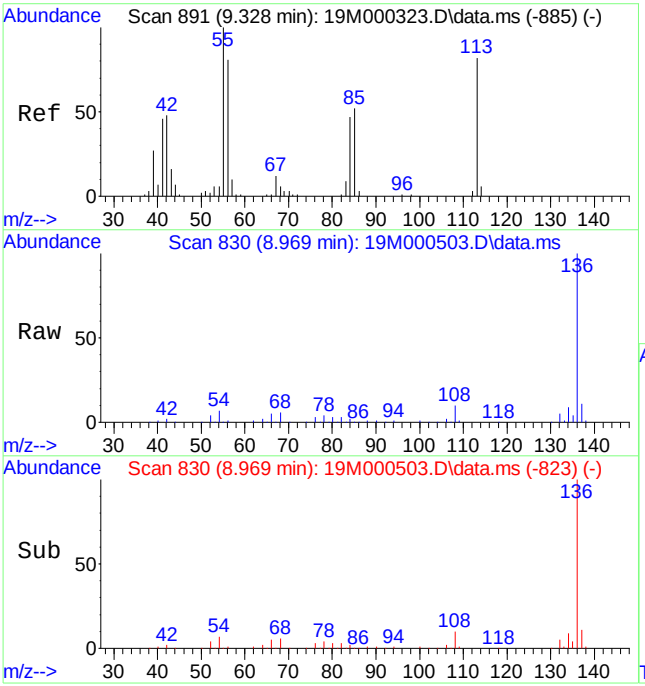
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000503.D Vial: 7
Acq On : 12 Sep 2017 4:50 pm Operator: MES
Sample : WG628510-01 BLANK 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 08:41:10 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

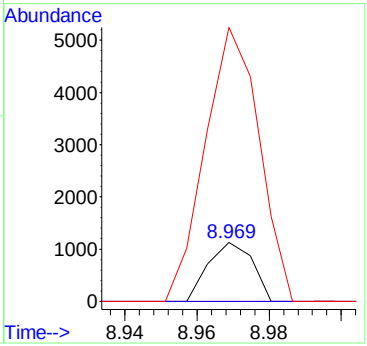





#5
Caprolactam
Concen: 1.97 ug/mL
RT: 8.969 min Scan# 830
Delta R.T. -0.359 min
Lab File: 19M000503.D
Acq: 12 Sep 2017 4:50 pm

Tgt Ion: 55 Resp: 961

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 55 | 100 | | |
| 113 | 0.0 | 63.4 | 95.0# |
| 56 | 569.1 | 64.3 | 96.5# |



Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64167.D Vial: 4
Acq On : 31 Aug 2017 10:44 am Operator: SCB
Sample : WG627757-02 LCS 8/30 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 15:08:26 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 : 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 | 114110 | 40.0000 | ug/ml | 0.000 |
| 30) Naphthalene-d8 | 9.121 | 136 | 447012 | 40.0000 | ug/ml | 0.000 |
| 54) Acenaphthene-d10 | 10.932 | 164 | 235754 | 40.0000 | ug/ml | 0.000 |
| 87) Phenanthrene-d10 | 12.546 | 188 | 482943 | 40.0000 | ug/ml | -0.011 |
| 113) Chrysene-d12 | 16.243 | 240 | 483676 | 40.0000 | ug/ml | 0.000 |
| 128) Perylene-d12 | 19.090 | 264 | 482650 | 40.0000 | ug/ml | -0.011 |
| **System Monitoring Compounds** | | | | | | |
| 8) 2-Fluorophenol | 6.573 | 112 | 148776 | 42.8102936 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 21 - 100 | | Recovery = 42.81% | | | |
| 12) Phenol-d5 | 7.423 | 99 | 145791 | 32.8133623 | ug/ml | -0.01 |
| Spiked Amount 100.000 | Range 10 - 94 | | Recovery = 32.81% | | | |
| 31) Nitrobenzene-d5 | 8.395 | 82 | 193947 | 43.4776398 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 35 - 114 | | Recovery = 86.96% | | | |
| 59) 2-Fluorobiphenyl | 10.190 | 172 | 388392 | 47.4518112 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 43 - 116 | | Recovery = 94.90% | | | |
| 86) 2,4,6-Tribromophenol | 11.760 | 330 | 152908 | 123.1404139 | ug/ml | 0.00 |
| Spiked Amount 100.000 | Range 10 - 123 | | Recovery = 123.14%# | | | |
| 117) p-Terphenyl-d14 | 14.581 | 244 | 601243 | 57.7422187 | ug/ml | 0.00 |
| Spiked Amount 50.000 | Range 33 - 141 | | Recovery = 115.48% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.66 | 88 | 23686 | 15.8651 | ug/ml | 91 |
| 3) n-Nitrosodimethylamine | 5.13 | 74 | 45281 | 21.8960 | ug/ml | 93 |
| 4) Pyridine | 5.15 | 79 | 77365 | 20.4645 | ug/ml | 96 |
| 11) Aniline | 7.52 | 66 | 84110 | 36.3697 | ug/ml | 98 |
| 13) Phenol | 7.44 | 94 | 75261 | 16.6662 | ug/ml | 88 |
| 14) bis(2-Chloroethyl)ether | 7.54 | 63 | 97144 | 36.5773 | ug/ml | 91 |
| 16) 2-Chlorophenol | 7.65 | 128 | 119735 | 31.5534 | ug/ml | 94 |
| 17) 1,3-Dichlorobenzene | 7.80 | 146 | 83157 | 20.0151 | ug/ml | 97 |
| 18) 1,4-Dichlorobenzene | 7.84 | 146 | 87434 | 20.7014 | ug/ml | 99 |
| 19) Benzyl Alcohol | 7.94 | 108 | 96655 | 39.9990 | ug/ml | 92 |
| 20) 1,2-Dichlorobenzene | 8.04 | 146 | 91968 | 22.9043 | ug/ml | 98 |
| 21) 2-Methylphenol | 8.03 | 107 | 118164 | 36.4252 | ug/ml | 93 |
| 22) bis(2-Chloroisopropyl)ethe | 8.08 | 45 | 118699 | 36.9125 | ug/ml | 95 |
| 23) 3-,4-Methylphenol | 8.17 | 107 | 141992 | 34.6181 | ug/ml | 94 |
| 25) n-Nitrosodipropylamine | 8.21 | 70 | 140167 | 49.7036 | ug/ml# | 64 |
| 26) Acetophenone | 8.22 | 105 | 247733 | 44.5649 | ug/ml | 94 |
| 27) n-Nitrosomorpholine | 8.21 | 56 | 8878 | 4.0646 | ug/ml# | 45 |
| 28) o-Toluidine | 8.22 | 106 | 19219 | 3.1628 | ug/ml# | 1 |
| 29) Hexachloroethane | 8.36 | 117 | 36100 | 20.3367 | ug/ml | 98 |
| 32) Nitrobenzene | 8.41 | 77 | 169682 | 38.4133 | ug/ml | 92 |
| 34) Isophorone | 8.62 | 82 | 373785 | 48.7568 | ug/ml | 99 |
| 35) 2-Nitrophenol | 8.73 | 139 | 80526 | 38.4355 | ug/ml | 92 |
| 36) 2,4-Dimethylphenol | 8.70 | 122 | 153938 | 44.0992 | ug/ml | 94 |
| 38) bis(2-Chloroethoxy)methane | 8.80 | 93 | 201792 | 33.4450 | ug/ml | 90 |
| 39) Benzoic Acid | 8.74 | 105 | 37066 | 27.2427 | ug/ml# | 67 |
| 40) 2,4-Dichlorophenol | 8.96 | 162 | 139063 | 43.8292 | ug/ml | 99 |
| 42) 1,2,4-Trichlorobenzene | 9.06 | 180 | 101152 | 27.5672 | ug/ml | 99 |
| 43) Naphthalene | 9.14 | 128 | 362527 | 30.5384 | ug/ml# | 100 |
| 44) 4-Chloroaniline | 9.17 | 65 | 72781 | 44.3672 | ug/ml | 64 |
| 47) Hexachlorobutadiene | 9.29 | 225 | 58402 | 27.4838 | ug/ml | 100 |
| 49) p-Phenylenediamine | 9.60 | 108 | 15319 | 5.7279 | ug/ml# | 1 |
| 50) 4-Chloro-3-Methylphenol | 9.60 | 107 | 195225 | 49.3165 | ug/ml | 99 |
| 52) 2-Methylnaphthalene | 9.83 | 142 | 262449 | 32.5653 | ug/ml | 99 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64167.D Vial: 4
Acq On : 31 Aug 2017 10:44 am Operator: SCB
Sample : WG627757-02 LCS 8/30 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 15:08:26 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 : Mon Aug 21 08:23:38 2017
Response via : Initial Calibration
DataAcq Meth : BNARUN

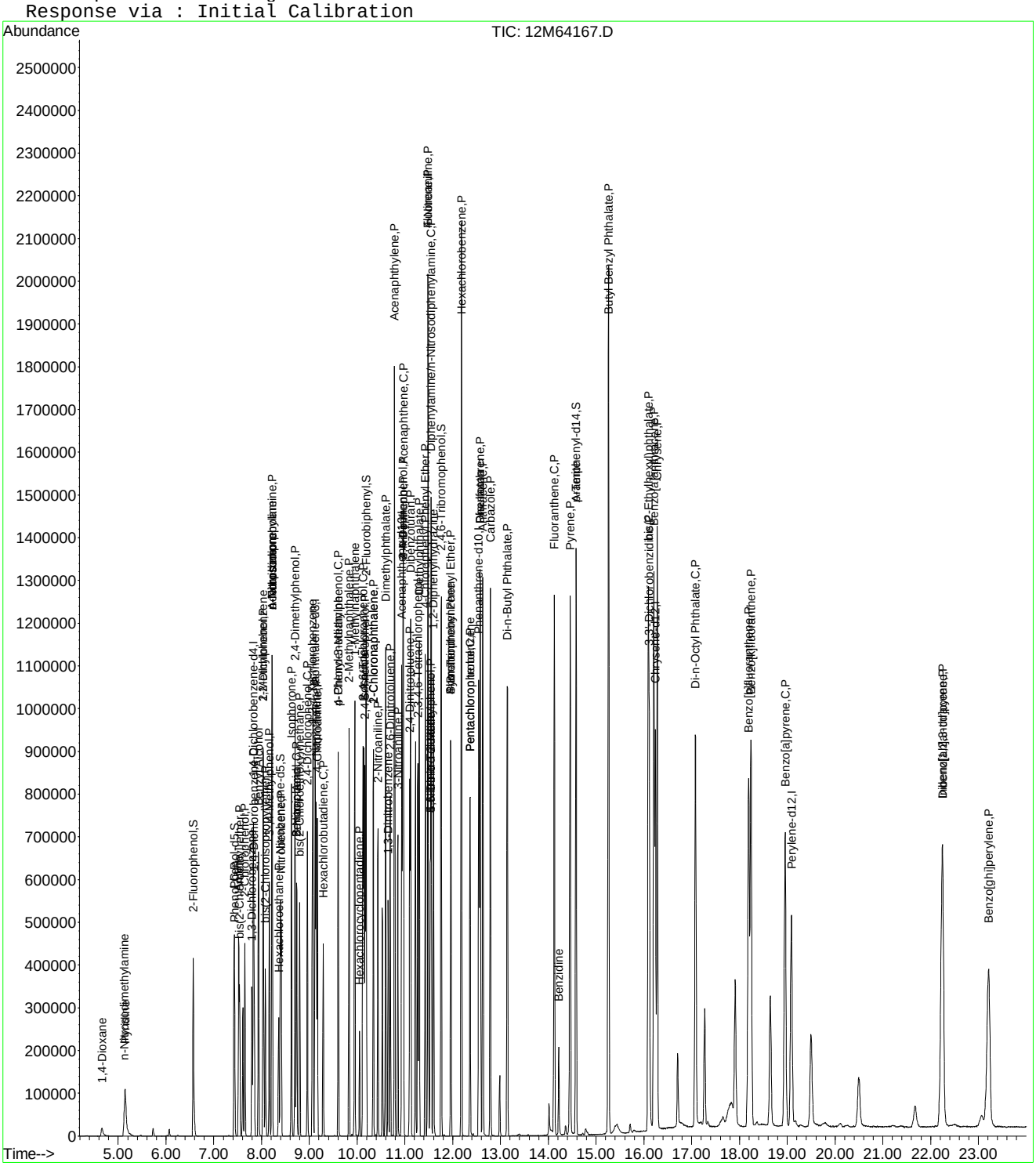
| | Compound | R.T. | QIon | Response | Conc Unit | Qvalue |
|---|---|---|---|---|---|---|
| 53) | 1-Methylnaphthalene | 9.95 | 142 | 270198 | 36.6552 ug/ml | 98 |
| 56) | Hexachlorocyclopentadiene | 10.05 | 237 | 42057 | 24.6914 ug/ml | 99 |
| 57) | 2,4,6-Trichlorophenol | 10.12 | 196 | 124023 | 50.4359 ug/ml | 100 |
| 58) | 2,4,5-Trichlorophenol | 10.16 | 196 | 131752 | 51.2319 ug/ml | 99 |
| 60) | Isosafrole | 10.14 | 162 | 10987 | 3.6938 ug/ml# | 41 |
| 61) | 2-Chloronaphthalene | 10.34 | 162 | 280801 | 37.4934 ug/ml | 98 |
| 62) | 1-Chloronaphthalene | 10.34 | 162 | 280801 | 39.0629 ug/ml | 99 |
| 63) | 2-Nitroaniline | 10.44 | 65 | 133953 | 55.3537 ug/ml | 96 |
| 65) | Dimethylphthalate | 10.60 | 163 | 449503 | 51.5793 ug/ml | 100 |
| 66) | 1,3-Dinitrobenzene | 10.65 | 168 | 72814 | 49.0808 ug/ml | 99 |
| 67) | 2,6-Dinitrotoluene | 10.69 | 165 | 105161 | 51.9077 ug/ml | 99 |
| 68) | Acenaphthylene | 10.78 | 152 | 551755 | 46.5784 ug/ml | 100 |
| 69) | 3-Nitroaniline | 10.85 | 138 | 99134 | 47.7000 ug/ml | 93 |
| 70) | 2,4-Dinitrophenol | 10.95 | 184 | 54504 | 45.4751 ug/ml | 93 |
| 71) | Acenaphthene | 10.96 | 154 | 356831 | 47.1767 ug/ml | 100 |
| 72) | 4-Nitrophenol | 10.95 | 65 | 49228 | 26.1368 ug/ml | 89 |
| 73) | 2,4-Dinitrotoluene | 11.10 | 165 | 142806 | 51.2990 ug/ml | 95 |
| 75) | Dibenzofuran | 11.12 | 168 | 470194 | 44.1367 ug/ml | 96 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.27 | 232 | 107066 | 48.3552 ug/ml | 97 |
| 79) | Diethylphthalate | 11.30 | 149 | 461993 | 51.4486 ug/ml | 99 |
| 81) | Fluorene | 11.48 | 166 | 437911 | 48.4333 ug/ml | 99 |
| 82) | 4-Chlorophenyl Phenyl Ethe | 11.42 | 204 | 201115 | 44.8888 ug/ml | 98 |
| 83) | 4-Nitroaniline | 11.49 | 138 | 121134 | 52.3657 ug/ml | 93 |
| 84) | 5-Nitro-o-Toluidine | 11.53 | 152 | 5913 | 2.2615 ug/ml# | 1 |
| 85) | 1,2-Diphenylhydrazine | 11.59 | 77 | 480646 | 51.8725 ug/ml | 98 |
| 88) | 4,6-Dinitro-2-Methylphenol | 11.53 | 198 | 87658 | 46.3544 ug/ml | 95 |
| 89) | Diphenylamine/n-Nitrosodip | 11.55 | 169 | 409066 | 50.6652 ug/ml | 99 |
| 91) | Sym-Trinitrobenzene | 11.96 | 75 | 26519 | 9.6515 ug/ml# | 65 |
| 94) | Phorate | 11.96 | 75 | 26519 | 4.9013 ug/ml# | 41 |
| 95) | 4-Bromophenyl Phenyl Ether | 11.96 | 248 | 116128 | 45.8651 ug/ml | 99 |
| 96) | Hexachlorobenzene | 12.18 | 284 | 150849 | 57.3647 ug/ml | 96 |
| 99) | Pentachlorophenol | 12.36 | 266 | 105108 | 61.8164 ug/ml | 100 |
| 101) | Pentachloronitrobenzene | 12.36 | 237 | 4454 | 3.6887 ug/ml# | 16 |
| 102) | Disulfoton | 12.57 | 88 | 45461 | 10.4009 ug/ml# | 17 |
| 103) | Phenanthrene | 12.57 | 178 | 667735 | 50.0945 ug/ml | 100 |
| 104) | Anthracene | 12.63 | 178 | 676150 | 48.7441 ug/ml | 100 |
| 105) | Carbazole | 12.79 | 167 | 635801 | 53.1743 ug/ml | 99 |
| 107) | Di-n-Butyl Phthalate | 13.14 | 149 | 759401 | 47.9738 ug/ml | 99 |
| 112) | Fluoranthene | 14.13 | 202 | 752726 | 51.1565 ug/ml | 99 |
| 114) | Benzidine | 14.22 | 184 | 115939 | 19.2178 ug/ml | 100 |
| 115) | Pyrene | 14.46 | 202 | 777452 | 51.4137 ug/ml | 99 |
| 116) | Aramite | 14.58 | 185 | 1775 | 1.9180 ug/ml# | 34 |
| 121) | Butyl Benzyl Phthalate | 15.25 | 149 | 388258 | 51.1515 ug/ml | 93 |
| 124) | bis(2-Ethylhexyl)phthalate | 16.09 | 149 | 530178 | 54.4160 ug/ml | 98 |
| 125) | 3,3'-Dichlorobenzidine | 16.11 | 252 | 299387 | 60.8962 ug/ml | 98 |
| 126) | Benzo[a]anthracene | 16.21 | 228 | 778280 | 54.3715 ug/ml | 100 |
| 127) | Chrysene | 16.28 | 228 | 753800 | 58.0411 ug/ml | 100 |
| 129) | Di-n-Octyl Phthalate | 17.08 | 149 | 899576 | 49.9427 ug/ml | 98 |
| 131) | Benzo[b]fluoranthene | 18.19 | 252 | 763997 | 47.4825 ug/ml | 95 |
| 132) | Benzo[k]fluoranthene | 18.24 | 252 | 719217 | 53.2750 ug/ml | 99 |
| 133) | Benzo[a]pyrene | 18.96 | 252 | 705741 | 53.0707 ug/ml | 98 |
| 135) | Indeno[1,2,3-cd]pyrene | 22.25 | 276 | 761274 | 52.2247 ug/ml | 93 |
| 136) | Dibenz[ah]anthracene | 22.24 | 278 | 408721 | 32.8710 ug/ml | 97 |
| 137) | Benzo[ghi]perylene | 23.21 | 276 | 688622 | 59.5185 ug/ml | 97 |

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

Quantitation Report (Not Reviewed)

Data File : I:\MSDCHEM\1\DATA\083117\12M64167.D Vial: 4
Acq On : 31 Aug 2017 10:44 am Operator: SCB
Sample : WG627757-02 LCS 8/30 Inst : MSD12
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 31 15:08 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



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000504.D Vial: 8
Acq On : 12 Sep 2017 5:21 pm Operator: MES
Sample : WG628510-02 LCS 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 07:14:53 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 129029 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.969 | 136 | 515616 | 40.0000 | ug/mL | -0.0115 |
| 54) Acenaphthene-d10 | 10.781 | 164 | 261851 | 40.0000 | ug/mL | -0.0115 |
| 87) Phenanthrene-d10 | 12.363 | 188 | 494122 | 40.0000 | ug/mL | -0.0174 |
| 113) Chrysene-d12 | 16.022 | 240 | 479844 | 40.0000 | ug/mL | -0.0174 |
| 128) Perylene-d12 | 18.686 | 264 | 487876 | 40.0000 | ug/mL | -0.0292 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.422 | 112 | 142842 | 34.0726 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.281 | 99 | 117751 | 23.9054 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.246 | 82 | 129874 | 30.4429 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.040 | 172 | 286325 | 31.5244 | ug/mL | -0.0115 |
| 86) 2,4,6-Tribromophenol | 11.592 | 330 | 100583 | 93.8017 | ug/mL | -0.0174 |
| 117) p-Terphenyl-d14 | 14.380 | 244 | 511549 | 52.7055 | ug/mL | -0.0116 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.499 | 88 | 25191 | 13.441 | ug/mL | 99 |
| 3) n-Nitrosodimethylamine | 4.963 | 74 | 42084 | 15.873 | ug/mL# | 95 |
| 4) Pyridine | 4.987 | 79 | 56978 | 12.121 | ug/mL | 97 |
| 11) Aniline | 7.375 | 66 | 57020 | 22.616 | ug/mL | 94 |
| 13) Phenol | 7.293 | 94 | 62094 | 11.785 | ug/mL | 96 |
| 14) bis(2-Chloroethyl)ether | 7.399 | 63 | 87409 | 26.138 | ug/mL | 95 |
| 16) 2-Chlorophenol | 7.499 | 128 | 119874 | 26.440 | ug/mL | 100 |
| 17) 1,3-Dichlorobenzene | 7.651 | 146 | 88982 | 18.172 | ug/mL | 99 |
| 18) 1,4-Dichlorobenzene | 7.699 | 146 | 89285 | 18.256 | ug/mL | 99 |
| 19) Benzyl Alcohol | 7.793 | 108 | 77890 | 26.761 | ug/mL | 99 |
| 20) 1,2-Dichlorobenzene | 7.893 | 146 | 87637 | 19.900 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.887 | 107 | 84710 | 26.223 | ug/mL | 99 |
| 22) bis(2-Chloroisopropyl)... | 7.934 | 45 | 143463 | 26.641 | ug/mL | 97 |
| 23) 3-,4-Methylphenol | 8.016 | 107 | 106887 | 23.887 | ug/mL | 99 |
| 25) n-Nitrosodipropylamine | 8.069 | 70 | 84434 | 30.448 | ug/mL# | 67 |
| 26) Acetophenone | 8.075 | 105 | 325234 | 59.415 | ug/mL | 98 |
| 27) n-Nitrosomorpholine | 8.069 | 56 | 5749 | 1.905 | ug/mL# | 51 |
| 28) o-Toluidine | 8.075 | 106 | 25470 | 3.758 | ug/mL# | 1 |
| 29) Hexachloroethane | 8.210 | 117 | 31246 | 16.682 | ug/mL | 99 |
| 32) Nitrobenzene | 8.263 | 77 | 118002 | 26.500 | ug/mL | 99 |
| 34) Isophorone | 8.475 | 82 | 245917 | 30.396 | ug/mL | 100 |
| 35) 2-Nitrophenol | 8.587 | 139 | 70034 | 29.989 | ug/mL | 98 |
| 36) 2,4-Dimethylphenol | 8.551 | 122 | 139036 | 35.034 | ug/mL | 92 |
| 38) bis(2-Chloroethoxy)met... | 8.657 | 93 | 152264 | 24.544 | ug/mL | 89 |
| 39) Benzoic Acid | 8.581 | 105 | 6687 | 11.709 | ug/mL# | 29 |
| 40) 2,4-Dichlorophenol | 8.810 | 162 | 107126 | 31.709 | ug/mL | 99 |
| 42) 1,2,4-Trichlorobenzene | 8.916 | 180 | 81054 | 21.144 | ug/mL | 100 |
| 43) Naphthalene | 8.993 | 128 | 340354 | 25.082 | ug/mL | 98 |
| 44) 4-Chloroaniline | 9.016 | 65 | 45969 | 28.875 | ug/mL | 96 |
| 45) 2,6-Dichlorophenol | 8.810 | 162 | 107126 | 31.709 | ug/mL | 99 |
| 47) Hexachlorobutadiene | 9.145 | 225 | 38232 | 19.832 | ug/mL | 99 |
| 48) n-Nitrosodi-n-Butylamine | 9.316 | 84 | 10609 | 2.944 | ug/mL# | 48 |
| 49) p-Phenylenediamine | 9.457 | 108 | 9595 | 2.650 | ug/mL# | 1 |
| 50) 4-Chloro-3-Methylphenol | 9.457 | 107 | 124981 | 33.685 | ug/mL | 99 |
| 52) 2-Methylnaphthalene | 9.681 | 142 | 232953 | 25.742 | ug/mL | 100 |
| 53) 1-Methylnaphthalene | 9.798 | 142 | 229663 | 27.566 | ug/mL | 100 |
| 56) Hexachlorocyclopentadiene | 9.898 | 237 | 27182 | 18.606 | ug/mL | 99 |
| 57) 2,4,6-Trichlorophenol | 9.969 | 196 | 80910 | 32.249 | ug/mL | 100 |

Data File : C:\msdchem\4\DATA\091217\19M000504.D Vial: 8
Acq On : 12 Sep 2017 5:21 pm Operator: MES
Sample : WG628510-02 LCS 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 07:14:53 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 58) 2,4,5-Trichlorophenol | 10.016 | 196 | 89783 | 34.767 | ug/mL | 99 |
| 60) Isosafrole | 10.187 | 162 | 222422 | 61.882 | ug/mL# | 32 |
| 61) 2-Chloronaphthalene | 10.187 | 162 | 222422 | 26.386 | ug/mL | 99 |
| 62) 1-Chloronaphthalene | 10.187 | 162 | 222422 | 29.062 | ug/mL | 99 |
| 63) 2-Nitroaniline | 10.281 | 65 | 88990 | 36.648 | ug/mL | 98 |
| 65) Dimethylphthalate | 10.445 | 163 | 333716 | 35.134 | ug/mL | 100 |
| 66) 1,3-Dinitrobenzene | 10.498 | 168 | 66058 | 40.403 | ug/mL | 98 |
| 67) 2,6-Dinitrotoluene | 10.540 | 165 | 85252 | 38.477 | ug/mL | 97 |
| 68) Acenaphthylene | 10.628 | 152 | 410051 | 31.544 | ug/mL | 100 |
| 69) 3-Nitroaniline | 10.698 | 138 | 105426 | 40.314 | ug/mL | 99 |
| 70) 2,4-Dinitrophenol | 10.798 | 184 | 31698 | 35.336 | ug/mL | 94 |
| 71) Acenaphthene | 10.810 | 154 | 262755 | 33.018 | ug/mL | 99 |
| 72) 4-Nitrophenol | 10.798 | 65 | 35197 | 21.543 | ug/mL | 93 |
| 73) 2,4-Dinitrotoluene | 10.945 | 165 | 131801 | 46.163 | ug/mL | 92 |
| 75) Dibenzofuran | 10.969 | 168 | 373362 | 31.726 | ug/mL | 99 |
| 76) 2,3,4,6-Tetrachlorophenol | 11.116 | 232 | 80363 | 42.087 | ug/mL | 100 |
| 79) Diethylphthalate | 11.151 | 149 | 380442 | 38.995 | ug/mL | 99 |
| 81) Fluorene | 11.322 | 166 | 312214 | 34.790 | ug/mL | 100 |
| 82) 4-Chlorophenyl Phenyl ... | 11.275 | 204 | 146599 | 31.842 | ug/mL | 97 |
| 83) 4-Nitroaniline | 11.328 | 138 | 116795 | 47.862 | ug/mL | 96 |
| 85) 1,2-Diphenylhydrazine | 11.439 | 77 | 347533 | 36.044 | ug/mL | 100 |
| 88) 4,6-Dinitro-2-Methylph... | 11.375 | 198 | 70517 | 43.894 | ug/mL | 94 |
| 89) Diphenylamine/n-Nitros... | 11.392 | 169 | 327952 | 38.559 | ug/mL | 100 |
| 91) Sym-Trinitrobenzene | 11.798 | 75 | 15276 | 8.362 | ug/mL# | 66 |
| 93) Phenacetin | 12.010 | 108 | 8452 | 1.871 | ug/mL# | 43 |
| 94) Phorate | 11.798 | 75 | 15276 | 2.656 | ug/mL# | 39 |
| 95) 4-Bromophenyl Phenyl E... | 11.798 | 248 | 89058 | 35.073 | ug/mL | 99 |
| 96) Hexachlorobenzene | 12.010 | 284 | 103970 | 39.263 | ug/mL | 98 |
| 97) Dimethoate | 11.939 | 87 | 6301 | 2.026 | ug/mL# | 19 |
| 99) Pentachlorophenol | 12.186 | 266 | 87566 | 55.801 | ug/mL | 100 |
| 100) Pronamide | 11.939 | 173 | 36213 | 9.034 | ug/mL# | 73 |
| 101) Pentachloronitrobenzene | 12.186 | 237 | 2808 | 2.925 | ug/mL# | 14 |
| 102) Disulfoton | 12.392 | 88 | 40464 | 8.300 | ug/mL# | 3 |
| 103) Phenanthrene | 12.392 | 178 | 600896 | 42.906 | ug/mL | 100 |
| 104) Anthracene | 12.445 | 178 | 609121 | 42.314 | ug/mL | 100 |
| 105) Carbazole | 12.604 | 167 | 656857 | 49.697 | ug/mL# | 100 |
| 107) Di-n-Butyl Phthalate | 12.963 | 149 | 777386 | 47.278 | ug/mL | 100 |
| 112) Fluoranthene | 13.922 | 202 | 721927 | 47.400 | ug/mL | 100 |
| 114) Benzidine | 14.022 | 184 | 97361 | 13.543 | ug/mL | 100 |
| 115) Pyrene | 14.245 | 202 | 757332 | 47.735 | ug/mL | 100 |
| 116) Aramite | 14.351 | 185 | 4481 | 6.616 | ug/mL# | 33 |
| 121) Butyl Benzyl Phthalate | 15.057 | 149 | 372056 | 52.947 | ug/mL | 99 |
| 124) bis(2-Ethylhexyl)phtha... | 15.898 | 149 | 488119 | 51.745 | ug/mL | 99 |
| 125) 3,3'-Dichlorobenzidine | 15.904 | 252 | 232765 | 51.394 | ug/mL | 99 |
| 126) Benzo[a]anthracene | 15.992 | 228 | 668651 | 47.752 | ug/mL | 99 |
| 127) Chrysene | 16.057 | 228 | 653035 | 49.768 | ug/mL | 100 |
| 129) Di-n-Octyl Phthalate | 16.845 | 149 | 944145 | 53.629 | ug/mL | 99 |
| 131) Benzo[b]fluoranthene | 17.857 | 252 | 717742 | 51.027 | ug/mL | 96 |
| 132) Benzo[k]fluoranthene | 17.904 | 252 | 646504 | 47.667 | ug/mL | 99 |
| 133) Benzo[a]pyrene | 18.563 | 252 | 642050 | 49.394 | ug/mL | 100 |
| 135) Indeno[1,2,3-cd]pyrene | 21.627 | 276 | 647259 | 48.181 | ug/mL | 99 |
| 136) Dibenz[ah]anthracene | 21.627 | 278 | 462828 | 40.846 | ug/mL | 99 |
| 137) Benzo[ghi]perylene | 22.515 | 276 | 590889 | 52.683 | ug/mL | 99 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000504.D Vial: 8
Acq On : 12 Sep 2017 5:21 pm Operator: MES
Sample : WG628510-02 LCS 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 07:14:53 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

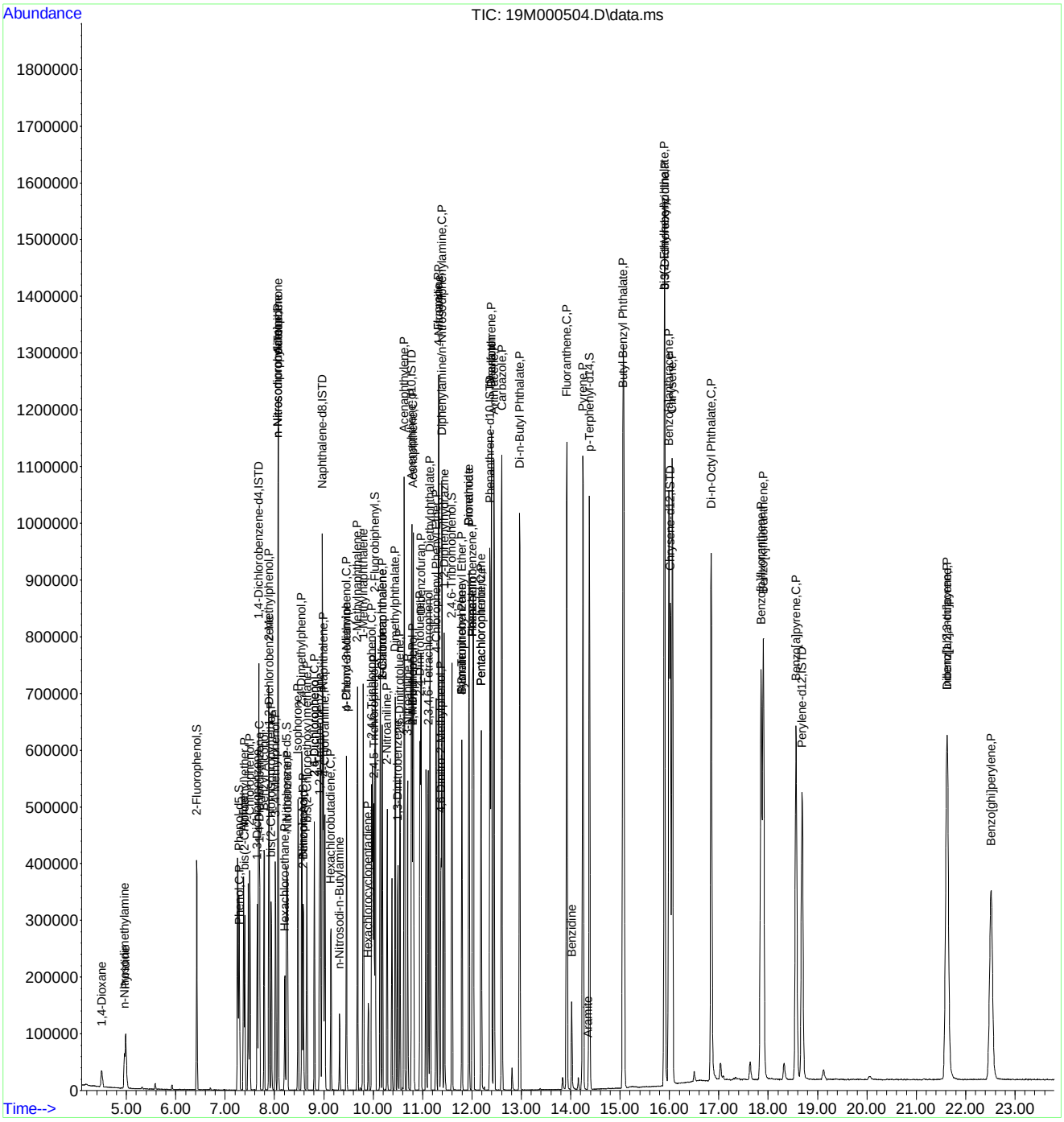
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000504.D Vial: 8
Acq On : 12 Sep 2017 5:21 pm Operator: MES
Sample : WG628510-02 LCS 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 07:14:53 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000504.D Vial: 8
Acq On : 12 Sep 2017 5:21 pm Operator: MES
Sample : WG628510-02 LCS 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 08:39:43 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

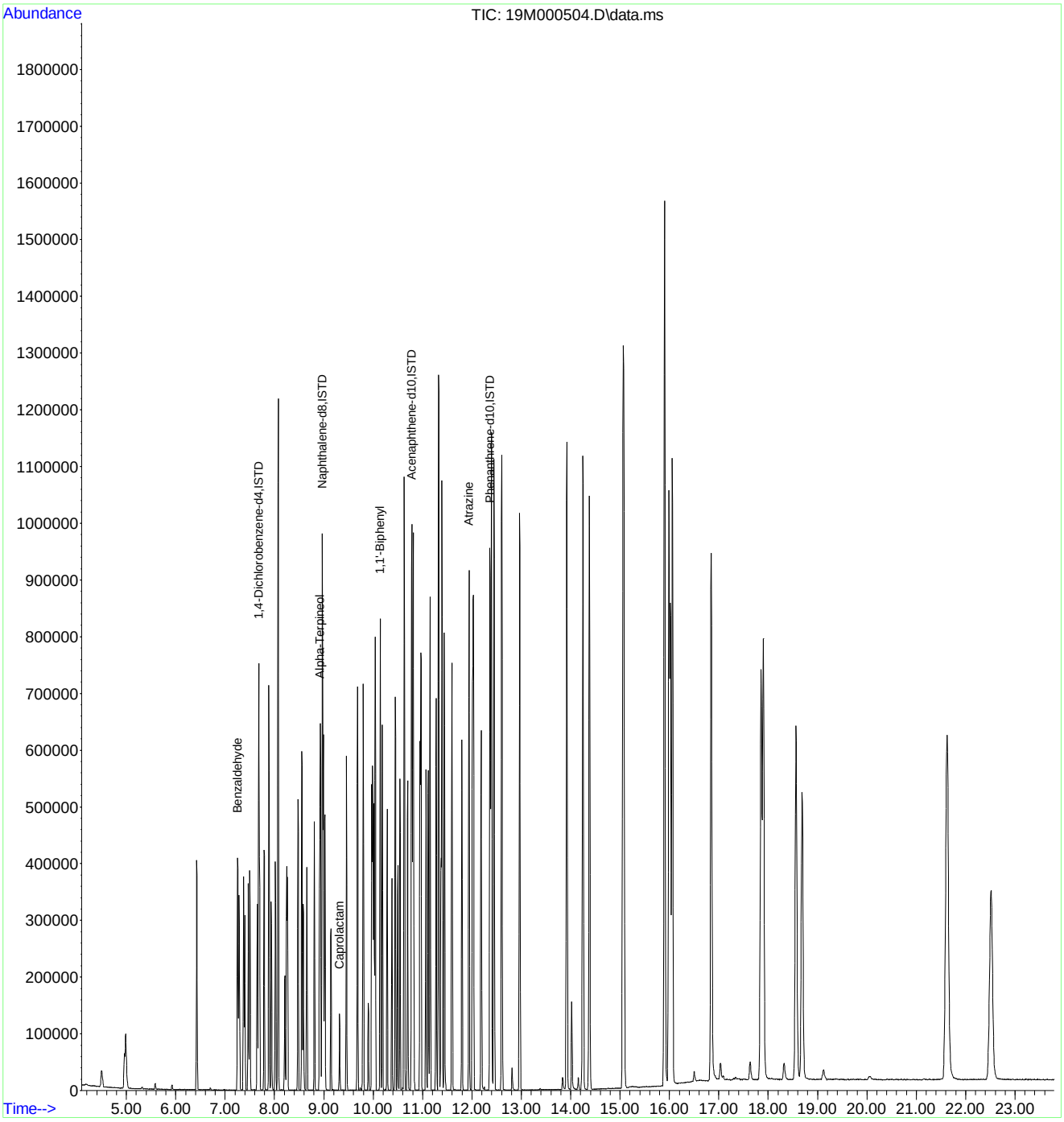
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 129029 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.969 | 136 | 515616 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.781 | 164 | 261851 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.363 | 188 | 494122 | 40.0000 | ug/mL | -0.0116 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.251 | 105 | 93884 | 30.508 | ug/mL | 99 |
| 4) Alpha-Terpineol | 8.928 | 59 | 108968 | 32.664 | ug/mL | 98 |
| 5) Caprolactam | 9.316 | 55 | 24034 | 14.073 | ug/mL | 99 |
| 7) 1,1'-Biphenyl | 10.140 | 154 | 326761 | 31.029 | ug/mL | 100 |
| 9) Atrazine | 11.939 | 200 | 132959 | 53.583 | ug/mL | 99 |

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000504.D Vial: 8
Acq On : 12 Sep 2017 5:21 pm Operator: MES
Sample : WG628510-02 LCS 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 08:39:43 2017
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Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000505.D Vial: 9
Acq On : 12 Sep 2017 5:51 pm Operator: MES
Sample : WG628510-03 LCSDUP 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 07:14:59 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 127753 | 40.0000 | ug/mL | 0.0000 |
| 30) Naphthalene-d8 | 8.969 | 136 | 513517 | 40.0000 | ug/mL | -0.0117 |
| 54) Acenaphthene-d10 | 10.781 | 164 | 258686 | 40.0000 | ug/mL | -0.0117 |
| 87) Phenanthrene-d10 | 12.363 | 188 | 486981 | 40.0000 | ug/mL | -0.0175 |
| 113) Chrysene-d12 | 16.021 | 240 | 465325 | 40.0000 | ug/mL | -0.0175 |
| 128) Perylene-d12 | 18.686 | 264 | 473550 | 40.0000 | ug/mL | -0.0293 |
| System Monitoring Compounds | | | | | | |
| 8) 2-Fluorophenol | 6.422 | 112 | 138895 | 33.4621 | ug/mL | 0.0000 |
| 12) Phenol-d5 | 7.281 | 99 | 116186 | 23.8233 | ug/mL | 0.0000 |
| 31) Nitrobenzene-d5 | 8.245 | 82 | 128735 | 30.2992 | ug/mL | 0.0000 |
| 59) 2-Fluorobiphenyl | 10.039 | 172 | 280195 | 31.2269 | ug/mL | -0.0117 |
| 86) 2,4,6-Tribromophenol | 11.598 | 330 | 109037 | 102.9299 | ug/mL | -0.0117 |
| 117) p-Terphenyl-d14 | 14.380 | 244 | 513099 | 54.5147 | ug/mL | -0.0117 |
| Target Compounds | | | | | | Qvalue |
| 2) 1,4-Dioxane | 4.493 | 88 | 23964 | 12.914 | ug/mL | 99 |
| 3) n-Nitrosodimethylamine | 4.957 | 74 | 40578 | 15.458 | ug/mL# | 97 |
| 4) Pyridine | 4.987 | 79 | 68911 | 14.806 | ug/mL | 99 |
| 11) Aniline | 7.375 | 66 | 61663 | 24.702 | ug/mL | 96 |
| 13) Phenol | 7.293 | 94 | 62402 | 11.962 | ug/mL | 97 |
| 14) bis(2-Chloroethyl)ether | 7.398 | 63 | 88265 | 26.658 | ug/mL | 93 |
| 16) 2-Chlorophenol | 7.498 | 128 | 118773 | 26.459 | ug/mL | 99 |
| 17) 1,3-Dichlorobenzene | 7.651 | 146 | 99201 | 20.461 | ug/mL | 100 |
| 18) 1,4-Dichlorobenzene | 7.698 | 146 | 99763 | 20.602 | ug/mL | 99 |
| 19) Benzyl Alcohol | 7.793 | 108 | 76196 | 26.441 | ug/mL | 99 |
| 20) 1,2-Dichlorobenzene | 7.893 | 146 | 96208 | 22.064 | ug/mL# | 100 |
| 21) 2-Methylphenol | 7.887 | 107 | 83692 | 26.167 | ug/mL | 100 |
| 22) bis(2-Chloroisopropyl)... | 7.934 | 45 | 143205 | 26.859 | ug/mL | 97 |
| 23) 3-,4-Methylphenol | 8.016 | 107 | 106885 | 24.126 | ug/mL | 99 |
| 25) n-Nitrosodipropylamine | 8.069 | 70 | 83581 | 30.442 | ug/mL# | 68 |
| 26) Acetophenone | 8.075 | 105 | 320491 | 59.134 | ug/mL | 98 |
| 27) n-Nitrosomorpholine | 8.069 | 56 | 5802 | 1.947 | ug/mL# | 51 |
| 28) o-Toluidine | 8.075 | 106 | 24854 | 3.704 | ug/mL# | 1 |
| 29) Hexachloroethane | 8.210 | 117 | 35221 | 18.992 | ug/mL | 98 |
| 32) Nitrobenzene | 8.263 | 77 | 116464 | 26.262 | ug/mL | 100 |
| 34) Isophorone | 8.475 | 82 | 242747 | 30.126 | ug/mL | 99 |
| 35) 2-Nitrophenol | 8.587 | 139 | 69691 | 29.964 | ug/mL | 98 |
| 36) 2,4-Dimethylphenol | 8.557 | 122 | 129944 | 32.877 | ug/mL | 96 |
| 38) bis(2-Chloroethoxy)met... | 8.657 | 93 | 152023 | 24.605 | ug/mL | 89 |
| 39) Benzoic Acid | 8.557 | 105 | 4296 | 10.699 | ug/mL# | 1 |
| 40) 2,4-Dichlorophenol | 8.810 | 162 | 106333 | 31.603 | ug/mL | 98 |
| 42) 1,2,4-Trichlorobenzene | 8.916 | 180 | 87895 | 23.022 | ug/mL | 99 |
| 43) Naphthalene | 8.992 | 128 | 353791 | 26.179 | ug/mL | 98 |
| 44) 4-Chloroaniline | 9.022 | 65 | 45209 | 28.513 | ug/mL | 95 |
| 45) 2,6-Dichlorophenol | 8.810 | 162 | 106333 | 31.603 | ug/mL | 98 |
| 47) Hexachlorobutadiene | 9.145 | 225 | 42573 | 22.174 | ug/mL | 99 |
| 48) n-Nitrosodi-n-Butylamine | 9.316 | 84 | 11782 | 3.283 | ug/mL# | 50 |
| 49) p-Phenylenediamine | 9.457 | 108 | 9935 | 2.755 | ug/mL# | 1 |
| 50) 4-Chloro-3-Methylphenol | 9.457 | 107 | 128407 | 34.750 | ug/mL | 99 |
| 52) 2-Methylnaphthalene | 9.681 | 142 | 242531 | 26.910 | ug/mL | 100 |
| 53) 1-Methylnaphthalene | 9.798 | 142 | 237608 | 28.636 | ug/mL | 99 |
| 56) Hexachlorocyclopentadiene | 9.904 | 237 | 29466 | 20.416 | ug/mL | 98 |
| 57) 2,4,6-Trichlorophenol | 9.969 | 196 | 80893 | 32.637 | ug/mL | 100 |

Data File : C:\msdchem\4\DATA\091217\19M000505.D Vial: 9
Acq On : 12 Sep 2017 5:51 pm Operator: MES
Sample : WG628510-03 LCSDUP 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 07:14:59 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| | Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 58) | 2,4,5-Trichlorophenol | 10.016 | 196 | 93562 | 36.674 | ug/mL | 99 |
| 60) | Isosafrole | 9.992 | 162 | 22387 | 6.305 | ug/mL# | 38 |
| 61) | 2-Chloronaphthalene | 10.186 | 162 | 227644 | 27.335 | ug/mL | 99 |
| 62) | 1-Chloronaphthalene | 10.186 | 162 | 227644 | 30.108 | ug/mL | 99 |
| 63) | 2-Nitroaniline | 10.281 | 65 | 98238 | 40.951 | ug/mL | 99 |
| 65) | Dimethylphthalate | 10.451 | 163 | 378674 | 40.355 | ug/mL | 100 |
| 66) | 1,3-Dinitrobenzene | 10.498 | 168 | 73852 | 45.722 | ug/mL | 99 |
| 67) | 2,6-Dinitrotoluene | 10.545 | 165 | 95338 | 43.556 | ug/mL | 98 |
| 68) | Acenaphthylene | 10.628 | 152 | 416226 | 32.411 | ug/mL | 100 |
| 69) | 3-Nitroaniline | 10.698 | 138 | 115077 | 44.543 | ug/mL | 100 |
| 70) | 2,4-Dinitrophenol | 10.798 | 184 | 18812 | 24.388 | ug/mL# | 1 |
| 71) | Acenaphthene | 10.810 | 154 | 264869 | 33.691 | ug/mL | 98 |
| 72) | 4-Nitrophenol | 10.798 | 65 | 36609 | 22.682 | ug/mL | 93 |
| 73) | 2,4-Dinitrotoluene | 10.951 | 165 | 141389 | 50.127 | ug/mL | 92 |
| 75) | Dibenzofuran | 10.969 | 168 | 397604 | 34.199 | ug/mL | 99 |
| 76) | 2,3,4,6-Tetrachlorophenol | 11.116 | 232 | 84799 | 44.954 | ug/mL | 99 |
| 79) | Diethylphthalate | 11.151 | 149 | 419388 | 43.513 | ug/mL | 99 |
| 81) | Fluorene | 11.322 | 166 | 344330 | 38.839 | ug/mL | 100 |
| 82) | 4-Chlorophenyl Phenyl ... | 11.275 | 204 | 162125 | 35.645 | ug/mL | 97 |
| 83) | 4-Nitroaniline | 11.328 | 138 | 120210 | 49.864 | ug/mL | 97 |
| 85) | 1,2-Diphenylhydrazine | 11.439 | 77 | 392302 | 41.185 | ug/mL | 100 |
| 88) | 4,6-Dinitro-2-Methylph... | 11.375 | 198 | 64352 | 41.056 | ug/mL | 96 |
| 89) | Diphenylamine/n-Nitros... | 11.392 | 169 | 364771 | 43.516 | ug/mL | 99 |
| 91) | Sym-Trinitrobenzene | 11.792 | 75 | 17077 | 9.193 | ug/mL# | 66 |
| 93) | Phenacetin | 12.010 | 108 | 9562 | 2.147 | ug/mL# | 45 |
| 94) | Phorate | 11.792 | 75 | 17077 | 3.013 | ug/mL# | 39 |
| 95) | 4-Bromophenyl Phenyl E... | 11.798 | 248 | 100746 | 40.257 | ug/mL | 99 |
| 96) | Hexachlorobenzene | 12.010 | 284 | 114029 | 43.693 | ug/mL | 99 |
| 97) | Dimethoate | 11.939 | 87 | 6553 | 2.111 | ug/mL# | 19 |
| 99) | Pentachlorophenol | 12.186 | 266 | 71599 | 46.797 | ug/mL | 100 |
| 100) | Pronamide | 11.939 | 173 | 37303 | 9.442 | ug/mL# | 72 |
| 101) | Pentachloronitrobenzene | 12.186 | 237 | 2436 | 2.575 | ug/mL# | 14 |
| 102) | Disulfoton | 12.392 | 88 | 43765 | 9.109 | ug/mL# | 2 |
| 103) | Phenanthrene | 12.392 | 178 | 646241 | 46.820 | ug/mL | 100 |
| 104) | Anthracene | 12.445 | 178 | 659712 | 46.500 | ug/mL | 100 |
| 105) | Carbazole | 12.604 | 167 | 675561 | 51.861 | ug/mL# | 100 |
| 107) | Di-n-Butyl Phthalate | 12.963 | 149 | 802403 | 49.515 | ug/mL | 100 |
| 112) | Fluoranthene | 13.922 | 202 | 739270 | 49.251 | ug/mL | 100 |
| 114) | Benzidine | 14.022 | 184 | 236491 | 33.923 | ug/mL | 100 |
| 115) | Pyrene | 14.245 | 202 | 777625 | 50.543 | ug/mL | 100 |
| 116) | Aramite | 14.374 | 185 | 1169 | 3.311 | ug/mL# | 33 |
| 121) | Butyl Benzyl Phthalate | 15.057 | 149 | 377895 | 55.456 | ug/mL | 99 |
| 124) | bis(2-Ethylhexyl)phtha... | 15.898 | 149 | 497141 | 54.326 | ug/mL | 99 |
| 125) | 3,3'-Dichlorobenzidine | 15.904 | 252 | 243502 | 55.442 | ug/mL | 99 |
| 126) | Benzo[a]anthracene | 15.992 | 228 | 681997 | 50.225 | ug/mL | 99 |
| 127) | Chrysene | 16.057 | 228 | 657535 | 51.675 | ug/mL | 99 |
| 129) | Di-n-Octyl Phthalate | 16.845 | 149 | 950137 | 55.602 | ug/mL | 99 |
| 131) | Benzo[b]fluoranthene | 17.857 | 252 | 678284 | 49.681 | ug/mL | 97 |
| 132) | Benzo[k]fluoranthene | 17.898 | 252 | 638121 | 48.472 | ug/mL | 99 |
| 133) | Benzo[a]pyrene | 18.562 | 252 | 647675 | 51.334 | ug/mL | 100 |
| 135) | Indeno[1,2,3-cd]pyrene | 21.621 | 276 | 653119 | 50.088 | ug/mL | 99 |
| 136) | Dibenz[ah]anthracene | 21.627 | 278 | 465990 | 42.369 | ug/mL | 99 |
| 137) | Benzo[ghi]perylene | 22.515 | 276 | 595629 | 54.712 | ug/mL | 99 |

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000505.D Vial: 9
Acq On : 12 Sep 2017 5:51 pm Operator: MES
Sample : WG628510-03 LCSDUP 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 07:14:59 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

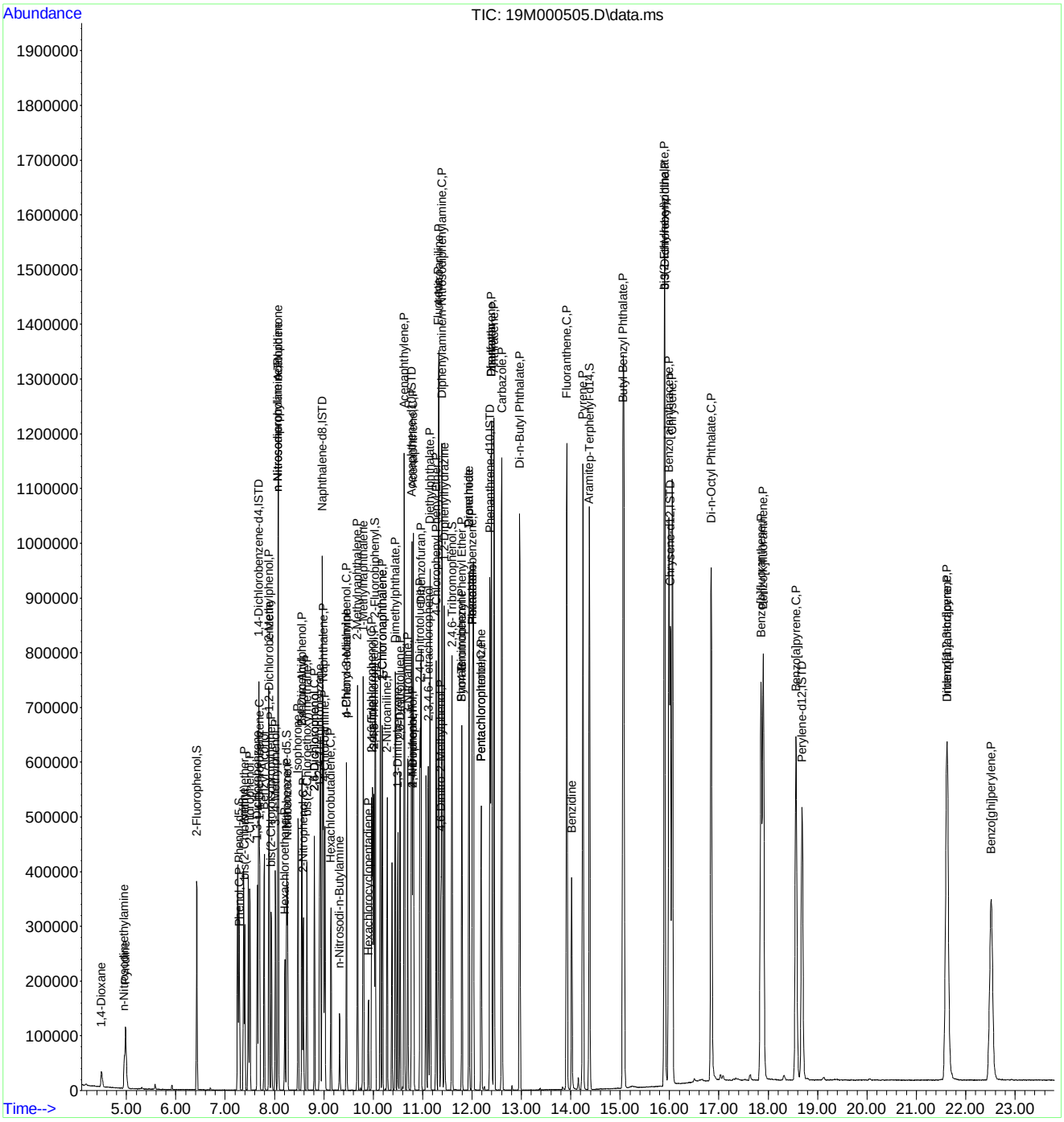
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

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

Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000505.D Vial: 9
Acq On : 12 Sep 2017 5:51 pm Operator: MES
Sample : WG628510-03 LCSDUP 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 07:14:59 2017
Quant Results File: MEGAMIX.RES

Quant Method : C:\msdchem\4\METHODS\MEGAMIX.M
Quant Title : OVD MSS01 8270/625 ICAL 08/15/17
QLast Update : Fri Aug 18 14:13:48 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



Quantitation Report (Not Reviewed)

Data File : C:\msdchem\4\DATA\091217\19M000505.D Vial: 9
Acq On : 12 Sep 2017 5:51 pm Operator: MES
Sample : WG628510-03 LCSDUP 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 08:39:50 2017
Quant Results File: TCL.RES

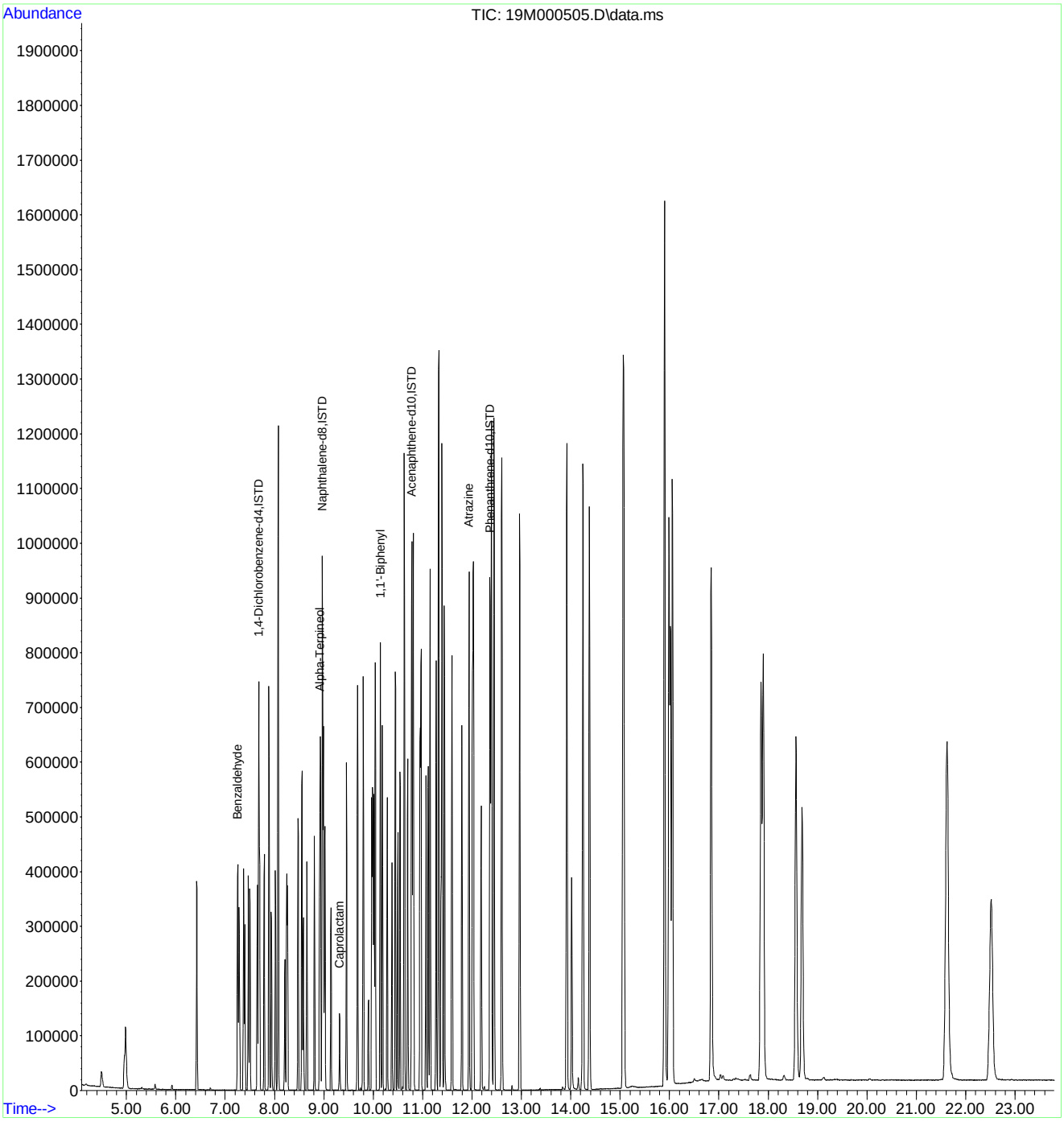
Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) 1,4-Dichlorobenzene-d4 | 7.681 | 152 | 127753 | 40.0000 | ug/mL | 0.0000 |
| 3) Naphthalene-d8 | 8.969 | 136 | 513517 | 40.0000 | ug/mL | 0.0000 |
| 6) Acenaphthene-d10 | 10.781 | 164 | 258686 | 40.0000 | ug/mL | 0.0000 |
| 8) Phenanthrene-d10 | 12.363 | 188 | 486981 | 40.0000 | ug/mL | -0.0117 |
| System Monitoring Compounds | | | | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Benzaldehyde | 7.257 | 105 | 93558 | 30.706 | ug/mL | 100 |
| 4) Alpha-Terpineol | 8.928 | 59 | 107066 | 32.225 | ug/mL | 98 |
| 5) Caprolactam | 9.316 | 55 | 27030 | 15.706 | ug/mL | 96 |
| 7) 1,1'-Biphenyl | 10.145 | 154 | 324659 | 31.207 | ug/mL | 100 |
| 9) Atrazine | 11.939 | 200 | 137579 | 56.258 | ug/mL | 99 |

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

Data File : C:\msdchem\4\DATA\091217\19M000505.D Vial: 9
Acq On : 12 Sep 2017 5:51 pm Operator: MES
Sample : WG628510-03 LCSDUP 9/6 Inst : HPMS19NEW
Misc : 1,1 Multiplr: 1.00
Integrator: RTE
Quant Time: Sep 13 08:39:50 2017
Quant Results File: TCL.RES

Quant Method : C:\msdchem\4\METHODS\TCL.M
Quant Title : OVD MSS01 827-TCL/A-TERP ICAL 08/16/17
QLast Update : Thu Aug 17 10:56:35 2017
Response via : Initial Calibration
DataAcq Meth:BNARUN.M



# 2.2.2 Semivolatiles GC/MS Data (827-PAHL)

# 2.2.2.1 Summary Data

**Login Number:** L17081498
**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:** 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.

**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 peakcompletely.

**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 andbenzo(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:** 129010
**Approved By:** Mary Schilling



# Certificate of Analysis

**Sample #:** L17081498-01 | **PrePrep Method:** N/A | **Instrument:** HPMS15
**Client ID:** MW07-082517 | **Prep Method:** 3510C | **Prep Date:** 08/31/2017 16:00
**Matrix:** Water | **Analytical Method:** 8270D_SIM | **Cal Date:** 09/02/2017 12:13
**Workgroup #:** WG628159 | **Analyst:** LJH/SCB | **Run Date:** 09/02/2017 17:22
**Collect Date:** 08/25/2017 10:34 | **Dilution:** 1 | **File ID:** 15M21962
**Sample Tag:** 01 | **Units:** ug/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 2-Methylnaphthalene | 91-57-6 | | U | 0.0510 | 0.0255 |
| Acenaphthene | 83-32-9 | | U | 0.0510 | 0.0255 |
| Acenaphthylene | 208-96-8 | | U | 0.0510 | 0.0255 |
| Anthracene | 120-12-7 | | U | 0.0510 | 0.0255 |
| Benzo(a)anthracene | 56-55-3 | | U | 0.0510 | 0.0255 |
| Benzo(a)pyrene | 50-32-8 | | U | 0.0510 | 0.0255 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 0.0510 | 0.0255 |
| Benzo(g,h,i)perylene | 191-24-2 | | U | 0.0510 | 0.0255 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 0.0510 | 0.0255 |
| Chrysene | 218-01-9 | | U | 0.0510 | 0.0255 |
| Dibenzo(a,h)anthracene | 53-70-3 | | U | 0.0510 | 0.0255 |
| Fluoranthene | 206-44-0 | | U | 0.0510 | 0.0255 |
| Fluorene | 86-73-7 | | U | 0.0510 | 0.0255 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 0.0510 | 0.0255 |
| Naphthalene | 91-20-3 | 0.0414 | J | 0.0510 | 0.0255 |
| Phenanthrene | 85-01-8 | | U | 0.0510 | 0.0255 |
| Pyrene | 129-00-0 | | U | 0.0510 | 0.0255 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 78.4 | 43 | 116 | |
| Nitrobenzene-d5 | 84.2 | 35 | 114 | |
| p-Terphenyl-d14 | 95.2 | 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 #:** L17081498-03 | **PrePrep Method:** N/A | **Instrument:** HPMS15
**Client ID:** MW06-082517 | **Prep Method:** 3510C | **Prep Date:** 08/31/2017 16:00
**Matrix:** Water | **Analytical Method:** 8270D_SIM | **Cal Date:** 09/02/2017 12:13
**Workgroup #:** WG628159 | **Analyst:** LJH/SCB | **Run Date:** 09/02/2017 15:58
**Collect Date:** 08/25/2017 13:54 | **Dilution:** 1 | **File ID:** 15M21959
**Sample Tag:** 01 | **Units:** ug/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 2-Methylnaphthalene | 91-57-6 | | U | 0.0521 | 0.0260 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 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 | | U | 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 | 77.6 | 43 | 116 | |
| Nitrobenzene-d5 | 81.0 | 35 | 114 | |
| p-Terphenyl-d14 | 96.7 | 33 | 141 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-07
**Client ID:** MW10-082517
**Matrix:** Water
**Workgroup #:** WG628159
**Collect Date:** 08/25/2017 10:20
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D_SIM
**Analyst:** LJH/SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS15
**Prep Date:** 08/31/2017 16:00
**Cal Date:** 09/02/2017 12:13
**Run Date:** 09/02/2017 16:26
**File ID:** 15M21960

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| 2-Methylnaphthalene | 91-57-6 | | U | 0.0532 | 0.0266 |
| Acenaphthene | 83-32-9 | | U | 0.0532 | 0.0266 |
| Acenaphthylene | 208-96-8 | | U | 0.0532 | 0.0266 |
| Anthracene | 120-12-7 | | U | 0.0532 | 0.0266 |
| Benzo(a)anthracene | 56-55-3 | | U | 0.0532 | 0.0266 |
| Benzo(a)pyrene | 50-32-8 | | U | 0.0532 | 0.0266 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 0.0532 | 0.0266 |
| Benzo(g,h,i)perylene | 191-24-2 | | U | 0.0532 | 0.0266 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 0.0532 | 0.0266 |
| Chrysene | 218-01-9 | | U | 0.0532 | 0.0266 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Dibenzo(a,h)anthracene | 53-70-3 | | U | 0.0532 | 0.0266 |
| Fluoranthene | 206-44-0 | | U | 0.0532 | 0.0266 |
| Fluorene | 86-73-7 | | U | 0.0532 | 0.0266 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 0.0532 | 0.0266 |
| Naphthalene | 91-20-3 | | U | 0.0532 | 0.0266 |
| Phenanthrene | 85-01-8 | | U | 0.0532 | 0.0266 |
| Pyrene | 129-00-0 | | U | 0.0532 | 0.0266 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 75.8 | 43 | 116 | |
| Nitrobenzene-d5 | 85.2 | 35 | 114 | |
| p-Terphenyl-d14 | 90.4 | 33 | 141 | |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-09
**Client ID:** MW20-082517
**Matrix:** Water
**Workgroup #:** WG628159
**Collect Date:** 08/25/2017 14:10
**Sample Tag:** 01

**PrePrep Method:** N/A
**Prep Method:** 3510C
**Analytical Method:** 8270D_SIM
**Analyst:** LJH/SCB
**Dilution:** 1
**Units:** ug/L

**Instrument:** HPMS15
**Prep Date:** 08/31/2017 16:00
**Cal Date:** 09/02/2017 12:13
**Run Date:** 09/02/2017 16:54
**File ID:** 15M21961

| 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 | 0.0342 | 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 | 87.9 | 43 | 116 | |

Certificate of Analysis

| | | | | |
|---|---|---|---|---|
| Nitrobenzene-d5 | 98.1 | 35 | 114 | |
| p-Terphenyl-d14 | 61.0 | 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. |

# 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: | Example |
|---|---|
| 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** |

**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: | Example |
|---|---|
| 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** |

**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: | Example |
|---|---|
| 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** |

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 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

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

**Step 4: Solve for analyte concentration Cx**

Cx = ( Cis )( 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 quantiation 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:** WG627788
**Analyst:** JDH
**Spike Analyst:** JDH
**Method:** 3510C
**Run Date:** 08/31/2017 16:00
**SOP:** EXA01 Revision 19
**Spike Witness:** JLD
**Surr Solution:** STD81997

**METHYLENE CHLORIDE Lot #:** COA19844
**Sodium Sulfate , Anhydrous , Granul Lot #** COA19381

| | SAMPLE # | Type | Reference | pH | Prod | Init Amnt | Surr Amnt | Spike Amnt | Spike Sol | Final Vol | Color |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | L17081498-01 | SAMP | | N | 827-PAHL | 980 mL | .25 mL | | | 1 mL | Transparent |
| 2 | L17081498-03 | RS01 | | N | 827-PAHL | 960 mL | .25 mL | | | 1 mL | Transparent |
| 3 | L17081498-07 | SAMP | | N | 827-PAHL | 940 mL | .25 mL | | | 1 mL | Transparent |
| 4 | L17081498-09 | SAMP | | N | 827-PAHL | 1000 mL | .25 mL | | | 1 mL | Transparent |
| 5 | L17081555-01 | SAMP | | N | 625-PAHL | 980 mL | .25 mL | | | 1 mL | Transparent |
| 6 | L17081589-17 | SAMP | | N | 827-PAHL | 980 mL | .25 mL | | | 1 mL | Transparent |
| 7 | L17081592-18 | SAMP | | N | 827-PAHL | 980 mL | .25 mL | | | 1 mL | Transparent |
| 8 | L17081644-01 | SAMP | | N | 827-PAHL-SPI | 1000 mL | .25 mL | | | 1 mL | Transparent |
| 9 | WG627788-01 | BLANK | | N | 827-PAHL | 1000 mL | .25 mL | | | 1 mL | Transparent |
| 10 | WG627788-02 | LCS | | N | 827-PAHL | 1000 mL | .25 mL | 1 mL | STD82773 | 1 mL | Transparent |
| 11 | WG627788-03 | LCS2 | | N | 827-PAHL | 1000 mL | .25 mL | 1 mL | STD82773 | 1 mL | Transparent |
| 12 | WG627788-04 | QCMRL | | N | 827-PAHL | | .25 mL | | | 1 mL | Transparent |

Due to insufficient sample volume, this preparation batch failed to include the method prescribed MS and MSD.

**Analyst:** Justin Hesson

**Reviewer:** Jessica DeLong

EXTRACT - Modified 10/22/2008
PDF ID: 5460305
Report generated: 09/05/2017 08:34

# Microbac Laboratories Inc.

## Instrument Run Log

Instrument: HPMS15 Dataset: 090217
Analyst1: LJH Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 14
Method: OVAP SOP: MSS03 Rev: 0

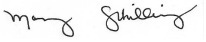
Maintenance Log ID: Syringe Filter Lot#:
Eluent ID#:

Workgroups: Column 1 ID: RXI-5MS Column 2 ID: NA
WG628015, WG628159, WG628243
Internal STD: STD83647 Surrogate STD: NA Calibration STD
CCV STD: STD83583 LCS STD: MS/MSD STD:

Comments: Files 15M21975-15M21998 were uploaded but need re-ran due to the ending CCV failing high and failed low for internal standards.

| Seq. | File ID | Sample Information | Mat | Dil | Reference | Date/Time |
|---|---|---|---|---|---|---|
| 1 | 15M21939 | FULL SCAN | 1 | 1 | | 09/02/17 06:40 |
| 2 | 15M21940 | WG628279-01 5PPM DFTPP STD | 1 | 1 | STD80383 | 09/02/17 07:13 |
| 3 | 15M21941 | WG628279-01 5PPM DFTPP STD | 1 | 1 | STD80383 | 09/02/17 07:31 |
| 4 | 15M21942 | WG628279-01 5PPM DFTPP STD | 1 | 1 | STD80383 | 09/02/17 07:55 |
| 5 | 15M21943 | WG628279-02 1PPM PAHL STD | 1 | 1 | STD83583 | 09/02/17 08:11 |
| 6 | 15M21944 | WG628279-03 10PPM PAHL STD | 1 | 1 | STD83583 | 09/02/17 08:57 |
| 7 | 15M21945 | WG628279-04 5PPM PAHL STD | 1 | 1 | STD83583 | 09/02/17 09:25 |
| 8 | 15M21946 | WG628279-05 2.5PPM PAHL STD | 1 | 1 | STD83583 | 09/02/17 09:53 |
| 9 | 15M21947 | WG628279-06 0.5PPM PAHL STD | 1 | 1 | STD83583 | 09/02/17 10:22 |
| 10 | 15M21948 | WG628279-07 0.1PPM PAHL STD | 1 | 1 | STD83583 | 09/02/17 10:49 |
| 11 | 15M21949 | WG628279-08 0.05PPM PAHL STD | 1 | 1 | STD83583 | 09/02/17 11:17 |
| 12 | 15M21950 | WG628279-02 1PPM PAHL STD | 1 | 1 | STD83583 | 09/02/17 11:45 |
| 13 | 15M21951 | WG628279-03 10PPM PAHL STD | 1 | 1 | STD83583 | 09/02/17 12:13 |
| 14 | 15M21952 | WG628279-09 1PPM PAHL ALT SRC | 1 | 1 | STD80988 | 09/02/17 12:41 |
| 15 | 15M21953 | WG627788-01 BLANK 9/1 | 1 | 1 | | 09/02/17 13:09 |
| 16 | 15M21954 | WG627788-02 LCS 9/1 | 1 | 1 | | 09/02/17 13:37 |
| 17 | 15M21955 | WG627788-03 LCS2 9/1 | 1 | 1 | | 09/02/17 14:06 |
| 18 | 15M21956 | WG627876-01 BLANK 8/30 | 7 | 1 | SOIL | 09/02/17 14:34 |
| 19 | 15M21957 | WG627876-02 LCS 8/30 | 7 | 1 | SOIL | 09/02/17 15:02 |
| 20 | 15M21958 | L17081644-01 | 1 | 1 | | 09/02/17 15:30 |
| 21 | 15M21959 | L17081498-03 827-PAHL | 1 | 1 | | 09/02/17 15:58 |
| 22 | 15M21960 | L17081498-07 827-PAHL | 1 | 1 | | 09/02/17 16:26 |
| 23 | 15M21961 | L17081498-09 827-PAHL | 1 | 1 | | 09/02/17 16:54 |
| 24 | 15M21962 | L17081498-01 827-PAHL | 1 | 1 | | 09/02/17 17:22 |
| 25 | 15M21963 | L17081589-17 827-PAHL | 1 | 1 | | 09/02/17 17:50 |
| 26 | 15M21964 | L17081592-18 827-PAHL | 1 | 1 | | 09/02/17 18:18 |
| 27 | 15M21965 | L17081586-11 100X | 7 | 100 | SOIL | 09/02/17 18:46 |
| 28 | 15M21966 | L17081586-12 100X | 7 | 100 | SOIL | 09/02/17 19:14 |
| 29 | 15M21967 | L17081586-15 100X | 7 | 100 | SOIL | 09/02/17 19:42 |
| 66 | 15M21968 | WG627788-04 ENDING CCV | 1 | 1 | SOIL | 09/02/17 20:20 |
| 31 | 15M21969 | L17081555-01 | 2 | 1 | | 09/02/17 20:48 |
| 32 | 15M21970 | BAKE OUT | 1 | 1 | | 09/02/17 21:16 |
| 33 | 15M21971 | bake out | 1 | 1 | | 09/02/17 22:07 |

Page: 1 Approved: 05-SEP-17



Microbac

**Microbac Laboratories Inc.**

Instrument Run Log

Instrument: HPMS15 Dataset: 090217
Analyst1: LJH Analyst2: NA
Method: 8270L SOP: MSS03 Rev: 14
Method: OVAP SOP: MSS03 Rev: 0

Maintenance Log ID: Syringe Filter Lot#:
Eluent ID#:

Column 1 ID: RXI-5MS Column 2 ID: NA
Workgroups: WG628015, WG628159, WG628243
Internal STD: STD83647 Surrogate STD: NA
CCV STD: STD83583 LCS STD:

| Seq. | File ID | Sample Information | Mat | Dil | Reference | Date/Time |
|---|---|---|---|---|---|---|
| 34 | 15M21972 | WG628279-01 5PPM DFTPP STD | 1 | 1 | STD80383 | 09/02/17 22:43 |
| 67 | 15M21973 | WG628449-01 5PPM DFTPP STD | 1 | 1 | STD80383 | 09/02/17 23:00 |
| 68 | 15M21974 | WG628449-02 1PPM PAHL STD | 1 | 1 | STD83583 | 09/02/17 23:16 |
| 37 | 15M21975 | WG627988-01 BLANK | 7 | 1 | SOIL | 09/02/17 23:44 |
| 38 | 15M21976 | WG627988-02 LCS | 7 | 1 | SOIL | 09/03/17 00:12 |
| 39 | 15M21977 | L17081594-15 827-PAHL | 7 | 1 | SOIL | 09/03/17 00:40 |
| 40 | 15M21978 | L17081595-03 10X 827-PALH | 7 | 10 | SOIL | 09/03/17 01:08 |
| 41 | 15M21979 | L17081595-02 10X 827-PALH | 7 | 10 | SOIL | 09/03/17 01:36 |
| 42 | 15M21980 | L17081594-18 10X 827-PAHL | 7 | 10 | SOIL | 09/03/17 02:04 |
| 43 | 15M21981 | L17081594-16 10X 827-PAHL | 7 | 10 | SOIL | 09/03/17 02:32 |
| 44 | 15M21982 | L17081594-12 10X 827-PAHL | 7 | 10 | SOIL | 09/03/17 03:00 |
| 45 | 15M21983 | L17081594-11 10X 827-PAHL | 7 | 10 | SOIL | 09/03/17 03:28 |
| 46 | 15M21984 | L17081594-19 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 03:56 |
| 47 | 15M21985 | L17081594-07 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 04:23 |
| 48 | 15M21986 | L17081594-08 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 04:52 |
| 49 | 15M21987 | L17081594-14 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 05:19 |
| 50 | 15M21988 | L17081594-20 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 05:47 |
| 65 | 15M21989 | L17081594-04 REF 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 06:15 |
| 52 | 15M21990 | WG627988-04 MS 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 06:43 |
| 53 | 15M21991 | WG627988-05 MSD 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 07:11 |
| 54 | 15M21992 | L17081594-10 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 07:39 |
| 55 | 15M21993 | L17081594-05 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 08:07 |
| 56 | 15M21994 | L17081594-06 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 08:35 |
| 57 | 15M21995 | L17081594-09 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 09:03 |
| 58 | 15M21996 | L17081594-13 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 09:31 |
| 59 | 15M21997 | L17081594-17 20X 827-PAHL | 7 | 20 | SOIL | 09/03/17 09:58 |
| 60 | 15M21998 | WG627876-07 ENDING CCV | 7 | 1 | SOIL | 09/03/17 10:26 |
| 61 | 15M21999 | bake out | 1 | 1 | | 09/03/17 10:54 |
| 62 | 15M22000 | bake out | 1 | 1 | | 09/03/17 11:22 |
| 63 | 15M22001 | bake out | 1 | 1 | | 09/03/17 11:50 |
| 64 | 15M22002 | BAKE OUT | 1 | 1 | | 09/05/17 11:24 |

**Comments**

| Seq. | Rerun | Dil. | Reason | Analytes |
|---|---|---|---|---|
| 2 | | | | |
| | WG628279-01 5PPM DFTPP STD Ion failure, RR, NR. | | | |

Page: 2 Approved: 05-SEP-17

**Microbac Laboratories Inc.**

Instrument Run Log

Instrument: HPMS15 Dataset: 090217
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
WG628015, WG628159, WG628243
Internal STD: STD83647 Surrogate STD: NA
CCV STD: STD83583 LCS STD:

**Comments**

| Seq. | Rerun | Dil. | Reason | Analytes |
|---|---|---|---|---|
| 3 | | | | |
| | WG628279-01 5PPM DFTPP STD Ion failure, run quicktune, NR. | | | |
| 5 | | | | |
| | WG628279-02 1PPM PAHL STD NR, RR. | | | |
| 6 | | | | |
| | WG628279-03 10PPM PAHL STD NR, RR. | | | |
| 66 | | | | |
| | WG627876-07 ENDING CCV failed tune time, document in Narrative. | | | |
| 31 | | | Surrogate standard failure | 3 |
| | L17081555-01 | | | |
| 34 | | | | |
| | WG628279-01 5PPM DFTPP STD Ion failure, RR, NR. | | | |

Page: 3 Approved: 05-SEP-17

# Microbac Laboratories Inc.

## Data Checklist

Date: 02-SEP-2017
Analyst: LJH
Analyst: NA
Method: 8270L
Instrument: HPMS15
Curve Workgroup: WG628279
Runlog ID: 84371
Analytical Workgroups: L17081644, -1498, -1589, -1592, -1586, -1555, -1594

| | |
|---|---|
| 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 | NA |
| Minimum response factors (MS) | NA |
| 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 | X |
| Reruns | X |
| Manual integrations | X |
| 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:
05-SEP-2017

Secondary Reviewer:
05-SEP-2017

CHECKLIST1 - Modified 03/05/2008
Generated: SEP-05-2017 15:10:30

Microbac Laboratories Inc.

# HOLDING TIMES
# EQUIVALENT TO AFCEE FORM 9

**Analytical Method:** 8270D_SIM **AAB#:** WG628159

**Login Number:** L17081498

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW07-082517 | 01 | 08/25/17 | | | | | 08/31/2017 | 6.2 | 7 | | 09/02/17 | 2.1 | 40 | |
| MW06-082517 | 03 | 08/25/17 | | | | | 08/31/2017 | 6.1 | 7 | | 09/02/17 | 2 | 40 | |
| MW10-082517 | 07 | 08/25/17 | | | | | 08/31/2017 | 6.2 | 7 | | 09/02/17 | 2 | 40 | |
| MW20-082517 | 09 | 08/25/17 | | | | | 08/31/2017 | 6.1 | 7 | | 09/02/17 | 2 | 40 | |

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5461824
Report generated 09/06/2017 09:44

Login Number: L17081498
Instrument Id: HPMS15
Workgroup (AAB#): WG628159

Method: 8270L
CAL ID: HPMS15-02-SEP-17
Matrix: Water

| Sample Number | Dilution | Tag | 1 | 2 | 3 |
|---|---|---|---|---|---|
| L17081498-01 | 1.00 | 01 | 78.4 | 84.2 | 95.2 |
| L17081498-03 | 1.00 | 01 | 77.6 | 81.0 | 96.7 |
| L17081498-07 | 1.00 | 01 | 75.8 | 85.2 | 90.4 |
| L17081498-09 | 1.00 | 01 | 87.9 | 98.1 | 61.0 |
| WG627788-01 | 1.00 | 01 | 79.7 | 79.7 | 91.8 |
| WG627788-02 | 1.00 | 01 | 85.2 | 88.9 | 93.0 |
| WG627788-03 | 1.00 | 01 | 79.3 | 83.3 | 84.9 |
| WG627788-04 | 1.00 | 01 | 92.0 | 99.2 | 92.0 |

| 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: 5461833
Report generated: 09/06/2017 09:44

Microbac Laboratories Inc.

## METHOD BLANK SUMMARY

Login Number: L17081498
Work Group: WG628159
Blank File ID: 15M21953
Blank Sample ID: WG627788-01
Prep Date: 08/31/17 16:00
Instrument ID: HPMS15
Analyzed Date: 09/02/17 13:09
Method: 8270D_SIM
Analyst: LJH/SCB

This Method Blank Applies To The Following Samples:

| Client ID | Lab Sample ID | Lab File ID | Time Analyzed | TAG |
|---|---|---|---|---|
| LCS | WG627788-02 | 15M21954 | 09/02/17 13:37 | 01 |
| LCS2 | WG627788-03 | 15M21955 | 09/02/17 14:06 | 01 |
| MW06-082517 | L17081498-03 | 15M21959 | 09/02/17 15:58 | 01 |
| MW10-082517 | L17081498-07 | 15M21960 | 09/02/17 16:26 | 01 |
| MW20-082517 | L17081498-09 | 15M21961 | 09/02/17 16:54 | 01 |
| MW07-082517 | L17081498-01 | 15M21962 | 09/02/17 17:22 | 01 |
| QCMRL | WG627788-04 | 15M21968 | 09/02/17 20:20 | 01 |

Report Name: BLANK_SUMMARY
PDF File ID: 5461825
Report generated 09/06/2017 09:44

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L17081498 Prep Date: 08/31/17 16:00 Sample ID: WG627788-01
Instrument ID: HPMS15 Run Date: 09/02/17 13:09 Prep Method: 3510C
File ID: 15M21953 Analyst: LJH/SCB Method: 8270D SIM
Workgroup (AAB#): WG628159 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS15-02-SEP-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 | 79.7 | 43 | - | 116 | PASS |
| Nitrobenzene-d5 | 79.7 | 35 | - | 114 | PASS |
| p-Terphenyl-d14 | 91.8 | 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: 5461826
06-SEP-2017 09:44

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17081498 Analyst: LJH/SCB Prep Method: 3510C
Instrument ID: HPMS15 Matrix: Water Method: 8270D SIM
Workgroup (AAB#): WG628159 Units: ug/L
QC Key: WATERLOO Lot #: STD82773

Sample ID: WG627788-02 LCS File ID: 15M21954 Run Date: 09/02/2017 13:37
Sample ID: WG627788-03 LCS2 File ID: 15M21955 Run Date: 09/02/2017 14:06

| Analytes | LCS | | | LCS2 | | | %RPD | %Rec Limits | RPD Lmt | Q |
|---|---|---|---|---|---|---|---|---|---|---|
| | Known | Found | % REC | Known | Found | % REC | | | | |
| Naphthalene | 1.00 | 0.837 | 83.7 | 1.00 | 0.794 | 79.4 | 5.26 | 30 - 100 | 30 | |
| 2-Methylnaphthalene | 1.00 | 0.854 | 85.4 | 1.00 | 0.814 | 81.4 | 4.77 | 30 - 105 | 30 | |
| Acenaphthylene | 1.00 | 0.922 | 92.2 | 1.00 | 0.915 | 91.5 | 0.773 | 30 - 115 | 30 | |
| Acenaphthene | 1.00 | 0.919 | 91.9 | 1.00 | 0.890 | 89.0 | 3.16 | 30 - 110 | 30 | |
| Fluorene | 1.00 | 0.960 | 96.0 | 1.00 | 0.936 | 93.6 | 2.54 | 30 - 120 | 30 | |
| Phenanthrene | 1.00 | 1.02 | 102 | 1.00 | 0.990 | 99.0 | 3.47 | 30 - 130 | 30 | |
| Anthracene | 1.00 | 0.972 | 97.2 | 1.00 | 0.946 | 94.6 | 2.71 | 30 - 130 | 30 | |
| Fluoranthene | 1.00 | 1.10 | 110 | 1.00 | 1.05 | 105 | 4.50 | 40 - 150 | 30 | |
| Pyrene | 1.00 | 1.10 | 110 | 1.00 | 1.05 | 105 | 4.43 | 50 - 150 | 30 | |
| Benzo(a)anthracene | 1.00 | 1.11 | 111 | 1.00 | 1.04 | 104 | 6.01 | 50 - 150 | 30 | |
| Chrysene | 1.00 | 1.04 | 104 | 1.00 | 0.971 | 97.1 | 6.82 | 45 - 145 | 30 | |
| Benzo(b)fluoranthene | 1.00 | 0.996 | 99.6 | 1.00 | 0.916 | 91.6 | 8.41 | 40 - 150 | 30 | |
| Benzo(k)fluoranthene | 1.00 | 0.932 | 93.2 | 1.00 | 0.872 | 87.2 | 6.69 | 40 - 150 | 30 | |
| Benzo(a)pyrene | 1.00 | 0.991 | 99.1 | 1.00 | 0.925 | 92.5 | 6.89 | 50 - 140 | 30 | |
| Indeno(1,2,3-cd)pyrene | 1.00 | 0.884 | 88.4 | 1.00 | 0.790 | 79.0 | 11.2 | 35 - 150 | 30 | |
| Dibenzo(a,h)anthracene | 1.00 | 0.719 | 71.9 | 1.00 | 0.592 | 59.2 | 19.3 | 25 - 155 | 30 | |
| Benzo(g,h,i)perylene | 1.00 | 0.717 | 71.7 | 1.00 | 0.722 | 72.2 | 0.709 | 30 - 150 | 30 | |

| Surogates | LCS | LCS2 | Surrogate Limits | Qualifier |
|---|---|---|---|---|
| | % Recovery | % Recovery | | |
| Nitrobenzene-d5 | 88.9 | 83.3 | 35 - 114 | PASS |
| 2-Fluorobiphenyl | 85.2 | 79.3 | 43 - 116 | PASS |
| p-Terphenyl-d14 | 93.0 | 84.9 | 33 - 141 | PASS |

* EXCEEDS %REC LIMIT
# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5461827
Report generated: 09/06/2017 09:44

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

DFTPP

Login Number: L17081498
Instrument: HPMS15
Analyst: LJH/SCB
Workgroup: WG628279

Tune ID: WG628279-01
Run Date: 09/02/2017
Run Time: 07:55
File ID: 15M21942
Cal ID: HPMS15-02-SEP-17

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51.0 | 198 | 30.0 | 60.0 | 50.6 | 62569 | PASS |
| 68.0 | 69.0 | 0 | 2.00 | 1.86 | 1086 | PASS |
| 69.0 | 198 | 0 | 100 | 47.2 | 58334 | PASS |
| 70.0 | 69.0 | 0 | 2.00 | 0 | 0 | PASS |
| 127 | 198 | 40.0 | 60.0 | 55.7 | 68848 | PASS |
| 197 | 198 | 0 | 1.00 | 0.480 | 593 | PASS |
| 198 | 198 | 100 | 100 | 100 | 123624 | PASS |
| 199 | 198 | 5.00 | 9.00 | 7.01 | 8671 | PASS |
| 275 | 198 | 10.0 | 30.0 | 24.3 | 30019 | PASS |
| 365 | 198 | 1.00 | 100 | 2.75 | 3394 | PASS |
| 441 | 443 | 0.0100 | 100 | 73.3 | 13785 | PASS |
| 442 | 198 | 40.0 | 100 | 76.6 | 94757 | PASS |
| 443 | 442 | 17.0 | 23.0 | 19.9 | 18814 | PASS |

This check relates to the following samples:

| Lab ID | Client ID | Tag | Date Analyzed | Q |
|---|---|---|---|---|
| WG628279-04 | STD | 01 | 09/02/2017 09:25 | |
| WG628279-05 | STD | 01 | 09/02/2017 09:53 | |
| WG628279-06 | STD | 01 | 09/02/2017 10:22 | |
| WG628279-07 | STD | 01 | 09/02/2017 10:49 | |
| WG628279-08 | STD | 01 | 09/02/2017 11:17 | |
| WG628279-02 | STD-CCV | 01 | 09/02/2017 11:45 | |
| WG628279-03 | STD | 01 | 09/02/2017 12:13 | |
| WG628279-09 | SSCV | 01 | 09/02/2017 12:41 | |
| WG627788-01 | BLANK | 01 | 09/02/2017 13:09 | |
| WG627788-02 | LCS | 01 | 09/02/2017 13:37 | |
| WG627788-03 | LCS2 | 01 | 09/02/2017 14:06 | |
| L17081498-03 | MW06-082517 | 01 | 09/02/2017 15:58 | |
| L17081498-07 | MW10-082517 | 01 | 09/02/2017 16:26 | |
| L17081498-09 | MW20-082517 | 01 | 09/02/2017 16:54 | |
| L17081498-01 | MW07-082517 | 01 | 09/02/2017 17:22 | |
| WG627788-04 | QCMRL | 01 | 09/02/2017 20:20 | * |

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5461830
Report generated 09/06/2017 09:44

**Microbac Laboratories Inc.**
**INITIAL CALIBRATION SUMMARY**

**Login Number:** L17081498
**Analytical Method:** 8270D_SIM
**ICAL Workgroup:** WG628279
**Instrument ID:** HPMS15
**Initial Calibration Date:** 02-SEP-17 12:13
**Column ID:** F

| Analyte | | AVG RF | % RSD | LINEAR (R) | QUAD ($R^2$) |
|---|---|---|---|---|---|
| Acenaphthene | CCC | 1.185 | 1.71 | | |
| Benzo[a]pyrene | CCC | 1.078 | 10.2 | | |
| Fluoranthene | CCC | 1.155 | 4.80 | | |
| 2-Methylnaphthalene | | 0.7046 | 1.72 | | |
| Acenaphthylene | | 1.917 | 8.87 | | |
| Anthracene | | 1.099 | 5.47 | | |
| Benzo[a]anthracene | | 1.081 | 4.60 | | |
| Benzo[b]fluoranthene | | 1.197 | 4.84 | | |
| Benzo[ghi]perylene | | 1.114 | 5.26 | | |
| Benzo[k]fluoranthene | | 1.222 | 10.3 | | |
| Chrysene | | 1.085 | 0.890 | | |
| Dibenz[ah]anthracene | | 1.094 | 5.66 | | |
| Fluorene | | 1.423 | 3.84 | | |
| Indeno[1,2,3-cd]pyrene | | 1.156 | 6.23 | | |
| Naphthalene | | 1.016 | 1.09 | | |
| Phenanthrene | | 1.144 | 1.17 | | |
| Pyrene | | 1.226 | 2.15 | | |

**R = Correlation coefficient; 0.995 minimum**
**$R^2$ = Coefficient of determination; 0.99 minimum**

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5461828**
**Report generated 09/06/2017 09:44**

**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**Analytical Method:** 8270D SIM

**Instrument ID:** HPMS15
**Initial Calibration Date:** 02-SEP-17 12:13
**Column ID:** F

| Analyte | WG628279-02 | | | WG628279-03 | | | WG628279-04 | | |
|---|---|---|---|---|---|---|---|---|---|
| | CONC | RESP | RF | CONC | RESP | RF | CONC | RESP | RF |
| Acenaphthene | 1.00 | 89733.0000 | 1.186 | 10.0 | 1088745.00 | 1.207 | 5.00 | 501010.000 | 1.196 |
| Benzo[a]pyrene | 1.00 | 129764.000 | 1.071 | 10.0 | 1718266.00 | 1.226 | 5.00 | 781678.000 | 1.153 |
| Fluoranthene | 1.00 | 158193.000 | 1.162 | 10.0 | 1942908.00 | 1.212 | 5.00 | 889988.000 | 1.192 |
| 2-Methylnaphthalene | 1.00 | 106371.000 | 0.7031 | 10.0 | 1313517.00 | 0.7154 | 5.00 | 598929.000 | 0.7122 |
| Acenaphthylene | 1.00 | 141454.000 | 1.869 | 10.0 | 1911946.00 | 2.120 | 5.00 | 875961.000 | 2.092 |
| Anthracene | 1.00 | 147693.000 | 1.085 | 10.0 | 1878173.00 | 1.172 | 5.00 | 863881.000 | 1.157 |
| Benzo[a]anthracene | 1.00 | 145497.000 | 1.074 | 10.0 | 1801624.00 | 1.131 | 5.00 | 825648.000 | 1.128 |
| Benzo[b]fluoranthene | 1.00 | 145150.000 | 1.198 | 10.0 | 1778616.00 | 1.269 | 5.00 | 818459.000 | 1.207 |
| Benzo[ghi]perylene | 1.00 | 137814.000 | 1.138 | 10.0 | 1681787.00 | 1.200 | 5.00 | 765075.000 | 1.129 |
| Benzo[k]fluoranthene | 1.00 | 150521.000 | 1.243 | 10.0 | 1894484.00 | 1.352 | 5.00 | 846729.000 | 1.249 |
| Chrysene | 1.00 | 146176.000 | 1.079 | 10.0 | 1733805.00 | 1.088 | 5.00 | 793898.000 | 1.085 |
| Dibenz[ah]anthracene | 1.00 | 131603.000 | 1.086 | 10.0 | 1691075.00 | 1.207 | 5.00 | 759742.000 | 1.121 |
| Fluorene | 1.00 | 107644.000 | 1.422 | 10.0 | 1337815.00 | 1.483 | 5.00 | 612249.000 | 1.462 |
| Indeno[1,2,3-cd]pyrene | 1.00 | 151241.000 | 1.249 | 10.0 | 1728018.00 | 1.233 | 5.00 | 780415.000 | 1.151 |
| Naphthalene | 1.00 | 153454.000 | 1.014 | 10.0 | 1849127.00 | 1.007 | 5.00 | 845863.000 | 1.006 |
| Phenanthrene | 1.00 | 156243.000 | 1.148 | 10.0 | 1848312.00 | 1.153 | 5.00 | 850932.000 | 1.139 |
| Pyrene | 1.00 | 164612.000 | 1.215 | 10.0 | 1995209.00 | 1.253 | 5.00 | 916114.000 | 1.252 |

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5461828**
**Report generated 09/06/2017 09:44**

**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498
**Analytical Method:** 8270D SIM
**Instrument ID:** HPMS15
**Initial Calibration Date:** 02-SEP-17 12:13
**Column ID:** F

| Analyte | WG628279-05 | | | WG628279-06 | | | WG628279-07 | | |
|---|---|---|---|---|---|---|---|---|---|
| | CONC | RESP | RF | CONC | RESP | RF | CONC | RESP | RF |
| Acenaphthene | 2.50 | 227646.000 | 1.193 | 0.500 | 43934.0000 | 1.199 | 0.100 | 8572.00000 | 1.161 |
| Benzo[a]pyrene | 2.50 | 352642.000 | 1.134 | 0.500 | 62378.0000 | 1.067 | 0.100 | 12059.0000 | 1.001 |
| Fluoranthene | 2.50 | 408377.000 | 1.189 | 0.500 | 77151.0000 | 1.178 | 0.100 | 14435.0000 | 1.088 |
| 2-Methylnaphthalene | 2.50 | 269107.000 | 0.7127 | 0.500 | 52238.0000 | 0.7133 | 0.100 | 10190.0000 | 0.6872 |
| Acenaphthylene | 2.50 | 387975.000 | 2.033 | 0.500 | 68937.0000 | 1.882 | 0.100 | 12629.0000 | 1.711 |
| Anthracene | 2.50 | 390676.000 | 1.138 | 0.500 | 71577.0000 | 1.093 | 0.100 | 13494.0000 | 1.017 |
| Benzo[a]anthracene | 2.50 | 377299.000 | 1.111 | 0.500 | 70553.0000 | 1.096 | 0.100 | 13106.0000 | 1.017 |
| Benzo[b]fluoranthene | 2.50 | 387999.000 | 1.248 | 0.500 | 69525.0000 | 1.190 | 0.100 | 14156.0000 | 1.175 |
| Benzo[ghi]perylene | 2.50 | 350996.000 | 1.129 | 0.500 | 65974.0000 | 1.129 | 0.100 | 12339.0000 | 1.025 |
| Benzo[k]fluoranthene | 2.50 | 397420.000 | 1.278 | 0.500 | 73316.0000 | 1.254 | 0.100 | 14717.0000 | 1.222 |
| Chrysene | 2.50 | 367638.000 | 1.083 | 0.500 | 71155.0000 | 1.105 | 0.100 | 13919.0000 | 1.080 |
| Dibenz[ah]anthracene | 2.50 | 344491.000 | 1.108 | 0.500 | 62784.0000 | 1.074 | 0.100 | 12136.0000 | 1.008 |
| Fluorene | 2.50 | 277897.000 | 1.456 | 0.500 | 52704.0000 | 1.439 | 0.100 | 10058.0000 | 1.363 |
| Indeno[1,2,3-cd]pyrene | 2.50 | 352176.000 | 1.133 | 0.500 | 69406.0000 | 1.188 | 0.100 | 12931.0000 | 1.074 |
| Naphthalene | 2.50 | 381902.000 | 1.011 | 0.500 | 76052.0000 | 1.039 | 0.100 | 15134.0000 | 1.021 |
| Phenanthrene | 2.50 | 392136.000 | 1.142 | 0.500 | 76352.0000 | 1.166 | 0.100 | 15007.0000 | 1.131 |
| Pyrene | 2.50 | 420512.000 | 1.239 | 0.500 | 79952.0000 | 1.242 | 0.100 | 15395.0000 | 1.194 |

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5461828**
**Report generated 09/06/2017 09:44**

**Microbac Laboratories Inc.**

**INITIAL CALIBRATION DATA**

**Login Number:** L17081498 **Instrument ID:** HPMS15

**Analytical Method:** 8270D SIM **Initial Calibration Date:** 02-SEP-17 12:13

**Column ID:** F

| Analyte | WG628279-08 | | |
|---|---|---|---|
| | CONC | RESP | RF |
| Acenaphthene | 0.0500 | 4701.00000 | 1.152 |
| Benzo[a]pyrene | 0.0500 | 5710.00000 | 0.8900 |
| Fluoranthene | 0.0500 | 7874.00000 | 1.068 |
| 2-Methylnaphthalene | 0.0500 | 5200.00000 | 0.6884 |
| Acenaphthylene | 0.0500 | 6979.00000 | 1.711 |
| Anthracene | 0.0500 | 7604.00000 | 1.031 |
| Benzo[a]anthracene | 0.0500 | 7209.00000 | 1.012 |
| Benzo[b]fluoranthene | 0.0500 | 6985.00000 | 1.089 |
| Benzo[ghi]perylene | 0.0500 | 6741.00000 | 1.051 |
| Benzo[k]fluoranthene | 0.0500 | 6113.00000 | 0.9528 |
| Chrysene | 0.0500 | 7674.00000 | 1.077 |
| Dibenz[ah]anthracene | 0.0500 | 6768.00000 | 1.055 |
| Fluorene | 0.0500 | 5446.00000 | 1.335 |
| Indeno[1,2,3-cd]pyrene | 0.0500 | 6835.00000 | 1.065 |
| Naphthalene | 0.0500 | 7667.00000 | 1.015 |
| Phenanthrene | 0.0500 | 8310.00000 | 1.127 |
| Pyrene | 0.0500 | 8481.00000 | 1.190 |

**INT_CAL - Modified 03/06/2008**
**PDF File ID: 5461828**
**Report generated 09/06/2017 09:44**

Method Path : C:\msdchem\1\methods\
Method File : PAHQUANT.M
Title : OVD MSS03 PAHL SIM ICAL 09/02/17
Last Update : Sat Sep 02 12:41:37 2017
Response Via : Initial Calibration
Curve: WG628279
Calibration Files
0.05=15M21949.D .1 =15M21948.D .5 =15M21947.D 1 =15M21950.D 2.5 =15M21946.D 5 =15M

| | | Compound | 0.05 | .1 | .5 | 1 | 2.5 | 5 | 10 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) | I | Naphthalene-d8 | ISTD | | | | | | | | |
| 2) | S | Nitrobenzene-d5 | 0.277 | 0.259 | 0.303 | 0.297 | 0.325 | 0.315 | 0.340 | 0.302 | 9.19 |
| 3) | | Naphthalene | 1.015 | 1.021 | 1.039 | 1.014 | 1.011 | 1.006 | 1.007 | 1.016 | 1.09 |
| 4) | | 2-Methylnaphth... | 0.688 | 0.687 | 0.713 | 0.703 | 0.713 | 0.712 | 0.715 | 0.705 | 1.72 |
| 5) | | 1-Methylnaphth... | 0.746 | 0.668 | 0.668 | 0.654 | 0.659 | 0.655 | 0.656 | 0.672 | 4.89 |
| 6) | I | Acenaphthene-d10 | ISTD | | | | | | | | |
| 7) | S | 2-Fluorobiphenyl | 1.447 | 1.450 | 1.491 | 1.466 | 1.460 | 1.462 | 1.483 | 1.466 | 1.11 |
| 8) | | Acenaphthylene | 1.711 | 1.711 | 1.882 | 1.869 | 2.033 | 2.092 | 2.120 | 1.917 | 8.87 |
| 9) | | Acenaphthene | 1.152 | 1.162 | 1.199 | 1.186 | 1.193 | 1.196 | 1.207 | 1.185 | 1.71 |
| 10) | | Fluorene | 1.335 | 1.363 | 1.439 | 1.422 | 1.456 | 1.462 | 1.483 | 1.423 | 3.84 |
| 11) | I | Phenanthrene-d10 | ISTD | | | | | | | | |
| 12) | | Phenanthrene | 1.127 | 1.131 | 1.166 | 1.148 | 1.142 | 1.139 | 1.153 | 1.144 | 1.17 |
| 13) | | Anthracene | 1.031 | 1.017 | 1.093 | 1.085 | 1.138 | 1.157 | 1.172 | 1.099 | 5.47 |
| 14) | | Fluoranthene | 1.068 | 1.088 | 1.178 | 1.162 | 1.189 | 1.192 | 1.212 | 1.155 | 4.80 |
| 15) | I | Chrysene-d12 | ISTD | | | | | | | | |
| 16) | | Pyrene | 1.190 | 1.194 | 1.242 | 1.215 | 1.239 | 1.252 | 1.253 | 1.226 | 2.15 |
| 17) | S | p-Terphenyl-d14 | 0.922 | 0.894 | 0.922 | 0.899 | 0.903 | 0.903 | 0.906 | 0.907 | 1.19 |
| 18) | | Benzo[a]anthra... | 1.012 | 1.017 | 1.096 | 1.074 | 1.111 | 1.128 | 1.131 | 1.081 | 4.60 |
| 19) | | Chrysene | 1.077 | 1.080 | 1.105 | 1.079 | 1.083 | 1.085 | 1.088 | 1.085 | 0.89 |
| 20) | I | Perylene-d12 | ISTD | | | | | | | | |
| 21) | | Benzo[b]fluora... | 1.089 | 1.175 | 1.190 | 1.198 | 1.248 | 1.207 | 1.269 | 1.197 | 4.84 |
| 22) | | Benzo[k]fluora... | 0.953 | 1.222 | 1.254 | 1.243 | 1.278 | 1.249 | 1.352 | 1.222 | 10.28 |
| 23) | | Benzo[a]pyrene | 0.890 | 1.001 | 1.067 | 1.071 | 1.134 | 1.153 | 1.226 | 1.078 | 10.17 |
| 24) | | Indeno[1,2,3-c... | 1.065 | 1.074 | 1.188 | 1.249 | 1.131 | 1.150 | 1.233 | 1.156 | 6.23 |
| 25) | | Dibenz[ah]anth... | 1.055 | 1.008 | 1.074 | 1.086 | 1.108 | 1.121 | 1.207 | 1.094 | 5.66 |
| 26) | | Benzo[ghi]pery... | 1.051 | 1.024 | 1.129 | 1.138 | 1.129 | 1.129 | 1.200 | 1.114 | 5.26 |

(#) = Out of Range

PAHQUANT.M Tue Sep 05 09:01:26 2017

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L17081498 Run Date: 09/02/2017 Sample ID: WG628279-09
Instrument ID: HPMS15 Run Time: 12:41 Method: 8270D_SIM
File ID: 15M21952 Analyst: LJH/SCB QC Key: WATERLOO
ICal Workgroup: WG628279 Cal ID: HPMS15 - 02-SEP-17

| Analyte | | Expected | Found | Units | RF | %D | UCL | Q |
|---|---|---|---|---|---|---|---|---|
| Acenaphthene | CCC | 1000 | 1100 | ug/L | 1.31 | 10.4 | 25 | |
| Benzo[a]pyrene | CCC | 1000 | 1050 | ug/L | 1.13 | 4.70 | 25 | |
| Fluoranthene | CCC | 1000 | 1060 | ug/L | 1.23 | 6.10 | 25 | |
| 2-Methylnaphthalene | | 1000 | 1060 | ug/L | 0.747 | 6.00 | 25 | |
| Acenaphthylene | | 1000 | 1060 | ug/L | 2.02 | 5.50 | 25 | |
| Anthracene | | 1000 | 1070 | ug/L | 1.17 | 6.80 | 25 | |
| Benzo[a]anthracene | | 1000 | 1080 | ug/L | 1.16 | 7.60 | 25 | |
| Benzo[b]fluoranthene | | 1000 | 1070 | ug/L | 1.28 | 6.80 | 25 | |
| Benzo[ghi]perylene | | 1000 | 1070 | ug/L | 1.20 | 7.40 | 25 | |
| Benzo[k]fluoranthene | | 1000 | 1100 | ug/L | 1.34 | 10.0 | 25 | |
| Chrysene | | 1000 | 1090 | ug/L | 1.18 | 8.90 | 25 | |
| Dibenz[ah]anthracene | | 1000 | 1040 | ug/L | 1.14 | 4.40 | 25 | |
| Fluorene | | 1000 | 1080 | ug/L | 1.53 | 7.60 | 25 | |
| Indeno[1,2,3-cd]pyrene | | 1000 | 1040 | ug/L | 1.20 | 3.70 | 25 | |
| Naphthalene | | 1000 | 1080 | ug/L | 1.10 | 8.40 | 25 | |
| Phenanthrene | | 1000 | 1060 | ug/L | 1.22 | 6.40 | 25 | |
| Pyrene | | 1000 | 1040 | ug/L | 1.28 | 4.40 | 25 | |

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5461829
Report generated 09/06/2017 09:44

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO CCV)

Login Number: L17081498
Instrument ID: HPMS15
Workgroup (AAB#): WG628159

CCV Number: WG628279-02
CAL ID: HPMS15-02-SEP-17
Matrix: WATER

| Sample Number | Dilution | Tag | IS-1 | IS-2 | IS-3 | IS-4 | IS-5 |
|---|---|---|---|---|---|---|---|
| WG628279-02 | NA | NA | 75679 | 135490 | 151299 | 121077 | 136159 |
| Upper Limit | NA | NA | 151358 | 270980 | 302598 | 242154 | 272318 |
| Lower Limit | NA | NA | 37840 | 67745 | 75650 | 60539 | 68080 |
| L17081498-01 | 1.00 | 01 | 81918 | 145507 | 160754 | 144226 | 148627 |
| L17081498-03 | 1.00 | 01 | 69661 | 124161 | 135044 | 122959 | 126787 |
| L17081498-07 | 1.00 | 01 | 81970 | 146259 | 158118 | 146681 | 149227 |
| L17081498-09 | 1.00 | 01 | 75251 | 131898 | 145408 | 92227 | 135680 |
| WG627788-01 | 1.00 | 01 | 61356 | 109705 | 121742 | 105621 | 110923 |
| WG627788-02 | 1.00 | 01 | 72418 | 129228 | 142546 | 128231 | 131349 |
| WG627788-03 | 1.00 | 01 | 68343 | 121610 | 134516 | 121304 | 123382 |
| WG627788-04 | 1.00 | 01 | 54627 | 98943 | 107662 | 98199 | 99089 |

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 - Modified 03/06/2008
PDF File ID: 5461832
Report generated 09/06/2017 09:44

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO CCV)

Login Number:L17081498 CCV Number:WG628279-02
Instrument ID:HPMS15 CAL ID: HPMS15-02-SEP-17
Workgroup (AAB#):WG628159 Matrix:WATER

| Sample Number | Dilution | Tag | IS-1 | IS-2 | IS-3 | IS-4 | IS-5 |
|---|---|---|---|---|---|---|---|
| WG628279-02 | NA | NA | 8.74 | 14.14 | 6.49 | 16.91 | 10.65 |
| Upper Limit | NA | NA | 9.24 | 14.64 | 6.99 | 17.41 | 11.15 |
| Lower Limit | NA | NA | 8.24 | 13.64 | 5.99 | 16.41 | 10.15 |
| L17081498-01 | 1.00 | 01 | 8.744 | 14.143 | 6.487 | 16.907 | 10.655 |
| L17081498-03 | 1.00 | 01 | 8.744 | 14.142 | 6.487 | 16.907 | 10.655 |
| L17081498-07 | 1.00 | 01 | 8.744 | 14.143 | 6.487 | 16.902 | 10.655 |
| L17081498-09 | 1.00 | 01 | 8.744 | 14.142 | 6.487 | 16.907 | 10.655 |
| WG627788-01 | 1.00 | 01 | 8.744 | 14.143 | 6.487 | 16.907 | 10.655 |
| WG627788-02 | 1.00 | 01 | 8.744 | 14.142 | 6.487 | 16.902 | 10.655 |
| WG627788-03 | 1.00 | 01 | 8.744 | 14.142 | 6.487 | 16.907 | 10.655 |
| WG627788-04 | 1.00 | 01 | 8.75 | 14.143 | 6.492 | 16.907 | 10.66 |

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: 5461834
Report generated 09/06/2017 09:44

# 2.2.2.3 Sample Data

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21962.D
Acq On : 2 Sep 2017 5:22 pm
Operator : LJH/SCB
Sample : L17081498-01 827-PAHL
Misc : 1,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Sep 02 22:45:34 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

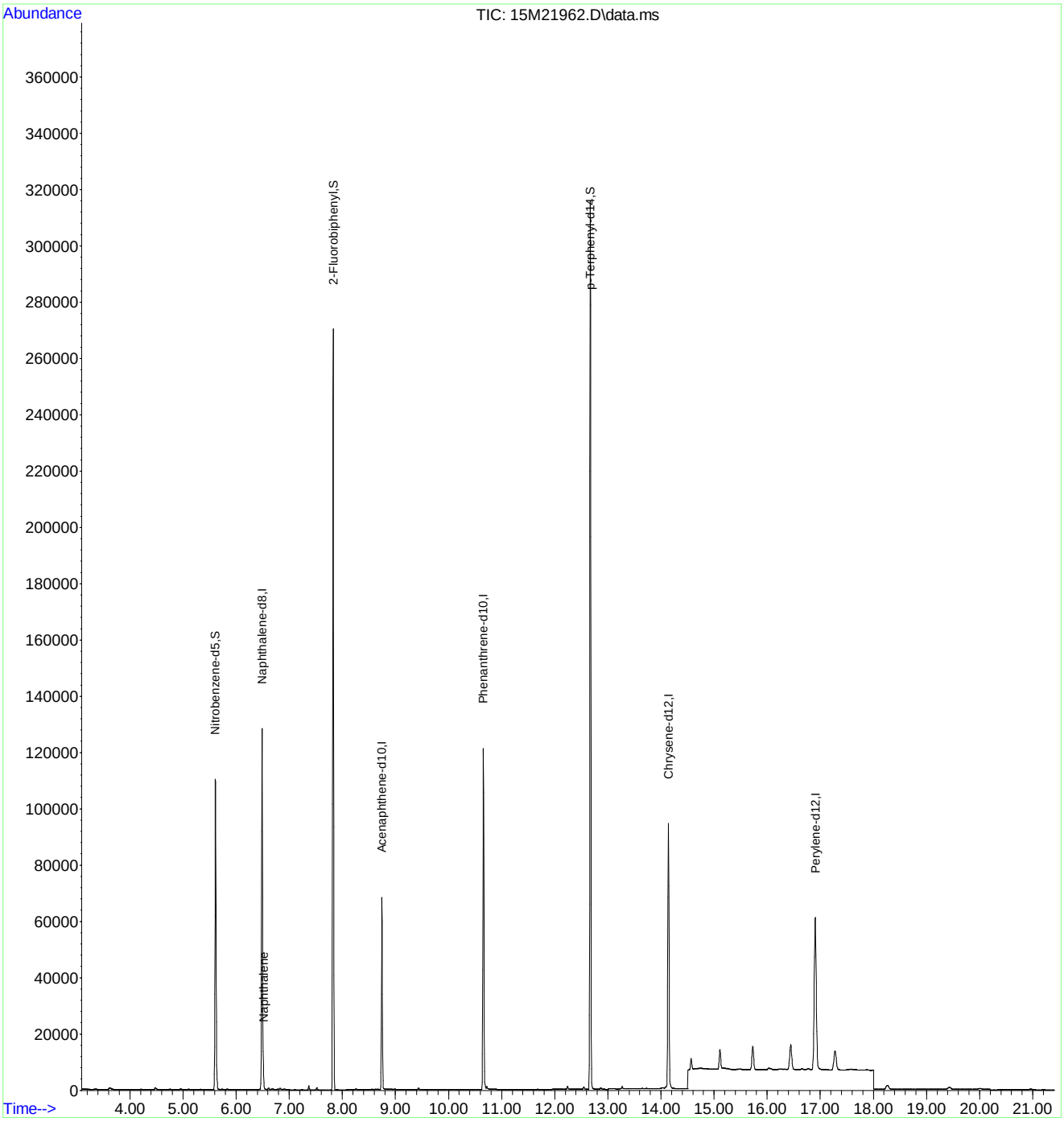
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 160754 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 81918 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 148627 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.143 | 240 | 145507 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 144226 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.610 | 82 | 102253 | 2.1056 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = 84.40% | | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 235241 | 1.9595 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = 78.40% | | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 314165 | 2.3804 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = 95.20% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.514 | 128 | 6636 | 0.0406 | ug/mL# | 81 |

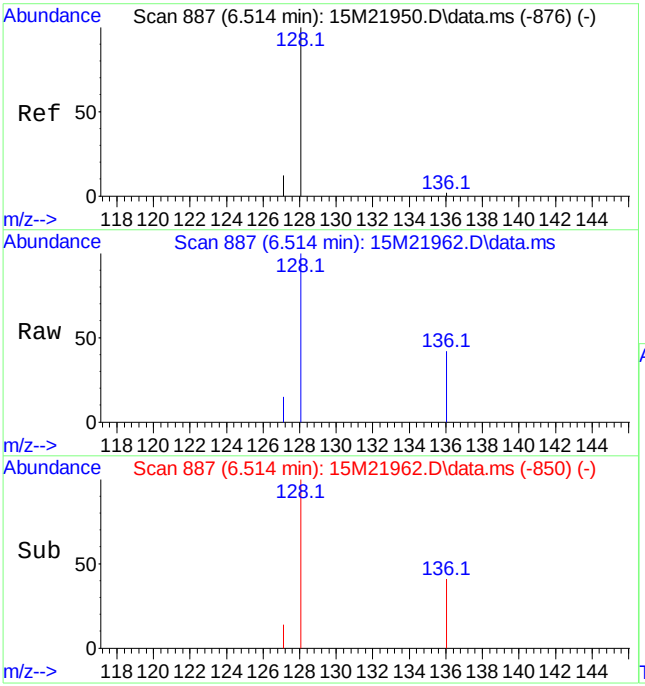
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21962.D
Acq On : 2 Sep 2017 5:22 pm
Operator : LJH/SCB
Sample : L17081498-01 827-PAHL
Misc : 1,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Sep 02 22:45:34 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

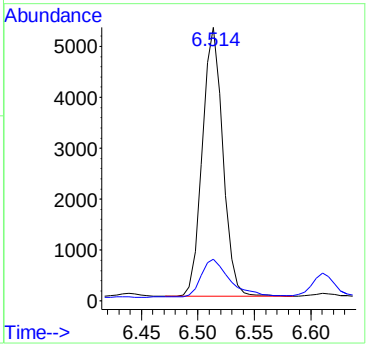





#3
Naphthalene
Concen: 0.04 ug/mL
RT: 6.514 min Scan# 887
Delta R.T. -0.000 min
Lab File: 15M21962.D
Acq: 2 Sep 2017 5:22 pm

Tgt Ion:128 Resp: 6636

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 127 | 20.3 | 7.6 | 17.8# |



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21959.D
Acq On : 2 Sep 2017 3:58 pm
Operator : LJH/SCB
Sample : L17081498-03 827-PAHL
Misc : 1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Sep 02 22:20:55 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

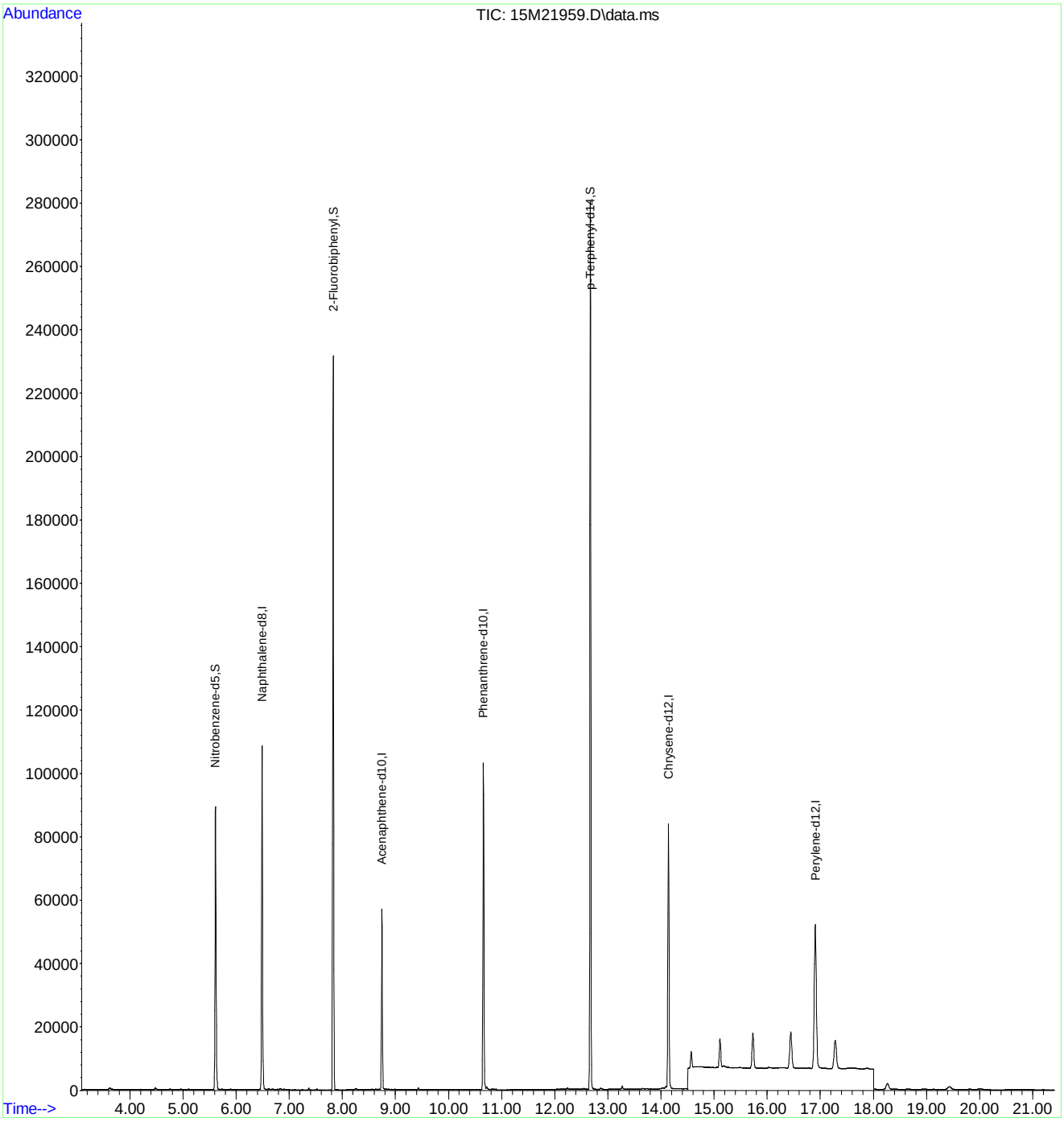
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 135044 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 69661 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 126787 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.142 | 240 | 124161 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 122959 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.609 | 82 | 82595 | 2.0246 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = 80.80% | | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 198039 | 1.9398 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = 77.60% | | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 272245 | 2.4174 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = 96.80% | | | |
| Target Compounds | | | | | | Qvalue |

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21959.D
Acq On : 2 Sep 2017 3:58 pm
Operator : LJH/SCB
Sample : L17081498-03 827-PAHL
Misc : 1,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Sep 02 22:20:55 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21960.D
Acq On : 2 Sep 2017 4:26 pm
Operator : LJH/SCB
Sample : L17081498-07 827-PAHL
Misc : 1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Sep 02 22:21:01 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

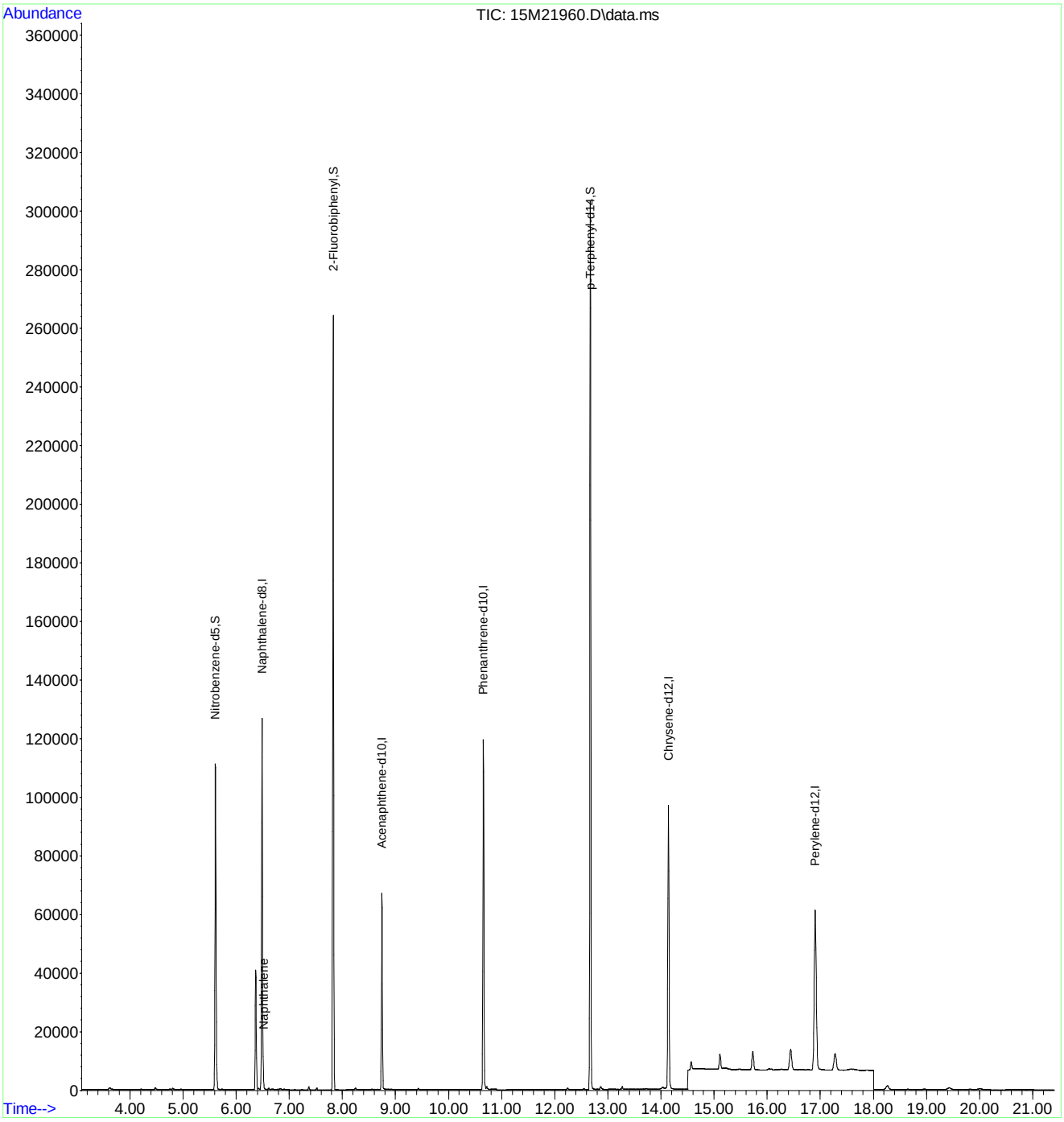
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 158118 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 81970 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 149227 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.143 | 240 | 146259 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.902 | 264 | 146681 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.610 | 82 | 101773 | 2.1307 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = 85.20% | | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 227764 | 1.8960 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = 76.00% | | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 299747 | 2.2595 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = 90.40% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.514 | 128 | 3604 | 0.0224 | ug/mL# | 67 |

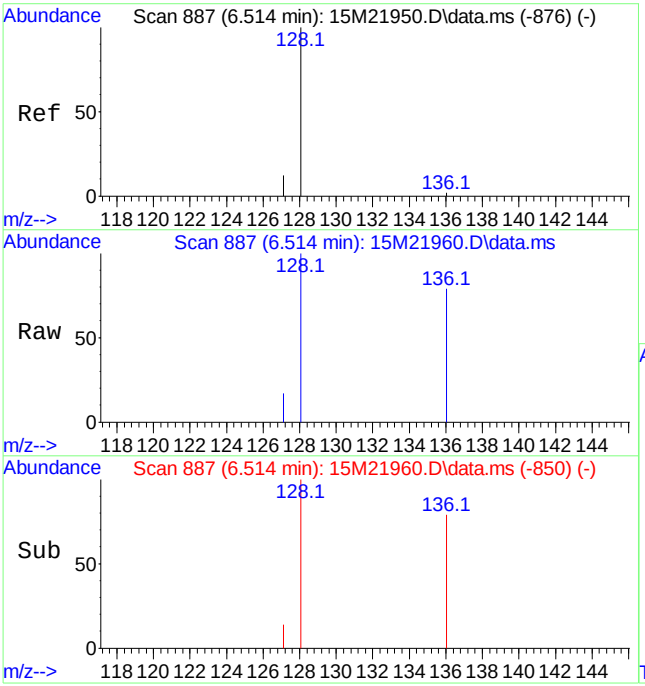
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21960.D
Acq On : 2 Sep 2017 4:26 pm
Operator : LJH/SCB
Sample : L17081498-07 827-PAHL
Misc : 1,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Sep 02 22:21:01 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

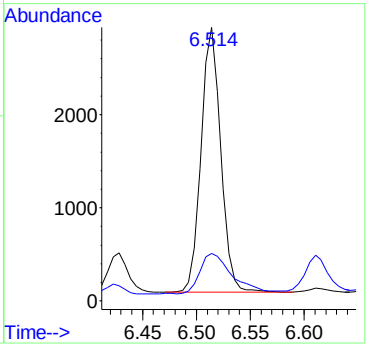





#3
Naphthalene
Concen: 0.02 ug/mL
RT: 6.514 min Scan# 887
Delta R.T. -0.000 min
Lab File: 15M21960.D
Acq: 2 Sep 2017 4:26 pm

Tgt Ion:128 Resp: 3604

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 127 | 25.6 | 7.6 | 17.8# |



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21961.D
Acq On : 2 Sep 2017 4:54 pm
Operator : LJH/SCB
Sample : L17081498-09 827-PAHL
Misc : 1,1
ALS Vial : 24 Sample Multiplier: 1

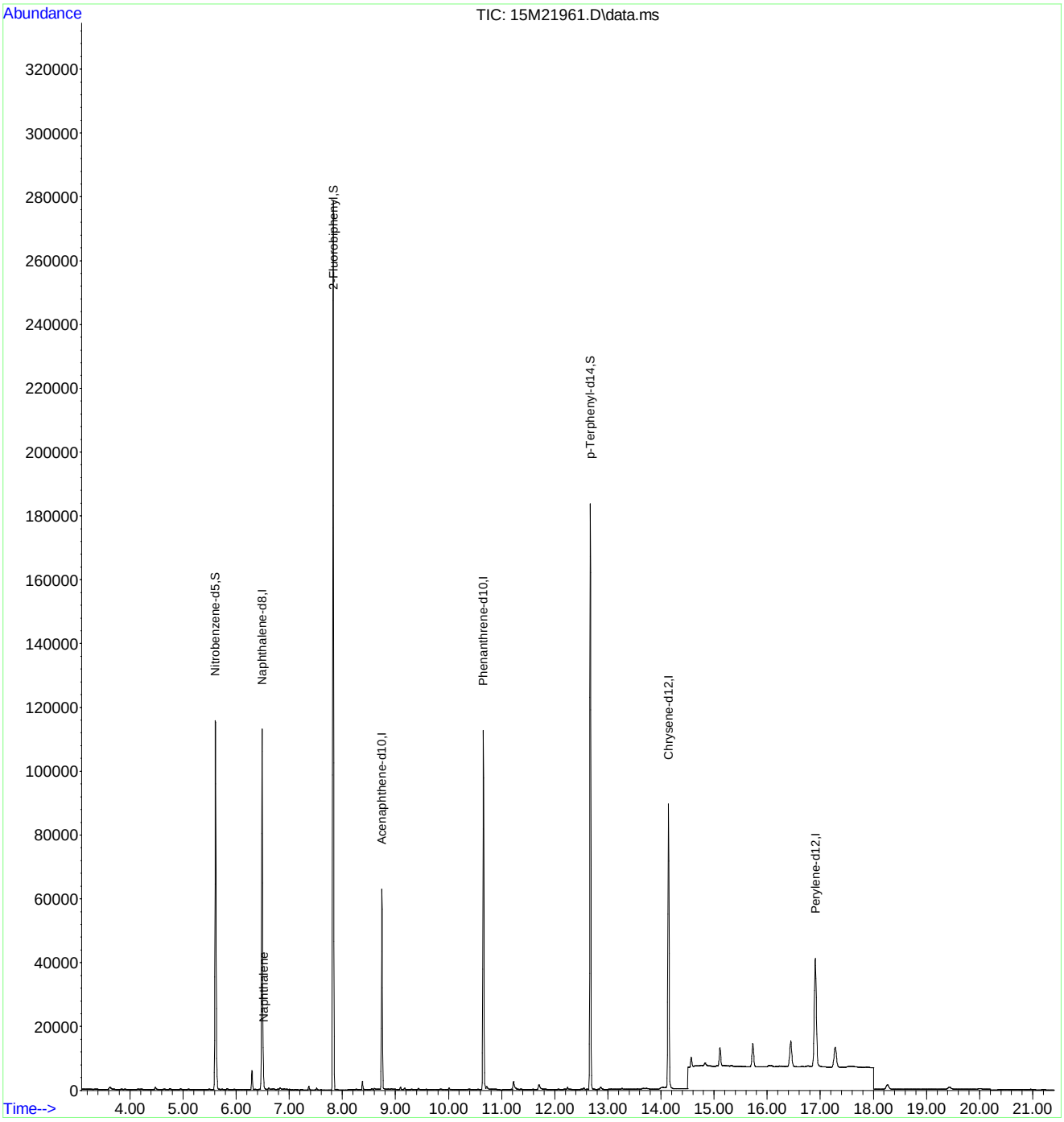
Quant Time: Sep 02 22:21:06 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

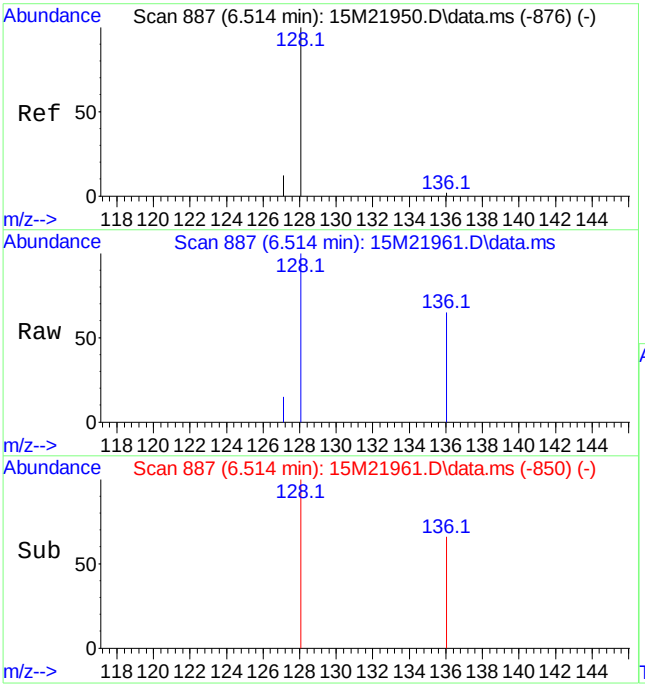
| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 145408 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 75251 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 135680 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.142 | 240 | 131898 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 92227 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.609 | 82 | 107707 | 2.4520 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = 98.00% | | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 242376 | 2.1978 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = 88.00% | | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 182404 | 1.5247 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = 60.80% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.514 | 128 | 5056 | 0.0342 | ug/mL# | 75 |

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

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21961.D
Acq On : 2 Sep 2017 4:54 pm
Operator : LJH/SCB
Sample : L17081498-09 827-PAHL
Misc : 1,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Sep 02 22:21:06 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

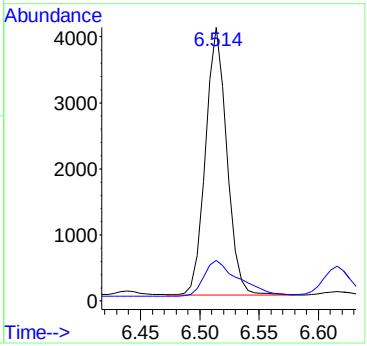





#3
Naphthalene
Concen: 0.03 ug/mL
RT: 6.514 min Scan# 887
Delta R.T. -0.000 min
Lab File: 15M21961.D
Acq: 2 Sep 2017 4:54 pm

Tgt Ion:128 Resp: 5056

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 128 | 100 | | |
| 127 | 22.5 | 7.6 | 17.8# |



# 2.2.2.4 Standards Data

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21945.D
Acq On : 2 Sep 2017 9:25 am
Operator : LJH/SCB
Sample : WG628279-04 5PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 4 Sample Multiplier: 1

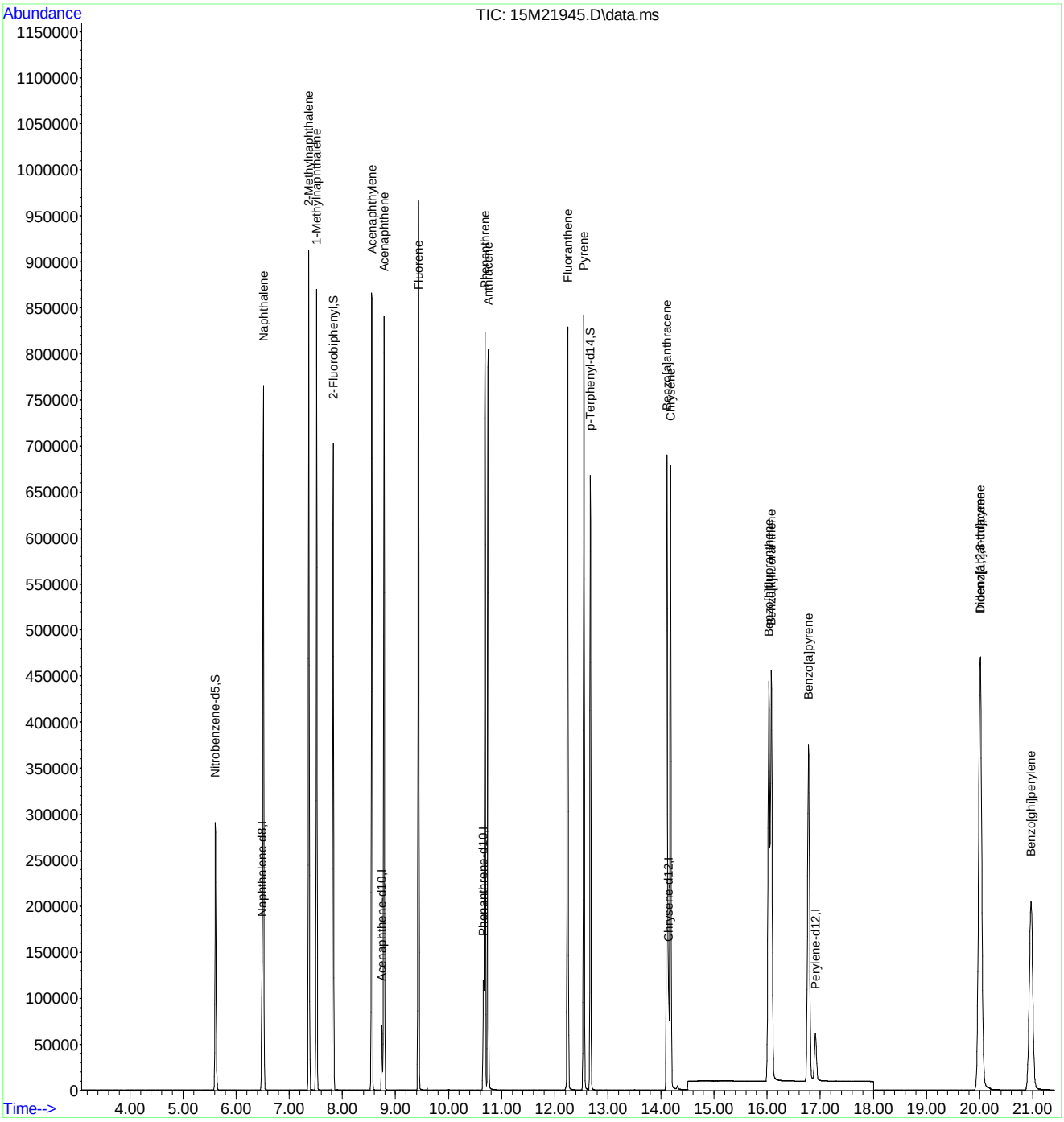
Quant Time: Sep 05 08:37:07 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 168198 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 83756 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 149385 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.142 | 240 | 146366 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 135538 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.609 | 82 | 264748 | 5.2104 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = 208.40%# | | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 612157 | 4.9871 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = 199.60%# | | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 660592 | 4.9759 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = 199.20%# | | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.514 | 128 | 845863 | 4.9494 | ug/mL | 100 |
| 4) 2-Methylnaphthalene | 7.371 | 142 | 598929 | 5.0537 | ug/mL | 100 |
| 5) 1-Methylnaphthalene | 7.515 | 142 | 550616 | 4.8690 | ug/mL | 100 |
| 8) Acenaphthylene | 8.557 | 152 | 875961 | 5.4564 | ug/mL | 100 |
| 9) Acenaphthene | 8.787 | 154 | 501010 | 5.0474 | ug/mL | 100 |
| 10) Fluorene | 9.434 | 166 | 612249 | 5.1375 | ug/mL | 100 |
| 12) Phenanthrene | 10.687 | 178 | 850932 | 4.9807 | ug/mL | 100 |
| 13) Anthracene | 10.746 | 178 | 863881 | 5.2628 | ug/mL | 99 |
| 14) Fluoranthene | 12.243 | 202 | 889988 | 5.1559 | ug/mL | 99 |
| 16) Pyrene | 12.549 | 202 | 916114 | 5.1037 | ug/mL | 100 |
| 18) Benzo[a]anthracene | 14.116 | 228 | 825648 | 5.2169 | ug/mL | 99 |
| 19) Chrysene | 14.180 | 228 | 793898 | 4.9977 | ug/mL | 100 |
| 21) Benzo[b]fluoranthene | 16.031 | 252 | 818459 | 5.0465 | ug/mL | 100 |
| 22) Benzo[k]fluoranthene | 16.079 | 252 | 846729 | 5.1142 | ug/mL | 97 |
| 23) Benzo[a]pyrene | 16.778 | 252 | 781678 | 5.3520 | ug/mL | 99 |
| 24) Indeno[1,2,3-cd]pyrene | 20.014 | 276 | 780415 | 4.9830 | ug/mL | 93 |
| 25) Dibenz[ah]anthracene | 20.009 | 278 | 759742 | 5.1234 | ug/mL | 100 |
| 26) Benzo[ghi]perylene | 20.968 | 276 | 765075 | 5.0663 | ug/mL | 100 |

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

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21945.D
Acq On : 2 Sep 2017 9:25 am
Operator : LJH/SCB
Sample : WG628279-04 5PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 05 08:37:07 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21946.D
Acq On : 2 Sep 2017 9:53 am
Operator : LJH/SCB
Sample : WG628279-05 2.5PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 5 Sample Multiplier: 1

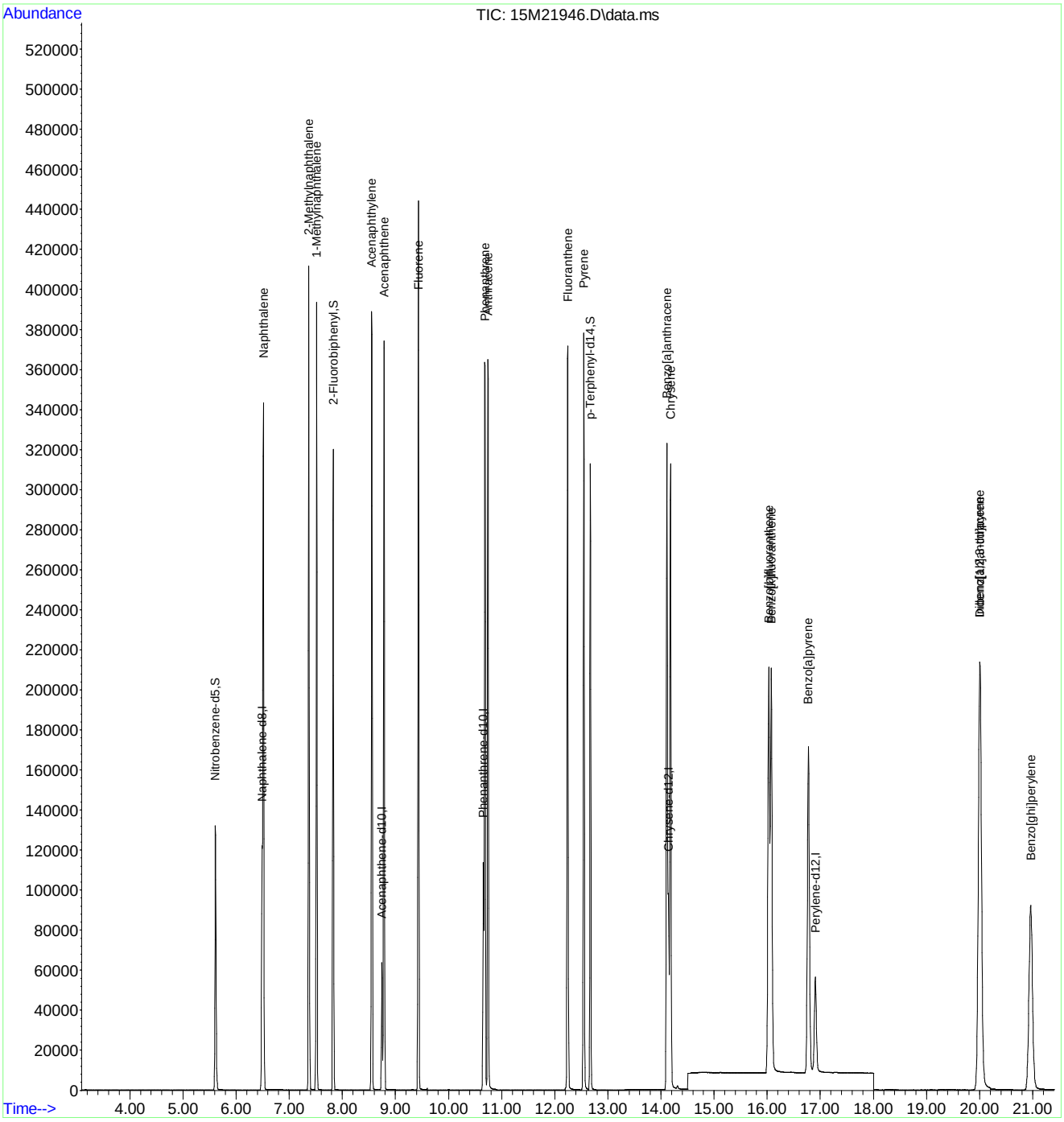
Quant Time: Sep 05 08:37:15 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 151042 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 76342 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 137368 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.142 | 240 | 135790 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 124329 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.609 | 82 | 122639 | 2.6878 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = 107.60% | | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 278680 | 2.4908 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = 99.60% | | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 306555 | 2.4890 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = 99.60% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.514 | 128 | 381902 | 2.4884 | ug/mL | 100 |
| 4) 2-Methylnaphthalene | 7.371 | 142 | 269107 | 2.5286 | ug/mL | 100 |
| 5) 1-Methylnaphthalene | 7.515 | 142 | 248920 | 2.4512 | ug/mL | 100 |
| 8) Acenaphthylene | 8.553 | 152 | 387975 | 2.6514 | ug/mL | 100 |
| 9) Acenaphthene | 8.787 | 154 | 227646 | 2.5162 | ug/mL | 100 |
| 10) Fluorene | 9.434 | 166 | 277897 | 2.5583 | ug/mL | 100 |
| 12) Phenanthrene | 10.687 | 178 | 392136 | 2.4961 | ug/mL | 100 |
| 13) Anthracene | 10.740 | 178 | 390676 | 2.5882 | ug/mL | 99 |
| 14) Fluoranthene | 12.243 | 202 | 408377 | 2.5728 | ug/mL | 100 |
| 16) Pyrene | 12.549 | 202 | 420512 | 2.5252 | ug/mL | 100 |
| 18) Benzo[a]anthracene | 14.110 | 228 | 377299 | 2.5697 | ug/mL | 100 |
| 19) Chrysene | 14.180 | 228 | 367638 | 2.4946 | ug/mL | 100 |
| 21) Benzo[b]fluoranthene | 16.028 | 252 | 387999 | 2.6080 | ug/mL | 97 |
| 22) Benzo[k]fluoranthene | 16.075 | 252 | 397420 | 2.6168 | ug/mL | 98 |
| 23) Benzo[a]pyrene | 16.773 | 252 | 352642 | 2.6322 | ug/mL | 99 |
| 24) Indeno[1,2,3-cd]pyrene | 20.004 | 276 | 352176 | 2.4514 | ug/mL | 93 |
| 25) Dibenz[ah]anthracene | 20.004 | 278 | 344491 | 2.5326 | ug/mL | 100 |
| 26) Benzo[ghi]perylene | 20.961 | 276 | 350996 | 2.5339 | ug/mL | 100 |

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

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21946.D
Acq On : 2 Sep 2017 9:53 am
Operator : LJH/SCB
Sample : WG628279-05 2.5PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 05 08:37:15 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21947.D
Acq On : 2 Sep 2017 10:22 am
Operator : LJH/SCB
Sample : WG628279-06 0.5PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 6 Sample Multiplier: 1

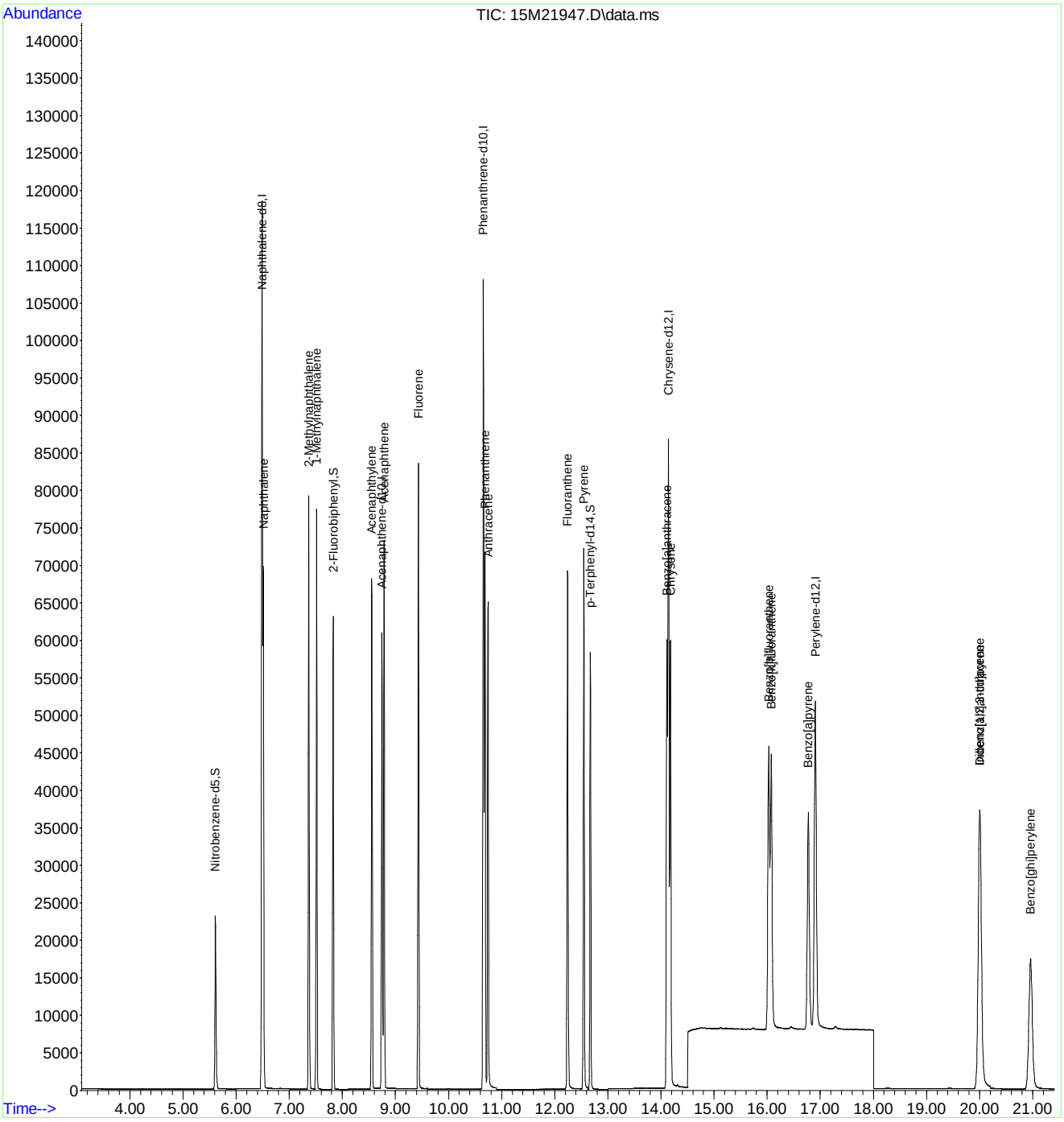
Quant Time: Sep 05 08:37:20 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 146465 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 73264 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 130961 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.142 | 240 | 128754 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 116797 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.609 | 82 | 22186 | 0.5014 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = 20.00%# | | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 54623 | 0.5087 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = 20.40%# | | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 59353 | 0.5082 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = 20.40%# | | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.513 | 128 | 76052 | 0.5110 | ug/mL | 100 |
| 4) 2-Methylnaphthalene | 7.371 | 142 | 52238 | 0.5062 | ug/mL | 100 |
| 5) 1-Methylnaphthalene | 7.515 | 142 | 48949 | 0.4971 | ug/mL | 100 |
| 8) Acenaphthylene | 8.553 | 152 | 68937 | 0.4909 | ug/mL | 100 |
| 9) Acenaphthene | 8.787 | 154 | 43934 | 0.5060 | ug/mL | 100 |
| 10) Fluorene | 9.434 | 166 | 52704 | 0.5056 | ug/mL | 100 |
| 12) Phenanthrene | 10.687 | 178 | 76352 | 0.5098 | ug/mL | 100 |
| 13) Anthracene | 10.746 | 178 | 71577 | 0.4974 | ug/mL | 98 |
| 14) Fluoranthene | 12.239 | 202 | 77151 | 0.5098 | ug/mL | 100 |
| 16) Pyrene | 12.549 | 202 | 79952 | 0.5063 | ug/mL | 99 |
| 18) Benzo[a]anthracene | 14.110 | 228 | 70553 | 0.5068 | ug/mL | 100 |
| 19) Chrysene | 14.180 | 228 | 71155 | 0.5092 | ug/mL | 100 |
| 21) Benzo[b]fluoranthene | 16.028 | 252 | 69525 | 0.4975 | ug/mL | 100 |
| 22) Benzo[k]fluoranthene | 16.075 | 252 | 73316 | 0.5139 | ug/mL | 97 |
| 23) Benzo[a]pyrene | 16.773 | 252 | 62378 | 0.4956 | ug/mL | 100 |
| 24) Indeno[1,2,3-cd]pyrene | 20.004 | 276 | 69406 | 0.5143 | ug/mL | 95 |
| 25) Dibenz[ah]anthracene | 20.004 | 278 | 62784 | 0.4913 | ug/mL | 97 |
| 26) Benzo[ghi]perylene | 20.957 | 276 | 65974 | 0.5070 | ug/mL | 100 |

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

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21947.D
Acq On : 2 Sep 2017 10:22 am
Operator : LJH/SCB
Sample : WG628279-06 0.5PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 05 08:37:20 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21948.D
Acq On : 2 Sep 2017 10:49 am
Operator : LJH/SCB
Sample : WG628279-07 0.1PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 7 Sample Multiplier: 1

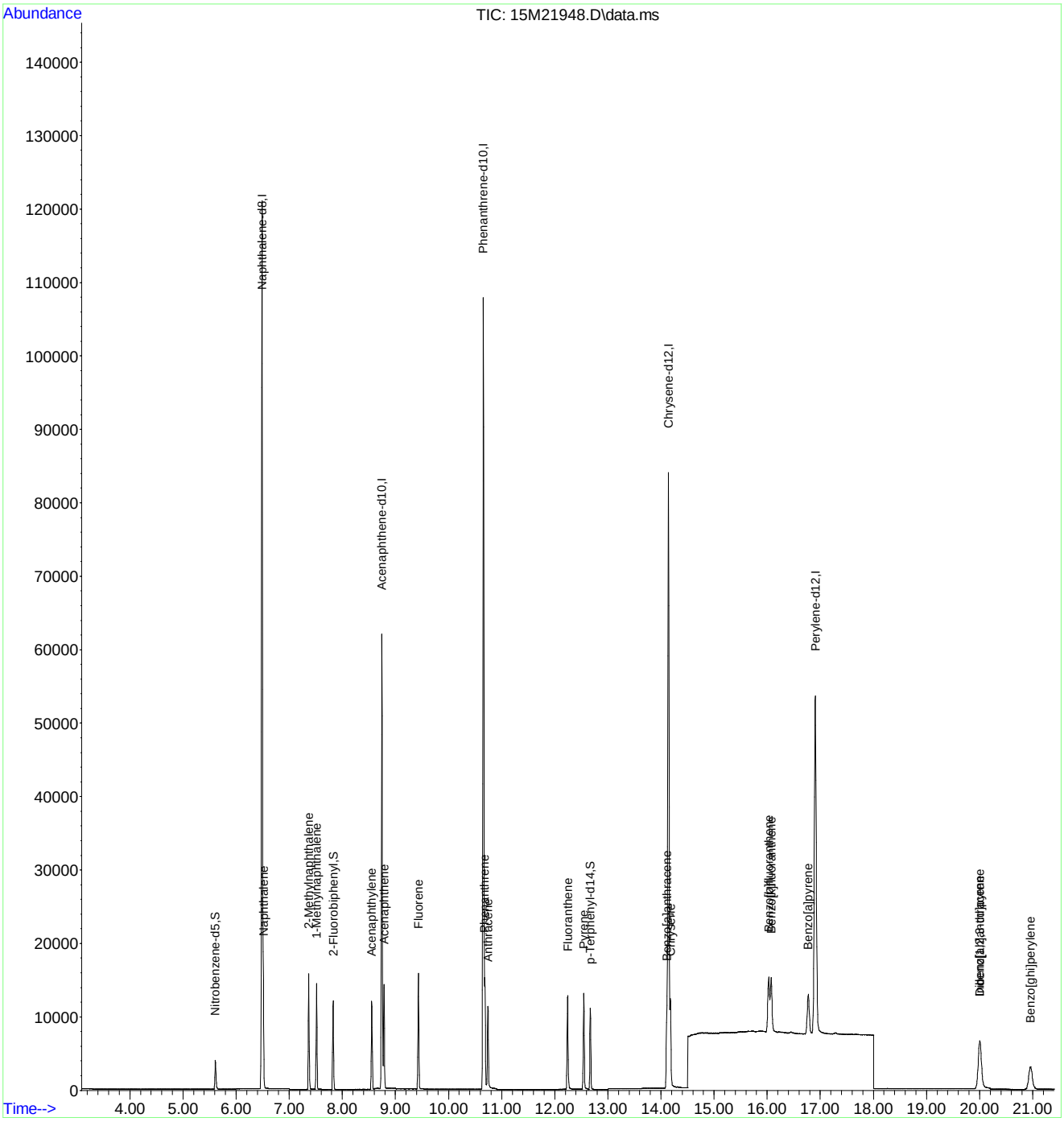
Quant Time: Sep 05 08:37:25 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 148292 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 73815 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 132729 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.143 | 240 | 128889 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 120399 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.610 | 82 | 3843 | 0.0858 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = | 3.60%# | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 10706 | 0.0990 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = | 4.00%# | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 11524 | 0.0986 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = | 4.00%# | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.514 | 128 | 15134 | 0.1004 | ug/mL | 100 |
| 4) 2-Methylnaphthalene | 7.368 | 142 | 10190 | 0.0975 | ug/mL | 100 |
| 5) 1-Methylnaphthalene | 7.515 | 142 | 9903 | 0.0993 | ug/mL | 96 |
| 8) Acenaphthylene | 8.553 | 152 | 12629 | 0.0893 | ug/mL | 96 |
| 9) Acenaphthene | 8.787 | 154 | 8572 | 0.0980 | ug/mL | 100 |
| 10) Fluorene | 9.434 | 166 | 10058 | 0.0958 | ug/mL | 100 |
| 12) Phenanthrene | 10.682 | 178 | 15007 | 0.0989 | ug/mL | 100 |
| 13) Anthracene | 10.741 | 178 | 13494 | 0.0925 | ug/mL | 97 |
| 14) Fluoranthene | 12.243 | 202 | 14435 | 0.0941 | ug/mL | 100 |
| 16) Pyrene | 12.545 | 202 | 15395 | 0.0974 | ug/mL | 97 |
| 18) Benzo[a]anthracene | 14.110 | 228 | 13106 | 0.0940 | ug/mL | 100 |
| 19) Chrysene | 14.180 | 228 | 13919 | 0.0995 | ug/mL | 100 |
| 21) Benzo[b]fluoranthene | 16.028 | 252 | 14156 | 0.0983 | ug/mL | 97 |
| 22) Benzo[k]fluoranthene | 16.072 | 252 | 14717 | 0.1001 | ug/mL | 100 |
| 23) Benzo[a]pyrene | 16.773 | 252 | 12059 | 0.0929 | ug/mL | 100 |
| 24) Indeno[1,2,3-cd]pyrene | 20.004 | 276 | 12931 | 0.0929 | ug/mL | 96 |
| 25) Dibenz[ah]anthracene | 20.004 | 278 | 12136 | 0.0921 | ug/mL | 91 |
| 26) Benzo[ghi]perylene | 20.954 | 276 | 12339 | 0.0920 | ug/mL | 100 |

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

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21948.D
Acq On : 2 Sep 2017 10:49 am
Operator : LJH/SCB
Sample : WG628279-07 0.1PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 05 08:37:25 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21949.D
Acq On : 2 Sep 2017 11:17 am
Operator : LJH/SCB
Sample : WG628279-08 0.05PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 8 Sample Multiplier: 1

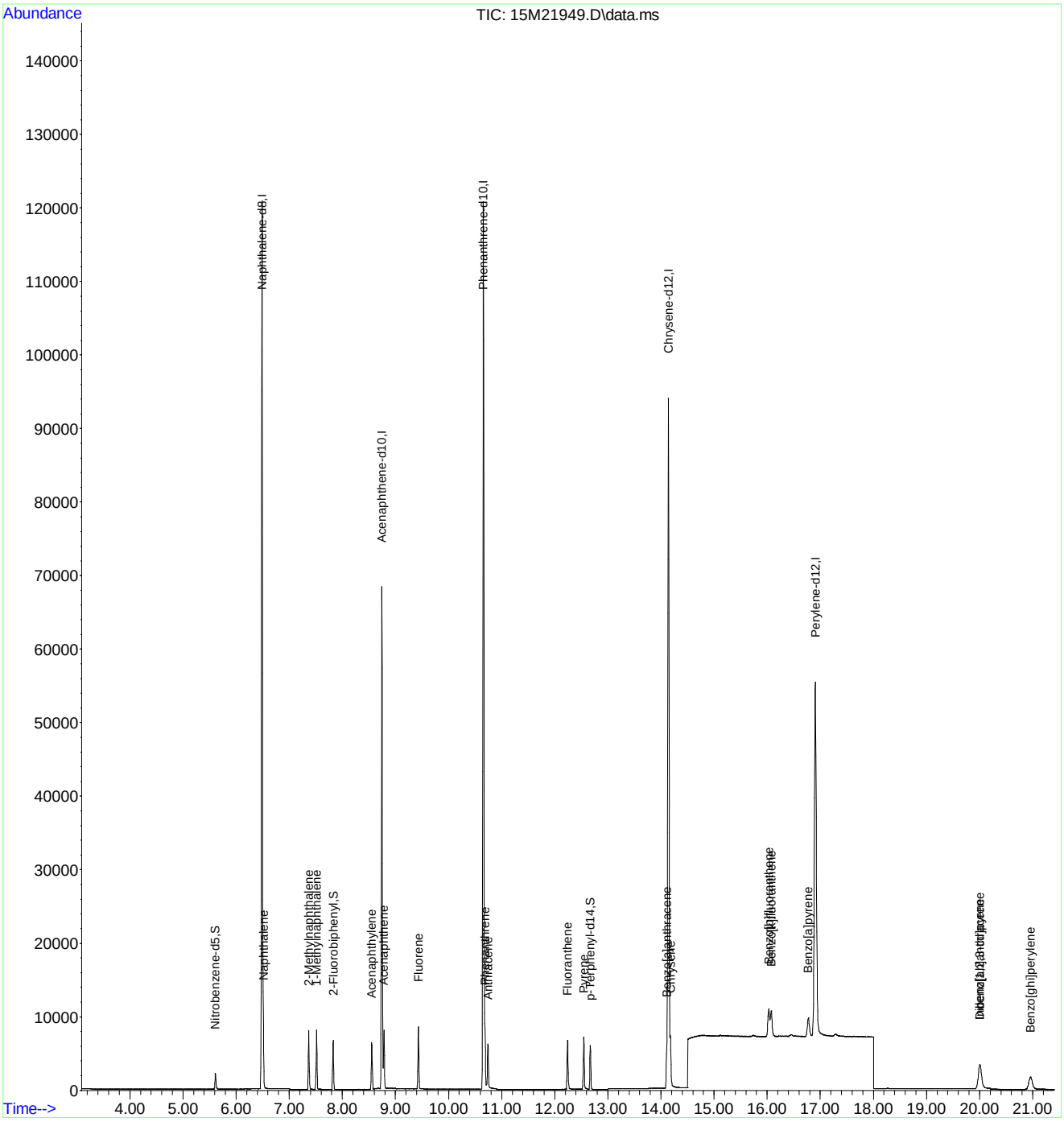
Quant Time: Sep 05 08:37:30 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 151078 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 81585 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 147459 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.142 | 240 | 142511 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 128255 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.609 | 82 | 2089 | 0.0458 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = | 2.00%# | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 5901 | 0.0494 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = | 2.00%# | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 6567 | 0.0508 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = | 2.00%# | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.514 | 128 | 7667 | 0.0499 | ug/mL | 99 |
| 4) 2-Methylnaphthalene | 7.368 | 142 | 5200 | 0.0488 | ug/mL | 99 |
| 5) 1-Methylnaphthalene | 7.515 | 142 | 5633 | 0.0555 | ug/mL | 93 |
| 8) Acenaphthylene | 8.553 | 152 | 6979 | 0.0446 | ug/mL | 93 |
| 9) Acenaphthene | 8.782 | 154 | 4701 | 0.0486 | ug/mL | 99 |
| 10) Fluorene | 9.434 | 166 | 5446 | 0.0469 | ug/mL | 100 |
| 12) Phenanthrene | 10.687 | 178 | 8310 | 0.0493 | ug/mL | 100 |
| 13) Anthracene | 10.740 | 178 | 7604 | 0.0469 | ug/mL | 95 |
| 14) Fluoranthene | 12.239 | 202 | 7874 | 0.0462 | ug/mL | 99 |
| 16) Pyrene | 12.545 | 202 | 8481 | 0.0485 | ug/mL | 96 |
| 18) Benzo[a]anthracene | 14.110 | 228 | 7209 | 0.0468 | ug/mL | 99 |
| 19) Chrysene | 14.180 | 228 | 7674 | 0.0496 | ug/mL | 100 |
| 21) Benzo[b]fluoranthene | 16.028 | 252 | 6985 | 0.0455 | ug/mL | 97 |
| 22) Benzo[k]fluoranthene | 16.075 | 252 | 6113 | 0.0390 | ug/mL | 88 |
| 23) Benzo[a]pyrene | 16.773 | 252 | 5710 | 0.0413 | ug/mL | 94 |
| 24) Indeno[1,2,3-cd]pyrene | 20.004 | 276 | 6835 | 0.0461 | ug/mL | 94 |
| 25) Dibenz[ah]anthracene | 20.004 | 278 | 6768 | 0.0482 | ug/mL | 86 |
| 26) Benzo[ghi]perylene | 20.957 | 276 | 6741 | 0.0472 | ug/mL | 99 |

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

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21949.D
Acq On : 2 Sep 2017 11:17 am
Operator : LJH/SCB
Sample : WG628279-08 0.05PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 05 08:37:30 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21950.D
Acq On : 2 Sep 2017 11:45 am
Operator : LJH/SCB
Sample : WG628279-02 1PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 2 Sample Multiplier: 1

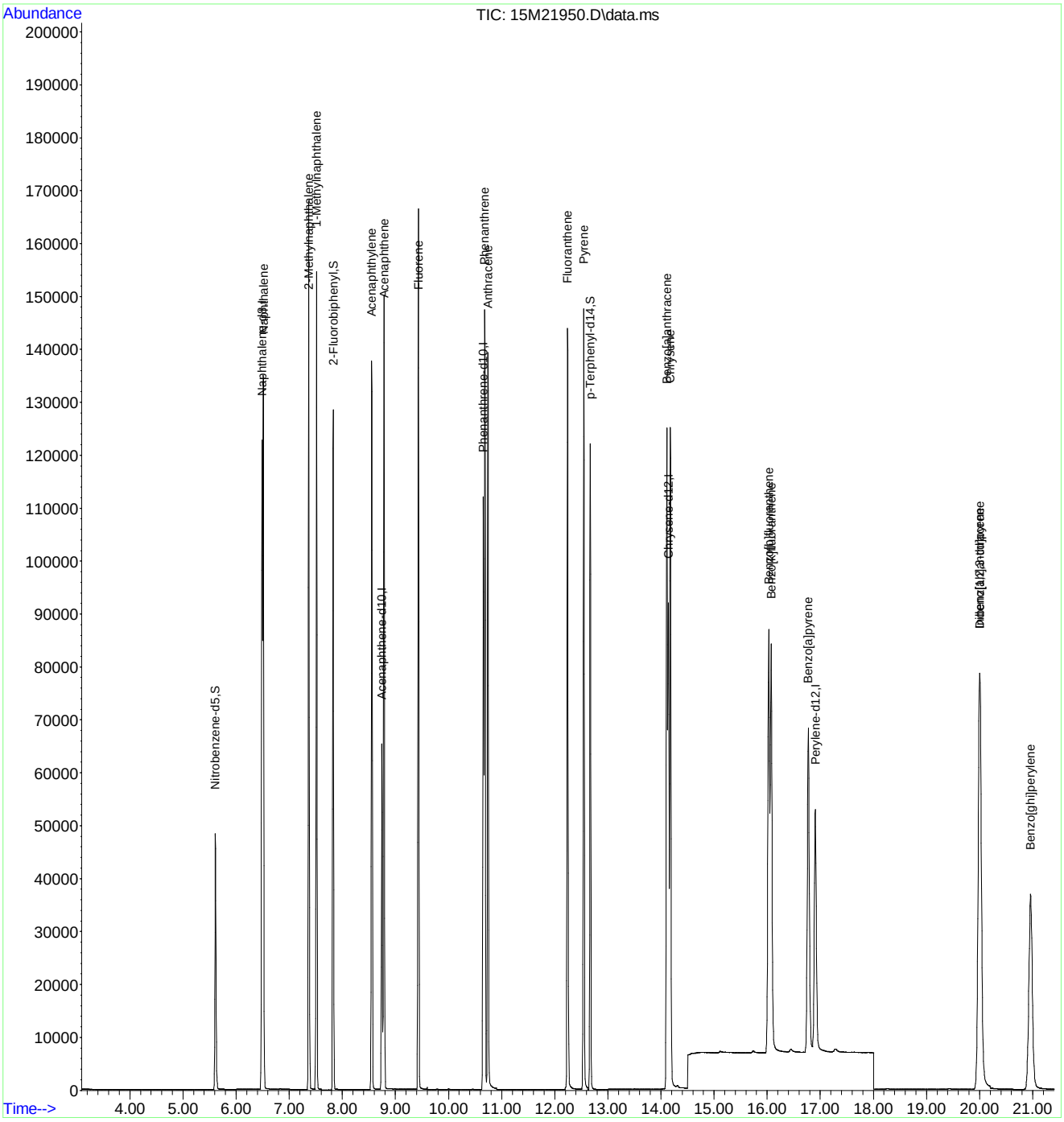
Quant Time: Sep 05 08:37:35 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 151299 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 75679 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 136159 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.143 | 240 | 135490 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 121077 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.610 | 82 | 44877 | 0.9819 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = 39.20% | | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 110938 | 1.0003 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = 40.00%# | | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 121872 | 0.9917 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = 39.60% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.514 | 128 | 153454 | 0.9982 | ug/mL | 100 |
| 4) 2-Methylnaphthalene | 7.368 | 142 | 106371 | 0.9978 | ug/mL | 100 |
| 5) 1-Methylnaphthalene | 7.515 | 142 | 98947 | 0.9727 | ug/mL | 100 |
| 8) Acenaphthylene | 8.553 | 152 | 141454 | 0.9752 | ug/mL | 100 |
| 9) Acenaphthene | 8.787 | 154 | 89733 | 1.0005 | ug/mL | 100 |
| 10) Fluorene | 9.434 | 166 | 107644 | 0.9997 | ug/mL | 100 |
| 12) Phenanthrene | 10.682 | 178 | 156243 | 1.0034 | ug/mL | 100 |
| 13) Anthracene | 10.741 | 178 | 147693 | 0.9871 | ug/mL | 100 |
| 14) Fluoranthene | 12.240 | 202 | 158193 | 1.0055 | ug/mL | 100 |
| 16) Pyrene | 12.545 | 202 | 164612 | 0.9907 | ug/mL | 100 |
| 18) Benzo[a]anthracene | 14.110 | 228 | 145497 | 0.9931 | ug/mL | 100 |
| 19) Chrysene | 14.175 | 228 | 146176 | 0.9941 | ug/mL | 100 |
| 21) Benzo[b]fluoranthene | 16.028 | 252 | 145150 | 1.0019 | ug/mL | 100 |
| 22) Benzo[k]fluoranthene | 16.072 | 252 | 150521 | 1.0177 | ug/mL | 100 |
| 23) Benzo[a]pyrene | 16.773 | 252 | 129764 | 0.9946 | ug/mL | 100 |
| 24) Indeno[1,2,3-cd]pyrene | 20.004 | 276 | 151241 | 1.0810 | ug/mL | 100 |
| 25) Dibenz[ah]anthracene | 20.004 | 278 | 131603 | 0.9935 | ug/mL | 100 |
| 26) Benzo[ghi]perylene | 20.958 | 276 | 137814 | 1.0216 | ug/mL | 100 |

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

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21950.D
Acq On : 2 Sep 2017 11:45 am
Operator : LJH/SCB
Sample : WG628279-02 1PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 05 08:37:35 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21951.D
Acq On : 2 Sep 2017 12:13 pm
Operator : LJH/SCB
Sample : WG628279-03 10PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 3 Sample Multiplier: 1

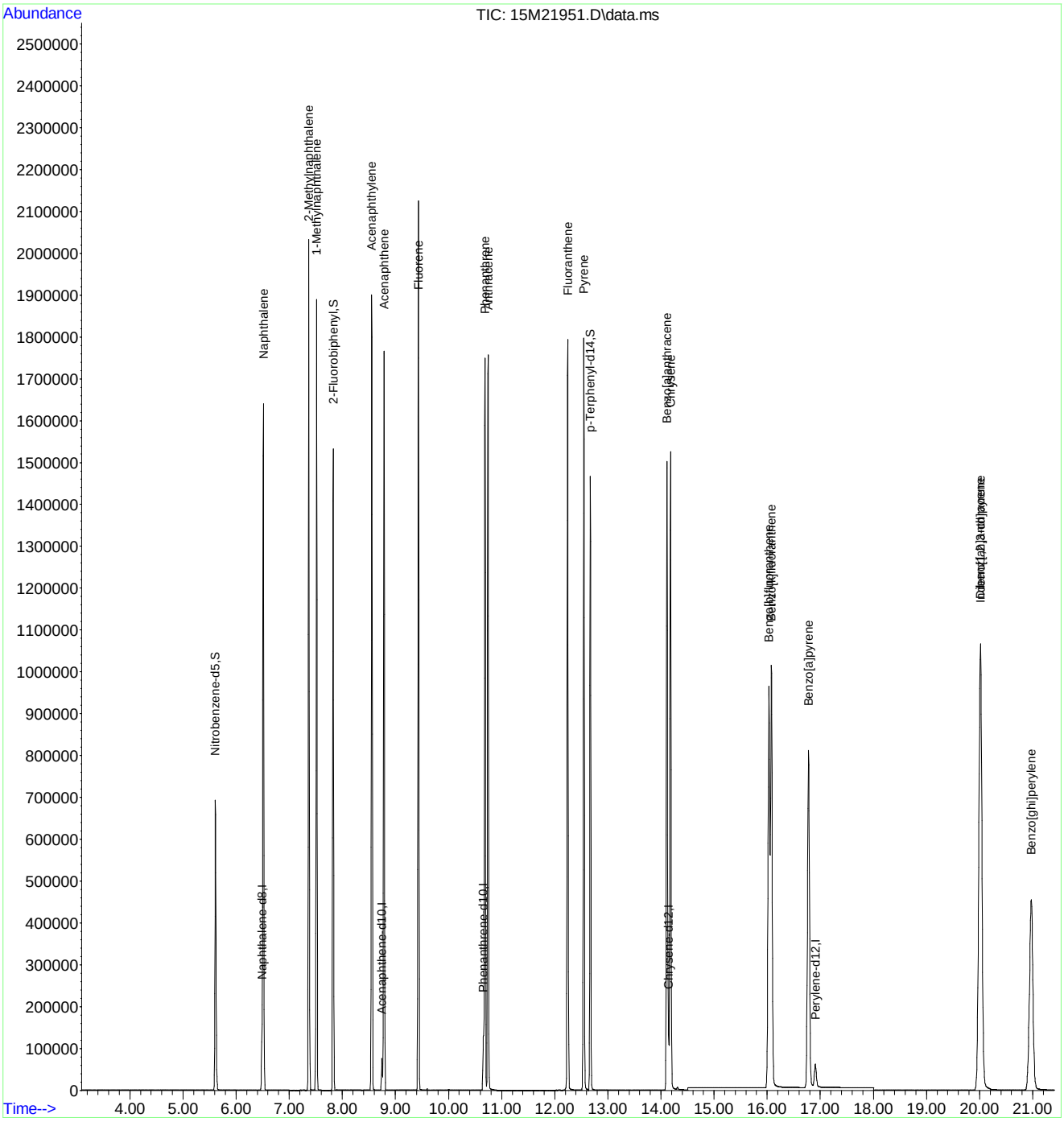
Quant Time: Sep 05 08:37:40 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 183597 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 90194 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 160275 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.142 | 240 | 159295 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 140155 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.610 | 82 | 623842 | 11.2479 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = 450.00%# | | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 1337380 | 10.1177 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = 404.80%# | | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 1443834 | 9.9929 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = 399.60%# | | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.514 | 128 | 1849127 | 9.9122 | ug/mL | 99 |
| 4) 2-Methylnaphthalene | 7.372 | 142 | 1313517 | 10.1538 | ug/mL | 100 |
| 5) 1-Methylnaphthalene | 7.515 | 142 | 1205305 | 9.7644 | ug/mL | 100 |
| 8) Acenaphthylene | 8.553 | 152 | 1911946 | 11.0595 | ug/mL | 99 |
| 9) Acenaphthene | 8.787 | 154 | 1088745 | 10.1856 | ug/mL | 100 |
| 10) Fluorene | 9.434 | 166 | 1337815 | 10.4245 | ug/mL | 100 |
| 12) Phenanthrene | 10.687 | 178 | 1848312 | 10.0836 | ug/mL | 99 |
| 13) Anthracene | 10.746 | 178 | 1878173 | 10.6644 | ug/mL | 99 |
| 14) Fluoranthene | 12.243 | 202 | 1942908 | 10.4910 | ug/mL | 99 |
| 16) Pyrene | 12.549 | 202 | 1995209 | 10.2133 | ug/mL | 100 |
| 18) Benzo[a]anthracene | 14.116 | 228 | 1801624 | 10.4598 | ug/mL | 99 |
| 19) Chrysene | 14.180 | 228 | 1733805 | 10.0286 | ug/mL | 99 |
| 21) Benzo[b]fluoranthene | 16.031 | 252 | 1778616 | 10.6053 | ug/mL | 100 |
| 22) Benzo[k]fluoranthene | 16.079 | 252 | 1894484 | 11.0657 | ug/mL | 98 |
| 23) Benzo[a]pyrene | 16.778 | 252 | 1718266 | 11.3772 | ug/mL | 100 |
| 24) Indeno[1,2,3-cd]pyrene | 20.020 | 276 | 1728018 | 10.6699 | ug/mL | 93 |
| 25) Dibenz[ah]anthracene | 20.014 | 278 | 1691075 | 11.0283 | ug/mL | 99 |
| 26) Benzo[ghi]perylene | 20.976 | 276 | 1681787 | 10.7700 | ug/mL | 100 |

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

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21951.D
Acq On : 2 Sep 2017 12:13 pm
Operator : LJH/SCB
Sample : WG628279-03 10PPM PAHL STD
Misc : 1,1 STD83583
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 05 08:37:40 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21952.D
Acq On : 2 Sep 2017 12:41 pm
Operator : LJH/SCB
Sample : WG628279-09 1PPM PAHL ALT SRC
Misc : 1,1 STD80988
ALS Vial : 9 Sample Multiplier: 1

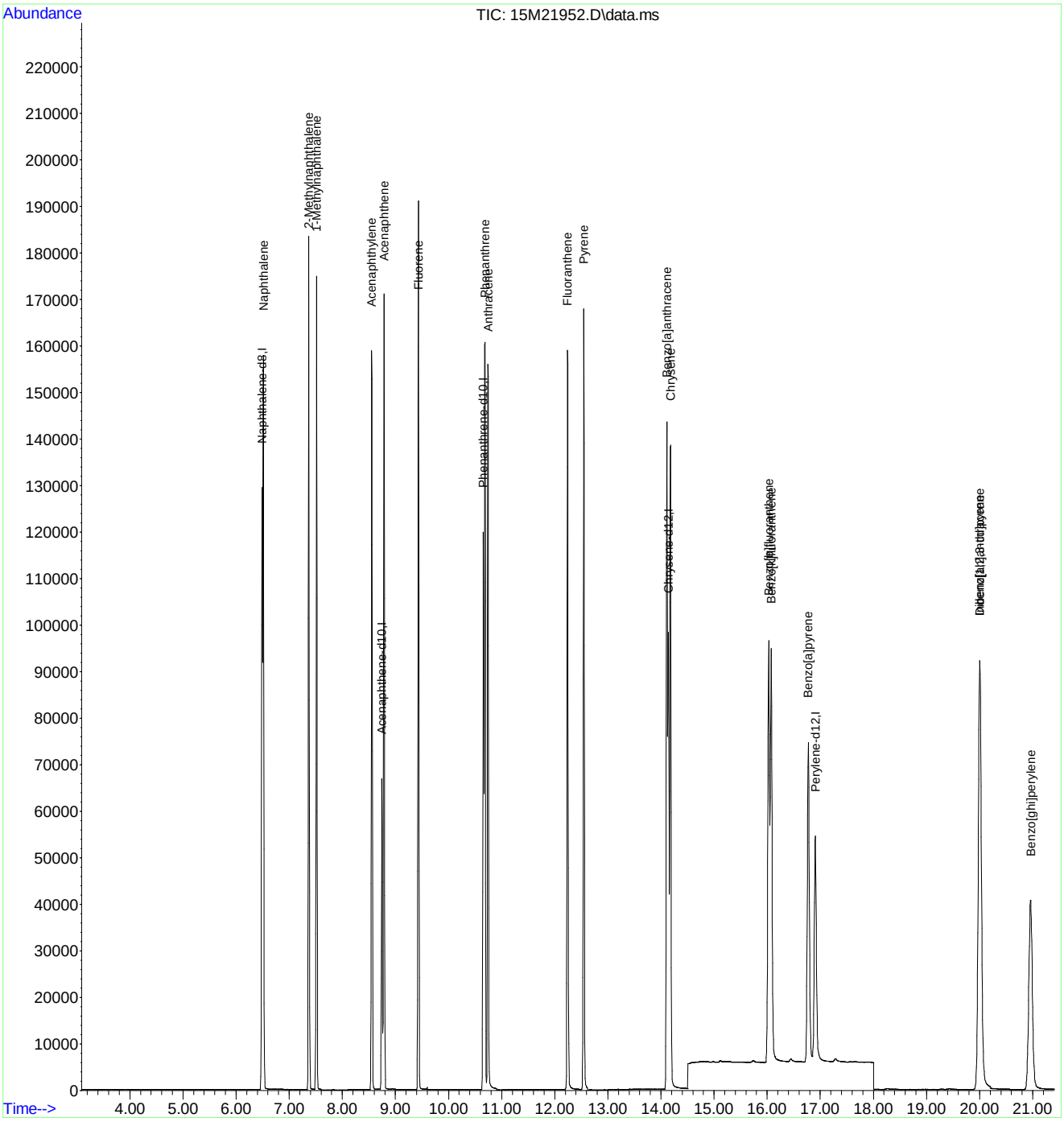
Quant Time: Sep 02 13:04:51 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 159324 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 79518 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 144230 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.142 | 240 | 143786 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 130170 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.617 | 82 | 33 | 0.0007 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = | 0.00%# | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 52 | 0.0004 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = | 0.00%# | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 195 | 0.0015 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = | 0.00%# | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.514 | 128 | 175477 | 1.0839 | ug/mL | 100 |
| 4) 2-Methylnaphthalene | 7.372 | 142 | 119025 | 1.0603 | ug/mL | 100 |
| 5) 1-Methylnaphthalene | 7.515 | 142 | 111568 | 1.0415 | ug/mL | 100 |
| 8) Acenaphthylene | 8.553 | 152 | 160797 | 1.0550 | ug/mL | 100 |
| 9) Acenaphthene | 8.787 | 154 | 104053 | 1.1042 | ug/mL | 100 |
| 10) Fluorene | 9.434 | 166 | 121719 | 1.0758 | ug/mL | 100 |
| 12) Phenanthrene | 10.687 | 178 | 175471 | 1.0638 | ug/mL | 100 |
| 13) Anthracene | 10.746 | 178 | 169326 | 1.0684 | ug/mL | 99 |
| 14) Fluoranthene | 12.240 | 202 | 176897 | 1.0614 | ug/mL | 100 |
| 16) Pyrene | 12.549 | 202 | 184127 | 1.0442 | ug/mL | 99 |
| 18) Benzo[a]anthracene | 14.110 | 228 | 167261 | 1.0758 | ug/mL | 100 |
| 19) Chrysene | 14.180 | 228 | 169925 | 1.0889 | ug/mL | 100 |
| 21) Benzo[b]fluoranthene | 16.028 | 252 | 166289 | 1.0676 | ug/mL | 100 |
| 22) Benzo[k]fluoranthene | 16.076 | 252 | 174918 | 1.1001 | ug/mL | 100 |
| 23) Benzo[a]pyrene | 16.773 | 252 | 146895 | 1.0472 | ug/mL | 100 |
| 24) Indeno[1,2,3-cd]pyrene | 20.004 | 276 | 155999 | 1.0371 | ug/mL | 94 |
| 25) Dibenz[ah]anthracene | 20.004 | 278 | 148662 | 1.0439 | ug/mL | 100 |
| 26) Benzo[ghi]perylene | 20.961 | 276 | 155769 | 1.0740 | ug/mL | 100 |

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

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21952.D
Acq On : 2 Sep 2017 12:41 pm
Operator : LJH/SCB
Sample : WG628279-09 1PPM PAHL ALT SRC
Misc : 1,1 STD80988
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 02 13:04:51 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21952.D
Acq On : 2 Sep 2017 12:41 pm
Operator : LJH/SCB
Sample : WG628279-09 1PPM PAHL ALT SRC
Misc : 1,1 STD80988
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 02 13:04:51 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial 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 | 105 | 0.00 |
| 2 | S | Nitrobenzene-d5 | 0.302 | 0.000 | 100.0# | 0# | 0.00 |
| 3 | | Naphthalene | 1.016 | 1.101 | -8.4 | 114 | 0.00 |
| 4 | | 2-Methylnaphthalene | 0.705 | 0.747 | -6.0 | 112 | 0.00 |
| 5 | | 1-Methylnaphthalene | 0.672 | 0.700 | -4.2 | 113 | 0.00 |
| 6 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 105 | 0.00 |
| 7 | S | 2-Fluorobiphenyl | 1.466 | 0.001 | 99.9# | 0# | 0.00 |
| 8 | | Acenaphthylene | 1.917 | 2.022 | -5.5 | 114 | 0.00 |
| 9 | | Acenaphthene | 1.185 | 1.309 | -10.5 | 116 | 0.00 |
| 10 | | Fluorene | 1.423 | 1.531 | -7.6 | 113 | 0.00 |
| 11 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 12 | | Phenanthrene | 1.144 | 1.217 | -6.4 | 112 | 0.00 |
| 13 | | Anthracene | 1.099 | 1.174 | -6.8 | 115 | 0.00 |
| 14 | | Fluoranthene | 1.155 | 1.226 | -6.1 | 112 | 0.00 |
| 15 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 16 | | Pyrene | 1.226 | 1.281 | -4.5 | 112 | 0.00 |
| 17 | S | p-Terphenyl-d14 | 0.907 | 0.001 | 99.9# | 0# | 0.00 |
| 18 | | Benzo[a]anthracene | 1.081 | 1.163 | -7.6 | 115 | 0.00 |
| 19 | | Chrysene | 1.085 | 1.182 | -8.9 | 116 | 0.00 |
| 20 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 107 | 0.00 |
| 21 | | Benzo[b]fluoranthene | 1.197 | 1.277 | -6.7 | 115 | 0.00 |
| 22 | | Benzo[k]fluoranthene | 1.222 | 1.344 | -10.0 | 116 | 0.00 |
| 23 | | Benzo[a]pyrene | 1.078 | 1.128 | -4.6 | 113 | 0.00 |
| 24 | | Indeno[1,2,3-cd]pyrene | 1.156 | 1.198 | -3.6 | 103 | 0.00 |
| 25 | | Dibenz[ah]anthracene | 1.094 | 1.142 | -4.4 | 113 | 0.00 |
| 26 | | Benzo[ghi]perylene | 1.114 | 1.197 | -7.5 | 113 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21952.D
Acq On : 2 Sep 2017 12:41 pm
Operator : LJH/SCB
Sample : WG628279-09 1PPM PAHL ALT SRC
Misc : 1,1 STD80988
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 02 13:04:51 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial 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 | 105 | 0.00 |
| 2 | S | Nitrobenzene-d5 | 1.000 | 0.001 | 99.9# | 0 | 0.00 |
| 3 | | Naphthalene | 1.000 | 1.084 | -8.4 | 114 | 0.00 |
| 4 | | 2-Methylnaphthalene | 1.000 | 1.060 | -6.0 | 112 | 0.00 |
| 5 | | 1-Methylnaphthalene | 1.000 | 1.042 | -4.2 | 113 | 0.00 |
| 6 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 105 | 0.00 |
| 7 | S | 2-Fluorobiphenyl | 1.000 | 0.000 | 100.0# | 0 | 0.00 |
| 8 | | Acenaphthylene | 1.000 | 1.055 | -5.5 | 114 | 0.00 |
| 9 | | Acenaphthene | 1.000 | 1.104 | -10.4 | 116 | 0.00 |
| 10 | | Fluorene | 1.000 | 1.076 | -7.6 | 113 | 0.00 |
| 11 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 12 | | Phenanthrene | 1.000 | 1.064 | -6.4 | 112 | 0.00 |
| 13 | | Anthracene | 1.000 | 1.068 | -6.8 | 115 | 0.00 |
| 14 | | Fluoranthene | 1.000 | 1.061 | -6.1 | 112 | 0.00 |
| 15 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 16 | | Pyrene | 1.000 | 1.044 | -4.4 | 112 | 0.00 |
| 17 | S | p-Terphenyl-d14 | 1.000 | 0.001 | 99.9# | 0 | 0.00 |
| 18 | | Benzo[a]anthracene | 1.000 | 1.076 | -7.6 | 115 | 0.00 |
| 19 | | Chrysene | 1.000 | 1.089 | -8.9 | 116 | 0.00 |
| 20 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 107 | 0.00 |
| 21 | | Benzo[b]fluoranthene | 1.000 | 1.068 | -6.8 | 115 | 0.00 |
| 22 | | Benzo[k]fluoranthene | 1.000 | 1.100 | -10.0 | 116 | 0.00 |
| 23 | | Benzo[a]pyrene | 1.000 | 1.047 | -4.7 | 113 | 0.00 |
| 24 | | Indeno[1,2,3-cd]pyrene | 1.000 | 1.037 | -3.7 | 103 | 0.00 |
| 25 | | Dibenz[ah]anthracene | 1.000 | 1.044 | -4.4 | 113 | 0.00 |
| 26 | | Benzo[ghi]perylene | 1.000 | 1.074 | -7.4 | 113 | 0.00 |

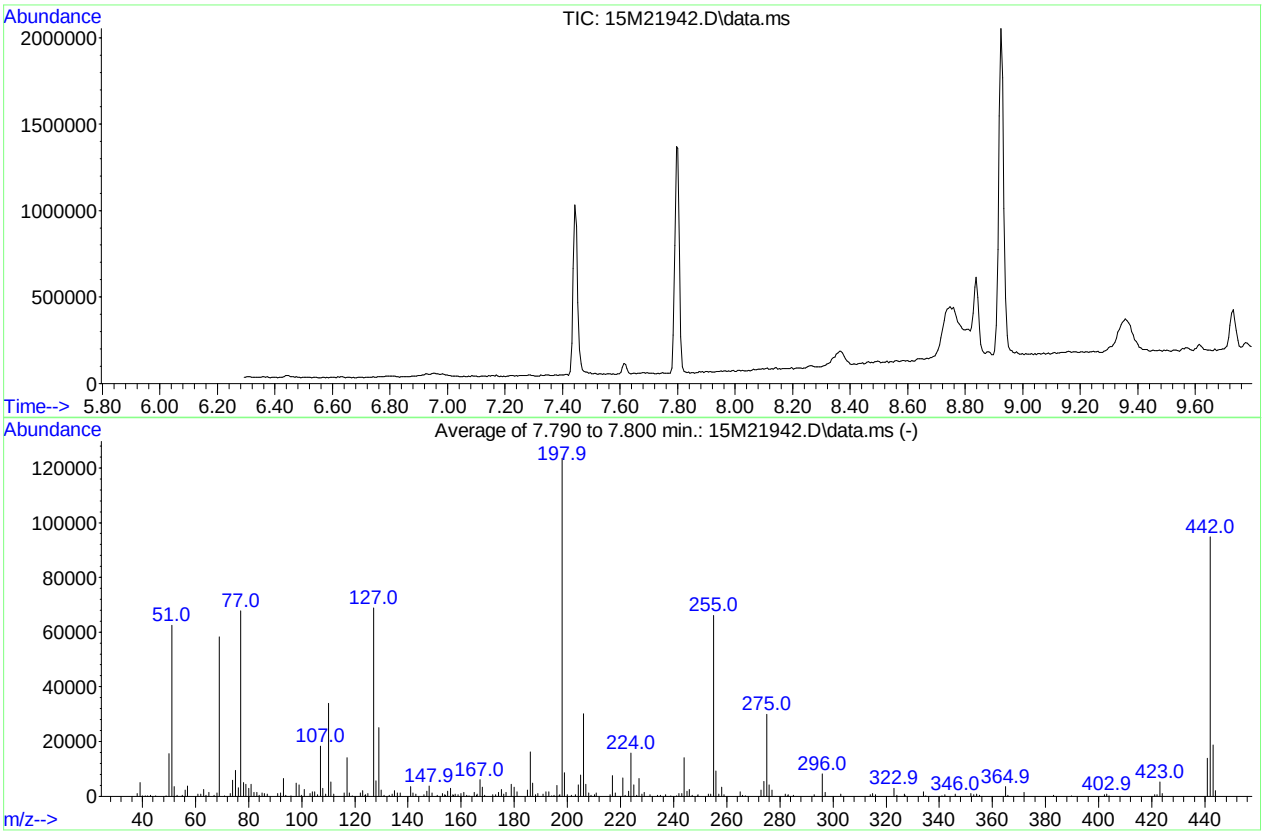
(#) = Out of Range SPCC's out = 0 CCC's out = 0

# 2.2.2.5 Raw QC Data

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21942.D
Acq On : 2 Sep 2017 7:55 am
Operator : LJH/SCB
Sample : WG628279-01 5PPM DFTPP STD
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\DFTPPQ.M
Title : DFTPP
Last Update : Tue Sep 13 14:03:54 2016

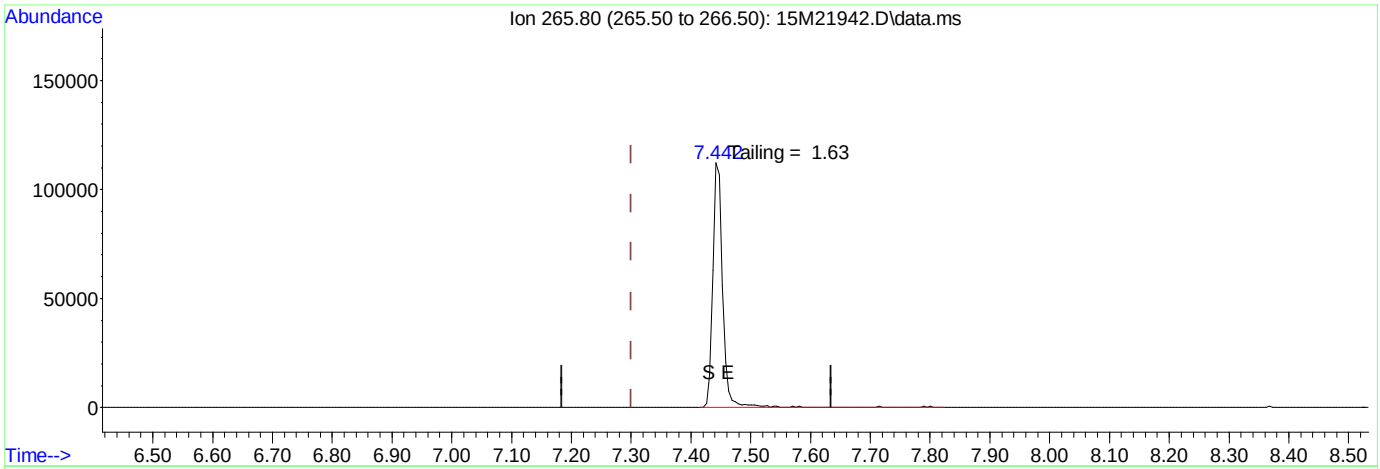



AutoFind: Scans 281, 282, 283; Background Corrected with Scan 276

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 60 | 50.6 | 62569 | PASS |
| 68 | 69 | 0.00 | 2 | 1.9 | 1086 | PASS |
| 69 | 198 | 0.00 | 100 | 47.2 | 58334 | PASS |
| 70 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 127 | 198 | 40 | 60 | 55.7 | 68848 | PASS |
| 197 | 198 | 0.00 | 1 | 0.5 | 593 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 123624 | PASS |
| 199 | 198 | 5 | 9 | 7.0 | 8671 | PASS |
| 275 | 198 | 10 | 30 | 24.3 | 30019 | PASS |
| 365 | 198 | 1 | 100 | 2.7 | 3394 | PASS |
| 441 | 443 | 0.01 | 100 | 73.3 | 13785 | PASS |
| 442 | 198 | 40 | 100 | 76.6 | 94757 | PASS |
| 443 | 442 | 17 | 23 | 19.9 | 18814 | PASS |

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21942.D
Acq On : 2 Sep 2017 7:55 am
Operator : LJH/SCB
Sample : WG628279-01 5PPM DFTPP STD
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 02 08:05:50 2017
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP.M
Quant Title : DFTPP
QLast Update : Mon Jul 10 07:19:42 2017
Response via : Initial Calibration




TIC: 15M21942.D\data.ms

**(1) Pentachlorophenol**

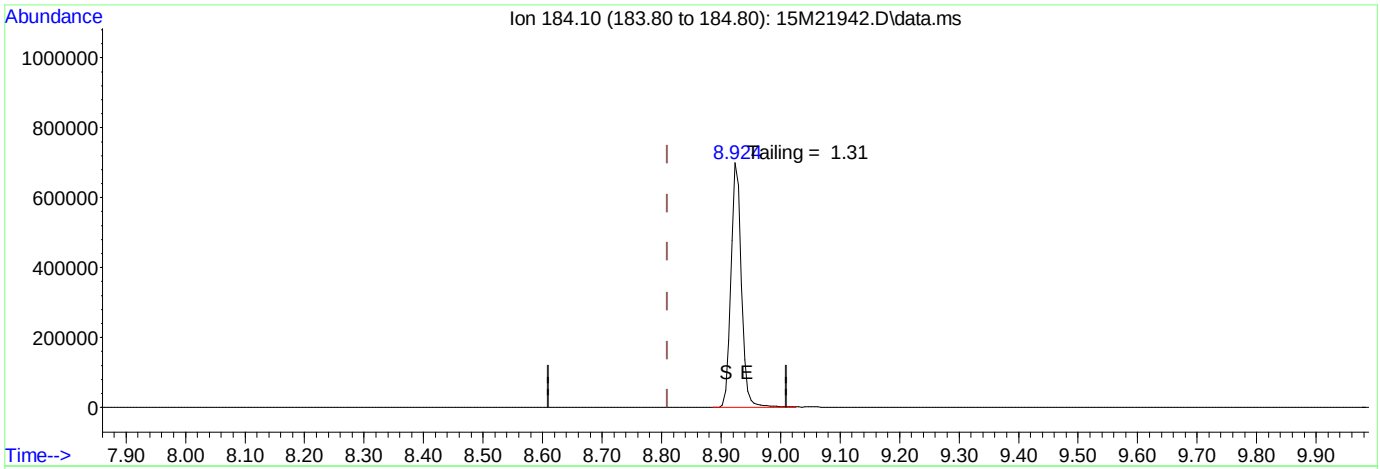
**7.442min (+ 0.142) 0.00 ug/ml**

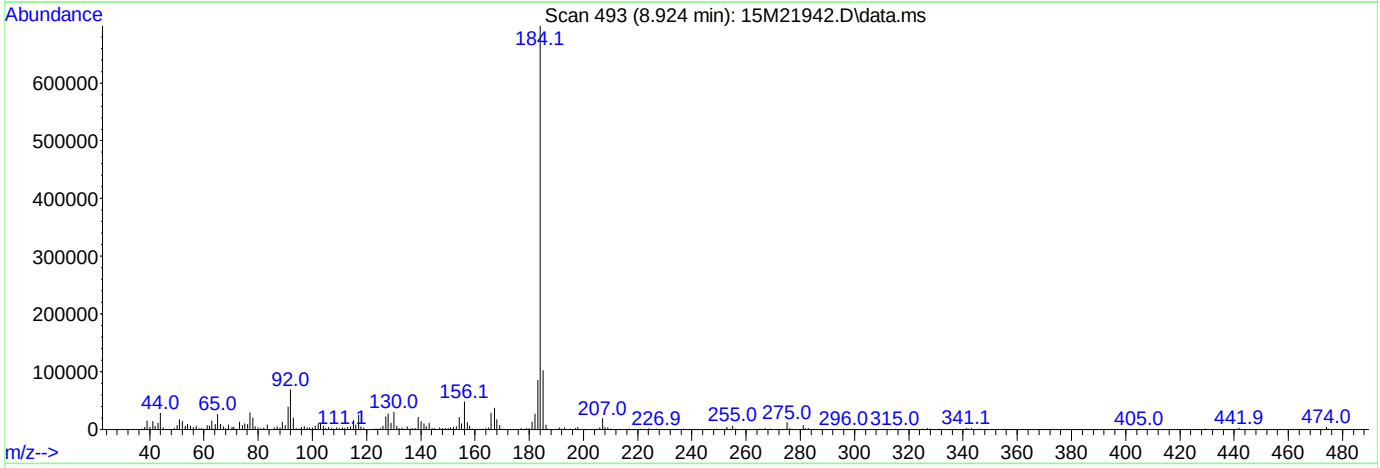
**response 128147**

| Ion | Exp% | Act% |
|---|---|---|
| 265.80 | 100.00 | 100.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21942.D
Acq On : 2 Sep 2017 7:55 am
Operator : LJH/SCB
Sample : WG628279-01 5PPM DFTPP STD
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 02 08:05:50 2017
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP.M
Quant Title : DFTPP
QLast Update : Mon Jul 10 07:19:42 2017
Response via : Initial Calibration




TIC: 15M21942.D\data.ms

**(2) Benzidine**

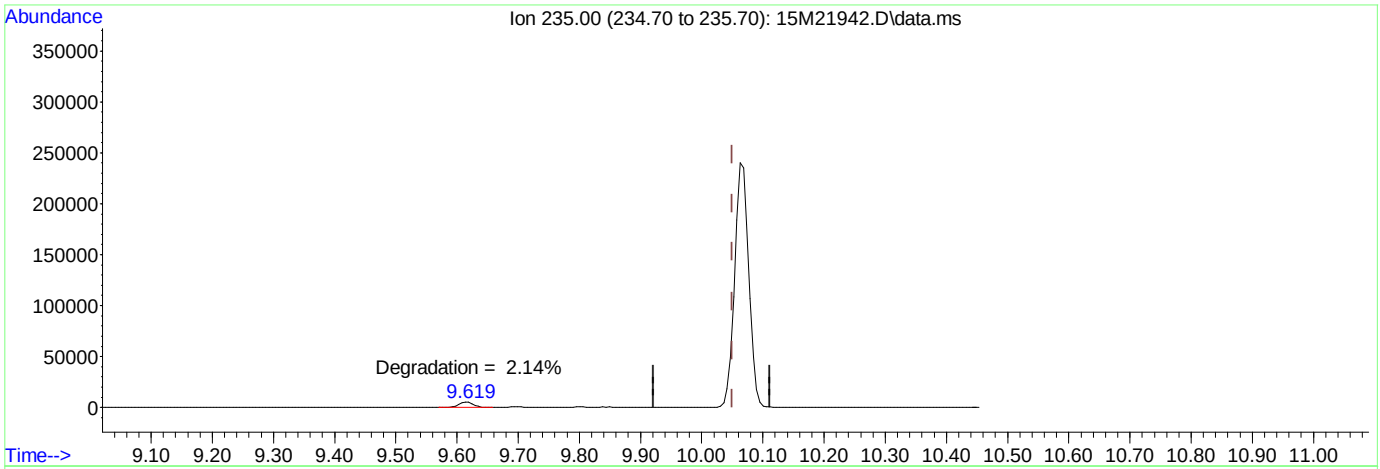
**8.924min (+ 0.114) 0.00 ug/ml**

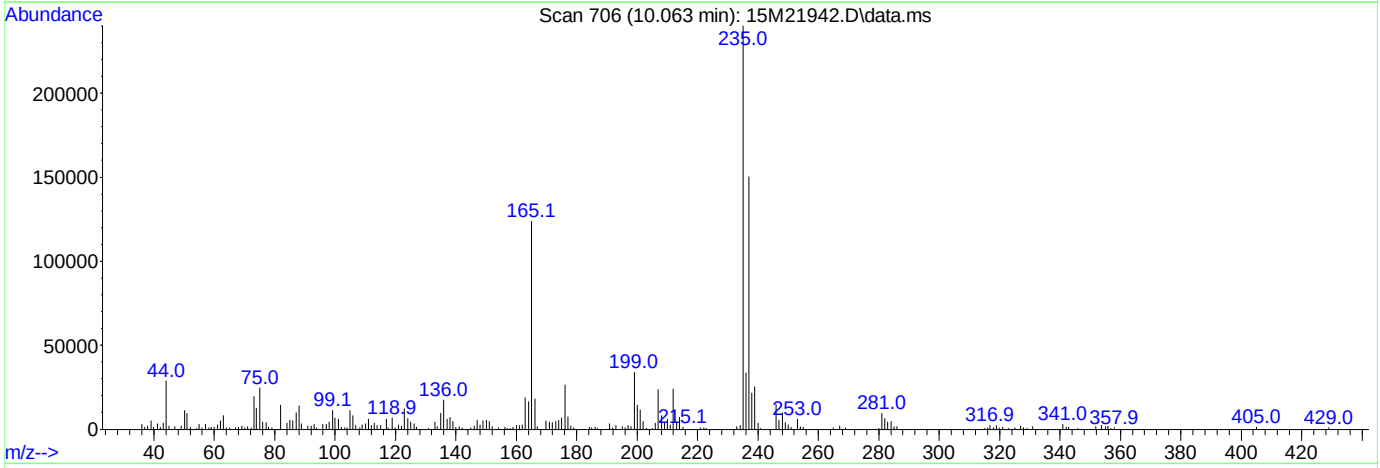
**response 853968**

| Ion | Exp% | Act% |
|---|---|---|
| 184.10 | 100.00 | 100.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21942.D
Acq On : 2 Sep 2017 7:55 am
Operator : LJH/SCB
Sample : WG628279-01 5PPM DFTPP STD
Misc : 1,1 STD80383
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 02 08:05:50 2017
Quant Method : C:\MSDCHEM\1\METHODS\DFTPP.M
Quant Title : DFTPP
QLast Update : Mon Jul 10 07:19:42 2017
Response via : Initial Calibration




TIC: 15M21942.D\data.ms

**(3) DDT**

**10.063min (+ 0.013) 0.00 ug/ml**

**response 383273**

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100.00 | 100.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21953.D
Acq On : 2 Sep 2017 1:09 pm
Operator : LJH/SCB
Sample : WG627788-01 BLANK 9/1
Misc : 1,1
ALS Vial : 10 Sample Multiplier: 1

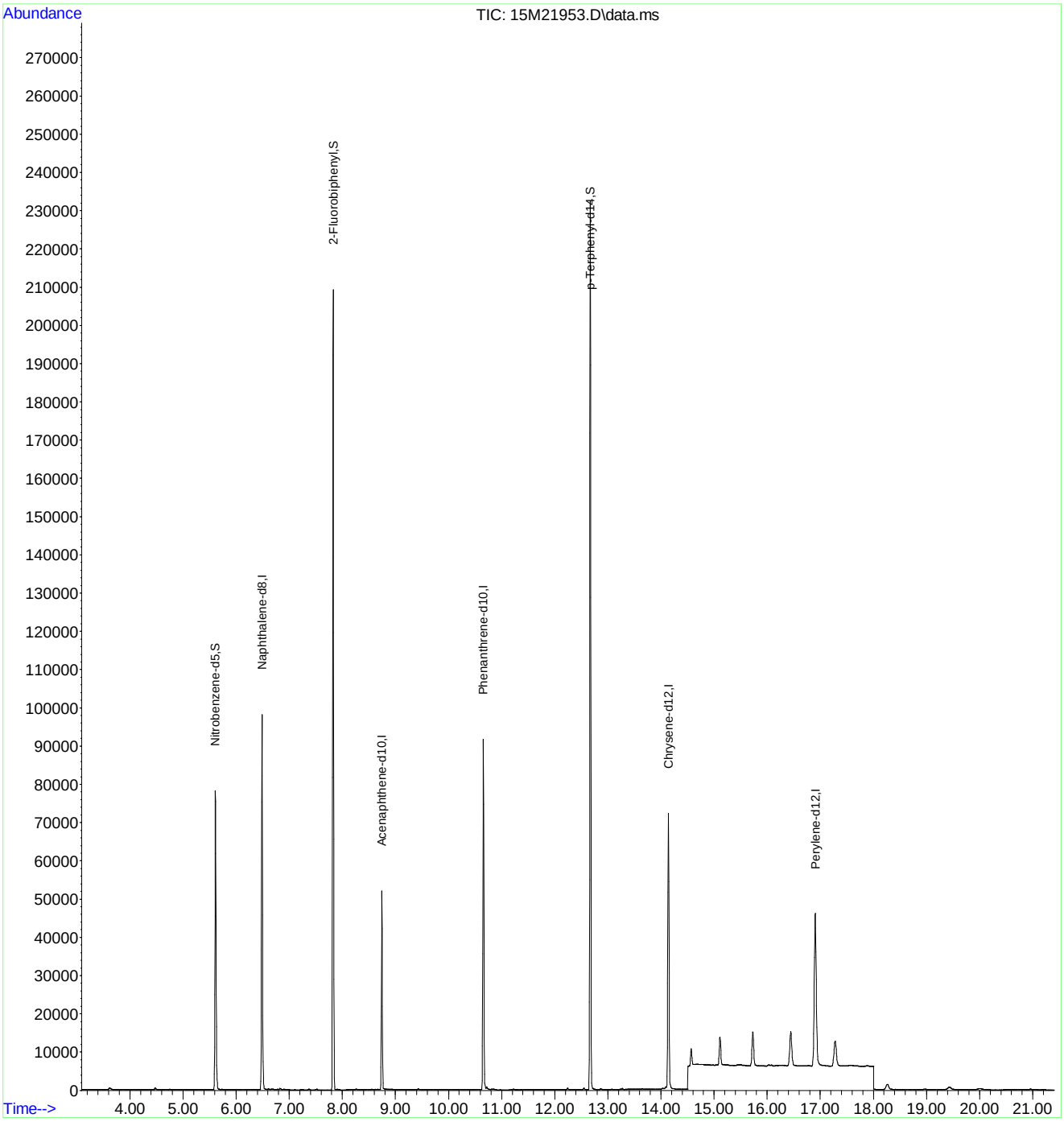
Quant Time: Sep 02 22:20:38 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 121742 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 61356 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 110923 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.143 | 240 | 109705 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 105621 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.610 | 82 | 73305 | 1.9932 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = 79.60% | | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 179231 | 1.9932 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = 79.60% | | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 228283 | 2.2942 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = 91.60% | | | |
| Target Compounds | | | | | | Qvalue |

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

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21953.D
Acq On : 2 Sep 2017 1:09 pm
Operator : LJH/SCB
Sample : WG627788-01 BLANK 9/1
Misc : 1,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 02 22:20:38 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21954.D
Acq On : 2 Sep 2017 1:37 pm
Operator : LJH/SCB
Sample : WG627788-02 LCS 9/1
Misc : 1,1
ALS Vial : 11 Sample Multiplier: 1

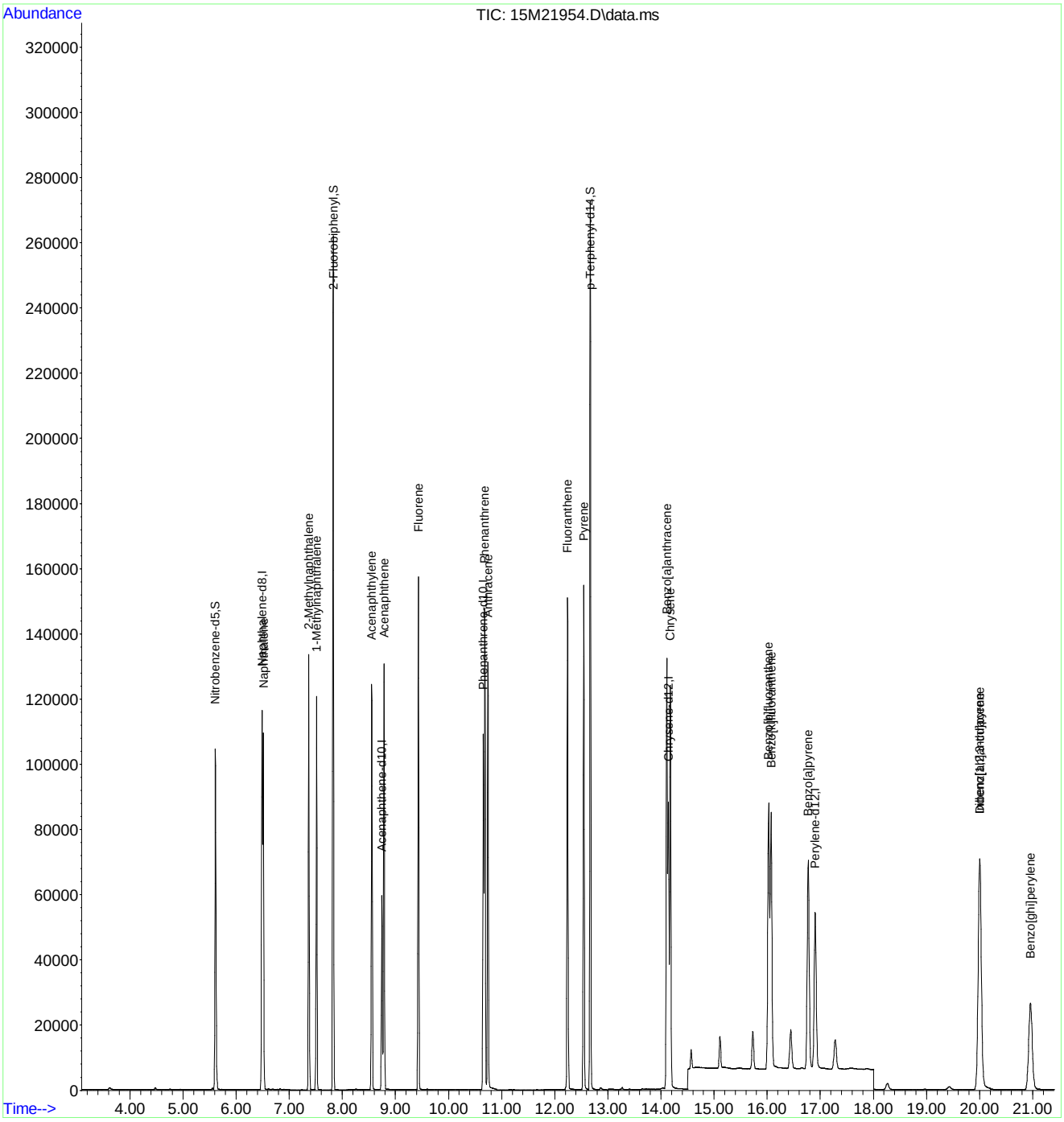
Quant Time: Sep 02 21:18:40 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 142546 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 72418 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 131349 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.142 | 240 | 129228 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.902 | 264 | 128231 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.609 | 82 | 95674 | 2.2218 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = 88.80% | | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 226064 | 2.1301 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = 85.20% | | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 272511 | 2.3249 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = 92.80% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.514 | 128 | 121264 | 0.8372 | ug/mL | 99 |
| 4) 2-Methylnaphthalene | 7.372 | 142 | 85733 | 0.8536 | ug/mL | 100 |
| 5) 1-Methylnaphthalene | 7.515 | 142 | 77596 | 0.8097 | ug/mL | 100 |
| 8) Acenaphthylene | 8.553 | 152 | 128009 | 0.9222 | ug/mL | 99 |
| 9) Acenaphthene | 8.787 | 154 | 78863 | 0.9189 | ug/mL | 100 |
| 10) Fluorene | 9.434 | 166 | 98937 | 0.9602 | ug/mL | 100 |
| 12) Phenanthrene | 10.682 | 178 | 153879 | 1.0244 | ug/mL | 100 |
| 13) Anthracene | 10.741 | 178 | 140218 | 0.9715 | ug/mL | 99 |
| 14) Fluoranthene | 12.240 | 202 | 167441 | 1.1032 | ug/mL | 100 |
| 16) Pyrene | 12.545 | 202 | 173809 | 1.0967 | ug/mL | 100 |
| 18) Benzo[a]anthracene | 14.110 | 228 | 154691 | 1.1071 | ug/mL | 99 |
| 19) Chrysene | 14.175 | 228 | 145818 | 1.0397 | ug/mL | 100 |
| 21) Benzo[b]fluoranthene | 16.024 | 252 | 152829 | 0.9960 | ug/mL | 97 |
| 22) Benzo[k]fluoranthene | 16.072 | 252 | 145988 | 0.9320 | ug/mL | 100 |
| 23) Benzo[a]pyrene | 16.773 | 252 | 136866 | 0.9905 | ug/mL | 99 |
| 24) Indeno[1,2,3-cd]pyrene | 20.004 | 276 | 130931 | 0.8836 | ug/mL | 96 |
| 25) Dibenz[ah]anthracene | 20.004 | 278 | 100895 | 0.7192 | ug/mL | 87 |
| 26) Benzo[ghi]perylene | 20.958 | 276 | 102461 | 0.7172 | ug/mL | 100 |

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

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21954.D
Acq On : 2 Sep 2017 1:37 pm
Operator : LJH/SCB
Sample : WG627788-02 LCS 9/1
Misc : 1,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 02 21:18:40 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21955.D
Acq On : 2 Sep 2017 2:06 pm
Operator : LJH/SCB
Sample : WG627788-03 LCS2 9/1
Misc : 1,1
ALS Vial : 12 Sample Multiplier: 1

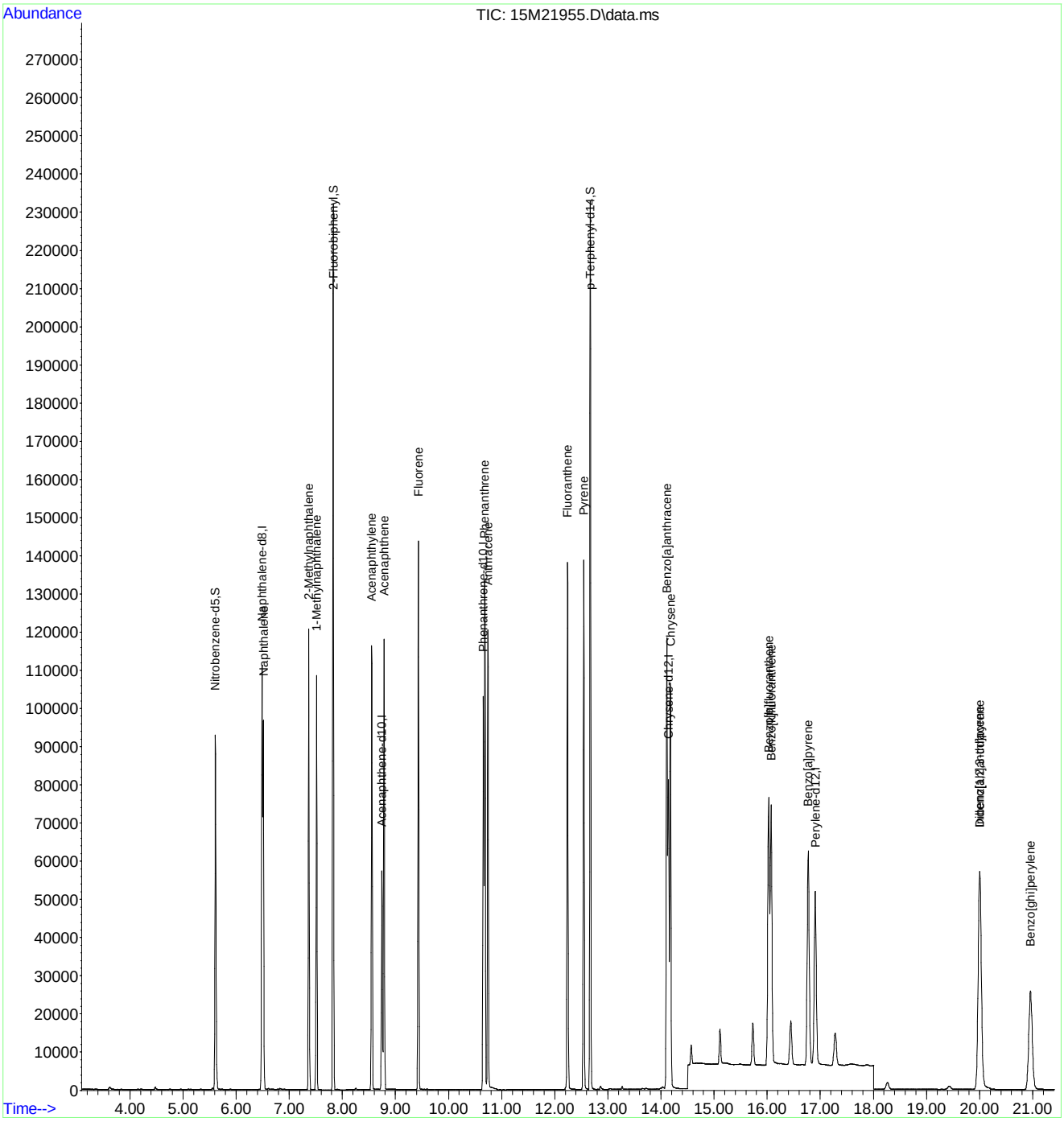
Quant Time: Sep 02 21:18:45 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1) Naphthalene-d8 | 6.487 | 136 | 134516 | 1.0000 | ug/mL | 0.00 |
| 6) Acenaphthene-d10 | 8.744 | 164 | 68343 | 1.0000 | ug/mL | 0.00 |
| 11) Phenanthrene-d10 | 10.655 | 188 | 123382 | 1.0000 | ug/mL | 0.00 |
| 15) Chrysene-d12 | 14.142 | 240 | 121610 | 1.0000 | ug/mL | 0.00 |
| 20) Perylene-d12 | 16.907 | 264 | 121304 | 1.0000 | ug/mL | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2) Nitrobenzene-d5 | 5.609 | 82 | 84593 | 2.0817 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 35 - 114 | | Recovery = 83.20% | | | |
| 7) 2-Fluorobiphenyl | 7.828 | 172 | 198533 | 1.9822 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 43 - 116 | | Recovery = 79.20% | | | |
| 17) p-Terphenyl-d14 | 12.670 | 244 | 234227 | 2.1235 | ug/mL | 0.00 |
| Spiked Amount 2.500 | Range 33 - 141 | | Recovery = 84.80% | | | |
| Target Compounds | | | | | | Qvalue |
| 3) Naphthalene | 6.514 | 128 | 108565 | 0.7943 | ug/mL | 99 |
| 4) 2-Methylnaphthalene | 7.371 | 142 | 77133 | 0.8138 | ug/mL | 100 |
| 5) 1-Methylnaphthalene | 7.515 | 142 | 70338 | 0.7777 | ug/mL | 100 |
| 8) Acenaphthylene | 8.553 | 152 | 119867 | 0.9151 | ug/mL | 99 |
| 9) Acenaphthene | 8.787 | 154 | 72113 | 0.8903 | ug/mL | 100 |
| 10) Fluorene | 9.434 | 166 | 91029 | 0.9361 | ug/mL | 100 |
| 12) Phenanthrene | 10.682 | 178 | 139624 | 0.9895 | ug/mL | 100 |
| 13) Anthracene | 10.741 | 178 | 128183 | 0.9455 | ug/mL | 99 |
| 14) Fluoranthene | 12.240 | 202 | 150345 | 1.0546 | ug/mL | 100 |
| 16) Pyrene | 12.545 | 202 | 156474 | 1.0492 | ug/mL | 100 |
| 18) Benzo[a]anthracene | 14.110 | 228 | 137083 | 1.0425 | ug/mL | 99 |
| 19) Chrysene | 14.180 | 228 | 128168 | 0.9711 | ug/mL | 100 |
| 21) Benzo[b]fluoranthene | 16.028 | 252 | 132908 | 0.9156 | ug/mL | 97 |
| 22) Benzo[k]fluoranthene | 16.072 | 252 | 129167 | 0.8717 | ug/mL | 100 |
| 23) Benzo[a]pyrene | 16.773 | 252 | 120847 | 0.9245 | ug/mL | 99 |
| 24) Indeno[1,2,3-cd]pyrene | 20.004 | 276 | 110746 | 0.7901 | ug/mL | 96 |
| 25) Dibenz[ah]anthracene | 20.004 | 278 | 78615 | 0.5924 | ug/mL | 80 |
| 26) Benzo[ghi]perylene | 20.957 | 276 | 97622 | 0.7223 | ug/mL | 99 |

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

Data Path : C:\msdchem\1\data\090217\
Data File : 15M21955.D
Acq On : 2 Sep 2017 2:06 pm
Operator : LJH/SCB
Sample : WG627788-03 LCS2 9/1
Misc : 1,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 02 21:18:45 2017
Quant Method : C:\msdchem\1\methods\PAHQUANT.M
Quant Title : OVD MSS03 PAHL SIM ICAL 09/02/17
QLast Update : Sat Sep 02 12:41:37 2017
Response via : Initial Calibration



# 2.3 Metals Data

# 2.3.1 Metals I C P Data

# 2.3.1.1 Summary Data

**Login Number:** L17081498
**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:** WG628174 - All acceptance criteria were met.

**Matrix Spikes:** All acceptance criteria were met.

**SAMPLES**

**Samples:** All acceptance criteria were met.

**Narrative ID:** 128977
**Approved By:** Kim Rhodes

# Certificate of Analysis

**Sample #:** L17081498-01 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW07-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:05
**Collect Date:** 08/25/2017 10:34 **Dilution:** 1 **File ID:** T4.090117.170541
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Aluminum, Total | 7429-90-5 | 0.145 | J | 0.200 | 0.100 |
| Calcium, Total | 7440-70-2 | 96.7 | | 0.500 | 0.250 |
| Iron, Total | 7439-89-6 | 0.152 | | 0.100 | 0.0500 |
| Magnesium, Total | 7439-95-4 | 14.7 | | 0.500 | 0.250 |
| Manganese, Total | 7439-96-5 | 0.254 | | 0.0100 | 0.00500 |
| Potassium, Total | 7440-09-7 | 4.28 | | 1.00 | 0.500 |
| Sodium, Total | 7440-23-5 | 262 | | 0.500 | 0.250 |

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

**Sample #:** L17081498-02 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW07-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:09
**Collect Date:** 08/25/2017 10:34 **Dilution:** 1 **File ID:** T4.090117.170922
**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 | | U | 0.100 | 0.0500 |
| Manganese, Dissolved | 7439-96-5 | 0.296 | | 0.0100 | 0.00500 |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-03 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW06-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:13
**Collect Date:** 08/25/2017 13:54 **Dilution:** 1 **File ID:** T4.090117.171302
**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 | 114 | | 0.500 | 0.250 |
| Iron, Total | 7439-89-6 | | U | 0.100 | 0.0500 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Magnesium, Total | 7439-95-4 | 25.8 | | 0.500 | 0.250 |
| Manganese, Total | 7439-96-5 | 0.0658 | | 0.0100 | 0.00500 |
| Potassium, Total | 7440-09-7 | 1.77 | | 1.00 | 0.500 |
| Sodium, Total | 7440-23-5 | 43.6 | | 0.500 | 0.250 |

U Not detected at or above adjusted sample detection limit.

**Sample #:** L17081498-04 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW06-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:16
**Collect Date:** 08/25/2017 13:54 **Dilution:** 1 **File ID:** T4.090117.171644
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Aluminum, Dissolved | 7429-90-5 | 0.217 | | 0.200 | 0.100 |
| Iron, Dissolved | 7439-89-6 | | U | 0.100 | 0.0500 |
| Manganese, Dissolved | 7439-96-5 | 0.0258 | | 0.0100 | 0.00500 |

U Not detected at or above adjusted sample detection limit.

**Sample #:** L17081498-07 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW10-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:20
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** T4.090117.172026
**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 | 82.4 | | 0.500 | 0.250 |
| Iron, Total | 7439-89-6 | 0.276 | | 0.100 | 0.0500 |
| Magnesium, Total | 7439-95-4 | 20.1 | | 0.500 | 0.250 |
| Manganese, Total | 7439-96-5 | 0.221 | | 0.0100 | 0.00500 |
| Potassium, Total | 7440-09-7 | 2.41 | | 1.00 | 0.500 |
| Sodium, Total | 7440-23-5 | 172 | | 0.500 | 0.250 |

U Not detected at or above adjusted sample detection limit.

Certificate of Analysis

**Sample #:** L17081498-08 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW10-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:24
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** T4.090117.172407
**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 | 1.85 | | 0.100 | 0.0500 |
| Manganese, Dissolved | 7439-96-5 | 0.129 | | 0.0100 | 0.00500 |

| | |
|---|---|
| U | Not detected at or above adjusted sample detection limit. |

**Sample #:** L17081498-09 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW20-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:42
**Collect Date:** 08/25/2017 14:10 **Dilution:** 1 **File ID:** T4.090117.174210
**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 | 111 | | 0.500 | 0.250 |
| Iron, Total | 7439-89-6 | 0.0789 | J | 0.100 | 0.0500 |
| Magnesium, Total | 7439-95-4 | 30.1 | | 0.500 | 0.250 |
| Manganese, Total | 7439-96-5 | 0.0328 | | 0.0100 | 0.00500 |
| Potassium, Total | 7440-09-7 | 3.69 | | 1.00 | 0.500 |
| Sodium, Total | 7440-23-5 | 22.9 | | 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 #:** L17081498-10 **PrePrep Method:** N/A **Instrument:** ICP-THERMO4
**Client ID:** MW20-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 07:16
**Matrix:** Water **Analytical Method:** 6010C **Cal Date:** 09/01/2017 12:40
**Workgroup #:** WG628174 **Analyst:** KKB **Run Date:** 09/01/2017 17:45
**Collect Date:** 08/25/2017 14:10 **Dilution:** 1 **File ID:** T4.090117.174552
**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 | 0.0750 | J | 0.100 | 0.0500 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Manganese, Dissolved | 7439-96-5 | 0.125 | | 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: | **Example:** |
|---|---|
| $Cs$ = Concentration computed by the data system in ug/mL (ppm) | 0.1 |
| $Vf$ = Final volume (mL) | 50 |
| $Vi$ = Initial volume (mL) | 50 |
| $D$ = Dilution factor as a multiplier (10X = 10) | 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: | **Example:** |
|---|---|
| $Cs$ = Concentration computed by the data system (mg/L) (ppm) | 0.1 |
| $Vf$ = Final volume (mL) | 50 |
| $Vi$ = Initial weight (g) | 1 |
| $D$ = Dilution factor as a multiplier (10X = 10) | 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: | **Example:** |
|---|---|
| $Cx$ = Concentration calculated as received (wet basis) | 5 |
| $Px$ = Percent solids of sample (%wt) | 80 |
| | |
| $Cdry$ = Concentration calculated as dry weight (mg/kg) | 6.25 |

# Microbac Laboratories Inc.
## Microwave Digestion Log

Workgroup: WG627899
Analyst: ERP
Spike Analyst: ERP
Run Date: 08/31/2017 07:16
Method: 3015A
Balance: BAL019
Instrument: MW-1
Instrument Start: 08/31/2017 07:32

SOP: ME407 Revison 19
Spike Solution: STD83370
Spike Witness: VC
HNO3 Lot #: COA19940
HCL Lot #: COA19849
40 & 50 ML. DIGESTION TU COA19932
ICP FILTERS LOT#r7ha2443 RGT40684

| | SAMPLE # | Type | Matrix | Initial Amount | Final Volume | Initial Vessel Wt | Final Vessel Wt | Spike Amount | Due Date |
|---|---|---|---|---|---|---|---|---|---|
| 1 | WG627899-02 | BLANK | 1 | 40 mL | 50 mL | 206.693 g | 206.682 g | | |
| 2 | WG627899-03 | LCS | 1 | 40 mL | 50 mL | 209.542 g | 209.538 g | 5 mL | |
| 3 | L17081498-01 | SAMP | 1 | 40 mL | 50 mL | 204.692 g | 204.683 g | | 09/12/17 |
| 4 | L17081498-02 | SAMP | 1 | 40 mL | 50 mL | 203.283 g | 203.254 g | | 09/12/17 |
| 5 | L17081498-03 | RS01 | 1 | 40 mL | 50 mL | 204.217 g | 204.209 g | | 09/12/17 |
| 6 | L17081498-04 | SAMP | 1 | 40 mL | 50 mL | 205.935 g | 205.922 g | | 09/12/17 |
| 7 | L17081498-07 | SAMP | 1 | 40 mL | 50 mL | 205.395 g | 205.379 g | | 09/12/17 |
| 8 | L17081498-08 | SAMP | 1 | 40 mL | 50 mL | 204.057 g | 204.043 g | | 09/12/17 |
| 9 | L17081498-09 | SAMP | 1 | 40 mL | 50 mL | 204.98 g | 204.949 g | | 09/12/17 |
| 10 | L17081498-10 | SAMP | 1 | 40 mL | 50 mL | 206.586 g | 206.564 g | | 09/12/17 |
| 11 | L17081559-01 | SAMP | 1 | 40 mL | 50 mL | 204.88 g | 204.857 g | | 09/08/17 |
| 12 | L17081559-02 | SAMP | 1 | 40 mL | 50 mL | 207.464 g | 207.45 g | | 09/08/17 |
| 13 | WG627899-01 | REF | 1 | 40 mL | 50 mL | 204.652 g | 204.632 g | | |
| 14 | L17081559-03 | RS01 | 1 | 40 mL | 50 mL | 204.652 g | 204.632 g | | 09/08/17 |
| 15 | WG627899-04 | MS | 1 | 40 mL | 50 mL | 210.77 g | 210.737 g | 5 mL | |
| 16 | L17081559-04 | MS01 | 1 | 40 mL | 50 mL | 210.77 g | 210.737 g | 5 mL | 09/08/17 |
| 17 | WG627899-05 | MSD | 1 | 40 mL | 50 mL | 210.117 g | 210.102 g | 5 mL | |
| 18 | L17081559-05 | SD01 | 1 | 40 mL | 50 mL | 210.117 g | 210.102 g | 5 mL | 09/08/17 |
| 19 | L17081559-06 | SAMP | 1 | 40 mL | 50 mL | 205.213 g | 205.193 g | | 09/08/17 |
| 20 | L17081559-07 | SAMP | 1 | 40 mL | 50 mL | 203.284 g | 203.269 g | | 09/08/17 |
| 21 | L17081559-08 | SAMP | 1 | 40 mL | 50 mL | 203.738 g | 203.727 g | | 09/08/17 |
| 22 | L17081559-09 | SAMP | 1 | 40 mL | 50 mL | 205.523 g | 205.511 g | | 09/08/17 |
| 23 | L17081559-10 | SAMP | 1 | 40 mL | 50 mL | 206.227 g | 206.216 g | | 09/08/17 |
| 24 | L17081559-11 | SAMP | 1 | 40 mL | 50 mL | 206.521 g | 206.51 g | | 09/08/17 |
| 25 | L17081559-12 | SAMP | 1 | 40 mL | 50 mL | 203.273 g | 203.254 g | | 09/08/17 |
| 26 | L17081569-01 | SAMP | 1 | 40 mL | 50 mL | 203.639 g | 203.623 g | | 09/06/17 |
| 27 | L17081577-01 | SAMP | 1 | 40 mL | 50 mL | 202.353 g | 202.336 g | | 09/07/17 |

Analyst: Erin Potter

Reviewer: Vicki Collins

MW_DIG - Modified 09/30/2009
PDF ID: 5456009
Report generated: 08/31/2017 08:12

**Microbac Laboratories Inc.**

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 090117T4.1R.TXT
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

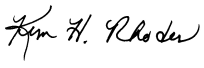
Calibration Std: STD83373 ICV Std: STD83372 Post Spike: STD83371
ICSA: STD83620 ICSAB: STD83467 Int. Std: RGT40895
CCV: STD83374 LLCCV: COA19621 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 628008,628009,628174,628176

Comments:

| Seq. | File ID | Sample | ID | Prep | Dil | Reference | Date/Time |
|---|---|---|---|---|---|---|---|
| 1 | T4.090117.122535 | WG628357-01 | Calibration Point | | 1 | | 09/01/17 12:25 |
| 2 | T4.090117.122921 | WG628357-02 | Calibration Point | | 1 | | 09/01/17 12:29 |
| 3 | T4.090117.123308 | WG628357-03 | Calibration Point | | 1 | | 09/01/17 12:33 |
| 4 | T4.090117.123656 | WG628357-04 | Calibration Point | | 1 | | 09/01/17 12:36 |
| 5 | T4.090117.124025 | WG628357-05 | Calibration Point | | 1 | | 09/01/17 12:40 |
| 6 | T4.090117.124353 | WG628357-06 | Initial Calibration Verification | | 1 | | 09/01/17 12:43 |
| 7 | T4.090117.124831 | WG628357-07 | Initial Calib Blank | | 1 | | 09/01/17 12:48 |
| 8 | T4.090117.125219 | WG628357-08 | Low Level Initial Calibration V | | 1 | | 09/01/17 12:52 |
| 9 | T4.090117.125605 | WG628357-09 | Low Level Initial Calibration V | | 1 | | 09/01/17 12:56 |
| 10 | T4.090117.125951 | WG628357-10 | LLICV | | 1 | | 09/01/17 12:59 |
| 11 | T4.090117.130337 | WG628357-11 | Interference Check | | 1 | | 09/01/17 13:03 |
| 12 | T4.090117.130720 | WG628357-12 | Interference Check | | 1 | | 09/01/17 13:07 |
| 13 | T4.090117.131055 | WG628357-13 | CCV | | 1 | | 09/01/17 13:10 |
| 14 | T4.090117.131423 | WG628357-14 | CCB | | 1 | | 09/01/17 13:14 |
| 15 | T4.090117.141024 | WG627986-02 | Method/Prep Blank | 40/50 | 1 | | 09/01/17 14:10 |
| 16 | T4.090117.141410 | WG627986-03 | Laboratory Control S | 40/50 | 1 | | 09/01/17 14:14 |
| 17 | T4.090117.141744 | WG627798-01 | Fluid Blank 1 | | 1 | | 09/01/17 14:17 |
| 18 | T4.090117.142131 | L17081556-02 | T7H1509-01 | 5/50 | 1 | | 09/01/17 14:21 |
| 19 | T4.090117.142517 | WG628008-03 | Post Digestion Spike | | 1 | L17081556-02 | 09/01/17 14:25 |
| 20 | T4.090117.142850 | WG628008-04 | Serial Dilution | | 5 | L17081556-02 | 09/01/17 14:28 |
| 21 | T4.090117.143237 | WG627986-01 | Reference Sample | | 1 | L17081597-01 | 09/01/17 14:32 |
| 22 | T4.090117.143622 | WG627986-04 | Matrix Spike | 5/50 | 1 | L17081597-01 | 09/01/17 14:36 |
| 23 | T4.090117.143955 | WG627986-05 | Matrix Spike Duplica | 5/50 | 1 | L17081597-01 | 09/01/17 14:39 |
| 24 | T4.090117.144328 | WG628357-15 | CCV | | 1 | | 09/01/17 14:43 |
| 25 | T4.090117.144656 | WG628357-16 | CCB | | 1 | | 09/01/17 14:46 |
| 26 | T4.090117.145046 | WG627917-02 | Method/Prep Blank | 40/50 | 1 | | 09/01/17 14:50 |
| 27 | T4.090117.145433 | WG627917-03 | Laboratory Control S | 40/50 | 1 | | 09/01/17 14:54 |
| 28 | T4.090117.145806 | L17081553-01 | 40693-01 | 40/50 | 1 | | 09/01/17 14:58 |
| 29 | T4.090117.150148 | L17081553-02 | 40692-01 | 40/50 | 1 | | 09/01/17 15:01 |
| 30 | T4.090117.150529 | L17081553-03 | 40555-01 | 40/50 | 1 | | 09/01/17 15:05 |
| 31 | T4.090117.150910 | L17081553-04 | 40556-01 | 40/50 | 1 | | 09/01/17 15:09 |
| 32 | T4.090117.151252 | L17081553-05 | 40558-01 | 40/50 | 1 | | 09/01/17 15:12 |
| 33 | T4.090117.151633 | L17081553-06 | 40559-01 | 40/50 | 1 | | 09/01/17 15:16 |
| 34 | T4.090117.152013 | WG628009-01 | Post Digestion Spike | | 1 | L17081553-06 | 09/01/17 15:20 |

Page: 1 Approved: September 05, 2017



**Microbac Laboratories Inc.**

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 090117T4.1R.TXT
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

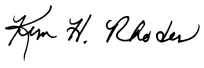
Calibration Std: STD83373 ICV Std: STD83372 Post Spike: STD83371
ICSA: STD83620 ICSAB: STD83467 Int. Std: RGT40895
CCV: STD83374 LLCCV: COA19621 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 628008,628009,628174,628176

Comments:

| Seq. | File ID | Sample | ID | Prep | Dil | Reference | Date/Time |
|---|---|---|---|---|---|---|---|
| 35 | T4.090117.152342 | WG628009-02 | Serial Dilution | | 5 | L17081553-06 | 09/01/17 15:23 |
| 36 | T4.090117.152725 | WG628357-17 | CCV | | 1 | | 09/01/17 15:27 |
| 37 | T4.090117.153050 | WG628357-18 | CCB | | 1 | | 09/01/17 15:30 |
| 38 | T4.090117.153435 | L17081557-01 | VEP-26 | 40/50 | 1 | | 09/01/17 15:34 |
| 39 | T4.090117.153815 | L17081557-02 | PRBMW8 | 40/50 | 1 | | 09/01/17 15:38 |
| 40 | T4.090117.154153 | L17081557-03 | PRBMW8-D | 40/50 | 1 | | 09/01/17 15:41 |
| 41 | T4.090117.154533 | L17081557-04 | VEP-29 | 40/50 | 1 | | 09/01/17 15:45 |
| 42 | T4.090117.154912 | L17081557-05 | VEP-29-D | 40/50 | 1 | | 09/01/17 15:49 |
| 43 | T4.090117.155252 | L17081557-06 | AR-1 | 40/50 | 1 | | 09/01/17 15:52 |
| 44 | T4.090117.155631 | L17081557-07 | T8 | 40/50 | 1 | | 09/01/17 15:56 |
| 45 | T4.090117.160012 | L17081557-08 | T9 | 40/50 | 1 | | 09/01/17 16:00 |
| 46 | T4.090117.160351 | L17081557-09 | LKRTA006 | 40/50 | 1 | | 09/01/17 16:03 |
| 47 | T4.090117.160729 | L17081557-10 | LKRTA004 | 40/50 | 1 | | 09/01/17 16:07 |
| 48 | T4.090117.161112 | WG628357-19 | CCV | | 1 | | 09/01/17 16:11 |
| 49 | T4.090117.161437 | WG628357-20 | CCB | | 1 | | 09/01/17 16:14 |
| 50 | T4.090117.161822 | WG627917-01 | Reference Sample | | 1 | L17081557-11 | 09/01/17 16:18 |
| 51 | T4.090117.162204 | WG627917-04 | Matrix Spike | 40/50 | 1 | L17081557-11 | 09/01/17 16:22 |
| 52 | T4.090117.162532 | WG627917-05 | Matrix Spike Duplica | 40/50 | 1 | L17081557-11 | 09/01/17 16:25 |
| 53 | T4.090117.162901 | L17081564-02 | PERMEATE | 1/50 | 1 | | 09/01/17 16:29 |
| 54 | T4.090117.163246 | L17081564-04 | BLEED | 1/50 | 1 | | 09/01/17 16:32 |
| 55 | T4.090117.163626 | L17081564-06 | N. DOCK FLUME | 1/50 | 1 | | 09/01/17 16:36 |
| 56 | T4.090117.164009 | WG628357-21 | CCV | | 1 | | 09/01/17 16:40 |
| 57 | T4.090117.164333 | WG628357-22 | CCB | | 1 | | 09/01/17 16:43 |
| 58 | T4.090117.164718 | WG628357-23 | Low Level Continuing Calibra | | 1 | | 09/01/17 16:47 |
| 59 | T4.090117.165101 | WG628357-24 | Low Level Continuing Calibra | | 1 | | 09/01/17 16:51 |
| 60 | T4.090117.165446 | WG628357-25 | LLCCV | | 1 | | 09/01/17 16:54 |
| 61 | T4.090117.165828 | WG627899-02 | Method/Prep Blank | 40/50 | 1 | | 09/01/17 16:58 |
| 62 | T4.090117.170212 | WG627899-03 | Laboratory Control S | 40/50 | 1 | | 09/01/17 17:02 |
| 63 | T4.090117.170541 | L17081498-01 | MW07-082517 | 40/50 | 1 | | 09/01/17 17:05 |
| 64 | T4.090117.170922 | L17081498-02 | MW07-082517 | 40/50 | 1 | | 09/01/17 17:09 |
| 65 | T4.090117.171302 | L17081498-03 | MW06-082517 | 40/50 | 1 | | 09/01/17 17:13 |
| 66 | T4.090117.171644 | L17081498-04 | MW06-082517 | 40/50 | 1 | | 09/01/17 17:16 |
| 67 | T4.090117.172026 | L17081498-07 | MW10-082517 | 40/50 | 1 | | 09/01/17 17:20 |
| 68 | T4.090117.172407 | L17081498-08 | MW10-082517 | 40/50 | 1 | | 09/01/17 17:24 |

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**Microbac Laboratories Inc.**

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 090117T4.1R.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: STD83371
ICSA: STD83620 ICSAB: STD83467 Int. Std: RGT40895
CCV: STD83374 LLCCV: COA19621 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 628008,628009,628174,628176

Comments:

| Seq. | File ID | Sample | ID | Prep | Dil | Reference | Date/Time |
|---|---|---|---|---|---|---|---|
| 69 | T4.090117.172749 | WG628174-01 | Post Digestion Spike | | 1 | L17081498-08 | 09/01/17 17:27 |
| 70 | T4.090117.173118 | WG628174-02 | Serial Dilution | | 5 | L17081498-08 | 09/01/17 17:31 |
| 71 | T4.090117.173500 | WG628357-26 | CCV | | 1 | | 09/01/17 17:35 |
| 72 | T4.090117.173826 | WG628357-27 | CCB | | 1 | | 09/01/17 17:38 |
| 73 | T4.090117.174210 | L17081498-09 | MW20-082517 | 40/50 | 1 | | 09/01/17 17:42 |
| 74 | T4.090117.174552 | L17081498-10 | MW20-082517 | 40/50 | 1 | | 09/01/17 17:45 |
| 75 | T4.090117.174933 | L17081559-01 | P-22U | 40/50 | 1 | | 09/01/17 17:49 |
| 76 | T4.090117.175314 | L17081559-02 | P-22U-D | 40/50 | 1 | | 09/01/17 17:53 |
| 77 | T4.090117.175655 | WG627899-01 | Reference Sample | | 1 | L17081559-03 | 09/01/17 17:56 |
| 78 | T4.090117.180036 | WG627899-04 | Matrix Spike | 40/50 | 1 | L17081559-03 | 09/01/17 18:00 |
| 79 | T4.090117.180405 | WG627899-05 | Matrix Spike Duplica | 40/50 | 1 | L17081559-03 | 09/01/17 18:04 |
| 80 | T4.090117.180734 | L17081559-06 | VEP-4 | 40/50 | 1 | | 09/01/17 18:07 |
| 81 | T4.090117.181114 | L17081559-07 | WETPU001 | 40/50 | 1 | | 09/01/17 18:11 |
| 82 | T4.090117.181454 | L17081559-08 | W3WNITC | 40/50 | 1 | | 09/01/17 18:14 |
| 83 | T4.090117.181837 | WG628357-28 | CCV | | 1 | | 09/01/17 18:18 |
| 84 | T4.090117.182202 | WG628357-29 | CCB | | 1 | | 09/01/17 18:22 |
| 85 | T4.090117.182546 | L17081559-09 | AR-2 | 40/50 | 1 | | 09/01/17 18:25 |
| 86 | T4.090117.182926 | L17081559-10 | AR-2-D | 40/50 | 1 | | 09/01/17 18:29 |
| 87 | T4.090117.183307 | L17081559-11 | W21WNITC | 40/50 | 1 | | 09/01/17 18:33 |
| 88 | T4.090117.183653 | L17081559-12 | VEP-35 | 40/50 | 1 | | 09/01/17 18:36 |
| 89 | T4.090117.184032 | L17081569-01 | MW-714 | 40/50 | 1 | | 09/01/17 18:40 |
| 90 | T4.090117.184413 | L17081577-01 | MADISON LP - FILL SAMPL | 40/50 | 1 | | 09/01/17 18:44 |
| 91 | T4.090117.184754 | WG628357-30 | CCV | | 1 | | 09/01/17 18:47 |
| 92 | T4.090117.185119 | WG628357-31 | CCB | | 1 | | 09/01/17 18:51 |
| 93 | T4.090117.185503 | WG628357-32 | Low Level Continuing Calibra | | 1 | | 09/01/17 18:55 |
| 94 | T4.090117.185845 | WG628357-33 | Low Level Continuing Calibra | | 1 | | 09/01/17 18:58 |
| 95 | T4.090117.190227 | WG628357-34 | LLCCV | | 1 | | 09/01/17 19:02 |
| 96 | T4.090117.190610 | WG628013-02 | Method/Prep Blank | 40/50 | 1 | | 09/01/17 19:06 |
| 97 | T4.090117.190954 | WG628013-03 | Laboratory Control S | 40/50 | 1 | | 09/01/17 19:09 |
| 98 | T4.090117.191323 | L17081589-17 | EQUIPMENT BLANK | 40/50 | 1 | | 09/01/17 19:13 |
| 99 | T4.090117.191706 | L17081592-18 | EQUIPMENT BLANK | 40/50 | 1 | | 09/01/17 19:17 |
| 100 | T4.090117.192050 | L17081637-01 | 1001-203 W1 | 40/50 | 1 | | 09/01/17 19:20 |
| 101 | T4.090117.192432 | L17081638-01 | 1001-204 W1 | 40/50 | 1 | | 09/01/17 19:24 |
| 102 | T4.090117.192809 | L17081639-01 | 1001-102-C W1 | 40/50 | 1 | | 09/01/17 19:28 |

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**Microbac Laboratories Inc.**

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 090117T4.1R.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: STD83371
ICSA: STD83620 ICSAB: STD83467 Int. Std: RGT40895
CCV: STD83374 LLCCV: COA19621 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 628008,628009,628174,628176

Comments:

| Seq. | File ID | Sample | ID | Prep | Dil | Reference | Date/Time |
|---|---|---|---|---|---|---|---|
| 103 | T4.090117.193150 | L17081640-01 | 1001-239 W1 | 40/50 | 1 | | 09/01/17 19:31 |
| 104 | T4.090117.193531 | WG628176-01 | Post Digestion Spike | | 1 | L17081640-01 | 09/01/17 19:35 |
| 105 | T4.090117.193900 | WG628176-02 | Serial Dilution | | 5 | L17081640-01 | 09/01/17 19:39 |
| 106 | T4.090117.194243 | WG628357-35 | CCV | | 1 | | 09/01/17 19:42 |
| 107 | T4.090117.194608 | WG628357-36 | CCB | | 1 | | 09/01/17 19:46 |
| 108 | T4.090117.194951 | L17081644-01 | BAILEY 006 PERMIT | 40/50 | 1 | | 09/01/17 19:49 |
| 109 | T4.090117.195340 | L17081644-02 | BAILEY 006 PERMIT | 40/50 | 1 | | 09/01/17 19:53 |
| 110 | T4.090117.195729 | L17081649-01 | WITCPU003 | 40/50 | 1 | | 09/01/17 19:57 |
| 111 | T4.090117.200109 | WG628013-01 | Reference Sample | | 1 | L17081649-02 | 09/01/17 20:01 |
| 112 | T4.090117.200448 | WG628013-04 | Matrix Spike | 40/50 | 1 | L17081649-02 | 09/01/17 20:04 |
| 113 | T4.090117.200816 | WG628013-05 | Matrix Spike Duplica | 40/50 | 1 | L17081649-02 | 09/01/17 20:08 |
| 114 | T4.090117.201144 | L17081649-05 | WITCPU006 | 40/50 | 1 | | 09/01/17 20:11 |
| 115 | T4.090117.201524 | L17081649-06 | HM-50 | 40/50 | 1 | | 09/01/17 20:15 |
| 116 | T4.090117.201903 | L17081649-07 | W3TAITC | 40/50 | 1 | | 09/01/17 20:19 |
| 117 | T4.090117.202243 | L17081649-08 | HM-35 | 40/50 | 1 | | 09/01/17 20:22 |
| 118 | T4.090117.202623 | WG628357-37 | CCV | | 1 | | 09/01/17 20:26 |
| 119 | T4.090117.202947 | WG628357-38 | CCB | | 1 | | 09/01/17 20:29 |
| 120 | T4.090117.203331 | L17081649-09 | HM-36 | 40/50 | 1 | | 09/01/17 20:33 |
| 121 | T4.090117.203712 | L17081649-10 | HM-26 | 40/50 | 1 | | 09/01/17 20:37 |
| 122 | T4.090117.204051 | L17081649-11 | VEP-18B | 40/50 | 1 | | 09/01/17 20:40 |
| 123 | T4.090117.204431 | L17081649-12 | VEP-13 | 40/50 | 1 | | 09/01/17 20:44 |
| 124 | T4.090117.204811 | L17081649-13 | OW-1-3 | 40/50 | 1 | | 09/01/17 20:48 |
| 125 | T4.090117.205151 | L17081649-14 | WL101TAUSGS | 40/50 | 1 | | 09/01/17 20:51 |
| 126 | T4.090117.205530 | WG628357-39 | CCV | | 1 | | 09/01/17 20:55 |
| 127 | T4.090117.205855 | WG628357-40 | CCB | | 1 | | 09/01/17 20:58 |
| 128 | T4.090117.210238 | WG628357-41 | Low Level Continuing Calibra | | 1 | | 09/01/17 21:02 |
| 129 | T4.090117.210621 | WG628357-42 | LLCCV | | 1 | | 09/01/17 21:06 |
| 130 | T4.090117.211003 | WG628357-43 | Low Level Continuing Calibra | | 1 | | 09/01/17 21:10 |
| 131 | T4.090117.211346 | WG628357-44 | Interference Check | | 1 | | 09/01/17 21:13 |
| 132 | T4.090117.211726 | WG628357-45 | Interference Check | | 1 | | 09/01/17 21:17 |
| 133 | T4.090117.212056 | WG628357-46 | CCV | | 1 | | 09/01/17 21:20 |
| 134 | T4.090117.212420 | WG628357-47 | CCB | | 1 | | 09/01/17 21:24 |

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Microbac Laboratories Inc.

Data Checklist

Date: 01-SEP-2017
Analyst: KKB
Analyst: NA
Method: 6010B/6010C/200.7
Instrument: ICP-THERMO4
Curve Workgroup: 628357
Runlog ID: 84344
Analytical Workgroups: 628008,628009,628174,628176

| | |
|---|---|
| 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 | 1589,1592 |
| Level 4 | 1557,1498,1559,1649 |
| 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:
05-SEP-2017

Secondary Reviewer:
05-SEP-2017

CHECKLIST1 - Modified 03/05/2008
Generated: SEP-05-2017 15:37:16

Microbac Laboratories Inc.

# HOLDING TIMES
# EQUIVALENT TO AFCEE FORM 9

**Analytical Method:** 6010C **AAB#:** WG628174

**Login Number:** L17081498

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW07-082517 | 01 | 08/25/17 | | | | | 08/31/2017 | 5.9 | 180 | | 09/01/17 | 7.3 | 180 | |
| MW07-082517 | 02 | 08/25/17 | | | | | 08/31/2017 | 5.9 | 180 | | 09/01/17 | 7.3 | 180 | |
| MW06-082517 | 03 | 08/25/17 | | | | | 08/31/2017 | 5.7 | 180 | | 09/01/17 | 7.1 | 180 | |
| MW06-082517 | 04 | 08/25/17 | | | | | 08/31/2017 | 5.7 | 180 | | 09/01/17 | 7.1 | 180 | |
| MW10-082517 | 07 | 08/25/17 | | | | | 08/31/2017 | 5.9 | 180 | | 09/01/17 | 7.3 | 180 | |
| MW10-082517 | 08 | 08/25/17 | | | | | 08/31/2017 | 5.9 | 180 | | 09/01/17 | 7.3 | 180 | |
| MW20-082517 | 09 | 08/25/17 | | | | | 08/31/2017 | 5.7 | 180 | | 09/01/17 | 7.1 | 180 | |
| MW20-082517 | 10 | 08/25/17 | | | | | 08/31/2017 | 5.7 | 180 | | 09/01/17 | 7.1 | 180 | |

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5461406
Report generated 09/05/2017 11:06

Microbac Laboratories Inc.

## METHOD BLANK SUMMARY

Login Number: L17081498
Work Group: WG628174
Blank File ID: T4.090117.165828
Blank Sample ID: WG627899-02
Prep Date: 08/31/17 07:16
Instrument ID: ICP-THERMO4
Analyzed Date: 09/01/17 16:58
Method: 6010C
Analyst: KKB

This Method Blank Applies To The Following Samples:

| Client ID | Lab Sample ID | Lab File ID | Time Analyzed | TAG |
|---|---|---|---|---|
| LCS | WG627899-03 | T4.090117.170212 | 09/01/17 17:02 | 01 |
| MW07-082517 | L17081498-01 | T4.090117.170541 | 09/01/17 17:05 | 01 |
| MW07-082517 | L17081498-02 | T4.090117.170922 | 09/01/17 17:09 | 01 |
| MW06-082517 | L17081498-03 | T4.090117.171302 | 09/01/17 17:13 | 01 |
| MW06-082517 | L17081498-04 | T4.090117.171644 | 09/01/17 17:16 | 01 |
| MW10-082517 | L17081498-07 | T4.090117.172026 | 09/01/17 17:20 | 01 |
| MW10-082517 | L17081498-08 | T4.090117.172407 | 09/01/17 17:24 | 01 |
| MW20-082517 | L17081498-09 | T4.090117.174210 | 09/01/17 17:42 | 01 |
| MW20-082517 | L17081498-10 | T4.090117.174552 | 09/01/17 17:45 | 01 |

Report Name: BLANK_SUMMARY
PDF File ID: 5461407
Report generated 09/05/2017 11:06

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L17081498 Prep Date: 08/31/17 07:16 Sample ID: WG627899-02
Instrument ID: ICP-THERMO4 Run Date: 09/01/17 16:58 Prep Method: 3015A
File ID: T4.090117.165828 Analyst: KKB Method: 6010C
Workgroup (AAB#): WG628174 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-TH-01-SEP-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: 5461408
05-SEP-2017 11:07

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG627899-03
Instrument ID: ICP-THERMO4 Run Time: 17:02 Prep Method: 3015A
File ID: T4.090117.170212 Analyst: KKB Method: 6010C
Workgroup (AAB#): WG628174 Matrix: Water Units: mg/L
QC Key: WATERLOO Lot#: STD83370 Cal ID: ICP-TH-01-SEP-17

| Analytes | Expected | Found | % Rec | LCS Limits | Q |
|---|---|---|---|---|---|
| Aluminum, Total | 6.25 | 6.30 | 101 | 85 - 115 | |
| Calcium, Total | 6.25 | 6.11 | 97.7 | 85 - 115 | |
| Iron, Total | 2.50 | 2.50 | 100 | 85 - 115 | |
| Magnesium, Total | 6.25 | 6.29 | 101 | 85 - 115 | |
| Manganese, Total | 0.313 | 0.308 | 98.7 | 85 - 115 | |
| Potassium, Total | 31.3 | 31.1 | 99.6 | 85 - 115 | |
| Sodium, Total | 31.3 | 31.5 | 101 | 85 - 115 | |

LCS - Modified 03/06/2008
PDF File ID: 5461409
Report generated: 09/05/2017 11:07

Microbac Laboratories Inc.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum:L17081498 Cal ID:ICP-THERMO4- Worknum:WG628174

Instrument ID:ICP-THERMO4 Contract #: Method:6010C

Parent ID:WG627899-01 File ID:T4.090117.175655 Dil:1 Matrix:WATER

Sample ID:WG627899-04 MS File ID:T4.090117.180036 Dil:1 Units:mg/L

Sample ID:WG627899-05 MSD File ID:T4.090117.180405 Dil:1

| Analyte | Parent | MS Spiked | MS Found | MS %Rec | MSD Spiked | MSD Found | MSD %Rec | %RPD | %Rec Limits | RPD Limit | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | ND | 6.25 | 6.13 | 98.0 | 6.25 | 6.14 | 98.2 | 0.145 | 85 - 115 | 20 | |
| Calcium, Total | 77.5 | 6.25 | 85.4 | 127 | 6.25 | 83.1 | 90.4 | 2.72 | 85 - 115 | 20 | * |
| Iron, Total | 0.458 | 2.50 | 2.94 | 99.2 | 2.50 | 2.90 | 97.6 | 1.37 | 85 - 115 | 20 | |
| Magnesium, Total | 8.24 | 6.25 | 14.7 | 103 | 6.25 | 14.5 | 101 | 0.898 | 85 - 115 | 20 | |
| Manganese, Total | 0.00504 | 0.313 | 0.311 | 98.0 | 0.313 | 0.314 | 98.7 | 0.740 | 85 - 115 | 20 | |
| Potassium, Total | 2.76 | 31.3 | 34.2 | 101 | 31.3 | 34.2 | 101 | 0.124 | 85 - 115 | 20 | |
| Sodium | 24.5 | 31.3 | 56.3 | 102 | 31.3 | 55.9 | 100 | 0.696 | 85 - 115 | 20 | |

* FAILS %REC LIMIT

# FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

WG_MS_MSD_DRYWT - Modified 05/26/2011

PDF File ID:5461411

Report generated 09/05/2017 11:07

**Microbac Laboratories Inc.**
Serial Dilution Report

**Login:** L17081498 **Worknum:** WG628174
**Instrument:** ICP-THERMO4 **Method:** 6010C
**Serial Dil:** WG628174-02 **File ID:** T4.090117.173118 **Dil:** 5 **Units:** ug/L
**Sample:** L17081498-08 **File ID:** T4.090117.172407 **Dil:** 1

| Analyte | Sample | Qual | Serial Dil | Qual | % Diff | Q |
|---|---|---|---|---|---|---|
| Aluminum | 24.9 | | ND | U | | |
| Calcium | 74300 | | 76500 | | 2.93 | |
| Iron | 1480 | | 1460 | | 1.53 | |
| Magnesium | 30400 | | 32000 | | 5.31 | |
| Manganese | 103 | | 94.4 | | 8.76 | |
| Potassium | 3670 | | 4360 | | 18.70 | E |
| Sodium | 179000 | | 188000 | | 4.56 | |

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: 5461404**
**09/05/2017 11:06**

**Microbac Laboratories Inc.**
**POST SPIKE REPORT**

**Sample Login ID:** L17081498 **Worknum:** WG628174
**Instrument ID:** ICP-THERMO4 **Method:** 6010C
**Post Spike ID:** WG628174-01 **File ID:** T4.090117.172749 **Dil:** 1 **Units:** ug/L
**Sample ID:** L17081498-08 **File ID:** T4.090117.172407 **Dil:** 1 **Matrix:** Water

| Analyte | Post Spike Result | C | Sample Result | C | Spike Added(SA) | % R | Control Limit %R | Q |
|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 4790 | | 0 | U | 5000 | 95.8 | 75 - 125 | |
| CALCIUM | 72200 | | 74300 | | 5000 | 106.3 | 75 - 125 | |
| IRON | 3240 | | 1480 | | 2000 | 95.4 | 75 - 125 | |
| MAGNESIUM | 32300 | | 30400 | | 5000 | 100.1 | 75 - 125 | |
| MANGANESE | 334 | | 103 | | 250 | 96.3 | 75 - 125 | |
| POTASSIUM | 28000 | | 3670 | | 25000 | 99.0 | 75 - 125 | |
| SODIUM | 186000 | | 179000 | | 25000 | 97.9 | 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: 5461405**
**Report generated: 09/05/2017 11:06**

# Microbac Laboratories Inc.
## Initial Calibration Summary

| | | | |
|---|---|---|---|
| Login: | **L17081498** | Workgroup (AAB#): | **WG628174** |
| Analytical Method: | **6010C** | Instrument ID: | **ICP-THERMO4** |
| ICAL Worknum: | **WG628357** | Initial Calibration Date: | **01-SEP-2017 12:40** |

| | WG628357-01 | | WG628357-02 | | WG628357-03 | | WG628357-04 | | WG628357-05 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Conc | INT | Conc | INT | Conc | INT | Conc | INT | Conc | INT | R | Q |
| ALUMINUM | 0 | 0.00160 | .1 | 0.00238 | .2 | 0.00309 | 10 | 0.0904 | 20 | 0.175 | .999917 | |
| CALCIUM | 0 | -0.00171 | .1 | -0.000500 | .2 | 0.00225 | 10 | 0.240 | 20 | 0.486 | .999803 | |
| IRON | 0 | 0.0000300 | .04 | 0.000750 | .08 | 0.00112 | 4 | 0.0687 | 8 | 0.137 | .999859 | |
| MAGNESIUM | 0 | -0.000420 | NA | NA | .2 | 0.000520 | 10 | 0.0437 | 20 | 0.0877 | .999727 | |
| MANGANESE | 0 | 0.00174 | .005 | 0.00229 | .01 | 0.00278 | .5 | 0.0865 | 1 | 0.170 | .99981 | |
| POTASSIUM | 0 | 0.00707 | .5 | 0.0216 | 1 | 0.0357 | 50 | 1.57 | 100 | 3.12 | .999909 | |
| SODIUM | 0 | -0.0373 | .5 | 0.00143 | 1 | 0.0346 | 50 | 4.44 | 100 | 8.89 | .99999 | |

**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: 5461414
Report generated: 05-SEP-2017 11:07

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-07
Instrument ID: ICP-THERMO4 Run Time: 12:48 Method: 6010C
File ID: T4.090117.124831 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG628174 Cal ID: ICP-THERI - 01-SEP-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: 5461417
Report generated 09/05/2017 11:07

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-14

Instrument ID: ICP-THERMO4 Run Time: 13:14 Method: 6010C

File ID: T4.090117.131423 Analyst: KKB Units: mg/L

Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-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 | 0.0496 | F |
| 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: 5461420
Report generated 09/05/2017 12:06

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-22

Instrument ID: ICP-THERMO4 Run Time: 16:43 Method: 6010C

File ID: T4.090117.164333 Analyst: KKB Units: mg/L

Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-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: 5461420
Report generated 09/05/2017 12:06

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-27

Instrument ID: ICP-THERMO4 Run Time: 17:38 Method: 6010C

File ID: T4.090117.173826 Analyst: KKB Units: mg/L

Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-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: 5461420
Report generated 09/05/2017 12:06

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-29

Instrument ID: ICP-THERMO4 Run Time: 18:22 Method: 6010C

File ID: T4.090117.182202 Analyst: KKB Units: mg/L

Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-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: 5461420
Report generated 09/05/2017 12:06

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-06
Instrument ID: ICP-THERMO4 Run Time: 12:43 Method: 6010C
File ID: T4.090117.124353 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-17
QC Key: WATERLOO

| Analyte | | Expected | Found | %REC | LIMITS | Q |
|---|---|---|---|---|---|---|
| Aluminum | | 10 | 10.2 | 102 | 90 - 110 | |
| Calcium | | 10 | 10.0 | 100 | 90 - 110 | |
| Iron | | 4 | 3.98 | 99.5 | 90 - 110 | |
| Magnesium | | 10 | 10.2 | 102 | 90 - 110 | |
| Manganese | | .5 | 0.504 | 101 | 90 - 110 | |
| Potassium | | 50 | 50.0 | 99.9 | 90 - 110 | |
| Sodium | | 50 | 50.1 | 100 | 90 - 110 | |

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 5461416
Report generated 09/05/2017 11:07

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-13

Instrument ID: ICP-THERMO4 Run Time: 13:10 Method: 6010C

File ID: T4.090117.131055 Analyst: KKB QC Key: WATERLOO

Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Aluminum | | 10.0 | 10.1 | mg/L | 101 | 90 - 110 | | |
| Calcium | | 10.0 | 9.89 | mg/L | 98.9 | 90 - 110 | | |
| Iron | | 4.00 | 3.94 | mg/L | 98.6 | 90 - 110 | | |
| Magnesium | | 10.0 | 9.96 | mg/L | 99.6 | 90 - 110 | | |
| Manganese | | 0.500 | 0.494 | mg/L | 98.8 | 90 - 110 | | |
| Potassium | | 50.0 | 49.4 | mg/L | 98.8 | 90 - 110 | | |
| Sodium | | 50.0 | 49.6 | mg/L | 99.2 | 90 - 110 | | |

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5461419

Report generated 09/05/2017 12:05

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-21

Instrument ID: ICP-THERMO4 Run Time: 16:40 Method: 6010C

File ID: T4.090117.164009 Analyst: KKB QC Key: WATERLOO

Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Aluminum | | 10.0 | 10.1 | mg/L | 101 | 90 - 110 | | |
| Calcium | | 10.0 | 9.89 | mg/L | 98.9 | 90 - 110 | | |
| Iron | | 4.00 | 3.99 | mg/L | 99.8 | 90 - 110 | | |
| Magnesium | | 10.0 | 10.1 | mg/L | 101 | 90 - 110 | | |
| Manganese | | 0.500 | 0.496 | mg/L | 99.2 | 90 - 110 | | |
| Potassium | | 50.0 | 50.2 | mg/L | 100 | 90 - 110 | | |
| Sodium | | 50.0 | 50.3 | mg/L | 101 | 90 - 110 | | |

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5461419

Report generated 09/05/2017 12:05

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-26

Instrument ID: ICP-THERMO4 Run Time: 17:35 Method: 6010C

File ID: T4.090117.173500 Analyst: KKB QC Key: WATERLOO

Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Aluminum | | 10.0 | 10.1 | mg/L | 101 | 90 - 110 | | |
| Calcium | | 10.0 | 9.97 | mg/L | 99.7 | 90 - 110 | | |
| Iron | | 4.00 | 3.97 | mg/L | 99.3 | 90 - 110 | | |
| Magnesium | | 10.0 | 9.98 | mg/L | 99.8 | 90 - 110 | | |
| Manganese | | 0.500 | 0.498 | mg/L | 99.7 | 90 - 110 | | |
| Potassium | | 50.0 | 50.1 | mg/L | 100 | 90 - 110 | | |
| Sodium | | 50.0 | 50.2 | mg/L | 100 | 90 - 110 | | |

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5461419

Report generated 09/05/2017 12:05

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-28

Instrument ID: ICP-THERMO4 Run Time: 18:18 Method: 6010C

File ID: T4.090117.181837 Analyst: KKB QC Key: WATERLOO

Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Aluminum | | 10.0 | 10.1 | mg/L | 101 | 90 - 110 | | |
| Calcium | | 10.0 | 9.97 | mg/L | 99.7 | 90 - 110 | | |
| Iron | | 4.00 | 3.95 | mg/L | 98.7 | 90 - 110 | | |
| Magnesium | | 10.0 | 9.97 | mg/L | 99.7 | 90 - 110 | | |
| Manganese | | 0.500 | 0.494 | mg/L | 98.8 | 90 - 110 | | |
| Potassium | | 50.0 | 50.2 | mg/L | 100 | 90 - 110 | | |
| Sodium | | 50.0 | 50.3 | mg/L | 101 | 90 - 110 | | |

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5461419

Report generated 09/05/2017 12:05

Microbac Laboratories Inc.

LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-08

Instrument ID: ICP-THERMO4 Run Time: 12:52 Method: 6010C

File ID: T4.090117.125219 Analyst: KKB QC Key: WATERLOO

Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.160 | 0.174 | mg/L | 109 | 70 - 130 | | |
| Calcium | | 0.400 | 0.462 | mg/L | 116 | 70 - 130 | | |
| Iron | | 0.0800 | 0.0748 | mg/L | 93.5 | 70 - 130 | | |
| Magnesium | | 0.400 | 0.406 | mg/L | 101 | 70 - 130 | | |
| Manganese | | 0.00800 | 0.00789 | mg/L | 98.6 | 70 - 130 | | |
| Sodium | | 0.400 | 0.438 | mg/L | 110 | 70 - 130 | | |

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010

PDF File ID: 5461421

Report generated 09/05/2017 11:07

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-09
Instrument ID: ICP-THERMO4 Run Time: 12:56 Method: 6010C
File ID: T4.090117.125605 Analyst: KKB QC Key: WATERLOO
Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-17
Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Potassium | | 0.800 | 1.00 | mg/L | 125 | 70 - 130 | | |

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 5461421
Report generated 09/05/2017 11:07

Microbac Laboratories Inc.

LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-23

Instrument ID: ICP-THERMO4 Run Time: 16:47 Method: 6010C

File ID: T4.090117.164718 Analyst: KKB QC Key: WATERLOO

Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.160 | 0.169 | mg/L | 106 | 70 - 130 | | |
| Calcium | | 0.400 | 0.423 | mg/L | 106 | 70 - 130 | | |
| Iron | | 0.0800 | 0.0801 | mg/L | 100 | 70 - 130 | | |
| Magnesium | | 0.400 | 0.388 | mg/L | 97.0 | 70 - 130 | | |
| Manganese | | 0.00800 | 0.00834 | mg/L | 104 | 70 - 130 | | |
| Sodium | | 0.400 | 0.497 | mg/L | 124 | 70 - 130 | | |

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010

PDF File ID: 5461421

Report generated 09/05/2017 11:07

Microbac Laboratories Inc.

LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-24

Instrument ID: ICP-THERMO4 Run Time: 16:51 Method: 6010C

File ID: T4.090117.165101 Analyst: KKB QC Key: WATERLOO

Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Potassium | | 0.800 | 0.920 | mg/L | 115 | 70 - 130 | | |

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010

PDF File ID: 5461421

Report generated 09/05/2017 11:07

Microbac Laboratories Inc.

LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-32

Instrument ID: ICP-THERMO4 Run Time: 18:55 Method: 6010C

File ID: T4.090117.185503 Analyst: KKB QC Key: WATERLOO

Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Aluminum | | 0.160 | 0.171 | mg/L | 107 | 70 - 130 | | |
| Calcium | | 0.400 | 0.404 | mg/L | 101 | 70 - 130 | | |
| Iron | | 0.0800 | 0.0955 | mg/L | 119 | 70 - 130 | | |
| Magnesium | | 0.400 | 0.434 | mg/L | 108 | 70 - 130 | | |
| Manganese | | 0.00800 | 0.00675 | mg/L | 84.4 | 70 - 130 | | |
| Sodium | | 0.400 | 0.454 | mg/L | 114 | 70 - 130 | | |

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010

PDF File ID: 5461421

Report generated 09/05/2017 11:07

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628357-33
Instrument ID: ICP-THERMO4 Run Time: 18:58 Method: 6010C
File ID: T4.090117.185845 Analyst: KKB QC Key: WATERLOO
Workgroup (AAB#): WG628174 Cal ID: ICP-TH - 01-SEP-17
Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Potassium | | 0.800 | 0.896 | mg/L | 112 | 70 - 130 | | |

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 5461421
Report generated 09/05/2017 11:07

**Microbac Laboratories Inc.**
**INTERFERENCE CHECK SAMPLES**

**Login number:** L17081498 **Workgroup (AAB#):** WG628174
**Instrument ID:** ICP-THERMO4 **Method:** 6010C
**Sol. A :** WG628357-11 **File ID:** T4.090117.130337 **Units:** mg/L
**Sol. AB :** WG628357-12 **File ID:** T4.090117.130720 **Matrix:** Water

| | Sol. A | | | Sol. AB | | | |
|---|---|---|---|---|---|---|---|
| ANALYTE | True | Found | %Recovery | True | Found | %Recovery | Q |
| Aluminum | 250 | 248 | 99.2 | 250 | 244 | 97.6 | |
| Calcium | 250 | 239 | 95.6 | 250 | 235 | 94.0 | |
| Iron | 100 | 95.9 | 95.9 | 100 | 94.3 | 94.3 | |
| Magnesium | 250 | 245 | 98.0 | 250 | 239 | 95.6 | |
| Manganese | NS | -0.00338 | NS | 0.250 | 0.235 | 94.0 | |
| Potassium | NS | 0.0698 | NS | 5.00 | 4.97 | 99.4 | |
| Sodium | NS | 0.0335 | NS | 5.00 | 5.05 | 101 | |

**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: 5461418**
**Report generated 09/05/2017 12:05**

**Microbac Laboratories Inc.**
**INTERFERENCE CHECK SAMPLES**

**Login number:** L17081498 **Workgroup (AAB#):** WG628174
**Instrument ID:** ICP-THERMO4 **Method:** 6010C
**Sol. A :** WG628357-44 **File ID:** T4.090117.211346 **Units:** mg/L
**Sol. AB :** WG628357-45 **File ID:** T4.090117.211726 **Matrix:** Water

| | Sol. A | | | Sol. AB | | | |
|---|---|---|---|---|---|---|---|
| ANALYTE | True | Found | %Recovery | True | Found | %Recovery | Q |
| Aluminum | 250 | 247 | 98.8 | 250 | 243 | 97.2 | |
| Calcium | 250 | 238 | 95.2 | 250 | 235 | 94.0 | |
| Iron | 100 | 94.6 | 94.6 | 100 | 93.9 | 93.9 | |
| Magnesium | 250 | 241 | 96.4 | 250 | 238 | 95.2 | |
| Manganese | NS | -0.00322 | NS | 0.250 | 0.232 | 92.8 | |
| Potassium | NS | 0.0806 | NS | 5.00 | 5.37 | 107 | |
| Sodium | NS | 0.0566 | NS | 5.00 | 5.15 | 103 | |

**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: 5461418**
**Report generated 09/05/2017 12:05**

**Microbac Laboratories Inc.**
**INTERELEMENT CORRECTION FACTORS (ANNUALLY)**

**Login Number:** L17081498 **Date:** 01/04/2017
**Insturment ID:** ICP-THERMO4 **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**
**PDF File ID: 5461413**
**Report generated: 09/05/2017 11:07**

**Microbac Laboratories Inc.**
**INTERELEMENT CORRECTION FACTORS (ANNUALLY)**

**Login Number:** L17081498 **Date:** 01/04/2017
**Insturment ID:** ICP-THERMO4 **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 |

**CORR_FACTORS - Modified 03/05/2008**
**PDF File ID: 5461413**
**Report generated: 09/05/2017 11:07**

**Microbac Laboratories Inc.**
**INTERELEMENT CORRECTION FACTORS (ANNUALLY)**

**Login Number:** L17081498 **Date:** 01/04/2017
**Insturment ID:** ICP-THERMO4 **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 |

**CORR_FACTORS - Modified 03/05/2008**
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**Report generated: 09/05/2017 11:07**

**Microbac Laboratories Inc.**
**INTERELEMENT CORRECTION FACTORS (ANNUALLY)**

**Login Number:** L17081498 **Date:** 01/04/2017
**Insturment ID:** ICP-THERMO4 **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 |

**CORR_FACTORS - Modified 03/05/2008**
**PDF File ID: 5461413**
**Report generated: 09/05/2017 11:07**

**Microbac Laboratories Inc.**
**INTERELEMENT CORRECTION FACTORS (ANNUALLY)**

**Login Number:** L17081498 **Date:** 01/04/2017
**Insturment ID:** ICP-THERMO4 **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 |

**CORR_FACTORS - Modified 03/05/2008**
**PDF File ID: 5461413**
**Report generated: 09/05/2017 11:07**

**Microbac Laboratories Inc.**
**INTERELEMENT CORRECTION FACTORS (ANNUALLY)**

**Login Number:** L17081498 **Date:** 01/04/2017
**Insturment ID:** ICP-THERMO4 **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 |

**CORR_FACTORS - Modified 03/05/2008**
**PDF File ID: 5461413**
**Report generated: 09/05/2017 11:07**

**Microbac Laboratories Inc.**
**INTERELEMENT CORRECTION FACTORS (ANNUALLY)**

**Login Number:** L17081498 **Date:** 01/04/2017
**Insturment ID:** ICP-THERMO4 **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**
**PDF File ID: 5461413**
**Report generated: 09/05/2017 11:07**

**Microbac Laboratories Inc.**
**LINEAR RANGE (QUARTERLY)**

**Login Number:** L17081498 **Date:** 07/17/2017
**Insturment ID:** ICP-THERMO4 **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 |

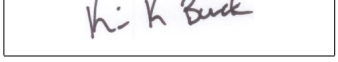
**Comments:**
**All analytes passed acceptance criteria at the specified concentration.**

**LINEAR_RANGE - Modified 03/06/2008**
**PDF File ID: 5461412**
**Report generated: 09/05/2017 11:07**

# 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} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.000282 | 0.034743 | 0.000000 | 1.000000 |
| Al 308.215 {109} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.001605 | 0.008670 | 0.000000 | 1.000000 |
| As 189.042 {478} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000004 | 0.023213 | 0.000000 | 1.000000 |
| B 249.678 {135} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.000152 | 0.015524 | 0.000000 | 1.000000 |
| Ba 455.403 { 74} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.018169 | 1.211814 | 0.000000 | 1.000000 |
| Be 313.107 {108} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000159 | 0.823338 | 0.000000 | 1.000000 |
| Ca 422.673 { 80} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.001710 | 0.024307 | 0.000000 | 1.000000 |
| Cd 228.802 {447} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000314 | 0.318809 | 0.000000 | 1.000000 |
| Co 228.616 {447} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000176 | 0.265772 | 0.000000 | 1.000000 |
| Cr 267.716 {126} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000091 | 0.045534 | 0.000000 | 1.000000 |
| Cu 224.700 {450} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.000594 | 0.085456 | 0.000000 | 1.000000 |
| Fe 261.187 {129} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000031 | 0.017122 | 0.000000 | 1.000000 |
| K 766.490 { 44} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.007076 | 0.031220 | 0.000000 | 1.000000 |
| Li 670.784 { 50} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.002409 | 0.606577 | 0.000000 | 1.000000 |
| Mg 279.079 {121} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.000416 | 0.004427 | 0.000000 | 1.000000 |
| Mn 257.610 {131} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.001742 | 0.168409 | 0.000000 | 1.000000 |
| Mo 202.030 {467} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000111 | 0.114442 | 0.000000 | 1.000000 |
| Na 589.592 { 57} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.037308 | 0.089377 | 0.000000 | 1.000000 |
| Ni 231.604 {446} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.000778 | 0.069295 | 0.000000 | 1.000000 |
| P 214.914 {457} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000095 | 0.009766 | 0.000000 | 1.000000 |
| Pb 220.353 {453} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.000669 | 0.049002 | 0.000000 | 1.000000 |
| Sb 206.833 {463} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000440 | 0.021570 | 0.000000 | 1.000000 |
| Se 196.090 {472} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.000041 | 0.012706 | 0.000000 | 1.000000 |
| Si 212.412 {459} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000365 | 0.025179 | 0.000000 | 1.000000 |
| Sn 189.989 {477} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000104 | 0.068660 | 0.000000 | 1.000000 |
| Sr 407.771 { 83} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.004323 | 2.006627 | 0.000000 | 1.000000 |
| Ti 337.280 {100} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.001279 | 0.090254 | 0.000000 | 1.000000 |
| Tl 190.856 {477} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.000215 | 0.018360 | 0.000000 | 1.000000 |
| V 292.402 {115} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000071 | 0.055441 | 0.000000 | 1.000000 |
| Y 224.306 {450}* | <not fit> | <Never Calibrated> | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| Y 360.073 { 94}* | <not fit> | <Never Calibrated> | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| Y 377.433 { 89}* | <not fit> | <Never Calibrated> | Linear | 1/Conc | 0.000000 | 0.000000 | 0.000000 | 1.000000 |
| Zn 206.200 {463} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | 0.000220 | 0.464627 | 0.000000 | 1.000000 |
| Zr 339.198 { 99} | 9/1/2017 12:43:48 | 9/1/2017 12:43:48 | Linear | 1/Conc | -0.002420 | 0.003093 | 0.000000 | 1.000000 |

Approved: September 05, 2017



| | 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} | 0.999763 | 0.000002 | 0.002703 | 0.009009 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Al 308.215 {109} | 0.999917 | 0.000007 | 0.008495 | 0.028318 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | As 189.042 {478} | 0.999937 | 0.000001 | 0.003628 | 0.012093 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | B 249.678 {135} | 0.999907 | 0.000001 | 0.003470 | 0.011566 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ba 455.403 { 74} | 0.999984 | 0.000044 | 0.001082 | 0.003607 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Be 313.107 {108} | 0.999990 | 0.000001 | 0.000080 | 0.000268 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ca 422.673 { 80} | 0.999803 | 0.000031 | 0.039757 | 0.132523 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cd 228.802 {447} | 0.999788 | 0.000002 | 0.000399 | 0.001331 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Co 228.616 {447} | 0.999976 | 0.000002 | 0.000561 | 0.001870 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cr 267.716 {126} | 0.999995 | 0.000000 | 0.001345 | 0.004484 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Cu 224.700 {450} | 0.999961 | 0.000002 | 0.001947 | 0.006490 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Fe 261.187 {129} | 0.999859 | 0.000007 | 0.019473 | 0.064909 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | K 766.490 { 44} | 0.999909 | 0.000133 | 0.102789 | 0.342630 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Li 670.784 { 50} | 0.999967 | 0.000048 | 0.005274 | 0.017580 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mg 279.079 {121} | 0.999727 | 0.000010 | 0.075364 | 0.251213 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mn 257.610 {131} | 0.999810 | 0.000010 | 0.002397 | 0.007990 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Mo 202.030 {467} | 0.999998 | 0.000002 | 0.000676 | 0.002252 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Na 589.592 { 57} | 0.999990 | 0.000129 | 0.035541 | 0.118470 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ni 231.604 {446} | 0.999983 | 0.000001 | 0.001936 | 0.006453 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | P 214.914 {457} | 0.999986 | 0.000003 | 0.009619 | 0.032064 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Pb 220.353 {453} | 0.997455 | 0.000011 | 0.004486 | 0.014952 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sb 206.833 {463} | 0.999256 | 0.000006 | 0.006285 | 0.020951 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Se 196.090 {472} | 0.999966 | 0.000000 | 0.008839 | 0.029465 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Si 212.412 {459} | 0.999994 | 0.000003 | 0.003513 | 0.011710 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sn 189.989 {477} | 0.999994 | 0.000002 | 0.001026 | 0.003422 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Sr 407.771 { 83} | 0.999995 | 0.000040 | 0.000490 | 0.001633 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Ti 337.280 {100} | 0.999666 | 0.000015 | 0.006683 | 0.022275 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Tl 190.856 {477} | 0.999935 | 0.000001 | 0.004795 | 0.015983 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | V 292.402 {115} | 0.999995 | 0.000001 | 0.001175 | 0.003918 | 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} | 0.999995 | 0.000010 | 0.000205 | 0.000684 | OK. | 1.000000 | 0.000000 | 1 | 0 |
| | Zr 339.198 { 99} | 0.804316 | 0.000014 | 0.285721 | 0.952405 | OK. | 1.000000 | 0.000000 | 1 | 0 |

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Kristi K Burk

Sample Name: S0 Acquired: 9/1/2017 12:25:35 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

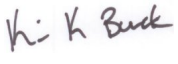
| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.00028** | **.00160** | **.00000** | **-.00015** | **.01817** | **.00016** | **-.00171** |
| Stddev | .00002 | .00006 | .00004 | .00006 | .00041 | .00006 | .00134 |
| %RSD | 8.0893 | 3.6516 | 906.08 | 37.072 | 2.2683 | 37.278 | 78.562 |
| #1 | -.00026 | .00166 | -.00004 | -.00015 | .01864 | .00023 | -.00017 |
| #2 | -.00029 | .00154 | .00002 | -.00021 | .01800 | .00012 | -.00234 |
| #3 | -.00030 | .00162 | .00003 | -.00009 | .01787 | .00013 | -.00262 |

| 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 | **.00031** | **.00018** | **.00009** | **-.00059** | **.00003** | **.00707** | **-.00241** |
| Stddev | .00009 | .00004 | .00001 | .00016 | .00011 | .00291 | .00180 |
| %RSD | 29.424 | 23.425 | 13.257 | 26.388 | 356.47 | 41.158 | 74.741 |
| #1 | .00022 | .00019 | .00010 | -.00075 | -.00004 | .00379 | -.00251 |
| #2 | .00041 | .00013 | .00008 | -.00044 | .00016 | .00810 | -.00056 |
| #3 | .00031 | .00020 | .00010 | -.00059 | -.00002 | .00933 | -.00415 |

| 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 | **-.00042** | **.00174** | **.00011** | **-.03731** | **-.00078** | **.00010** | **-.00067** |
| Stddev | .00011 | .00041 | .00003 | .00278 | .00010 | .00006 | .00017 |
| %RSD | 25.325 | 23.612 | 30.882 | 7.4605 | 13.299 | 61.950 | 25.722 |
| #1 | -.00031 | .00175 | .00015 | -.03549 | -.00089 | .00004 | -.00052 |
| #2 | -.00043 | .00133 | .00008 | -.03593 | -.00069 | .00009 | -.00063 |
| #3 | -.00052 | .00215 | .00011 | -.04052 | -.00075 | .00016 | -.00086 |

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.00044** | **-.00004** | **.00036** | **.00010** | **.00432** | **-.00128** | **-.00021** |
| Stddev | .00011 | .00013 | .00005 | .00005 | .00012 | .00043 | .00009 |
| %RSD | 25.247 | 319.58 | 13.533 | 52.654 | 2.8304 | 33.676 | 43.496 |
| #1 | .00035 | -.00016 | .00031 | .00013 | .00446 | -.00136 | -.00011 |
| #2 | .00056 | -.00006 | .00041 | .00014 | .00430 | -.00166 | -.00026 |
| #3 | .00041 | .00010 | .00037 | .00004 | .00421 | -.00081 | -.00028 |

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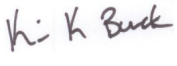


Sample Name: S0 Acquired: 9/1/2017 12:25:35 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **.00007** | **.00022** | **-.00242** |
| Stddev | .00003 | .00005 | .00032 |
| %RSD | 45.248 | 24.914 | 13.109 |
| | | | |
| #1 | .00010 | .00025 | -.00277 |
| #2 | .00008 | .00016 | -.00216 |
| #3 | .00004 | .00025 | -.00233 |

| Int. Std. | Y_2243 | Y_3600 | Y_3774 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **9829.2** | **78779.** | **6675.4** |
| Stddev | 15.8 | 137. | 58.8 |
| %RSD | .16028 | .17382 | .88058 |
| | | | |
| #1 | 9823.6 | 78650. | 6683.2 |
| #2 | 9817.0 | 78923. | 6729.9 |
| #3 | 9847.0 | 78765. | 6613.1 |

Approved: September 05, 2017



Sample Name: S1 Acquired: 9/1/2017 12:29:21 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

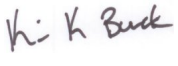
| Elem | Ag3280 | Al3082 | Ba4554 | Be3131 | Ca4226 | Cd2288 | Co2286 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.00014** | **.00238** | **.02702** | **.00047** | **-.00050** | **.00048** | **.00057** |
| Stddev | .00002 | .00007 | .00161 | .00003 | .00067 | .00003 | .00007 |
| %RSD | 16.038 | 2.8083 | 5.9571 | 6.7027 | 135.44 | 6.2659 | 11.477 |
| #1 | -.00014 | .00244 | .02544 | .00047 | -.00109 | .00045 | .00057 |
| #2 | -.00015 | .00231 | .02695 | .00051 | .00024 | .00048 | .00050 |
| #3 | -.00011 | .00239 | .02866 | .00045 | -.00064 | .00051 | .00063 |

| 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 | **.00027** | **-.00022** | **.00075** | **.02158** | **.00229** | **.00100** | **.00143** |
| Stddev | .00005 | .00004 | .00023 | .00361 | .00034 | .00003 | .00307 |
| %RSD | 19.635 | 19.832 | 30.808 | 16.740 | 14.812 | 2.7443 | 214.20 |
| #1 | .00029 | -.00026 | .00049 | .02161 | .00223 | .00103 | .00360 |
| #2 | .00021 | -.00021 | .00094 | .01795 | .00199 | .00101 | .00278 |
| #3 | .00030 | -.00017 | .00083 | .02517 | .00266 | .00097 | -.00208 |

| 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 | **-.00049** | **.00087** | **-.00023** | **.00080** | **.00125** | **.00062** | **.01995** |
| Stddev | .00013 | .00006 | .00026 | .00006 | .00011 | .00004 | .00093 |
| %RSD | 27.443 | 6.8786 | 114.17 | 7.1470 | 8.9518 | 5.7193 | 4.6610 |
| #1 | -.00034 | .00086 | -.00028 | .00075 | .00138 | .00066 | .01891 |
| #2 | -.00059 | .00093 | -.00047 | .00078 | .00121 | .00062 | .02024 |
| #3 | -.00054 | .00081 | .00005 | .00086 | .00117 | .00059 | .02071 |

| Elem | Ti3372 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **-.00035** | **.00052** | **.00400** | **-.00219** |
| Stddev | .00062 | .00004 | .00004 | .00017 |
| %RSD | 175.46 | 8.3603 | 1.0312 | 7.7516 |
| #1 | -.00091 | .00047 | .00398 | -.00235 |
| #2 | .00031 | .00056 | .00405 | -.00202 |
| #3 | -.00046 | .00052 | .00398 | -.00220 |

Approved: September 05, 2017



Sample Name: S1 Acquired: 9/1/2017 12:29:21 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) 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 | 9897.1 | 77722. | 6590.6 |
| Stddev | 16.4 | 1882. | 205.6 |
| %RSD | .16588 | 2.4213 | 3.1199 |
| | | | |
| #1 | 9887.1 | 75601. | 6743.1 |
| #2 | 9888.1 | 78372. | 6672.0 |
| #3 | 9916.0 | 79193. | 6356.8 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: S2 Acquired: 9/1/2017 12:33:08 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) 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 | **-.00002** | **.00309** | **.00013** | **-.00001** | **.03665** | **.00081** | **.00225** |
| Stddev | .00005 | .00004 | .00005 | .00005 | .00138 | .00007 | .00103 |
| %RSD | 291.84 | 1.3167 | 38.288 | 684.06 | 3.7706 | 8.2559 | 45.725 |
| #1 | .00004 | .00313 | .00011 | -.00001 | .03825 | .00080 | .00215 |
| #2 | -.00003 | .00307 | .00009 | .00005 | .03586 | .00088 | .00128 |
| #3 | -.00007 | .00306 | .00018 | -.00006 | .03585 | .00075 | .00333 |

| 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** | **.00047** | **.00015** | **.00112** | **.03566** | **.00624** |
| Stddev | .00010 | .00007 | .00003 | .00007 | .00018 | .00197 | .00110 |
| %RSD | 16.286 | 6.7030 | 5.4896 | 45.834 | 16.468 | 5.5318 | 17.636 |
| #1 | .00062 | .00115 | .00045 | .00022 | .00123 | .03526 | .00543 |
| #2 | .00055 | .00100 | .00049 | .00016 | .00121 | .03780 | .00580 |
| #3 | .00076 | .00106 | .00045 | .00008 | .00090 | .03392 | .00749 |

| 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 | **.00052** | **.00278** | **.00196** | **.03462** | **-.00021** | **.00159** | **-.00010** |
| Stddev | .00029 | .00015 | .00004 | .00376 | .00007 | .00004 | .00011 |
| %RSD | 56.102 | 5.4071 | 1.9435 | 10.850 | 32.469 | 2.5824 | 109.47 |
| #1 | .00083 | .00271 | .00199 | .03583 | -.00026 | .00159 | -.00009 |
| #2 | .00026 | .00268 | .00198 | .03762 | -.00013 | .00154 | .00001 |
| #3 | .00046 | .00295 | .00192 | .03041 | -.00024 | .00162 | -.00021 |

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S | Cts/S |
| Avg | **.00083** | **.00005** | **.00222** | **.00121** | **.03766** | **-.00025** | **-.00007** |
| Stddev | .00007 | .00003 | .00002 | .00003 | .00070 | .00037 | .00004 |
| %RSD | 8.7478 | 61.379 | 1.0530 | 2.3624 | 1.8623 | 149.93 | 55.667 |
| #1 | .00092 | .00002 | .00220 | .00117 | .03823 | -.00038 | -.00004 |
| #2 | .00078 | .00006 | .00222 | .00121 | .03787 | -.00054 | -.00006 |
| #3 | .00080 | .00007 | .00225 | .00123 | .03688 | .00017 | -.00011 |

Approved: September 05, 2017

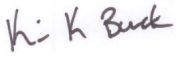
Kristi K Buck

Sample Name: S2 Acquired: 9/1/2017 12:33:08 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) 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 | **.00094** | **.00781** | **-.00198** |
| Stddev | .00003 | .00016 | .00044 |
| %RSD | 3.1156 | 2.0196 | 22.271 |
| | | | |
| #1 | .00095 | .00772 | -.00248 |
| #2 | .00091 | .00799 | -.00165 |
| #3 | .00096 | .00772 | -.00180 |

| Int. Std. | Y_2243 | Y_3600 | Y_3774 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **9892.4** | **78378.** | **6721.6** |
| Stddev | 10.7 | 1198. | 48.9 |
| %RSD | .10800 | 1.5290 | .72718 |
| | | | |
| #1 | 9887.2 | 76994. | 6774.7 |
| #2 | 9885.3 | 79082. | 6711.7 |
| #3 | 9904.7 | 79058. | 6678.5 |

Approved: September 05, 2017



Sample Name: S3 Acquired: 9/1/2017 12:36:56 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) 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 | **.01360** | **.09036** | **.00924** | **.00750** | **1.2313** | **.04201** | **.24022** | **.01780** |
| Stddev | .00002 | .00011 | .00007 | .00004 | .0022 | .00007 | .00032 | .00002 |
| %RSD | .12665 | .12497 | .70493 | .53956 | .17882 | .17620 | .13412 | .10200 |
| #1 | .01359 | .09032 | .00923 | .00747 | 1.2301 | .04195 | .24016 | .01778 |
| #2 | .01360 | .09049 | .00931 | .00754 | 1.2338 | .04200 | .23994 | .01781 |
| #3 | .01362 | .09028 | .00918 | .00749 | 1.2299 | .04209 | .24057 | .01782 |

| 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 | **.05356** | **.02284** | **.04270** | **.06872** | **1.5674** | **.60322** | **.04365** | **.08647** |
| Stddev | .00004 | .00005 | .00003 | .00054 | .0029 | .00202 | .00015 | .00063 |
| %RSD | .07478 | .22269 | .07971 | .79270 | .18204 | .33489 | .33370 | .72545 |
| #1 | .05351 | .02280 | .04269 | .06932 | 1.5703 | .60541 | .04364 | .08719 |
| #2 | .05356 | .02290 | .04267 | .06826 | 1.5646 | .60142 | .04352 | .08622 |
| #3 | .05359 | .02283 | .04274 | .06858 | 1.5672 | .60284 | .04381 | .08601 |

| 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 | **.11429** | **4.4394** | **.03411** | **.09750** | **.02420** | **.02588** | **.00508** | **.11700** |
| Stddev | .00014 | .0194 | .00012 | .00011 | .00018 | .00012 | .00007 | .00014 |
| %RSD | .12569 | .43732 | .35909 | .10801 | .75453 | .45144 | 1.3326 | .12081 |
| #1 | .11432 | 4.4618 | .03421 | .09750 | .02407 | .02602 | .00500 | .11710 |
| #2 | .11441 | 4.4295 | .03397 | .09760 | .02441 | .02581 | .00513 | .11683 |
| #3 | .11413 | 4.4269 | .03416 | .09739 | .02413 | .02581 | .00511 | .11706 |

| 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 | **.06887** | **2.0122** | **.08841** | **.00831** | **.05516** | **.46628** | **.00120** |
| Stddev | .00008 | .0022 | .00021 | .00008 | .00014 | .00044 | .00035 |
| %RSD | .12172 | .10747 | .23926 | .94510 | .25490 | .09368 | 29.419 |
| #1 | .06881 | 2.0130 | .08845 | .00839 | .05500 | .46677 | .00153 |
| #2 | .06896 | 2.0097 | .08860 | .00829 | .05526 | .46593 | .00083 |
| #3 | .06883 | 2.0137 | .08819 | .00824 | .05522 | .46614 | .00123 |

Approved: September 05, 2017

Ki K Buck

Sample Name: S3 Acquired: 9/1/2017 12:36:56 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) 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 | 9760.7 | 77053. | 6770.0 |
| Stddev | 25.5 | 99. | 20.7 |
| %RSD | .26089 | .12890 | .30583 |
| #1 | 9772.5 | 76946. | 6789.8 |
| #2 | 9731.4 | 77141. | 6748.5 |
| #3 | 9778.1 | 77073. | 6771.8 |

Approved: September 05, 2017

Sample Name: S4 Acquired: 9/1/2017 12:40:25 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) 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 | **.02727** | **.17507** | **.01848** | **.01537** | **2.4422** | **.08427** | **.48623** | **.03503** |
| Stddev | .00014 | .00022 | .00008 | .00002 | .0077 | .00017 | .00114 | .00006 |
| %RSD | .50846 | .12547 | .42551 | .15047 | .31666 | .20438 | .23400 | .17430 |
| #1 | .02741 | .17484 | .01851 | .01537 | 2.4400 | .08409 | .48516 | .03497 |
| #2 | .02713 | .17509 | .01854 | .01535 | 2.4359 | .08429 | .48610 | .03504 |
| #3 | .02726 | .17528 | .01839 | .01539 | 2.4508 | .08444 | .48742 | .03509 |

| 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 | **.10598** | **.04569** | **.08522** | **.13662** | **3.1242** | **1.2128** | **.08774** | **.17016** |
| Stddev | .00012 | .00008 | .00019 | .00041 | .0107 | .0051 | .00046 | .00062 |
| %RSD | .10994 | .16524 | .22180 | .30216 | .34306 | .41826 | .52192 | .36146 |
| #1 | .10600 | .04567 | .08543 | .13614 | 3.1202 | 1.2079 | .08737 | .16984 |
| #2 | .10586 | .04562 | .08508 | .13686 | 3.1161 | 1.2124 | .08825 | .16976 |
| #3 | .10609 | .04577 | .08514 | .13684 | 3.1363 | 1.2180 | .08760 | .17086 |

| 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 | **.22923** | **8.8891** | **.06825** | **.19653** | **.04803** | **.05112** | **.01012** | **.23474** |
| Stddev | .00026 | .0389 | .00018 | .00008 | .00010 | .00003 | .00007 | .00027 |
| %RSD | .11242 | .43716 | .25828 | .04100 | .20665 | .05931 | .73837 | .11660 |
| #1 | .22940 | 8.8760 | .06845 | .19648 | .04792 | .05115 | .01004 | .23502 |
| #2 | .22893 | 8.8584 | .06815 | .19662 | .04811 | .05113 | .01012 | .23474 |
| #3 | .22935 | 8.9328 | .06814 | .19648 | .04808 | .05109 | .01019 | .23447 |

| 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 | **.13695** | **4.0158** | **.17974** | **.01648** | **.11092** | **.92702** | **.00264** |
| Stddev | .00012 | .0107 | .00062 | .00007 | .00021 | .00012 | .00113 |
| %RSD | .08870 | .26537 | .34328 | .41524 | .18993 | .01242 | 42.793 |
| #1 | .13705 | 4.0073 | .17921 | .01652 | .11079 | .92702 | .00386 |
| #2 | .13682 | 4.0124 | .17959 | .01640 | .11081 | .92690 | .00244 |
| #3 | .13699 | 4.0278 | .18042 | .01652 | .11116 | .92713 | .00163 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: S4 Acquired: 9/1/2017 12:40:25 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) 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 | 9675.7 | 74220. | 6730.4 |
| Stddev | 30.0 | 989. | 23.9 |
| %RSD | .30966 | 1.3323 | .35533 |
| #1 | 9647.3 | 75329. | 6711.2 |
| #2 | 9707.0 | 73900. | 6722.9 |
| #3 | 9672.7 | 73430. | 6757.2 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: ICV Acquired: 9/1/2017 12:43:53 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.40252** | **10.199** | **.40572** | **.49483** | **1.0018** | **.05012** | **10.006** |
| Stddev | .00333 | .006 | .00138 | .00189 | .0016 | .00023 | .042 |
| %RSD | .82617 | .06246 | .34101 | .38177 | .16013 | .46134 | .41942 |
| #1 | .39868 | 10.194 | .40699 | .49318 | 1.0027 | .04987 | 9.9717 |
| #2 | .40446 | 10.196 | .40425 | .49443 | .99995 | .05033 | 9.9929 |
| #3 | .40442 | 10.206 | .40593 | .49690 | 1.0028 | .05015 | 10.053 |
| 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 | **.05056** | **.20036** | **.49943** | **.50766** | **3.9799** | **49.968** | **1.0095** |
| Stddev | .00023 | .00032 | .00297 | .00106 | .0110 | .023 | .0028 |
| %RSD | .44642 | .15807 | .59448 | .20836 | .27698 | .04662 | .27545 |
| #1 | .05082 | .20013 | .49923 | .50648 | 3.9754 | 49.991 | 1.0093 |
| #2 | .05046 | .20072 | .49657 | .50797 | 3.9924 | 49.944 | 1.0067 |
| #3 | .05040 | .20024 | .50249 | .50852 | 3.9718 | 49.969 | 1.0123 |
| 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 | **10.162** | **.50418** | **.95465** | **50.134** | **.50437** | **10.066** | **.49927** |
| Stddev | .042 | .00130 | .00214 | .061 | .00203 | .016 | .00024 |
| %RSD | .41788 | .25722 | .22427 | .12188 | .40282 | .15434 | .04828 |
| #1 | 10.123 | .50362 | .95712 | 50.152 | .50525 | 10.081 | .49899 |
| #2 | 10.207 | .50326 | .95353 | 50.066 | .50205 | 10.065 | .49941 |
| #3 | 10.156 | .50566 | .95330 | 50.184 | .50581 | 10.050 | .49941 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: ICV Acquired: 9/1/2017 12:43:53 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **1.2312** | **.40301** | **4.9706** | **1.0169** | **1.0037** | **1.0090** | **.50197** |
| Stddev | .0048 | .00638 | .0138 | .0029 | .0020 | .0049 | .00158 |
| %RSD | .38869 | 1.5824 | .27730 | .29058 | .19506 | .48839 | .31453 |
| #1 | 1.2363 | .39589 | 4.9862 | 1.0192 | 1.0052 | 1.0146 | .50378 |
| #2 | 1.2303 | .40495 | 4.9603 | 1.0179 | 1.0015 | 1.0061 | .50132 |
| #3 | 1.2268 | .40819 | 4.9651 | 1.0136 | 1.0043 | 1.0062 | .50083 |
| 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 | **.99147** | **1.0114** | F **.36479** |
| Stddev | .00176 | .0016 | .18503 |
| %RSD | .17792 | .15617 | 50.721 |
| #1 | .99348 | 1.0131 | .55454 |
| #2 | .99077 | 1.0112 | .35497 |
| #3 | .99017 | 1.0099 | .18487 |
| Check ? | Chk Pass | Chk Pass | Chk Fail |
| Value | | | 1.0000 |
| Range | | | -5.0000% |

| Int. Std. | Y_2243 | Y_3600 | Y_3774 |
|---|---|---|---|
| Units | Cts/S | Cts/S | Cts/S |
| Avg | **9778.7** | **77197.** | **6757.1** |
| Stddev | 26.6 | 52. | 56.4 |
| %RSD | .27218 | .06790 | .83436 |
| #1 | 9750.9 | 77162. | 6756.1 |
| #2 | 9781.0 | 77172. | 6813.9 |
| #3 | 9804.0 | 77257. | 6701.2 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: ICB Acquired: 9/1/2017 12:48:31 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00067** | **.00417** | **.00023** | **.00035** | **-.00032** | **.00001** | **.00728** |
| Stddev | .00178 | .00342 | .00167 | .00126 | .00012 | .00005 | .02470 |
| %RSD | 267.67 | 81.921 | 741.05 | 363.82 | 35.986 | 548.07 | 339.44 |
| #1 | -.00132 | .00795 | -.00100 | .00139 | -.00039 | -.00004 | .01163 |
| #2 | .00119 | .00131 | .00213 | -.00105 | -.00019 | .00006 | -.01931 |
| #3 | .00213 | .00326 | -.00045 | .00070 | -.00039 | .00001 | .02951 |
| 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 | **.00007** | **-.00015** | **.00048** | **.00109** | **.00465** | **.18009** | **-.00258** |
| Stddev | .00029 | .00060 | .00008 | .00318 | .02162 | .05492 | .00272 |
| %RSD | 394.80 | 404.47 | 17.756 | 291.28 | 464.64 | 30.496 | 105.49 |
| #1 | -.00020 | -.00064 | .00041 | .00215 | -.01943 | .24156 | -.00413 |
| #2 | .00037 | -.00033 | .00045 | -.00248 | .01101 | .13586 | -.00418 |
| #3 | .00004 | .00052 | .00057 | .00361 | .02238 | .16285 | .00056 |
| 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 | **.05074** | **-.00250** | **-.00017** | **.04136** | **-.00003** | **.00326** | F **.00582** |
| Stddev | .04227 | .00313 | .00030 | .04279 | .00081 | .00730 | .00466 |
| %RSD | 83.307 | 125.39 | 177.81 | 103.46 | 2754.3 | 223.94 | 80.002 |
| #1 | .01538 | .00050 | .00017 | .00984 | -.00066 | .00522 | .00052 |
| #2 | .03927 | -.00575 | -.00040 | .09008 | .00089 | .00938 | .00766 |
| #3 | .09756 | -.00224 | -.00028 | .02416 | -.00033 | -.00482 | .00927 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | .00500 |
| Low Limit | | | | | | | -.00500 |

Approved: September 05, 2017

Ki K Buck

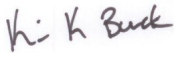
Sample Name: ICB Acquired: 9/1/2017 12:48:31 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00355** | **.00581** | **-.00130** | **-.00115** | **-.00019** | **.00003** | **.00253** |
| Stddev | .00376 | .00285 | .00193 | .00009 | .00034 | .00351 | .00378 |
| %RSD | 105.91 | 49.081 | 148.62 | 7.5039 | 175.13 | 11414. | 149.81 |
| #1 | .00651 | .00253 | .00089 | -.00108 | .00015 | -.00402 | -.00145 |
| #2 | -.00068 | .00774 | -.00201 | -.00113 | -.00019 | .00189 | .00295 |
| #3 | .00483 | .00715 | -.00278 | -.00125 | -.00054 | .00222 | .00608 |
| 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 | **-.00071** | **.00098** | **-.00753** |
| Stddev | .00071 | .00040 | .03527 |
| %RSD | 98.903 | 40.867 | 468.45 |
| #1 | -.00062 | .00053 | .02682 |
| #2 | -.00006 | .00114 | -.04366 |
| #3 | -.00147 | .00129 | -.00575 |
| 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 | **9956.7** | **79286.** | **6775.3** |
| Stddev | 26.1 | 170. | 21.6 |
| %RSD | .26211 | .21485 | .31818 |
| #1 | 9937.9 | 79439. | 6767.9 |
| #2 | 9986.5 | 79102. | 6799.5 |
| #3 | 9945.8 | 79317. | 6758.3 |

Approved: September 05, 2017



Sample Name: LLICV Acquired: 9/1/2017 12:52:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00806** | **.17427** | **.01065** | **.08020** | **.00740** | **.00159** | **.46211** | **.00130** |
| Stddev | .00089 | .00356 | .00478 | .00192 | .00099 | .00006 | .00899 | .00022 |
| %RSD | 11.088 | 2.0425 | 44.847 | 2.3952 | 13.364 | 3.8002 | 1.9450 | 16.634 |
| #1 | .00879 | .17630 | .01530 | .08216 | .00841 | .00152 | .45474 | .00154 |
| #2 | .00833 | .17635 | .01090 | .07832 | .00734 | .00163 | .45947 | .00118 |
| #3 | .00707 | .17016 | .00576 | .08012 | .00644 | .00162 | .47212 | .00117 |
| 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 | **.00424** | **.00346** | **.00494** | **.07481** | **.88845** | **.08243** | **.40571** | **.00789** |
| Stddev | .00019 | .00078 | .00136 | .01685 | .04368 | .00072 | .08201 | .00142 |
| %RSD | 4.4097 | 22.486 | 27.409 | 22.524 | 4.9159 | .87490 | 20.214 | 17.965 |
| #1 | .00404 | .00336 | .00339 | .08055 | .89353 | .08170 | .46905 | .00677 |
| #2 | .00430 | .00428 | .00557 | .08804 | .84246 | .08245 | .43501 | .00948 |
| #3 | .00440 | .00273 | .00587 | .05584 | .92937 | .08314 | .31308 | .00742 |
| 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 | **.00789** | **.43809** | **.01810** | **.79775** | **.01626** | **.08402** | **.02191** | **.73239** |
| Stddev | .00038 | .03652 | .00028 | .00738 | .00141 | .00025 | .00957 | .00067 |
| %RSD | 4.8665 | 8.3351 | 1.5629 | .92453 | 8.6776 | .29896 | 43.692 | .09153 |
| #1 | .00761 | .39596 | .01825 | .79922 | .01759 | .08375 | .01379 | .73308 |
| #2 | .00773 | .46045 | .01828 | .80428 | .01643 | .08407 | .03247 | .73174 |
| #3 | .00833 | .45787 | .01778 | .78975 | .01478 | .08425 | .01948 | .73233 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

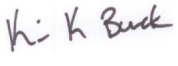
Ki K Buck

Sample Name: LLICV Acquired: 9/1/2017 12:52:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.41194** | **.04056** | **.02469** | **.15902** | **.00726** | **.01805** | **26.841** |
| Stddev | .00077 | .00005 | .00424 | .00743 | .00156 | .00001 | .155 |
| %RSD | .18582 | .12456 | 17.194 | 4.6743 | 21.492 | .07362 | .57672 |
| #1 | .41204 | .04050 | .02917 | .15507 | .00894 | .01806 | 26.668 |
| #2 | .41113 | .04059 | .02415 | .16760 | .00586 | .01803 | 26.967 |
| #3 | .41265 | .04058 | .02074 | .15440 | .00697 | .01804 | 26.887 |
| 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 | **10031.** | **79892.** | **6851.8** |
| Stddev | 5. | 293. | 14.8 |
| %RSD | .04826 | .36659 | .21587 |
| #1 | 10028. | 79572. | 6836.2 |
| #2 | 10037. | 80147. | 6865.6 |
| #3 | 10029. | 79958. | 6853.6 |

Approved: September 05, 2017



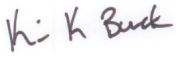
Sample Name: LLICV Acquired: 9/1/2017 12:56:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00681** | **.17410** | **.01003** | **.07850** | **.00765** | **.00160** | **.42064** | **.00086** |
| Stddev | .00148 | .00214 | .00382 | .00167 | .00100 | .00007 | .01473 | .00016 |
| %RSD | 21.780 | 1.2301 | 38.104 | 2.1300 | 13.060 | 4.2268 | 3.5018 | 18.488 |
| #1 | .00828 | .17649 | .01300 | .07889 | .00829 | .00167 | .42902 | .00100 |
| #2 | .00531 | .17237 | .01136 | .07666 | .00650 | .00160 | .42927 | .00069 |
| #3 | .00685 | .17342 | .00572 | .07994 | .00816 | .00154 | .40364 | .00089 |
| 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 | **.00407** | **.00394** | **.00643** | **.11282** | **1.0014** | **.08279** | **.39813** | **.00495** |
| Stddev | .00024 | .00129 | .00026 | .01544 | .0611 | .00145 | .02501 | .00277 |
| %RSD | 5.8792 | 32.679 | 3.9938 | 13.688 | 6.1035 | 1.7483 | 6.2825 | 56.030 |
| #1 | .00399 | .00408 | .00651 | .10694 | .95720 | .08224 | .37330 | .00715 |
| #2 | .00433 | .00259 | .00615 | .13033 | 1.0711 | .08170 | .39776 | .00585 |
| #3 | .00387 | .00515 | .00664 | .10117 | .97579 | .08443 | .42333 | .00184 |
| 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 | **.00776** | **.42040** | **.01677** | **.79895** | **.01382** | **.08665** | **.01822** | **.72998** |
| Stddev | .00027 | .00553 | .00191 | .00479 | .00170 | .00263 | .00337 | .00262 |
| %RSD | 3.4564 | 1.3157 | 11.386 | .59947 | 12.326 | 3.0304 | 18.497 | .35928 |
| #1 | .00748 | .41425 | .01843 | .79822 | .01505 | .08696 | .01551 | .72838 |
| #2 | .00780 | .42198 | .01468 | .80407 | .01188 | .08910 | .02199 | .73300 |
| #3 | .00801 | .42497 | .01719 | .79458 | .01453 | .08388 | .01716 | .72855 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

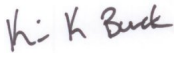


Sample Name: LLICV Acquired: 9/1/2017 12:56:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.41329** | **.04050** | **.02479** | **.15925** | **.00712** | **.01742** | **26.841** |
| Stddev | .00111 | .00046 | .00367 | .00181 | .00041 | .00015 | .415 |
| %RSD | .26805 | 1.1451 | 14.798 | 1.1357 | 5.8023 | .84382 | 1.5457 |
| #1 | .41380 | .04015 | .02283 | .15845 | .00720 | .01726 | 26.497 |
| #2 | .41405 | .04103 | .02902 | .16132 | .00748 | .01746 | 26.725 |
| #3 | .41202 | .04034 | .02251 | .15798 | .00667 | .01755 | 27.302 |
| 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 | **9987.8** | **79585.** | **6846.1** |
| Stddev | 17.8 | 304. | 39.4 |
| %RSD | .17848 | .38257 | .57546 |
| #1 | 9994.4 | 79554. | 6867.1 |
| #2 | 9967.6 | 79297. | 6870.5 |
| #3 | 10001. | 79904. | 6800.6 |

Approved: September 05, 2017



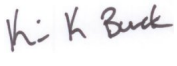
Sample Name: LLICV Acquired: 9/1/2017 12:59:51 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00787** | **.17348** | **.00946** | **.07970** | **.00818** | **.00161** | **.43334** | **.00114** |
| Stddev | .00116 | .00519 | .00247 | .00199 | .00074 | .00005 | .00960 | .00023 |
| %RSD | 14.753 | 2.9942 | 26.090 | 2.4973 | 9.0030 | 3.3114 | 2.2156 | 20.183 |
| #1 | .00669 | .17939 | .01074 | .07745 | .00741 | .00164 | .44345 | .00133 |
| #2 | .00901 | .17140 | .00662 | .08121 | .00888 | .00164 | .42435 | .00121 |
| #3 | .00792 | .16965 | .01103 | .08044 | .00824 | .00155 | .43223 | .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 | **.00416** | **.00505** | **.00523** | **.07565** | **.86657** | **.08504** | **.48378** | **.00527** |
| Stddev | .00028 | .00032 | .00077 | .02389 | .05973 | .00488 | .08375 | .00129 |
| %RSD | 6.8246 | 6.3013 | 14.678 | 31.579 | 6.8928 | 5.7417 | 17.312 | 24.557 |
| #1 | .00409 | .00469 | .00602 | .09050 | .80269 | .08685 | .46938 | .00674 |
| #2 | .00447 | .00529 | .00449 | .04809 | .92104 | .08876 | .57381 | .00435 |
| #3 | .00392 | .00516 | .00518 | .08835 | .87599 | .07951 | .40817 | .00470 |
| 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 | **.00790** | **.42229** | **.01856** | **.80611** | **.01599** | **.08883** | **.02205** | **.73737** |
| Stddev | .00036 | .04539 | .00075 | .00496 | .00332 | .00951 | .00677 | .00369 |
| %RSD | 4.5961 | 10.750 | 4.0501 | .61544 | 20.744 | 10.701 | 30.709 | .50058 |
| #1 | .00818 | .47065 | .01933 | .80038 | .01221 | .09096 | .01582 | .73335 |
| #2 | .00804 | .38061 | .01783 | .80903 | .01735 | .09708 | .02108 | .74060 |
| #3 | .00749 | .41561 | .01854 | .80892 | .01842 | .07844 | .02926 | .73818 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: LLICV Acquired: 9/1/2017 12:59:51 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.41607** | **.04104** | **.02100** | **.16248** | **.00796** | **.01741** | **27.234** |
| Stddev | .00090 | .00069 | .00327 | .00029 | .00020 | .00018 | .405 |
| %RSD | .21511 | 1.6731 | 15.565 | .17872 | 2.5603 | 1.0387 | 1.4885 |
| #1 | .41576 | .04036 | .02474 | .16277 | .00804 | .01757 | 27.064 |
| #2 | .41537 | .04103 | .01871 | .16247 | .00812 | .01745 | 27.697 |
| #3 | .41708 | .04173 | .01955 | .16219 | .00773 | .01721 | 26.942 |
| 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 | **9988.8** | **79886.** | **6827.3** |
| Stddev | 17.1 | 219. | 66.6 |
| %RSD | .17102 | .27422 | .97604 |
| #1 | 10008. | 79806. | 6854.9 |
| #2 | 9982.3 | 79719. | 6751.3 |
| #3 | 9975.8 | 80134. | 6875.6 |

Approved: September 05, 2017

Kim K Burk

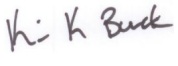
Sample Name: ICSA Acquired: 9/1/2017 13:03:37 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00182** | **248.25** | **.00123** | **.01934** | **-.00078** | **-.00007** | **238.91** |
| Stddev | .00106 | .09 | .00597 | .00177 | .00106 | .00005 | 1.67 |
| %RSD | 58.029 | .03721 | 484.47 | 9.1680 | 136.91 | 74.472 | .69959 |
| #1 | -.00128 | 248.25 | -.00543 | .01804 | -.00100 | -.00010 | 240.80 |
| #2 | -.00304 | 248.34 | .00611 | .02136 | .00038 | -.00001 | 238.30 |
| #3 | -.00114 | 248.15 | .00302 | .01862 | -.00171 | -.00009 | 237.63 |
| 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** | **-.00026** | **-.00125** | **.00010** | **95.928** | **.06981** | **-.00042** |
| Stddev | .00034 | .00023 | .00049 | .00189 | .640 | .10886 | .00320 |
| %RSD | 1684.0 | 91.234 | 39.038 | 1992.8 | .66735 | 155.95 | 765.85 |
| #1 | .00037 | -.00001 | -.00069 | .00112 | 96.665 | -.02571 | -.00136 |
| #2 | -.00031 | -.00048 | -.00151 | -.00209 | 95.608 | .04679 | .00315 |
| #3 | -.00000 | -.00027 | -.00156 | .00125 | 95.510 | .18834 | -.00304 |
| 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 | **244.67** | **-.00338** | **-.00072** | **.03350** | **-.00452** | **.02775** | **.00006** |
| Stddev | 1.29 | .00149 | .00064 | .01744 | .00100 | .00888 | .00163 |
| %RSD | .52889 | 44.192 | 88.923 | 52.066 | 22.126 | 31.991 | 2905.4 |
| #1 | 246.15 | -.00168 | -.00137 | .01652 | -.00567 | .03674 | .00136 |
| #2 | 243.78 | -.00399 | -.00068 | .05137 | -.00397 | .02753 | .00058 |
| #3 | 244.07 | -.00447 | -.00010 | .03262 | -.00391 | .01899 | -.00177 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017



Sample Name: ICSA Acquired: 9/1/2017 13:03:37 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00538** | **.00001** | **.00579** | **-.00060** | **.00089** | **-.00123** | **.00170** |
| Stddev | .00313 | .00578 | .00211 | .00079 | .00015 | .00314 | .00398 |
| %RSD | 58.202 | 51857. | 36.481 | 131.02 | 17.126 | 254.99 | 233.87 |
| #1 | .00670 | .00580 | .00720 | -.00110 | .00077 | .00236 | .00174 |
| #2 | .00181 | -.00576 | .00336 | .00031 | .00106 | -.00257 | .00567 |
| #3 | .00765 | -.00000 | .00681 | -.00101 | .00085 | -.00348 | -.00230 |
| 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 | **-.00491** | **-.00438** | F **-3.1143** |
| Stddev | .00093 | .00026 | .2927 |
| %RSD | 18.968 | 5.9764 | 9.3979 |
| #1 | -.00537 | -.00413 | -3.3794 |
| #2 | -.00384 | -.00435 | -3.1634 |
| #3 | -.00553 | -.00465 | -2.8002 |
| 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 | **9366.5** | **73157.** | **6603.3** |
| Stddev | 15.9 | 193. | 144.3 |
| %RSD | .17018 | .26433 | 2.1848 |
| #1 | 9384.7 | 72950. | 6437.2 |
| #2 | 9360.1 | 73187. | 6675.6 |
| #3 | 9354.8 | 73334. | 6697.1 |

Approved: September 05, 2017

Ki K Buck

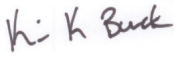
Sample Name: ICSAB Acquired: 9/1/2017 13:07:20 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.50690** | **244.46** | **.24390** | **.50313** | **.24255** | **.25266** | **235.13** |
| Stddev | .00190 | .64 | .00129 | .00433 | .00091 | .00014 | .18 |
| %RSD | .37437 | .25976 | .53090 | .86108 | .37668 | .05570 | .07609 |
| #1 | .50577 | 244.76 | .24539 | .50555 | .24239 | .25278 | 235.34 |
| #2 | .50909 | 244.89 | .24309 | .50570 | .24353 | .25269 | 235.03 |
| #3 | .50585 | 243.73 | .24321 | .49812 | .24173 | .25251 | 235.02 |
| 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 | **.46579** | **.23164** | **.24121** | **.23793** | **94.289** | **4.9679** | **.00335** |
| Stddev | .00085 | .00058 | .00101 | .00139 | .264 | .0400 | .00223 |
| %RSD | .18218 | .24906 | .42043 | .58415 | .27951 | .80449 | 66.591 |
| #1 | .46482 | .23173 | .24031 | .23876 | 94.515 | 4.9242 | .00137 |
| #2 | .46622 | .23102 | .24231 | .23870 | 93.999 | 5.0026 | .00291 |
| #3 | .46634 | .23216 | .24101 | .23632 | 94.351 | 4.9769 | .00576 |
| 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 | **239.14** | **.23507** | **-.00043** | **5.0481** | **.46394** | **-.01066** | **.46361** |
| Stddev | .46 | .00175 | .00124 | .0034 | .00220 | .01176 | .00355 |
| %RSD | .19115 | .74450 | 288.81 | .06837 | .47324 | 110.32 | .76619 |
| #1 | 239.65 | .23384 | -.00171 | 5.0458 | .46560 | -.01397 | .46030 |
| #2 | 238.76 | .23707 | .00077 | 5.0521 | .46145 | .00240 | .46736 |
| #3 | 239.01 | .23430 | -.00035 | 5.0464 | .46476 | -.02041 | .46318 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017



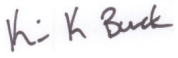
Sample Name: ICSAB Acquired: 9/1/2017 13:07:20 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.48932** | **.23184** | **.00908** | **.47127** | **.00042** | **.00172** | **.43483** |
| Stddev | .00619 | .00533 | .00156 | .00087 | .00006 | .00592 | .00569 |
| %RSD | 1.2646 | 2.2985 | 17.181 | .18455 | 15.264 | 345.24 | 1.3085 |
| #1 | .48224 | .23683 | .00816 | .47119 | .00049 | -.00344 | .43596 |
| #2 | .49204 | .23245 | .00820 | .47218 | .00038 | .00819 | .42866 |
| #3 | .49369 | .22623 | .01088 | .47044 | .00039 | .00039 | .43987 |
| 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 | **.24096** | **.46138** | F **-3.2516** |
| Stddev | .00183 | .00019 | .1287 |
| %RSD | .75905 | .04184 | 3.9569 |
| #1 | .24188 | .46159 | -3.3548 |
| #2 | .24214 | .46122 | -3.2926 |
| #3 | .23885 | .46133 | -3.1075 |
| 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 | **9358.6** | **73113.** | **6706.7** |
| Stddev | 26.1 | 98. | 37.4 |
| %RSD | .27890 | .13386 | .55771 |
| #1 | 9328.5 | 73022. | 6665.5 |
| #2 | 9374.0 | 73216. | 6738.5 |
| #3 | 9373.3 | 73101. | 6716.1 |

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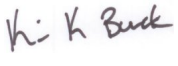
Sample Name: CCV Acquired: 9/1/2017 13:10:55 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.40459** | **10.055** | **.39244** | **.49712** | **.98663** | **.04947** | **9.8896** |
| Stddev | .00154 | .015 | .00573 | .00334 | .00417 | .00007 | .0412 |
| %RSD | .38033 | .14518 | 1.4610 | .67198 | .42252 | .14620 | .41664 |
| #1 | .40606 | 10.058 | .39906 | .49882 | .99143 | .04946 | 9.9329 |
| #2 | .40299 | 10.040 | .38913 | .49327 | .98393 | .04955 | 9.8851 |
| #3 | .40471 | 10.069 | .38912 | .49927 | .98453 | .04940 | 9.8509 |
| 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 | **.04947** | **.19801** | **.49365** | **.49493** | **3.9444** | **49.383** | **.98070** |
| Stddev | .00039 | .00059 | .00050 | .00127 | .0268 | .257 | .00823 |
| %RSD | .78347 | .29575 | .10217 | .25740 | .67928 | .51943 | .83876 |
| #1 | .04915 | .19822 | .49415 | .49497 | 3.9157 | 49.677 | .98746 |
| #2 | .04937 | .19735 | .49314 | .49363 | 3.9688 | 49.202 | .97154 |
| #3 | .04990 | .19846 | .49365 | .49618 | 3.9487 | 49.271 | .98309 |
| 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 | **9.9624** | **.49412** | **.98611** | **49.612** | **.49610** | **9.8237** | **.49800** |
| Stddev | .0915 | .00144 | .00084 | .259 | .00282 | .0048 | .00753 |
| %RSD | .91798 | .29229 | .08537 | .52237 | .56768 | .04848 | 1.5123 |
| #1 | 9.8705 | .49469 | .98596 | 49.862 | .49916 | 9.8271 | .50446 |
| #2 | 9.9632 | .49519 | .98535 | 49.344 | .49550 | 9.8257 | .48973 |
| #3 | 10.053 | .49248 | .98701 | 49.630 | .49363 | 9.8183 | .49981 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Approved: September 05, 2017



Sample Name: CCV Acquired: 9/1/2017 13:10:55 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **1.1886** | **.39392** | **4.9061** | **.99320** | **.98662** | **.99046** | **.49740** |
| Stddev | .0019 | .00817 | .0040 | .00110 | .00545 | .01054 | .00278 |
| %RSD | .16010 | 2.0742 | .08098 | .11069 | .55257 | 1.0644 | .55979 |
| #1 | 1.1897 | .39158 | 4.9103 | .99434 | .99285 | .99673 | .49878 |
| #2 | 1.1864 | .40300 | 4.9057 | .99312 | .98271 | .97829 | .49419 |
| #3 | 1.1897 | .38717 | 4.9024 | .99214 | .98430 | .99636 | .49922 |
| 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 | **.98630** | **.99040** | F **679.06** |
| Stddev | .00222 | .00098 | 19.85 |
| %RSD | .22536 | .09925 | 2.9231 |
| #1 | .98545 | .99144 | 701.98 |
| #2 | .98882 | .98949 | 667.07 |
| #3 | .98462 | .99026 | 668.14 |
| 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 | **9812.7** | **77376.** | **6687.8** |
| Stddev | 10.8 | 353. | 177.6 |
| %RSD | .10987 | .45659 | 2.6552 |
| #1 | 9805.6 | 77548. | 6484.3 |
| #2 | 9807.5 | 76969. | 6767.8 |
| #3 | 9825.1 | 77610. | 6811.3 |

Approved: September 05, 2017

Ki K Buck

Sample Name: CCB Acquired: 9/1/2017 13:14:23 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00189** | **.00957** | **.00146** | **.00331** | **-.00011** | **-.00001** | **.06327** |
| Stddev | .00035 | .01581 | .00234 | .00039 | .00124 | .00006 | .06387 |
| %RSD | 18.592 | 165.11 | 160.38 | 11.775 | 1173.0 | 633.98 | 100.95 |
| #1 | .00187 | -.00593 | .00165 | .00341 | .00130 | .00005 | .13146 |
| #2 | .00154 | .02567 | .00370 | .00288 | -.00059 | -.00000 | .00485 |
| #3 | .00224 | .00898 | -.00097 | .00364 | -.00103 | -.00008 | .05350 |
| 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 **.00055** | **.00009** | **-.00005** | **.00086** | **.04956** | **.06826** | **.00173** |
| Stddev | .00030 | .00013 | .00062 | .00049 | .04340 | .04274 | .00653 |
| %RSD | 54.299 | 152.83 | 1147.4 | 56.930 | 87.587 | 62.612 | 378.25 |
| #1 | .00024 | -.00003 | -.00033 | .00106 | .09914 | .09333 | .00859 |
| #2 | .00058 | .00023 | -.00049 | .00030 | .03110 | .09253 | -.00440 |
| #3 | .00084 | .00007 | .00066 | .00121 | .01843 | .01891 | .00099 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | .00050 | | | | | | |
| Low Limit | -.00050 | | | | | | |

| Elem | Mg2790 | Mn2576 | Mo2020 | Na5895 | Ni2316 | P_2149 | Pb2203 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.09558** | **-.00218** | **-.00025** | **.02885** | **.00144** | **.00430** | **.00402** |
| Stddev | .10908 | .00197 | .00035 | .01607 | .00149 | .00365 | .00352 |
| %RSD | 114.13 | 90.469 | 138.98 | 55.713 | 103.94 | 84.719 | 87.565 |
| #1 | .21512 | -.00029 | -.00020 | .01115 | .00137 | .00728 | .00204 |
| #2 | .07019 | -.00203 | -.00063 | .03286 | -.00002 | .00024 | .00193 |
| #3 | .00144 | -.00422 | .00007 | .04254 | .00296 | .00540 | .00807 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Kristi K Burk

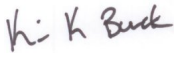
Sample Name: CCB Acquired: 9/1/2017 13:14:23 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00134** | **.00225** | **-.00088** | **-.00059** | **-.00018** | **.00228** | **-.00183** |
| Stddev | .00809 | .00339 | .00148 | .00045 | .00012 | .00342 | .00302 |
| %RSD | 601.95 | 150.79 | 166.88 | 77.238 | 65.051 | 150.17 | 164.97 |
| #1 | -.00964 | -.00007 | -.00245 | -.00011 | -.00005 | .00406 | .00136 |
| #2 | -.00093 | .00068 | -.00068 | -.00063 | -.00029 | -.00167 | -.00221 |
| #3 | .00653 | .00615 | .00048 | -.00102 | -.00021 | .00444 | -.00464 |
| 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** | **.00021** | **.02726** |
| Stddev | .00130 | .00015 | .42828 |
| %RSD | 292.87 | 70.025 | 1571.3 |
| #1 | .00167 | .00032 | -.17485 |
| #2 | .00058 | .00028 | -.26258 |
| #3 | -.00092 | .00004 | .51919 |
| 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 | **9954.3** | **79574.** | **6682.0** |
| Stddev | 7.5 | 222. | 95.4 |
| %RSD | .07511 | .27871 | 1.4283 |
| #1 | 9952.5 | 79778. | 6718.5 |
| #2 | 9962.6 | 79605. | 6753.8 |
| #3 | 9948.0 | 79338. | 6573.7 |

Approved: September 05, 2017



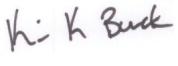
Sample Name: PBW 3A Acquired: 9/1/2017 14:10:24 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627986-02

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00209** | **-.00743** | **.00035** | **.00194** | **-.00179** | **-.00003** | **.03003** | **.00034** |
| Stddev | .00081 | .00158 | .00092 | .00327 | .00026 | .00010 | .00602 | .00021 |
| %RSD | 38.832 | 21.317 | 264.54 | 168.82 | 14.397 | 363.63 | 20.053 | 60.101 |
| #1 | .00192 | -.00763 | -.00056 | -.00167 | -.00184 | -.00000 | .03018 | .00048 |
| #2 | .00298 | -.00890 | .00129 | .00472 | -.00202 | -.00013 | .02394 | .00045 |
| #3 | .00138 | -.00575 | .00032 | .00277 | -.00151 | .00006 | .03598 | .00011 |
| 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 | **-.00047** | **.00094** | **.00093** | **.01892** | **.04872** | **.00020** | **.02007** | **-.00004** |
| Stddev | .00043 | .00180 | .00105 | .01050 | .07632 | .00426 | .07013 | .00191 |
| %RSD | 91.887 | 191.78 | 113.11 | 55.482 | 156.66 | 2077.6 | 349.37 | 5409.9 |
| #1 | -.00030 | .00079 | -.00027 | .01158 | .13391 | .00473 | -.02170 | .00012 |
| #2 | -.00015 | .00280 | .00169 | .03094 | .02568 | -.00039 | .10104 | .00179 |
| #3 | -.00096 | -.00078 | .00138 | .01423 | -.01343 | -.00372 | -.01912 | -.00202 |
| 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 | **.00060** | **.01320** | **.00150** | **-.00741** | **.00105** | **.00037** | **.00395** | **.00322** |
| Stddev | .00028 | .02197 | .00055 | .00379 | .00359 | .00419 | .00501 | .00278 |
| %RSD | 46.093 | 166.48 | 36.906 | 51.117 | 340.49 | 1130.4 | 126.80 | 86.352 |
| #1 | .00089 | .01976 | .00086 | -.01105 | .00085 | -.00147 | .00971 | .00191 |
| #2 | .00034 | -.01131 | .00175 | -.00767 | -.00243 | -.00258 | .00061 | .00134 |
| #3 | .00056 | .03114 | .00188 | -.00349 | .00475 | .00516 | .00153 | .00642 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: PBW 3A Acquired: 9/1/2017 14:10:24 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627986-02

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00113** | **-.00006** | **-.00159** | **.00073** | **.00017** | **.00088** | **.24351** |
| Stddev | .00070 | .00023 | .00751 | .00045 | .00175 | .00009 | .19547 |
| %RSD | 61.537 | 359.22 | 471.61 | 61.312 | 1038.6 | 9.6936 | 80.272 |
| #1 | -.00188 | .00009 | .00227 | .00094 | .00151 | .00098 | .04153 |
| #2 | -.00100 | -.00032 | -.01025 | .00103 | .00080 | .00081 | .25725 |
| #3 | -.00051 | .00004 | .00320 | .00022 | -.00181 | .00085 | .43175 |
| 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 | **10103.** | **80802.** | **6726.3** |
| Stddev | 18. | 430. | 44.8 |
| %RSD | .17606 | .53155 | .66575 |
| #1 | 10101. | 80306. | 6759.5 |
| #2 | 10122. | 81041. | 6744.1 |
| #3 | 10087. | 81059. | 6675.4 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: LCSW 3A Acquired: 9/1/2017 14:14:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627986-03

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.19625** | **5.0139** | **.19782** | **.92719** | **.49566** | **.02397** | **5.0959** | **.02480** |
| Stddev | .00273 | .0341 | .00057 | .00333 | .00113 | .00011 | .0465 | .00040 |
| %RSD | 1.3895 | .67979 | .28630 | .35886 | .22867 | .45745 | .91171 | 1.5941 |
| #1 | .19318 | 5.0446 | .19840 | .93076 | .49569 | .02405 | 5.0900 | .02478 |
| #2 | .19839 | 5.0198 | .19781 | .92418 | .49678 | .02401 | 5.1451 | .02520 |
| #3 | .19719 | 4.9772 | .19727 | .92661 | .49452 | .02384 | 5.0527 | .02441 |
| 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 | **.10023** | **.24357** | **.24694** | **1.9877** | **24.727** | **.50100** | **4.9901** | **.24541** |
| Stddev | .00028 | .00194 | .00160 | .0174 | .122 | .00564 | .0543 | .00399 |
| %RSD | .27902 | .79500 | .64975 | .87367 | .49358 | 1.1247 | 1.0890 | 1.6251 |
| #1 | .10055 | .24555 | .24774 | 2.0077 | 24.636 | .49454 | 4.9422 | .24402 |
| #2 | .10005 | .24169 | .24509 | 1.9767 | 24.678 | .50357 | 4.9790 | .24990 |
| #3 | .10008 | .24346 | .24798 | 1.9787 | 24.866 | .50490 | 5.0492 | .24230 |
| 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 | **.47741** | **24.857** | **.24683** | **4.7760** | **.25395** | **.58208** | **.19597** | **2.4604** |
| Stddev | .00172 | .163 | .00078 | .0305 | .00333 | .00689 | .00686 | .0086 |
| %RSD | .36004 | .65589 | .31572 | .63857 | 1.3109 | 1.1835 | 3.5029 | .34818 |
| #1 | .47919 | 24.704 | .24691 | 4.8111 | .25618 | .58985 | .20216 | 2.4692 |
| #2 | .47576 | 25.028 | .24757 | 4.7559 | .25012 | .57671 | .19717 | 2.4520 |
| #3 | .47730 | 24.840 | .24602 | 4.7610 | .25555 | .57969 | .18859 | 2.4601 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: LCSW 3A Acquired: 9/1/2017 14:14:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627986-03

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.49525** | **.49668** | **.48720** | **.24624** | **.48802** | **.49002** | **.96743** |
| Stddev | .00300 | .00183 | .00809 | .00132 | .00098 | .00116 | .22968 |
| %RSD | .60494 | .36898 | 1.6602 | .53792 | .20135 | .23727 | 23.741 |
| #1 | .49705 | .49457 | .48059 | .24614 | .48748 | .49135 | .76380 |
| #2 | .49179 | .49760 | .48479 | .24762 | .48915 | .48918 | 1.2164 |
| #3 | .49691 | .49786 | .49622 | .24498 | .48742 | .48954 | .92210 |
| 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 | **9966.6** | **79497.** | **6919.1** |
| Stddev | 34.4 | 507. | 25.8 |
| %RSD | .34476 | .63728 | .37236 |
| #1 | 9927.9 | 79395. | 6947.3 |
| #2 | 9978.0 | 79050. | 6896.7 |
| #3 | 9993.7 | 80047. | 6913.3 |

Approved: September 05, 2017

Ki K Buck

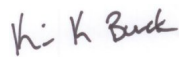
Sample Name: FBLK1 Acquired: 9/1/2017 14:17:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627798-01

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00236** | **.00917** | **.00197** | **.00581** | **-.00153** | **-.00010** | **.06945** | **.00039** |
| Stddev | .00403 | .00280 | .00066 | .00049 | .00092 | .00003 | .03540 | .00004 |
| %RSD | 170.97 | 30.570 | 33.527 | 8.4703 | 60.199 | 32.268 | 50.970 | 11.121 |
| #1 | -.00131 | .00595 | .00122 | .00525 | -.00260 | -.00007 | .03776 | .00036 |
| #2 | .00667 | .01057 | .00227 | .00617 | -.00101 | -.00010 | .10766 | .00044 |
| #3 | .00171 | .01100 | .00243 | .00601 | -.00099 | -.00014 | .06294 | .00037 |
| 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 | **-.00012** | **.00123** | **.00091** | **.01763** | **.06881** | **.00410** | **.04251** | **-.00117** |
| Stddev | .00047 | .00069 | .00151 | .00849 | .06562 | .00577 | .08558 | .00125 |
| %RSD | 376.03 | 56.239 | 165.43 | 48.131 | 95.374 | 140.60 | 201.30 | 107.10 |
| #1 | -.00002 | .00072 | -.00065 | .01014 | .08302 | .01076 | -.05030 | -.00170 |
| #2 | .00028 | .00095 | .00235 | .02685 | -.00276 | .00055 | .11831 | -.00207 |
| #3 | -.00063 | .00202 | .00103 | .01590 | .12616 | .00100 | .05953 | .00026 |
| 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 | **.00004** | **141.22** | **.00112** | **-.00465** | **.00387** | **.00188** | **.00513** | **.01035** |
| Stddev | .00048 | .09 | .00182 | .01141 | .00169 | .00782 | .00422 | .00049 |
| %RSD | 1076.1 | .06538 | 162.67 | 245.55 | 43.702 | 415.80 | 82.153 | 4.7297 |
| #1 | .00032 | 141.13 | -.00088 | -.01438 | .00430 | .00700 | .00323 | .01014 |
| #2 | .00033 | 141.23 | .00267 | -.00747 | .00200 | .00576 | .00220 | .01000 |
| #3 | -.00051 | 141.31 | .00157 | .00791 | .00530 | -.00712 | .00997 | .01091 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: FBLK1 Acquired: 9/1/2017 14:17:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627798-01

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00064** | **-.00036** | **.00471** | **-.00304** | **-.00042** | **.00246** | **.00492** |
| Stddev | .00055 | .00059 | .00436 | .00311 | .00067 | .00004 | .12979 |
| %RSD | 86.806 | 163.71 | 92.613 | 102.12 | 160.64 | 1.4874 | 2640.2 |
| #1 | -.00106 | .00030 | .00273 | .00044 | .00029 | .00247 | .14835 |
| #2 | -.00085 | -.00057 | .00169 | -.00552 | -.00105 | .00248 | -.02920 |
| #3 | -.00001 | -.00081 | .00971 | -.00404 | -.00051 | .00242 | -.10441 |
| 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 | **9902.6** | **78696.** | **6859.8** |
| Stddev | 77.8 | 314. | 13.0 |
| %RSD | .78519 | .39938 | .18986 |
| #1 | 9818.1 | 78350. | 6873.9 |
| #2 | 9971.1 | 78964. | 6857.5 |
| #3 | 9918.6 | 78774. | 6848.1 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: L1708155602 Acquired: 9/1/2017 14:21:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | .00016 | .01755 | .00472 | .05026 | .00480 | -.00005 | 33.846 |
| Stddev | .00031 | .01161 | .00494 | .00135 | .00023 | .00004 | .081 |
| %RSD | 189.53 | 66.143 | 104.66 | 2.6790 | 4.7133 | 67.560 | .23932 |
| #1 | .00050 | .01813 | .00996 | .05006 | .00458 | -.00003 | 33.766 |
| #2 | -.00010 | .02886 | .00408 | .05170 | .00504 | -.00010 | 33.843 |
| #3 | .00008 | .00566 | .00013 | .04903 | .00478 | -.00004 | 33.928 |
| 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 | .00004 | .00074 | .00083 | .00044 | 3.7374 | .78551 | -.00122 |
| Stddev | .00037 | .00039 | .00043 | .00140 | .0124 | .04973 | .00347 |
| %RSD | 953.64 | 53.514 | 52.086 | 314.58 | .33165 | 6.3312 | 284.10 |
| #1 | -.00015 | .00046 | .00120 | .00127 | 3.7265 | .75419 | -.00111 |
| #2 | -.00020 | .00119 | .00093 | -.00117 | 3.7509 | .84286 | -.00474 |
| #3 | .00047 | .00056 | .00036 | .00123 | 3.7348 | .75949 | .00219 |
| 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 | 2.2095 | .05647 | -.00049 | 133.41 | .00364 | 1.0413 | .00590 |
| Stddev | .0877 | .00239 | .00046 | .34 | .00069 | .0023 | .00070 |
| %RSD | 3.9683 | 4.2290 | 95.042 | .25681 | 19.007 | .21670 | 11.910 |
| #1 | 2.2781 | .05683 | -.00102 | 133.61 | .00443 | 1.0401 | .00509 |
| #2 | 2.1107 | .05392 | -.00018 | 133.02 | .00326 | 1.0399 | .00633 |
| #3 | 2.2396 | .05865 | -.00027 | 133.61 | .00322 | 1.0439 | .00629 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155602 Acquired: 9/1/2017 14:21:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00045** | **.00777** | **.25299** | **-.00104** | **.06796** | **.00082** | **.00244** |
| Stddev | .00393 | .00366 | .00148 | .00068 | .00019 | .00716 | .00636 |
| %RSD | 873.92 | 47.084 | .58317 | 65.250 | .28599 | 872.17 | 260.11 |
| #1 | -.00081 | .00545 | .25131 | -.00111 | .06800 | -.00717 | .00636 |
| #2 | .00486 | .01198 | .25355 | -.00033 | .06812 | .00664 | -.00489 |
| #3 | -.00270 | .00586 | .25410 | -.00169 | .06774 | .00299 | .00587 |
| 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 | **-.00067** | **.00570** | F **-.16462** |
| Stddev | .00115 | .00020 | .23715 |
| %RSD | 172.46 | 3.4861 | 144.06 |
| #1 | .00058 | .00568 | -.04881 |
| #2 | -.00089 | .00591 | -.43742 |
| #3 | -.00170 | .00552 | -.00762 |
| 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 | **9913.3** | **78617.** | **6913.2** |
| Stddev | 22.2 | 140. | 29.0 |
| %RSD | .22395 | .17844 | .41885 |
| #1 | 9901.0 | 78502. | 6881.9 |
| #2 | 9900.0 | 78773. | 6939.1 |
| #3 | 9939.0 | 78576. | 6918.5 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155602PS Acquired: 9/1/2017 14:25:17 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628008-03

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.19299** | **4.7818** | **.19479** | **.97782** | **.49142** | **.02420** | **35.770** | **.02418** |
| Stddev | .00219 | .0085 | .00193 | .00230 | .00050 | .00010 | .043 | .00007 |
| %RSD | 1.1336 | .17721 | .98896 | .23530 | .10230 | .42229 | .12078 | .30821 |
| #1 | .19082 | 4.7869 | .19286 | .97993 | .49084 | .02431 | 35.725 | .02410 |
| #2 | .19294 | 4.7721 | .19478 | .97817 | .49168 | .02414 | 35.811 | .02418 |
| #3 | .19520 | 4.7865 | .19672 | .97537 | .49174 | .02413 | 35.774 | .02425 |
| 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 | **.09714** | **.24139** | **.24169** | **5.3096** | **25.002** | **.48107** | **6.7427** | **.29297** |
| Stddev | .00056 | .00137 | .00129 | .0197 | .015 | .00073 | .0114 | .00137 |
| %RSD | .57361 | .56792 | .53260 | .37168 | .05879 | .15219 | .16900 | .46676 |
| #1 | .09749 | .24188 | .24280 | 5.3300 | 25.000 | .48111 | 6.7506 | .29390 |
| #2 | .09650 | .24246 | .24197 | 5.3080 | 24.989 | .48032 | 6.7296 | .29361 |
| #3 | .09743 | .23985 | .24028 | 5.2906 | 25.018 | .48178 | 6.7478 | .29140 |
| 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 | **.47037** | **144.93** | **.24199** | **5.7965** | **.24442** | **.57994** | **.19259** | **2.6411** |
| Stddev | .00121 | .20 | .00062 | .0086 | .00222 | .00290 | .01334 | .0053 |
| %RSD | .25661 | .14118 | .25583 | .14917 | .90685 | .50015 | 6.9269 | .20242 |
| #1 | .46988 | 144.99 | .24128 | 5.8063 | .24300 | .58282 | .18777 | 2.6396 |
| #2 | .47174 | 145.10 | .24241 | 5.7902 | .24697 | .57997 | .18234 | 2.6470 |
| #3 | .46948 | 144.70 | .24228 | 5.7929 | .24328 | .57702 | .20768 | 2.6366 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155602PS Acquired: 9/1/2017 14:25:17 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628008-03

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.48152** | **.54708** | **.49444** | **.23667** | **.48830** | **.48710** | **.11044** |
| Stddev | .00142 | .00033 | .00449 | .00367 | .00237 | .00038 | .22710 |
| %RSD | .29565 | .06044 | .90713 | 1.5501 | .48452 | .07792 | 205.63 |
| #1 | .48256 | .54737 | .49014 | .23790 | .48950 | .48744 | .21388 |
| #2 | .47990 | .54714 | .49409 | .23957 | .48983 | .48669 | -.14996 |
| #3 | .48211 | .54672 | .49909 | .23255 | .48558 | .48718 | .26741 |
| 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 | **9839.3** | **77802.** | **6903.4** |
| Stddev | .3 | 127. | 22.7 |
| %RSD | .00337 | .16313 | .32898 |
| #1 | 9839.3 | 77856. | 6925.1 |
| #2 | 9839.7 | 77892. | 6879.8 |
| #3 | 9839.0 | 77657. | 6905.4 |

Approved: September 05, 2017

Ki K Buck

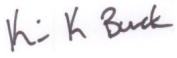
Sample Name: L1708155602SDL Acquired: 9/1/2017 14:28:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG628008-04

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00279** | **.00009** | **.00062** | **.01464** | **.00026** | **-.00005** | **6.9347** |
| Stddev | .00162 | .00734 | .00115 | .00094 | .00063 | .00006 | .0343 |
| %RSD | 58.196 | 8506.4 | 185.20 | 6.4461 | 244.16 | 112.13 | .49428 |
| #1 | .00454 | -.00102 | -.00024 | .01506 | .00042 | .00000 | 6.9715 |
| #2 | .00134 | .00792 | .00192 | .01530 | .00079 | -.00012 | 6.9037 |
| #3 | .00247 | -.00664 | .00018 | .01356 | -.00044 | -.00004 | 6.9289 |
| 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 | **.00042** | **-.00026** | **-.00075** | **.00145** | **.77924** | **.17152** | **.00230** |
| Stddev | .00010 | .00027 | .00055 | .00118 | .00586 | .07849 | .00139 |
| %RSD | 24.806 | 103.54 | 73.918 | 81.203 | .75232 | 45.760 | 60.480 |
| #1 | .00047 | -.00001 | -.00011 | .00014 | .78491 | .12311 | .00348 |
| #2 | .00030 | -.00023 | -.00106 | .00180 | .77320 | .26208 | .00266 |
| #3 | .00050 | -.00055 | -.00108 | .00241 | .77960 | .12938 | .00076 |
| 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 | **.48750** | **.00993** | **.00032** | **27.770** | **.00033** | **.21250** | **.00832** |
| Stddev | .02937 | .00201 | .00057 | .074 | .00129 | .00729 | .00284 |
| %RSD | 6.0250 | 20.255 | 179.42 | .26541 | 395.81 | 3.4301 | 34.171 |
| #1 | .48658 | .01106 | .00042 | 27.692 | .00015 | .20989 | .00512 |
| #2 | .51732 | .00760 | -.00030 | 27.839 | -.00087 | .20688 | .01056 |
| #3 | .45859 | .01111 | .00084 | 27.778 | .00170 | .22074 | .00928 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017



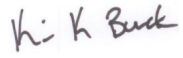
Sample Name: L1708155602SDL Acquired: 9/1/2017 14:28:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG628008-04

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00132** | **.00332** | **.05092** | **-.00126** | **.01340** | **-.00018** | **.00213** |
| Stddev | .00205 | .00385 | .00237 | .00053 | .00054 | .00194 | .00137 |
| %RSD | 154.79 | 115.91 | 4.6502 | 42.221 | 4.0370 | 1057.6 | 64.342 |
| #1 | .00064 | .00707 | .04820 | -.00082 | .01279 | -.00189 | .00181 |
| #2 | .00362 | -.00061 | .05205 | -.00185 | .01359 | .00193 | .00364 |
| #3 | -.00029 | .00350 | .05251 | -.00111 | .01382 | -.00058 | .00095 |
| 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** | **.00172** | F **-.17927** |
| Stddev | .00041 | .00013 | .04428 |
| %RSD | 241.26 | 7.6131 | 24.698 |
| #1 | -.00055 | .00159 | -.20761 |
| #2 | .00026 | .00173 | -.20195 |
| #3 | -.00023 | .00185 | -.12825 |
| 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 | **10088.** | **80485.** | **6883.6** |
| Stddev | 21. | 317. | 36.1 |
| %RSD | .21045 | .39354 | .52371 |
| #1 | 10112. | 80708. | 6918.7 |
| #2 | 10078. | 80624. | 6846.6 |
| #3 | 10074. | 80122. | 6885.6 |

Approved: September 05, 2017



Sample Name: L1708159701 Acquired: 9/1/2017 14:32:37 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627986-01

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00067** | **.09253** | **.00128** | **.05523** | **.00276** | **-.00000** | **7.5872** | **.00160** |
| Stddev | .00220 | .00579 | .00155 | .00105 | .00064 | .00005 | .1419 | .00014 |
| %RSD | 326.83 | 6.2535 | 120.95 | 1.8932 | 23.268 | 1802.5 | 1.8703 | 8.5791 |
| #1 | .00235 | .09847 | .00219 | .05547 | .00225 | .00005 | 7.4437 | .00175 |
| #2 | .00149 | .08691 | .00215 | .05613 | .00254 | -.00005 | 7.5904 | .00158 |
| #3 | -.00182 | .09220 | -.00051 | .05408 | .00348 | -.00001 | 7.7275 | .00148 |
| 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 | **.00098** | **.00121** | **.00252** | **.06409** | **.43400** | **-.00321** | **.74854** | **.31590** |
| Stddev | .00027 | .00059 | .00064 | .01923 | .07279 | .00300 | .04404 | .00161 |
| %RSD | 27.291 | 48.907 | 25.289 | 29.999 | 16.772 | 93.457 | 5.8837 | .50856 |
| #1 | .00079 | .00052 | .00185 | .04582 | .51668 | -.00413 | .69824 | .31503 |
| #2 | .00129 | .00155 | .00312 | .08414 | .37959 | -.00565 | .76714 | .31492 |
| #3 | .00087 | .00154 | .00258 | .06230 | .40573 | .00014 | .78022 | .31776 |
| 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 | **-.00036** | **135.59** | **.00340** | **7.8329** | **.01259** | **.00206** | **.00811** | **.29077** |
| Stddev | .00060 | .04 | .00049 | .0082 | .00394 | .00608 | .00415 | .00273 |
| %RSD | 163.92 | .03170 | 14.485 | .10413 | 31.319 | 294.49 | 51.170 | .93741 |
| #1 | -.00010 | 135.64 | .00335 | 7.8264 | .01621 | .00895 | .00407 | .29293 |
| #2 | .00006 | 135.56 | .00293 | 7.8304 | .01317 | -.00024 | .00790 | .28771 |
| #3 | -.00105 | 135.56 | .00391 | 7.8421 | .00839 | -.00253 | .01237 | .29166 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708159701 Acquired: 9/1/2017 14:32:37 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627986-01

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00068** | **.01916** | **.00605** | **-.00011** | **.00170** | **.02272** | **-.01572** |
| Stddev | .00031 | .00035 | .00517 | .00240 | .00050 | .00005 | .24619 |
| %RSD | 45.775 | 1.8231 | 85.422 | 2091.9 | 29.379 | .20855 | 1565.9 |
| #1 | -.00102 | .01892 | .00856 | -.00008 | .00158 | .02267 | .08637 |
| #2 | -.00041 | .01900 | .00948 | .00227 | .00127 | .02274 | .16299 |
| #3 | -.00061 | .01956 | .00011 | -.00253 | .00224 | .02276 | -.29653 |
| 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 | **9870.3** | **78221.** | **6768.4** |
| Stddev | 27.5 | 179. | 45.8 |
| %RSD | .27862 | .22932 | .67652 |
| #1 | 9838.5 | 78337. | 6765.9 |
| #2 | 9885.2 | 78014. | 6815.4 |
| #3 | 9887.0 | 78311. | 6723.9 |

Approved: September 05, 2017

Kristi K Burk

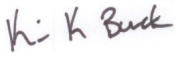
Sample Name: L1708159701MS Acquired: 9/1/2017 14:36:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627986-04

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.20118** | **5.0035** | **.20033** | **1.0104** | **.50362** | **.02489** | **12.570** | **.02592** |
| Stddev | .00084 | .0240 | .00264 | .0020 | .00113 | .00003 | .030 | .00023 |
| %RSD | .41588 | .48006 | 1.3185 | .19923 | .22504 | .13167 | .23512 | .87787 |
| #1 | .20212 | 5.0299 | .19884 | 1.0107 | .50360 | .02488 | 12.585 | .02606 |
| #2 | .20092 | 4.9828 | .19877 | 1.0123 | .50250 | .02487 | 12.535 | .02604 |
| #3 | .20051 | 4.9979 | .20338 | 1.0083 | .50477 | .02493 | 12.588 | .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 | **.10151** | **.24894** | **.24977** | **2.0391** | **25.517** | **.49706** | **5.7364** | **.56817** |
| Stddev | .00016 | .00053 | .00157 | .0097 | .142 | .00464 | .0850 | .00596 |
| %RSD | .16189 | .21454 | .63002 | .47551 | .55670 | .93346 | 1.4817 | 1.0492 |
| #1 | .10152 | .24896 | .25154 | 2.0331 | 25.371 | .49218 | 5.7130 | .56581 |
| #2 | .10167 | .24946 | .24924 | 2.0503 | 25.523 | .50142 | 5.6656 | .56375 |
| #3 | .10134 | .24839 | .24853 | 2.0339 | 25.655 | .49759 | 5.8307 | .57495 |
| 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 | **.48158** | **160.72** | **.24995** | **12.848** | **.25446** | **.59118** | **.19707** | **2.7761** |
| Stddev | .00137 | .51 | .00161 | .014 | .00267 | .00428 | .00619 | .0080 |
| %RSD | .28547 | .31510 | .64430 | .10832 | 1.0493 | .72407 | 3.1418 | .29010 |
| #1 | .48290 | 160.21 | .25176 | 12.839 | .25185 | .58643 | .19942 | 2.7848 |
| #2 | .48169 | 160.72 | .24867 | 12.864 | .25719 | .59474 | .19005 | 2.7689 |
| #3 | .48016 | 161.22 | .24941 | 12.841 | .25434 | .59237 | .20174 | 2.7746 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: L1708159701MS Acquired: 9/1/2017 14:36:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627986-04

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.49478** | **.51829** | **.50170** | **.24273** | **.50362** | **.51996** | **.46584** |
| Stddev | .00175 | .00069 | .00752 | .00208 | .00162 | .00044 | .42589 |
| %RSD | .35366 | .13334 | 1.4988 | .85559 | .32123 | .08504 | 91.424 |
| #1 | .49650 | .51769 | .50053 | .24348 | .50524 | .52030 | .36882 |
| #2 | .49300 | .51813 | .49484 | .24038 | .50361 | .52012 | .09683 |
| #3 | .49484 | .51905 | .50974 | .24433 | .50201 | .51946 | .93188 |
| 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 | **9791.2** | **77266.** | **6842.1** |
| Stddev | 57.9 | 287. | 70.1 |
| %RSD | .59110 | .37172 | 1.0239 |
| #1 | 9724.5 | 76948. | 6875.7 |
| #2 | 9820.0 | 77342. | 6889.0 |
| #3 | 9829.0 | 77507. | 6761.6 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708159701MSD Acquired: 9/1/2017 14:39:55 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627986-05

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.19599** | **4.9790** | **.19854** | **1.0113** | **.49922** | **.02478** | **12.362** | **.02594** |
| Stddev | .00106 | .0125 | .00096 | .0032 | .00144 | .00011 | .044 | .00035 |
| %RSD | .54238 | .25099 | .48538 | .31212 | .28873 | .42970 | .35532 | 1.3481 |
| #1 | .19607 | 4.9877 | .19857 | 1.0090 | .49756 | .02490 | 12.311 | .02621 |
| #2 | .19701 | 4.9647 | .19757 | 1.0101 | .50012 | .02471 | 12.386 | .02606 |
| #3 | .19489 | 4.9846 | .19950 | 1.0149 | .49998 | .02473 | 12.388 | .02554 |
| 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 | **.10096** | **.24696** | **.24554** | **2.0407** | **25.463** | **.49675** | **5.6468** | **.55522** |
| Stddev | .00093 | .00148 | .00192 | .0169 | .107 | .00453 | .0422 | .00161 |
| %RSD | .92097 | .60017 | .78166 | .82907 | .42027 | .91158 | .74656 | .28939 |
| #1 | .10024 | .24686 | .24485 | 2.0504 | 25.353 | .49583 | 5.6782 | .55696 |
| #2 | .10061 | .24850 | .24406 | 2.0212 | 25.468 | .50167 | 5.6634 | .55491 |
| #3 | .10201 | .24554 | .24771 | 2.0507 | 25.567 | .49275 | 5.5989 | .55379 |
| 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 | **.47981** | **157.49** | **.24926** | **12.564** | **.25287** | **.58711** | **.19629** | **2.7506** |
| Stddev | .00051 | .45 | .00077 | .022 | .00092 | .00478 | .00375 | .0012 |
| %RSD | .10658 | .28829 | .30841 | .17445 | .36242 | .81493 | 1.9112 | .04409 |
| #1 | .47936 | 158.00 | .25014 | 12.549 | .25393 | .58921 | .19848 | 2.7520 |
| #2 | .48037 | 157.13 | .24892 | 12.589 | .25240 | .59047 | .19196 | 2.7502 |
| #3 | .47971 | 157.34 | .24873 | 12.554 | .25229 | .58163 | .19843 | 2.7496 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708159701MSD Acquired: 9/1/2017 14:39:55 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627986-05

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.49376** | **.51440** | **.50295** | **.24386** | **.50169** | **.51711** | **.28247** |
| Stddev | .00162 | .00098 | .00306 | .00013 | .00057 | .00027 | .24959 |
| %RSD | .32844 | .18956 | .60892 | .05206 | .11280 | .05211 | 88.362 |
| #1 | .49476 | .51389 | .50632 | .24383 | .50235 | .51680 | -.00363 |
| #2 | .49462 | .51379 | .50034 | .24375 | .50132 | .51730 | .39537 |
| #3 | .49189 | .51553 | .50218 | .24400 | .50142 | .51722 | .45566 |
| 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 | **9740.7** | **76711.** | **6758.9** |
| Stddev | 4.6 | 545. | 22.5 |
| %RSD | .04706 | .71043 | .33255 |
| #1 | 9738.3 | 76086. | 6777.0 |
| #2 | 9737.8 | 77085. | 6733.7 |
| #3 | 9746.0 | 76962. | 6766.1 |

Approved: September 05, 2017

Ki K Buck

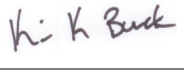
Sample Name: CCV Acquired: 9/1/2017 14:43:28 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.40213** | **10.024** | **.39518** | **.49663** | **.99011** | **.04933** | **9.9564** |
| Stddev | .00141 | .017 | .00098 | .00135 | .00066 | .00004 | .0372 |
| %RSD | .35089 | .17125 | .24858 | .27116 | .06696 | .09069 | .37381 |
| #1 | .40268 | 10.024 | .39531 | .49788 | .98982 | .04938 | 9.9356 |
| #2 | .40318 | 10.007 | .39414 | .49520 | .99086 | .04930 | 9.9342 |
| #3 | .40053 | 10.042 | .39610 | .49680 | .98963 | .04931 | 9.9993 |
| 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 | **.04983** | **.19958** | **.49176** | **.49835** | **3.9520** | **49.742** | **1.0059** |
| Stddev | .00052 | .00038 | .00143 | .00341 | .0296 | .059 | .0058 |
| %RSD | 1.0345 | .19276 | .29083 | .68508 | .74950 | .11819 | .57725 |
| #1 | .04953 | .19915 | .49122 | .50210 | 3.9522 | 49.675 | 1.0039 |
| #2 | .04953 | .19989 | .49068 | .49752 | 3.9815 | 49.762 | 1.0124 |
| #3 | .05042 | .19969 | .49338 | .49542 | 3.9223 | 49.788 | 1.0013 |
| 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 | **9.9230** | **.49320** | **.98331** | **49.784** | **.49375** | **9.8510** | **.49596** |
| Stddev | .0282 | .00112 | .00025 | .095 | .00270 | .0131 | .00674 |
| %RSD | .28405 | .22646 | .02582 | .19132 | .54690 | .13308 | 1.3585 |
| #1 | 9.9006 | .49449 | .98325 | 49.771 | .49107 | 9.8364 | .49019 |
| #2 | 9.9546 | .49267 | .98309 | 49.885 | .49370 | 9.8547 | .49433 |
| #3 | 9.9137 | .49245 | .98359 | 49.695 | .49647 | 9.8618 | .50336 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Approved: September 05, 2017



Sample Name: CCV Acquired: 9/1/2017 14:43:28 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **1.1888** | **.39747** | **4.9228** | **.98668** | **.99073** | **.99514** | **.49841** |
| Stddev | .0060 | .00348 | .0062 | .00248 | .00154 | .00536 | .00376 |
| %RSD | .50514 | .87522 | .12625 | .25133 | .15531 | .53865 | .75474 |
| #1 | 1.1956 | .39680 | 4.9292 | .98383 | .98900 | .99330 | .49409 |
| #2 | 1.1868 | .40124 | 4.9223 | .98833 | .99196 | .99095 | .50101 |
| #3 | 1.1841 | .39438 | 4.9168 | .98788 | .99123 | 1.0012 | .50012 |
| 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 | **.98321** | **.99073** | F **670.50** |
| Stddev | .00104 | .00066 | 2.63 |
| %RSD | .10540 | .06657 | .39222 |
| #1 | .98303 | .99068 | 671.09 |
| #2 | .98228 | .99009 | 667.62 |
| #3 | .98433 | .99141 | 672.78 |
| 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 | **9859.7** | **77699.** | **6777.1** |
| Stddev | 10.5 | 161. | 22.7 |
| %RSD | .10650 | .20753 | .33432 |
| #1 | 9848.0 | 77594. | 6755.0 |
| #2 | 9862.8 | 77618. | 6800.3 |
| #3 | 9868.4 | 77885. | 6776.0 |

Approved: September 05, 2017

Ki K Buck

Sample Name: CCB Acquired: 9/1/2017 14:46:56 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00008** | **-.00299** | **.00249** | **.00658** | **-.00090** | **.00000** | **.03048** |
| Stddev | .00079 | .00709 | .00284 | .00329 | .00106 | .00005 | .04385 |
| %RSD | 934.19 | 237.07 | 114.26 | 50.051 | 118.37 | 1724.1 | 143.88 |
| #1 | -.00098 | -.00776 | .00576 | .01019 | .00010 | -.00001 | .07520 |
| #2 | .00052 | .00515 | .00103 | .00582 | -.00078 | -.00004 | -.01245 |
| #3 | .00021 | -.00636 | .00067 | .00373 | -.00202 | .00006 | .02868 |
| 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** | **-.00019** | **.00035** | **-.00129** | **-.00242** | **.20491** | **.00373** |
| Stddev | .00003 | .00022 | .00133 | .00045 | .00453 | .02511 | .00740 |
| %RSD | 16.525 | 116.86 | 380.28 | 34.603 | 187.20 | 12.254 | 198.56 |
| #1 | .00020 | -.00042 | .00188 | -.00084 | .00024 | .21048 | .01152 |
| #2 | .00019 | -.00016 | -.00028 | -.00130 | .00015 | .17748 | -.00321 |
| #3 | .00014 | .00001 | -.00055 | -.00173 | -.00765 | .22676 | .00288 |
| 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 | **.04501** | **-.00030** | **-.00034** | **.04406** | **.00127** | **.00098** | F **.00553** |
| Stddev | .04346 | .00053 | .00071 | .00543 | .00172 | .00402 | .00114 |
| %RSD | 96.551 | 177.95 | 207.63 | 12.333 | 135.71 | 411.61 | 20.667 |
| #1 | .09198 | .00003 | .00045 | .04729 | -.00036 | -.00152 | .00650 |
| #2 | .00624 | -.00001 | -.00056 | .04711 | .00109 | -.00116 | .00583 |
| #3 | .03681 | -.00091 | -.00091 | .03779 | .00307 | .00561 | .00427 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | .00500 |
| Low Limit | | | | | | | -.00500 |

Approved: September 05, 2017

Ki K Buck

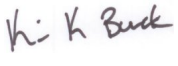
Sample Name: CCB Acquired: 9/1/2017 14:46:56 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00376** | **.00047** | **.00008** | **-.00037** | **-.00005** | **-.00137** | **.00013** |
| Stddev | .00252 | .00502 | .00162 | .00019 | .00068 | .00970 | .00397 |
| %RSD | 66.948 | 1071.4 | 2030.8 | 50.812 | 1375.6 | 706.35 | 3087.0 |
| #1 | .00178 | -.00432 | .00105 | -.00033 | -.00083 | -.00498 | .00167 |
| #2 | .00659 | .00568 | .00098 | -.00057 | .00029 | -.00875 | -.00438 |
| #3 | .00290 | .00005 | -.00179 | -.00020 | .00039 | .00961 | .00309 |
| 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 | **-.00031** | **.00018** | F **.19856** |
| Stddev | .00112 | .00012 | .16355 |
| %RSD | 359.66 | 64.964 | 82.367 |
| #1 | .00043 | .00027 | .08902 |
| #2 | -.00160 | .00005 | .38656 |
| #3 | .00024 | .00023 | .12011 |
| 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 | **10007.** | **79981.** | **6690.0** |
| Stddev | 22. | 121. | 43.1 |
| %RSD | .22421 | .15103 | .64374 |
| #1 | 10015. | 79939. | 6708.7 |
| #2 | 10025. | 80117. | 6720.6 |
| #3 | 9982.1 | 79886. | 6640.8 |

Approved: September 05, 2017



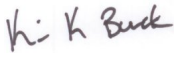
Sample Name: PBW 2T Acquired: 9/1/2017 14:50:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627917-02

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00020** | **-.00089** | **-.00106** | **.00228** | **-.00095** | **-.00005** | **.04833** | **.00003** |
| Stddev | .00205 | .00391 | .00471 | .00165 | .00037 | .00002 | .00717 | .00008 |
| %RSD | 1025.2 | 438.09 | 444.61 | 72.201 | 38.848 | 48.627 | 14.826 | 255.76 |
| #1 | -.00204 | -.00362 | .00437 | .00410 | -.00133 | -.00002 | .04038 | .00000 |
| #2 | .00201 | -.00265 | -.00403 | .00185 | -.00060 | -.00006 | .05429 | .00013 |
| #3 | -.00057 | .00359 | -.00352 | .00089 | -.00091 | -.00006 | .05032 | -.00003 |
| 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 | **-.00002** | **.00026** | **.00100** | **.00335** | **.07490** | **.00059** | **.03316** | **-.00197** |
| Stddev | .00025 | .00090 | .00156 | .03114 | .02931 | .00286 | .05141 | .00245 |
| %RSD | 1508.5 | 346.71 | 156.05 | 929.70 | 39.136 | 485.94 | 155.05 | 124.40 |
| #1 | -.00029 | -.00076 | .00114 | -.02402 | .10718 | .00336 | .01495 | -.00136 |
| #2 | .00021 | .00095 | -.00062 | -.00315 | .06758 | .00076 | .09120 | .00012 |
| #3 | .00003 | .00059 | .00248 | .03722 | .04994 | -.00235 | -.00667 | -.00467 |
| 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 | **-.00036** | **.11341** | **-.00028** | **-.00497** | **.00390** | **-.00143** | **.00349** | **.00678** |
| Stddev | .00015 | .01165 | .00212 | .00540 | .00518 | .00315 | .00508 | .00122 |
| %RSD | 41.962 | 10.270 | 747.65 | 108.72 | 132.93 | 219.70 | 145.41 | 17.977 |
| #1 | -.00053 | .11904 | -.00225 | .00105 | .00284 | -.00115 | .00125 | .00709 |
| #2 | -.00033 | .12116 | -.00055 | -.00939 | .00953 | .00157 | -.00008 | .00544 |
| #3 | -.00023 | .10001 | .00195 | -.00656 | -.00067 | -.00472 | .00930 | .00782 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

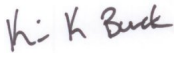


Sample Name: PBW 2T Acquired: 9/1/2017 14:50:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627917-02

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00130** | **-.00025** | **.00072** | **-.00237** | **.00016** | **.00119** | **.14842** |
| Stddev | .00069 | .00043 | .00542 | .00252 | .00069 | .00007 | .30616 |
| %RSD | 52.621 | 172.63 | 748.80 | 106.66 | 444.35 | 5.9861 | 206.27 |
| #1 | -.00155 | -.00035 | .00373 | -.00084 | -.00041 | .00113 | -.14392 |
| #2 | -.00183 | -.00062 | .00397 | -.00098 | .00093 | .00127 | .12246 |
| #3 | -.00053 | .00022 | -.00553 | -.00528 | -.00005 | .00117 | .46674 |
| 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 | **10022.** | **80499.** | **6810.0** |
| Stddev | 12. | 317. | 74.5 |
| %RSD | .12252 | .39393 | 1.0937 |
| #1 | 10032. | 80864. | 6888.7 |
| #2 | 10026. | 80286. | 6800.5 |
| #3 | 10009. | 80348. | 6740.6 |

Approved: September 05, 2017



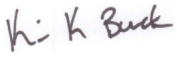
Sample Name: LCSW 2T Acquired: 9/1/2017 14:54:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627917-03

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.20213** | **5.0881** | **.19746** | **.98506** | **.49691** | **.02463** | **4.9566** | **.02505** |
| Stddev | .00310 | .0197 | .00237 | .00547 | .00039 | .00013 | .0218 | .00027 |
| %RSD | 1.5359 | .38701 | 1.1982 | .55569 | .07900 | .54188 | .43984 | 1.0882 |
| #1 | .20568 | 5.1062 | .19994 | .98810 | .49734 | .02471 | 4.9516 | .02490 |
| #2 | .19989 | 5.0910 | .19522 | .98834 | .49656 | .02470 | 4.9377 | .02489 |
| #3 | .20083 | 5.0672 | .19721 | .97874 | .49683 | .02447 | 4.9804 | .02537 |
| 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 | **.09984** | **.24493** | **.24972** | **2.0037** | **24.919** | **.50114** | **5.0819** | **.24754** |
| Stddev | .00068 | .00128 | .00105 | .0039 | .048 | .00360 | .0241 | .00321 |
| %RSD | .67716 | .52401 | .42184 | .19333 | .19378 | .71930 | .47441 | 1.2981 |
| #1 | .10041 | .24639 | .24892 | 1.9996 | 24.968 | .50527 | 5.0744 | .25123 |
| #2 | .09909 | .24443 | .24932 | 2.0044 | 24.872 | .49866 | 5.1088 | .24538 |
| #3 | .10001 | .24398 | .25091 | 2.0072 | 24.916 | .49947 | 5.0624 | .24601 |
| 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 | **.47662** | **25.217** | **.24912** | **4.9212** | **.25411** | **.60399** | **.20515** | **2.4798** |
| Stddev | .00120 | .042 | .00217 | .0115 | .00241 | .00553 | .00881 | .0006 |
| %RSD | .25089 | .16735 | .87145 | .23428 | .94664 | .91532 | 4.2945 | .02448 |
| #1 | .47529 | 25.194 | .24983 | 4.9223 | .25424 | .60866 | .20658 | 2.4797 |
| #2 | .47699 | 25.191 | .24668 | 4.9091 | .25163 | .59789 | .19572 | 2.4792 |
| #3 | .47759 | 25.266 | .25085 | 4.9321 | .25644 | .60544 | .21317 | 2.4804 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: LCSW 2T Acquired: 9/1/2017 14:54:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627917-03

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.49837** | **.49801** | **.49944** | **.25340** | **.48783** | **.49985** | **.58951** |
| Stddev | .00079 | .00103 | .00787 | .00479 | .00141 | .00052 | .47774 |
| %RSD | .15847 | .20591 | 1.5748 | 1.8898 | .29001 | .10470 | 81.039 |
| #1 | .49888 | .49735 | .50056 | .25777 | .48821 | .50042 | .31271 |
| #2 | .49746 | .49919 | .50669 | .25414 | .48902 | .49939 | .31467 |
| #3 | .49877 | .49749 | .49108 | .24828 | .48626 | .49975 | 1.1412 |
| 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 | **9950.6** | **78850.** | **6731.9** |
| Stddev | 32.5 | 610. | 100.4 |
| %RSD | .32684 | .77419 | 1.4913 |
| #1 | 9913.0 | 78483. | 6830.4 |
| #2 | 9968.7 | 78511. | 6735.4 |
| #3 | 9969.9 | 79554. | 6629.7 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: L1708155301 Acquired: 9/1/2017 14:58:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00021** | **.15019** | **.00457** | **.02126** | **.03314** | **.00002** | **26.551** | **.00022** |
| Stddev | .00145 | .00606 | .00253 | .00329 | .00054 | .00005 | .143 | .00021 |
| %RSD | 685.97 | 4.0347 | 55.405 | 15.495 | 1.6203 | 269.98 | .53977 | 94.448 |
| #1 | -.00102 | .15491 | .00654 | .01758 | .03263 | .00008 | 26.555 | .00003 |
| #2 | .00181 | .15229 | .00546 | .02228 | .03308 | -.00003 | 26.406 | .00019 |
| #3 | -.00016 | .14336 | .00172 | .02393 | .03370 | .00002 | 26.692 | .00044 |
| 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 | **.00024** | **.00054** | **.00060** | **.25327** | **1.7170** | **-.00174** | **3.9509** | **.06251** |
| Stddev | .00027 | .00119 | .00198 | .02324 | .0327 | .00389 | .0552 | .00041 |
| %RSD | 112.47 | 218.89 | 329.87 | 9.1762 | 1.9067 | 223.78 | 1.3981 | .65370 |
| #1 | .00014 | .00185 | -.00160 | .27310 | 1.6794 | .00032 | 3.9017 | .06226 |
| #2 | .00003 | -.00047 | .00224 | .22770 | 1.7391 | .00069 | 3.9403 | .06298 |
| #3 | .00054 | .00024 | .00116 | .25901 | 1.7325 | -.00622 | 4.0107 | .06229 |
| 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 | **.00014** | **3.5103** | **.00100** | **.03373** | **.00254** | **.00307** | **.01030** | **3.4684** |
| Stddev | .00074 | .0158 | .00155 | .00718 | .00334 | .00657 | .00915 | .0077 |
| %RSD | 510.26 | .45136 | 154.13 | 21.282 | 131.68 | 213.66 | 88.846 | .22331 |
| #1 | .00099 | 3.4921 | -.00056 | .03611 | .00638 | .00312 | .00615 | 3.4768 |
| #2 | -.00020 | 3.5207 | .00253 | .03941 | .00039 | .00962 | .02078 | 3.4615 |
| #3 | -.00036 | 3.5182 | .00104 | .02566 | .00084 | -.00352 | .00395 | 3.4670 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155301 Acquired: 9/1/2017 14:58:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00092** | **.08613** | **-.00254** | **.00077** | **-.00062** | **.00246** | **-.00339** |
| Stddev | .00053 | .00052 | .00838 | .00300 | .00101 | .00014 | .34979 |
| %RSD | 57.206 | .60255 | 329.20 | 387.83 | 162.29 | 5.6799 | 10329. |
| #1 | -.00136 | .08612 | .00262 | -.00259 | .00054 | .00254 | -.34258 |
| #2 | -.00106 | .08562 | -.01221 | .00316 | -.00111 | .00254 | -.02369 |
| #3 | -.00034 | .08666 | .00195 | .00175 | -.00130 | .00230 | .35611 |
| 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 | **10073.** | **80053.** | **6832.3** |
| Stddev | 26. | 291. | 71.2 |
| %RSD | .25820 | .36381 | 1.0419 |
| #1 | 10045. | 80361. | 6902.3 |
| #2 | 10096. | 80015. | 6834.6 |
| #3 | 10078. | 79782. | 6760.0 |

Approved: September 05, 2017

Ki K Buck

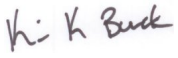
Sample Name: L1708155302 Acquired: 9/1/2017 15:01:48 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00074** | **.24192** | **.00400** | **.02056** | **.03803** | **.00005** | **34.144** | **.00030** |
| Stddev | .00243 | .00588 | .00217 | .00391 | .00090 | .00004 | .068 | .00011 |
| %RSD | 327.67 | 2.4299 | 54.409 | 19.024 | 2.3639 | 93.155 | .19903 | 37.788 |
| #1 | -.00181 | .23575 | .00286 | .01745 | .03889 | .00001 | 34.070 | .00036 |
| #2 | .00099 | .24746 | .00263 | .01928 | .03710 | .00003 | 34.204 | .00038 |
| #3 | .00304 | .24254 | .00650 | .02496 | .03810 | .00009 | 34.159 | .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 | **.00003** | **.00024** | **.00099** | **.44260** | **1.1291** | **-.00157** | **5.4990** | **.05080** |
| Stddev | .00007 | .00110 | .00187 | .00747 | .1101 | .00546 | .0084 | .00162 |
| %RSD | 260.18 | 458.19 | 189.03 | 1.6871 | 9.7552 | 347.22 | .15320 | 3.1903 |
| #1 | .00003 | .00138 | .00243 | .45118 | 1.0568 | -.00771 | 5.4926 | .05085 |
| #2 | .00009 | .00015 | -.00113 | .43905 | 1.0746 | .00024 | 5.4958 | .04916 |
| #3 | -.00004 | -.00081 | .00166 | .43757 | 1.2558 | .00275 | 5.5086 | .05240 |
| 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 | **.00041** | **2.9055** | **.00061** | **.03072** | **.00500** | **.00057** | **.00450** | **3.3032** |
| Stddev | .00034 | .0184 | .00180 | .01006 | .00311 | .00199 | .00289 | .0080 |
| %RSD | 83.452 | .63268 | 294.82 | 32.750 | 62.065 | 345.39 | 64.195 | .24074 |
| #1 | .00051 | 2.8899 | .00055 | .01962 | .00395 | -.00170 | .00180 | 3.3067 |
| #2 | .00070 | 2.9007 | .00244 | .03331 | .00850 | .00193 | .00416 | 3.3088 |
| #3 | .00003 | 2.9257 | -.00116 | .03924 | .00256 | .00150 | .00755 | 3.2941 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: L1708155302 Acquired: 9/1/2017 15:01:48 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00057** | **.11099** | **.00504** | **.00379** | **.00040** | **.00185** | **-.00771** |
| Stddev | .00079 | .00023 | .00553 | .00331 | .00025 | .00009 | .38151 |
| %RSD | 137.85 | .20880 | 109.74 | 87.332 | 61.229 | 4.8003 | 4946.6 |
| #1 | -.00104 | .11078 | .00703 | .00051 | .00067 | .00178 | -.06398 |
| #2 | .00034 | .11094 | -.00121 | .00712 | .00034 | .00182 | .39881 |
| #3 | -.00101 | .11124 | .00930 | .00373 | .00019 | .00195 | -.35796 |
| 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 | **9905.4** | **79421.** | **6859.7** |
| Stddev | 18.1 | 80. | 37.4 |
| %RSD | .18296 | .10110 | .54521 |
| #1 | 9918.1 | 79455. | 6833.5 |
| #2 | 9913.3 | 79329. | 6843.0 |
| #3 | 9884.6 | 79478. | 6902.5 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: L1708155303 Acquired: 9/1/2017 15:05:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00121** | **.18761** | **.00320** | **.02177** | **.04389** | **.00003** | **44.710** | **.00023** |
| Stddev | .00071 | .00432 | .00118 | .00084 | .00080 | .00012 | .102 | .00017 |
| %RSD | 58.654 | 2.3012 | 36.890 | 3.8441 | 1.8276 | 471.15 | .22796 | 70.868 |
| #1 | .00123 | .18443 | .00441 | .02158 | .04466 | .00010 | 44.592 | .00042 |
| #2 | .00190 | .19252 | .00313 | .02269 | .04396 | .00010 | 44.773 | .00012 |
| #3 | .00049 | .18588 | .00205 | .02105 | .04306 | -.00012 | 44.764 | .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 | **.00003** | **-.00015** | **.00036** | **.35206** | **1.6504** | **-.00111** | **6.2867** | **.04976** |
| Stddev | .00028 | .00131 | .00123 | .02274 | .0805 | .00405 | .0404 | .00200 |
| %RSD | 817.98 | 861.42 | 345.95 | 6.4596 | 4.8772 | 365.94 | .64309 | 4.0273 |
| #1 | -.00014 | .00116 | -.00091 | .32799 | 1.5580 | .00210 | 6.2470 | .04935 |
| #2 | .00036 | -.00147 | .00043 | .37319 | 1.7057 | -.00565 | 6.2852 | .04799 |
| #3 | -.00012 | -.00016 | .00155 | .35500 | 1.6873 | .00024 | 6.3278 | .05193 |
| 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 | **.00071** | **4.2771** | **-.00006** | **.04515** | **.00551** | **.00164** | **.00418** | **3.0426** |
| Stddev | .00013 | .0355 | .00110 | .00651 | .00307 | .00494 | .00605 | .0022 |
| %RSD | 18.487 | .83082 | 1704.1 | 14.424 | 55.655 | 300.82 | 144.73 | .07323 |
| #1 | .00083 | 4.2661 | .00108 | .04313 | .00396 | .00298 | .00009 | 3.0415 |
| #2 | .00072 | 4.2484 | -.00017 | .03989 | .00353 | .00578 | .00133 | 3.0452 |
| #3 | .00057 | 4.3169 | -.00111 | .05244 | .00904 | -.00383 | .01113 | 3.0412 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155303 Acquired: 9/1/2017 15:05:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00057** | **.13027** | **-.00178** | **.00020** | **.00028** | **.00260** | **.02649** |
| Stddev | .00028 | .00057 | .00745 | .00136 | .00134 | .00008 | .09029 |
| %RSD | 49.019 | .44101 | 419.50 | 664.28 | 488.15 | 3.0978 | 340.84 |
| #1 | -.00044 | .13034 | .00549 | .00031 | -.00028 | .00265 | .11873 |
| #2 | -.00038 | .12967 | -.00939 | -.00120 | -.00070 | .00251 | .02246 |
| #3 | -.00089 | .13081 | -.00142 | .00151 | .00181 | .00264 | -.06172 |
| 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 | **9789.4** | **78234.** | **6765.3** |
| Stddev | 16.6 | 79. | 6.9 |
| %RSD | .16933 | .10157 | .10225 |
| #1 | 9783.3 | 78324. | 6766.6 |
| #2 | 9776.8 | 78174. | 6757.8 |
| #3 | 9808.2 | 78204. | 6771.5 |

Approved: September 05, 2017

Sample Name: L1708155304 Acquired: 9/1/2017 15:09:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00292** | **.07052** | **.00564** | **.01866** | **.03685** | **.00003** | **33.295** | **.00011** |
| Stddev | .00311 | .00536 | .00510 | .00109 | .00045 | .00005 | .086 | .00025 |
| %RSD | 106.60 | 7.6008 | 90.381 | 5.8635 | 1.2124 | 188.94 | .25721 | 217.90 |
| #1 | .00613 | .06884 | .01128 | .01775 | .03644 | -.00000 | 33.197 | -.00011 |
| #2 | -.00008 | .06621 | .00429 | .01836 | .03679 | -.00000 | 33.358 | .00008 |
| #3 | .00271 | .07652 | .00135 | .01988 | .03733 | .00009 | 33.329 | .00038 |
| 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 | **-.00006** | **.00089** | **.00048** | **.11831** | **1.6063** | **-.00168** | **4.5785** | **.01535** |
| Stddev | .00023 | .00101 | .00119 | .00136 | .0201 | .00352 | .0252 | .00131 |
| %RSD | 408.13 | 114.06 | 249.30 | 1.1507 | 1.2492 | 210.17 | .55038 | 8.5484 |
| #1 | -.00030 | .00200 | .00130 | .11675 | 1.6040 | -.00566 | 4.5526 | .01686 |
| #2 | .00015 | .00002 | .00102 | .11927 | 1.5875 | .00102 | 4.6029 | .01452 |
| #3 | -.00003 | .00064 | -.00089 | .11891 | 1.6275 | -.00039 | 4.5802 | .01467 |
| 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 | **.00066** | **2.6204** | **.00102** | **.03045** | **.00331** | **.00233** | **.00073** | **2.8082** |
| Stddev | .00050 | .0157 | .00019 | .00185 | .00519 | .00474 | .00278 | .0088 |
| %RSD | 75.631 | .59900 | 18.644 | 6.0873 | 156.65 | 203.09 | 381.20 | .31197 |
| #1 | .00008 | 2.6023 | .00084 | .02925 | .00362 | -.00303 | -.00223 | 2.8183 |
| #2 | .00092 | 2.6310 | .00122 | .03259 | .00834 | .00594 | .00330 | 2.8026 |
| #3 | .00098 | 2.6277 | .00101 | .02952 | -.00203 | .00410 | .00112 | 2.8036 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155304 Acquired: 9/1/2017 15:09:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00011** | **.09990** | **.00267** | **-.00170** | **.00013** | **.00122** | **.27934** |
| Stddev | .00024 | .00035 | .00550 | .00488 | .00034 | .00006 | .32001 |
| %RSD | 221.01 | .35425 | 206.30 | 286.40 | 259.82 | 5.1011 | 114.56 |
| #1 | .00034 | .09984 | -.00143 | -.00286 | .00053 | .00121 | -.02073 |
| #2 | -.00014 | .10029 | .00051 | -.00590 | -.00007 | .00117 | .61612 |
| #3 | .00014 | .09959 | .00892 | .00365 | -.00006 | .00129 | .24263 |
| 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 | **9973.6** | **78814.** | **6789.3** |
| Stddev | 26.2 | 82. | 41.5 |
| %RSD | .26268 | .10343 | .61110 |
| #1 | 9944.0 | 78887. | 6764.9 |
| #2 | 9982.9 | 78726. | 6765.7 |
| #3 | 9993.9 | 78830. | 6837.2 |

Approved: September 05, 2017

Sample Name: L1708155305 Acquired: 9/1/2017 15:12:52 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00027** | **.16562** | **.00024** | **.02175** | **.03404** | **.00000** | **27.915** | **.00057** |
| Stddev | .00266 | .00237 | .00360 | .00149 | .00056 | .00007 | .204 | .00013 |
| %RSD | 979.48 | 1.4335 | 1508.3 | 6.8457 | 1.6355 | 2065.0 | .73000 | 23.058 |
| #1 | .00279 | .16501 | .00379 | .02346 | .03341 | -.00002 | 27.682 | .00044 |
| #2 | -.00163 | .16824 | -.00341 | .02080 | .03448 | -.00005 | 28.058 | .00071 |
| #3 | -.00198 | .16361 | .00034 | .02098 | .03421 | .00008 | 28.006 | .00057 |
| 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 | **-.00034** | **.00016** | **.00163** | **.20384** | **1.4828** | **.00059** | **4.5208** | **.04144** |
| Stddev | .00046 | .00135 | .00016 | .01547 | .0499 | .00400 | .0222 | .00020 |
| %RSD | 134.20 | 822.96 | 9.8534 | 7.5889 | 3.3628 | 683.18 | .49205 | .48553 |
| #1 | -.00039 | .00164 | .00181 | .20089 | 1.4691 | -.00374 | 4.5461 | .04142 |
| #2 | .00014 | -.00013 | .00161 | .22058 | 1.5380 | .00416 | 4.5118 | .04165 |
| #3 | -.00078 | -.00101 | .00149 | .19006 | 1.4412 | .00133 | 4.5045 | .04125 |
| 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 | **.00008** | **3.8662** | **.00052** | **.06553** | **.00661** | **.00561** | **.00469** | **3.3054** |
| Stddev | .00048 | .0102 | .00094 | .00260 | .00097 | .00437 | .00260 | .0009 |
| %RSD | 599.68 | .26323 | 178.55 | 3.9689 | 14.626 | 78.011 | 55.410 | .02765 |
| #1 | .00016 | 3.8545 | .00137 | .06580 | .00706 | .00816 | .00696 | 3.3053 |
| #2 | -.00043 | 3.8733 | .00068 | .06280 | .00550 | .00810 | .00526 | 3.3063 |
| #3 | .00051 | 3.8706 | -.00048 | .06799 | .00728 | .00056 | .00185 | 3.3045 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155305 Acquired: 9/1/2017 15:12:52 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00077** | **.08823** | **.00262** | **.00346** | **.00036** | **.00676** | **.00910** |
| Stddev | .00054 | .00085 | .00625 | .00421 | .00039 | .00012 | .07535 |
| %RSD | 70.420 | .96055 | 238.36 | 121.46 | 108.10 | 1.8287 | 827.78 |
| #1 | -.00044 | .08729 | -.00394 | .00832 | .00073 | .00667 | -.07620 |
| #2 | -.00139 | .08893 | .00330 | .00093 | -.00004 | .00672 | .03691 |
| #3 | -.00047 | .08846 | .00850 | .00114 | .00039 | .00690 | .06659 |
| 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 | **9870.4** | **78865.** | **6843.3** |
| Stddev | 23.9 | 437. | 26.1 |
| %RSD | .24240 | .55370 | .38073 |
| #1 | 9845.8 | 78462. | 6867.4 |
| #2 | 9893.6 | 78803. | 6846.7 |
| #3 | 9871.7 | 79329. | 6815.7 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: L1708155306 Acquired: 9/1/2017 15:16:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00092** | **.07731** | **.00093** | **.04154** | **.08301** | **.00000** | **38.981** |
| Stddev | .00249 | .00111 | .00254 | .00301 | .00073 | .00007 | .092 |
| %RSD | 271.79 | 1.4398 | 274.11 | 7.2468 | .88374 | 1465.7 | .23675 |
| #1 | .00146 | .07753 | -.00182 | .03811 | .08382 | .00007 | 38.875 |
| #2 | -.00352 | .07830 | .00320 | .04277 | .08239 | .00001 | 39.045 |
| #3 | -.00069 | .07610 | .00141 | .04375 | .08282 | -.00007 | 39.023 |
| 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 | **.00019** | **.00004** | **.00041** | **.00016** | **.18157** | **1.6690** | **-.00262** |
| Stddev | .00031 | .00020 | .00005 | .00206 | .01165 | .0748 | .00588 |
| %RSD | 160.79 | 482.77 | 11.278 | 1302.5 | 6.4138 | 4.4838 | 224.43 |
| #1 | .00048 | .00027 | .00045 | -.00216 | .18072 | 1.6401 | .00267 |
| #2 | .00022 | -.00005 | .00043 | .00178 | .17038 | 1.7539 | -.00895 |
| #3 | -.00013 | -.00010 | .00036 | .00086 | .19362 | 1.6129 | -.00158 |
| 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 | **6.9098** | **.11124** | **.00120** | **39.945** | **-.00017** | **.02548** | **.00410** |
| Stddev | .0514 | .00259 | .00044 | .036 | .00013 | .00949 | .00168 |
| %RSD | .74432 | 2.3270 | 36.806 | .09028 | 78.524 | 37.254 | 40.992 |
| #1 | 6.8617 | .10854 | .00078 | 39.986 | -.00002 | .03562 | .00286 |
| #2 | 6.9640 | .11370 | .00166 | 39.933 | -.00020 | .01681 | .00602 |
| #3 | 6.9038 | .11148 | .00117 | 39.917 | -.00028 | .02402 | .00344 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155306 Acquired: 9/1/2017 15:16:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00504** | **.00364** | **3.3370** | **-.00009** | **.26716** | **-.00141** | **.00271** |
| Stddev | .00425 | .00666 | .0049 | .00009 | .00088 | .00177 | .00105 |
| %RSD | 84.328 | 182.72 | .14694 | 106.05 | .32907 | 125.48 | 38.855 |
| #1 | .00956 | .00905 | 3.3414 | -.00009 | .26622 | -.00005 | .00335 |
| #2 | .00111 | .00567 | 3.3380 | -.00017 | .26731 | -.00077 | .00150 |
| #3 | .00446 | -.00379 | 3.3318 | .00001 | .26795 | -.00341 | .00329 |
| 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 | **.00048** | **.00141** | F **-.14258** |
| Stddev | .00053 | .00010 | .01952 |
| %RSD | 109.60 | 7.4201 | 13.693 |
| #1 | .00101 | .00152 | -.16409 |
| #2 | -.00004 | .00131 | -.12598 |
| #3 | .00047 | .00140 | -.13768 |
| 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 | **9782.8** | **74763.** | **6736.8** |
| Stddev | 195.9 | 1415. | 32.8 |
| %RSD | 2.0021 | 1.8924 | .48650 |
| #1 | 9556.6 | 76129. | 6730.7 |
| #2 | 9895.9 | 74858. | 6772.3 |
| #3 | 9895.8 | 73304. | 6707.6 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155306PS Acquired: 9/1/2017 15:20:13 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628009-01

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.19902** | **4.9948** | **.19914** | **1.0314** | **.56117** | **.02478** | **38.973** | **.02448** |
| Stddev | .00392 | .0013 | .00213 | .0026 | .00172 | .00004 | .084 | .00004 |
| %RSD | 1.9709 | .02641 | 1.0701 | .24913 | .30687 | .18098 | .21544 | .17765 |
| #1 | .19449 | 4.9958 | .19668 | 1.0296 | .56013 | .02482 | 38.877 | .02445 |
| #2 | .20112 | 4.9953 | .20049 | 1.0343 | .56022 | .02479 | 39.010 | .02453 |
| #3 | .20145 | 4.9933 | .20025 | 1.0303 | .56316 | .02473 | 39.033 | .02447 |
| 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 | **.09673** | **.24250** | **.24489** | **2.1206** | **25.925** | **.49219** | **10.883** | **.34127** |
| Stddev | .00020 | .00155 | .00172 | .0164 | .144 | .00170 | .019 | .00062 |
| %RSD | .20306 | .63813 | .70428 | .77339 | .55601 | .34449 | .17192 | .18070 |
| #1 | .09673 | .24424 | .24583 | 2.1395 | 25.792 | .49024 | 10.891 | .34194 |
| #2 | .09654 | .24196 | .24595 | 2.1108 | 25.906 | .49331 | 10.896 | .34073 |
| #3 | .09693 | .24129 | .24290 | 2.1115 | 26.078 | .49302 | 10.861 | .34115 |
| 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 | **.47418** | **59.388** | **.24362** | **4.9750** | **.24552** | **.59320** | **.19842** | **5.4764** |
| Stddev | .00030 | .254 | .00020 | .0136 | .00054 | .00501 | .00669 | .0095 |
| %RSD | .06382 | .42762 | .08328 | .27354 | .21843 | .84410 | 3.3693 | .17423 |
| #1 | .47423 | 59.162 | .24339 | 4.9592 | .24612 | .58801 | .19877 | 5.4691 |
| #2 | .47445 | 59.339 | .24379 | 4.9826 | .24509 | .59358 | .19157 | 5.4730 |
| #3 | .47385 | 59.663 | .24367 | 4.9830 | .24536 | .59800 | .20492 | 5.4872 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155306PS Acquired: 9/1/2017 15:20:13 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628009-01

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.48966** | **.72153** | **.48869** | **.24801** | **.48877** | **.49005** | **.18880** |
| Stddev | .00030 | .00318 | .00961 | .00635 | .00107 | .00029 | .07957 |
| %RSD | .06102 | .44043 | 1.9657 | 2.5597 | .21828 | .05964 | 42.147 |
| #1 | .49000 | .71866 | .48829 | .25508 | .48886 | .48982 | .18283 |
| #2 | .48954 | .72098 | .49848 | .24614 | .48980 | .48997 | .11238 |
| #3 | .48944 | .72494 | .47928 | .24280 | .48767 | .49038 | .27119 |
| 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 | **9870.2** | **76409.** | **6782.3** |
| Stddev | 4.7 | 2130. | 115.9 |
| %RSD | .04800 | 2.7870 | 1.7092 |
| #1 | 9875.0 | 74009. | 6854.5 |
| #2 | 9865.6 | 77146. | 6843.9 |
| #3 | 9869.9 | 78073. | 6648.6 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155306SDL Acquired: 9/1/2017 15:23:42 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG628009-02

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00081** | **.01649** | **-.00065** | **.01426** | **.01608** | **-.00003** | **7.6731** | **.00023** |
| Stddev | .00182 | .00238 | .00174 | .00043 | .00134 | .00006 | .0371 | .00018 |
| %RSD | 225.37 | 14.447 | 267.51 | 3.0392 | 8.3328 | 227.98 | .48388 | 79.460 |
| #1 | -.00121 | .01924 | -.00263 | .01453 | .01746 | .00004 | 7.6309 | .00033 |
| #2 | .00131 | .01505 | .00009 | .01376 | .01479 | -.00007 | 7.6875 | .00002 |
| #3 | .00233 | .01517 | .00059 | .01449 | .01599 | -.00004 | 7.7008 | .00034 |
| 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 | **.00000** | **.00061** | **.00027** | **.04266** | **.37537** | **-.00036** | **1.4582** | **.02059** |
| Stddev | .00058 | .00087 | .00151 | .01034 | .06975 | .00245 | .0457 | .00223 |
| %RSD | 16326. | 142.96 | 563.21 | 24.247 | 18.582 | 678.03 | 3.1325 | 10.841 |
| #1 | .00015 | .00038 | .00129 | .03216 | .34413 | -.00310 | 1.5109 | .02155 |
| #2 | -.00064 | .00158 | -.00146 | .04298 | .45529 | .00044 | 1.4341 | .01804 |
| #3 | .00050 | -.00012 | .00098 | .05284 | .32671 | .00159 | 1.4296 | .02219 |
| 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 | **.00028** | **8.0435** | **.00041** | **.00090** | **.00638** | **-.00177** | **.00485** | **.67796** |
| Stddev | .00029 | .0762 | .00075 | .00272 | .00154 | .00385 | .01154 | .00334 |
| %RSD | 105.47 | .94711 | 182.86 | 302.95 | 24.145 | 217.70 | 237.82 | .49263 |
| #1 | .00059 | 8.1315 | -.00005 | .00003 | .00488 | -.00618 | .01809 | .67973 |
| #2 | .00021 | 7.9995 | .00127 | -.00128 | .00631 | .00090 | -.00304 | .68003 |
| #3 | .00002 | 7.9995 | .00000 | .00395 | .00796 | -.00002 | -.00049 | .67410 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155306SDL Acquired: 9/1/2017 15:23:42 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG628009-02

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00116** | **.05261** | **-.00176** | **-.00056** | **.00024** | **.00057** | **.08405** |
| Stddev | .00063 | .00013 | .00714 | .00365 | .00072 | .00012 | .06233 |
| %RSD | 54.722 | .23972 | 406.16 | 656.17 | 305.71 | 21.440 | 74.151 |
| #1 | -.00189 | .05272 | -.00546 | .00355 | -.00059 | .00061 | .01486 |
| #2 | -.00077 | .05263 | .00648 | -.00342 | .00056 | .00066 | .13579 |
| #3 | -.00081 | .05247 | -.00629 | -.00180 | .00075 | .00043 | .10151 |
| 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 | **10076.** | **80826.** | **6818.3** |
| Stddev | 37. | 411. | 45.7 |
| %RSD | .36325 | .50882 | .67060 |
| #1 | 10118. | 80491. | 6844.0 |
| #2 | 10054. | 81285. | 6845.4 |
| #3 | 10055. | 80703. | 6765.5 |

Approved: September 05, 2017

Ki K Buck

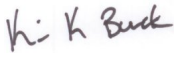
Sample Name: CCV Acquired: 9/1/2017 15:27:25 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.40296** | **10.030** | **.39764** | **.49826** | **.98721** | **.04946** | **9.8489** |
| Stddev | .00114 | .017 | .00315 | .00039 | .00312 | .00012 | .0751 |
| %RSD | .28277 | .17286 | .79096 | .07876 | .31618 | .25209 | .76257 |
| #1 | .40192 | 10.025 | .39465 | .49825 | .98361 | .04959 | 9.7695 |
| #2 | .40418 | 10.049 | .39736 | .49865 | .98886 | .04934 | 9.8584 |
| #3 | .40276 | 10.015 | .40092 | .49787 | .98916 | .04946 | 9.9188 |
| 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 | **.04942** | **.19876** | **.49268** | **.49982** | **3.9332** | **49.530** | **.99849** |
| Stddev | .00014 | .00078 | .00112 | .00167 | .0332 | .150 | .00696 |
| %RSD | .27867 | .39186 | .22671 | .33411 | .84365 | .30386 | .69689 |
| #1 | .04958 | .19804 | .49397 | .49992 | 3.9114 | 49.376 | .99193 |
| #2 | .04936 | .19959 | .49210 | .49810 | 3.9714 | 49.676 | .99774 |
| #3 | .04932 | .19865 | .49198 | .50144 | 3.9168 | 49.538 | 1.0058 |
| 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 | **9.9282** | **.49129** | **.98765** | **49.893** | **.49686** | **9.9032** | **.49943** |
| Stddev | .1149 | .00085 | .00028 | .232 | .00172 | .0081 | .00380 |
| %RSD | 1.1571 | .17213 | .02823 | .46417 | .34698 | .08232 | .76129 |
| #1 | 9.9070 | .49049 | .98747 | 49.640 | .49689 | 9.9119 | .50276 |
| #2 | 9.8254 | .49122 | .98797 | 50.096 | .49858 | 9.8957 | .50023 |
| #3 | 10.052 | .49217 | .98751 | 49.942 | .49513 | 9.9019 | .49528 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Approved: September 05, 2017



Sample Name: CCV Acquired: 9/1/2017 15:27:25 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **1.1868** | **.40159** | **4.9356** | **.99342** | **.98797** | **.99438** | **.50344** |
| Stddev | .0065 | .00448 | .0043 | .00275 | .00452 | .00649 | .00417 |
| %RSD | .54367 | 1.1147 | .08774 | .27704 | .45775 | .65293 | .82890 |
| #1 | 1.1931 | .40199 | 4.9376 | .99328 | .98309 | .99104 | .50766 |
| #2 | 1.1870 | .39693 | 4.9386 | .99624 | .99202 | .99025 | .50334 |
| #3 | 1.1802 | .40586 | 4.9306 | .99075 | .98881 | 1.0019 | .49931 |
| 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 | **.98650** | **.99610** | F **666.88** |
| Stddev | .00113 | .00075 | 8.78 |
| %RSD | .11458 | .07562 | 1.3172 |
| #1 | .98775 | .99686 | 657.72 |
| #2 | .98556 | .99535 | 667.68 |
| #3 | .98618 | .99609 | 675.23 |
| 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 | **9889.5** | **78082.** | **6859.8** |
| Stddev | 19.4 | 213. | 79.2 |
| %RSD | .19639 | .27278 | 1.1549 |
| #1 | 9867.4 | 77851. | 6935.9 |
| #2 | 9903.8 | 78269. | 6865.7 |
| #3 | 9897.4 | 78127. | 6777.8 |

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Ki K Buck

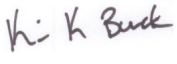
Sample Name: CCB Acquired: 9/1/2017 15:30:50 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00172** | **-.00297** | **.00139** | **.00441** | **-.00012** | **-.00001** | **.01836** |
| Stddev | .00261 | .00118 | .00183 | .00316 | .00104 | .00006 | .01389 |
| %RSD | 151.89 | 39.627 | 131.86 | 71.736 | 836.90 | 547.65 | 75.635 |
| #1 | .00365 | -.00193 | .00081 | .00148 | -.00030 | -.00008 | .03400 |
| #2 | .00276 | -.00274 | -.00009 | .00398 | .00100 | .00002 | .01361 |
| #3 | -.00125 | -.00424 | .00343 | .00776 | -.00107 | .00003 | .00747 |
| 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** | **-.00028** | **.00106** | **.00075** | **.01002** | **.05637** | **.00056** |
| Stddev | .00026 | .00049 | .00018 | .00161 | .01598 | .15775 | .00132 |
| %RSD | 59.225 | 179.30 | 17.085 | 213.45 | 159.40 | 279.83 | 238.14 |
| #1 | .00071 | -.00050 | .00091 | .00190 | -.00229 | -.09052 | .00208 |
| #2 | .00018 | -.00061 | .00100 | -.00108 | .00429 | .22310 | -.00013 |
| #3 | .00045 | .00029 | .00126 | .00144 | .02808 | .03654 | -.00028 |
| 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 | **.07184** | **-.00325** | **.00025** | **.03224** | **-.00017** | **.00346** | **.00314** |
| Stddev | .02511 | .00079 | .00066 | .02009 | .00095 | .00550 | .00199 |
| %RSD | 34.952 | 24.222 | 259.29 | 62.313 | 576.98 | 158.71 | 63.487 |
| #1 | .05961 | -.00359 | -.00049 | .01127 | .00045 | -.00284 | .00544 |
| #2 | .10072 | -.00235 | .00051 | .03415 | -.00126 | .00725 | .00215 |
| #3 | .05519 | -.00382 | .00075 | .05131 | .00032 | .00598 | .00184 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017



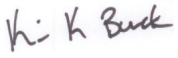
Sample Name: CCB Acquired: 9/1/2017 15:30:50 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00032** | **.00553** | **-.00192** | **-.00075** | **-.00020** | **-.00554** | **.00119** |
| Stddev | .00295 | .00954 | .00164 | .00052 | .00020 | .00574 | .00606 |
| %RSD | 922.96 | 172.35 | 85.094 | 68.815 | 99.523 | 103.53 | 507.87 |
| #1 | -.00276 | .01050 | -.00013 | -.00043 | -.00015 | -.00626 | .00586 |
| #2 | -.00115 | -.00546 | -.00333 | -.00135 | -.00042 | .00052 | -.00566 |
| #3 | .00295 | .01156 | -.00231 | -.00048 | -.00003 | -.01089 | .00339 |
| 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 | **.00068** | **.00011** | F **.08676** |
| Stddev | .00065 | .00012 | .27318 |
| %RSD | 95.642 | 111.17 | 314.86 |
| #1 | .00039 | .00013 | .40219 |
| #2 | .00142 | -.00002 | -.06874 |
| #3 | .00022 | .00021 | -.07317 |
| 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 | **10171.** | **80374.** | **6746.6** |
| Stddev | 138. | 147. | 191.1 |
| %RSD | 1.3576 | .18349 | 2.8325 |
| #1 | 10036. | 80239. | 6777.9 |
| #2 | 10167. | 80350. | 6541.8 |
| #3 | 10312. | 80531. | 6920.1 |

Approved: September 05, 2017



Sample Name: L1708155701 Acquired: 9/1/2017 15:34:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00064** | **.01459** | **.01930** | **1.8947** | **.03330** | **.00001** | **195.36** |
| Stddev | .00056 | .00596 | .00223 | .0055 | .00028 | .00002 | .09 |
| %RSD | 88.100 | 40.850 | 11.542 | .29185 | .85076 | 228.87 | .04511 |
| #1 | -.00056 | .01849 | .01695 | 1.9010 | .03298 | .00003 | 195.30 |
| #2 | -.00012 | .00773 | .02139 | 1.8925 | .03347 | .00001 | 195.32 |
| #3 | -.00123 | .01754 | .01957 | 1.8906 | .03346 | -.00001 | 195.46 |
| 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 | **.00077** | **.00088** | **-.00036** | **.00049** | **8.5603** | **5.9927** | **.00829** |
| Stddev | .00018 | .00029 | .00142 | .00067 | .0123 | .0214 | .00607 |
| %RSD | 23.127 | 32.881 | 394.53 | 137.57 | .14365 | .35619 | 73.211 |
| #1 | .00059 | .00055 | .00085 | -.00003 | 8.5743 | 5.9681 | .00743 |
| #2 | .00079 | .00106 | -.00001 | .00025 | 8.5552 | 6.0055 | .00270 |
| #3 | .00094 | .00104 | -.00192 | .00125 | 8.5514 | 6.0045 | .01474 |
| 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 | **50.238** | **1.3784** | **.00039** | **61.022** | **.00106** | **.01662** | **.00332** |
| Stddev | .165 | .0059 | .00033 | .159 | .00097 | .01239 | .00328 |
| %RSD | .32902 | .42864 | 84.770 | .26124 | 91.666 | 74.561 | 98.724 |
| #1 | 50.048 | 1.3832 | .00035 | 60.920 | .00208 | .03089 | -.00039 |
| #2 | 50.346 | 1.3801 | .00009 | 61.206 | .00095 | .01038 | .00454 |
| #3 | 50.320 | 1.3718 | .00075 | 60.941 | .00015 | .00859 | .00581 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155701 Acquired: 9/1/2017 15:34:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00181** | **.00520** | **5.5120** | **-.00066** | **.81636** | **-.01509** | **-.00001** |
| Stddev | .00319 | .00252 | .0014 | .00048 | .00103 | .00192 | .00197 |
| %RSD | 176.54 | 48.405 | .02633 | 72.219 | .12632 | 12.752 | 21512. |
| #1 | .00491 | .00571 | 5.5131 | -.00111 | .81605 | -.01643 | .00226 |
| #2 | .00197 | .00741 | 5.5103 | -.00072 | .81551 | -.01595 | -.00111 |
| #3 | -.00146 | .00246 | 5.5125 | -.00016 | .81751 | -.01288 | -.00118 |
| 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 | **-.00058** | **.00150** | F **-.15427** |
| Stddev | .00094 | .00014 | .27512 |
| %RSD | 162.98 | 9.4455 | 178.33 |
| #1 | .00048 | .00164 | .14266 |
| #2 | -.00088 | .00136 | -.40052 |
| #3 | -.00133 | .00149 | -.20495 |
| 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 | **9579.9** | **76395.** | **6762.6** |
| Stddev | 14.4 | 355. | 43.6 |
| %RSD | .15081 | .46404 | .64476 |
| #1 | 9592.8 | 75989. | 6807.9 |
| #2 | 9582.6 | 76555. | 6758.9 |
| #3 | 9564.3 | 76641. | 6720.9 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155702 Acquired: 9/1/2017 15:38:15 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00148** | **.01224** | **.00661** | **1.7372** | **.02993** | **-.00003** | **181.91** | **.00060** |
| Stddev | .00115 | .00716 | .00177 | .0018 | .00168 | .00008 | .45 | .00026 |
| %RSD | 77.771 | 58.469 | 26.708 | .10135 | 5.6125 | 316.43 | .24509 | 43.396 |
| #1 | -.00126 | .00398 | .00722 | 1.7364 | .02947 | .00007 | 182.11 | .00086 |
| #2 | -.00272 | .01619 | .00799 | 1.7360 | .02853 | -.00008 | 181.41 | .00060 |
| #3 | -.00045 | .01655 | .00462 | 1.7392 | .03180 | -.00006 | 182.23 | .00034 |
| 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 | **.00049** | **.00150** | **.00257** | **1.0069** | **14.019** | **.01222** | **60.359** | **.25359** |
| Stddev | .00014 | .00065 | .00103 | .0122 | .087 | .00832 | .349 | .00163 |
| %RSD | 29.006 | 43.301 | 40.184 | 1.2078 | .62040 | 68.126 | .57758 | .64418 |
| #1 | .00054 | .00214 | .00214 | 1.0057 | 14.101 | .01891 | 60.615 | .25331 |
| #2 | .00033 | .00084 | .00182 | .99531 | 13.928 | .01484 | 59.962 | .25211 |
| #3 | .00059 | .00152 | .00375 | 1.0196 | 14.028 | .00290 | 60.500 | .25534 |
| 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 | **.00068** | **87.970** | **.00086** | **.04456** | **.00509** | **.00115** | **.00347** | **6.0812** |
| Stddev | .00059 | .441 | .00056 | .00343 | .00181 | .00692 | .00523 | .0106 |
| %RSD | 86.479 | .50175 | 64.419 | 7.6970 | 35.660 | 604.56 | 150.65 | .17482 |
| #1 | .00042 | 87.913 | .00037 | .04118 | .00586 | -.00666 | .00207 | 6.0882 |
| #2 | .00027 | 87.559 | .00075 | .04804 | .00639 | .00356 | -.00091 | 6.0689 |
| #3 | .00136 | 88.437 | .00147 | .04446 | .00302 | .00654 | .00926 | 6.0863 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155702 Acquired: 9/1/2017 15:38:15 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00020** | **.83085** | **-.01486** | **.00384** | **.00058** | **.00222** | **.12075** |
| Stddev | .00033 | .00195 | .00294 | .00192 | .00043 | .00006 | .19529 |
| %RSD | 163.42 | .23414 | 19.790 | 49.982 | 74.506 | 2.7504 | 161.73 |
| #1 | -.00011 | .83215 | -.01800 | .00162 | .00107 | .00216 | -.08683 |
| #2 | .00016 | .82861 | -.01440 | .00496 | .00042 | .00223 | .30083 |
| #3 | .00055 | .83178 | -.01217 | .00493 | .00025 | .00228 | .14825 |
| 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 | **9556.7** | **76376.** | **6767.4** |
| Stddev | 4.0 | 254. | 42.4 |
| %RSD | .04184 | .33272 | .62691 |
| #1 | 9559.6 | 76627. | 6776.0 |
| #2 | 9552.1 | 76119. | 6804.9 |
| #3 | 9558.3 | 76382. | 6721.4 |

Approved: September 05, 2017

Sample Name: L1708155703 Acquired: 9/1/2017 15:41:53 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00200** | **.02165** | **.00618** | **1.6822** | **.03018** | **-.00003** | **177.16** |
| Stddev | .00165 | .00550 | .00031 | .0012 | .00076 | .00005 | .84 |
| %RSD | 82.673 | 25.395 | 4.9582 | .07282 | 2.5080 | 172.93 | .47389 |
| #1 | .00380 | .02709 | .00603 | 1.6826 | .03021 | -.00007 | 178.08 |
| #2 | .00164 | .02178 | .00654 | 1.6833 | .03093 | .00003 | 176.98 |
| #3 | .00056 | .01609 | .00598 | 1.6809 | .02941 | -.00005 | 176.43 |
| 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 | **.00085** | **.00094** | **.00088** | **.00206** | **.92634** | **13.682** | **.01095** |
| Stddev | .00034 | .00060 | .00057 | .00165 | .01448 | .108 | .00218 |
| %RSD | 40.572 | 63.548 | 64.663 | 79.770 | 1.5627 | .78740 | 19.937 |
| #1 | .00080 | .00031 | .00152 | .00184 | .90974 | 13.572 | .00983 |
| #2 | .00121 | .00101 | .00070 | .00054 | .93633 | 13.787 | .00955 |
| #3 | .00053 | .00150 | .00042 | .00381 | .93296 | 13.686 | .01347 |
| 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 | **58.681** | **.25187** | **.00053** | **85.450** | **.00142** | **.04476** | **.00934** |
| Stddev | .117 | .00548 | .00104 | .104 | .00149 | .00533 | .00288 |
| %RSD | .19929 | 2.1757 | 195.10 | .12175 | 104.89 | 11.900 | 30.847 |
| #1 | 58.787 | .25470 | .00157 | 85.462 | .00052 | .04735 | .00661 |
| #2 | 58.701 | .25536 | .00054 | 85.548 | .00061 | .04830 | .00906 |
| #3 | 58.555 | .24555 | -.00051 | 85.341 | .00315 | .03863 | .01235 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155703 Acquired: 9/1/2017 15:41:53 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00176** | **.00918** | **5.8902** | **-.00023** | **.80782** | **-.01550** | **-.00120** |
| Stddev | .00326 | .00113 | .0094 | .00043 | .00221 | .00542 | .00047 |
| %RSD | 185.07 | 12.257 | .15907 | 188.88 | .27338 | 34.978 | 38.647 |
| #1 | -.00131 | .00881 | 5.8850 | .00027 | .80997 | -.00988 | -.00174 |
| #2 | -.00523 | .00829 | 5.8845 | -.00051 | .80793 | -.02070 | -.00095 |
| #3 | .00125 | .01045 | 5.9010 | -.00044 | .80556 | -.01591 | -.00092 |
| 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** | **.00146** | F **-.15517** |
| Stddev | .00013 | .00017 | .16278 |
| %RSD | 36.651 | 11.570 | 104.90 |
| #1 | .00034 | .00165 | .02937 |
| #2 | .00023 | .00132 | -.27836 |
| #3 | .00048 | .00142 | -.21651 |
| 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 | **9575.6** | **76407.** | **6675.7** |
| Stddev | 13.1 | 115. | 172.0 |
| %RSD | .13651 | .15038 | 2.5766 |
| #1 | 9580.3 | 76491. | 6510.2 |
| #2 | 9585.7 | 76453. | 6663.5 |
| #3 | 9560.8 | 76276. | 6853.5 |

Approved: September 05, 2017

Kristi K Buck

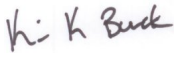
Sample Name: L1708155704 Acquired: 9/1/2017 15:45:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00053** | **.01600** | **.00599** | **1.0463** | **.05277** | **.00003** | F **403.66** |
| Stddev | .00179 | .00468 | .00132 | .0050 | .00097 | .00004 | 1.72 |
| %RSD | 335.87 | 29.267 | 22.025 | .47884 | 1.8299 | 129.30 | .42711 |
| #1 | .00260 | .01283 | .00747 | 1.0509 | .05375 | .00003 | 402.56 |
| #2 | -.00040 | .01379 | .00555 | 1.0410 | .05273 | -.00001 | 402.79 |
| #3 | -.00060 | .02138 | .00494 | 1.0471 | .05182 | .00006 | 405.65 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | 270.00 |
| Low Limit | | | | | | | -.10000 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu2247 | Fe2611 | K_7664 | Li6707 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00091** | **.00715** | **.00072** | **.00258** | **25.683** | **4.6829** | **.04419** |
| Stddev | .00017 | .00020 | .00043 | .00117 | .063 | .0739 | .00469 |
| %RSD | 19.127 | 2.7563 | 59.415 | 45.417 | .24535 | 1.5783 | 10.611 |
| #1 | .00111 | .00730 | .00117 | .00385 | 25.637 | 4.6131 | .04004 |
| #2 | .00087 | .00693 | .00065 | .00156 | 25.656 | 4.7603 | .04326 |
| #3 | .00076 | .00722 | .00033 | .00231 | 25.755 | 4.6754 | .04927 |
| 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 | **36.567** | **1.0179** | **.00089** | **84.891** | **-.00046** | **.40188** | **.00873** |
| Stddev | .119 | .0062 | .00022 | .264 | .00132 | .00548 | .00296 |
| %RSD | .32433 | .61093 | 25.304 | .31124 | 283.97 | 1.3641 | 33.835 |
| #1 | 36.445 | 1.0131 | .00068 | 84.793 | .00096 | .39832 | .00560 |
| #2 | 36.574 | 1.0156 | .00087 | 84.691 | -.00070 | .39913 | .00913 |
| #3 | 36.682 | 1.0249 | .00112 | 85.191 | -.00165 | .40820 | .01147 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

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Sample Name: L1708155704 Acquired: 9/1/2017 15:45:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00500** | **.00672** | **7.6669** | **-.00061** | **1.5785** | **-.02607** | **-.00064** |
| Stddev | .00123 | .00183 | .0140 | .00154 | .0051 | .00266 | .00192 |
| %RSD | 24.661 | 27.203 | .18233 | 251.43 | .32074 | 10.200 | 301.23 |
| #1 | .00642 | .00865 | 7.6830 | .00115 | 1.5754 | -.02823 | -.00046 |
| #2 | .00424 | .00502 | 7.6584 | -.00131 | 1.5757 | -.02310 | .00119 |
| #3 | .00433 | .00647 | 7.6593 | -.00168 | 1.5844 | -.02689 | -.00263 |
| 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** | **.00219** | F **-1.0039** |
| Stddev | .00104 | .00020 | .1336 |
| %RSD | 68.934 | 9.3544 | 13.312 |
| #1 | -.00270 | .00236 | -.85515 |
| #2 | -.00081 | .00226 | -1.1139 |
| #3 | -.00101 | .00196 | -1.0426 |
| 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 | **9432.1** | **75565.** | **6746.5** |
| Stddev | 8.6 | 519. | 98.6 |
| %RSD | .09092 | .68618 | 1.4613 |
| #1 | 9434.9 | 75575. | 6817.0 |
| #2 | 9422.5 | 76078. | 6788.6 |
| #3 | 9438.9 | 75041. | 6633.8 |

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Ki K Buck

Sample Name: L1708155705 Acquired: 9/1/2017 15:49:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00077** | **.01925** | **.00831** | **1.0812** | **.04838** | **.00006** | F **362.26** |
| Stddev | .00129 | .00193 | .00069 | .0033 | .00123 | .00003 | 1.15 |
| %RSD | 168.15 | 10.023 | 8.2776 | .30369 | 2.5420 | 48.722 | .31744 |
| #1 | -.00045 | .02097 | .00836 | 1.0820 | .04971 | .00003 | 361.39 |
| #2 | -.00219 | .01716 | .00897 | 1.0776 | .04816 | .00006 | 363.57 |
| #3 | .00033 | .01961 | .00760 | 1.0840 | .04728 | .00009 | 361.82 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | 270.00 |
| Low Limit | | | | | | | -.10000 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu2247 | Fe2611 | K_7664 | Li6707 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00043** | **.00551** | **-.00057** | **.00120** | **22.699** | **4.5259** | **.03523** |
| Stddev | .00025 | .00012 | .00093 | .00084 | .028 | .0790 | .00499 |
| %RSD | 58.291 | 2.1619 | 162.59 | 69.959 | .12433 | 1.7453 | 14.163 |
| #1 | .00061 | .00539 | .00014 | .00023 | 22.668 | 4.4813 | .02958 |
| #2 | .00014 | .00563 | -.00023 | .00175 | 22.722 | 4.4793 | .03708 |
| #3 | .00053 | .00550 | -.00163 | .00161 | 22.709 | 4.6171 | .03903 |
| 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 | **33.874** | **.94183** | **.00134** | **77.637** | **-.00036** | **.34434** | **.00381** |
| Stddev | .136 | .00675 | .00032 | .341 | .00019 | .01221 | .00106 |
| %RSD | .40154 | .71681 | 23.570 | .43964 | 52.854 | 3.5450 | 27.724 |
| #1 | 33.928 | .93412 | .00158 | 77.533 | -.00014 | .34820 | .00282 |
| #2 | 33.975 | .94672 | .00098 | 78.019 | -.00048 | .33068 | .00369 |
| #3 | 33.719 | .94464 | .00146 | 77.360 | -.00045 | .35416 | .00492 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155705 Acquired: 9/1/2017 15:49:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00540** | **.00338** | **7.2577** | **-.00073** | **1.4206** | **-.02284** | **.00250** |
| Stddev | .00619 | .00398 | .0127 | .00030 | .0043 | .00172 | .00137 |
| %RSD | 114.70 | 117.62 | .17429 | 40.699 | .30410 | 7.5267 | 54.818 |
| #1 | .01188 | .00492 | 7.2711 | -.00039 | 1.4175 | -.02131 | .00338 |
| #2 | -.00046 | -.00114 | 7.2559 | -.00090 | 1.4256 | -.02251 | .00092 |
| #3 | .00477 | .00636 | 7.2460 | -.00090 | 1.4189 | -.02470 | .00319 |
| 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 | **.00067** | **.00194** | F **-.95529** |
| Stddev | .00100 | .00006 | .11121 |
| %RSD | 149.32 | 2.8899 | 11.642 |
| #1 | -.00004 | .00187 | -1.0551 |
| #2 | .00181 | .00196 | -.83541 |
| #3 | .00023 | .00197 | -.97537 |
| 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 | **9451.6** | **75626.** | **6743.6** |
| Stddev | 21.0 | 333. | 60.1 |
| %RSD | .22253 | .43990 | .89154 |
| #1 | 9428.6 | 75983. | 6779.9 |
| #2 | 9456.4 | 75567. | 6674.2 |
| #3 | 9469.8 | 75326. | 6776.7 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708155706 Acquired: 9/1/2017 15:52:52 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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** | **.03631** | **.01018** | **1.4044** | **.06429** | **.00001** | **125.26** |
| Stddev | .00123 | .00728 | .00507 | .0018 | .00121 | .00005 | .39 |
| %RSD | 80.505 | 20.054 | 49.769 | .12656 | 1.8822 | 485.42 | .31152 |
| #1 | .00055 | .04300 | .00525 | 1.4056 | .06487 | .00005 | 124.90 |
| #2 | .00113 | .03738 | .01538 | 1.4024 | .06509 | .00002 | 125.68 |
| #3 | .00292 | .02855 | .00992 | 1.4053 | .06289 | -.00004 | 125.20 |
| 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 | **.00049** | **.00019** | **-.00040** | **.00151** | **5.3519** | **4.7856** | **-.00083** |
| Stddev | .00020 | .00046 | .00038 | .00030 | .0204 | .0296 | .00394 |
| %RSD | 41.375 | 238.93 | 95.195 | 19.645 | .38114 | .61958 | 473.27 |
| #1 | .00037 | -.00015 | -.00052 | .00130 | 5.3284 | 4.7541 | -.00162 |
| #2 | .00073 | .00072 | .00003 | .00185 | 5.3632 | 4.8129 | -.00432 |
| #3 | .00039 | .00001 | -.00071 | .00138 | 5.3641 | 4.7898 | .00344 |
| 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 | **32.417** | **.87939** | **.00035** | **34.814** | **.00035** | **.14546** | **.00670** |
| Stddev | .057 | .00391 | .00008 | .126 | .00142 | .00230 | .00262 |
| %RSD | .17691 | .44442 | 22.941 | .36164 | 403.98 | 1.5833 | 39.183 |
| #1 | 32.358 | .87532 | .00026 | 34.669 | .00194 | .14796 | .00401 |
| #2 | 32.473 | .88311 | .00042 | 34.873 | -.00008 | .14343 | .00925 |
| #3 | 32.420 | .87975 | .00037 | 34.899 | -.00080 | .14499 | .00683 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155706 Acquired: 9/1/2017 15:52:52 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00547** | **.00989** | **5.5816** | **-.00014** | **.55223** | **-.01017** | **.00172** |
| Stddev | .00053 | .00496 | .0049 | .00053 | .00140 | .00475 | .00561 |
| %RSD | 9.6306 | 50.144 | .08793 | 371.70 | .25271 | 46.741 | 326.44 |
| #1 | .00607 | .01353 | 5.5852 | .00016 | .55062 | -.00990 | .00804 |
| #2 | .00519 | .00424 | 5.5836 | .00016 | .55301 | -.01505 | -.00019 |
| #3 | .00514 | .01191 | 5.5760 | -.00075 | .55307 | -.00555 | -.00269 |
| 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 | **-.00012** | **.00221** | F **-.22210** |
| Stddev | .00052 | .00004 | .10813 |
| %RSD | 426.48 | 1.6359 | 48.684 |
| #1 | -.00016 | .00217 | -.10205 |
| #2 | .00042 | .00220 | -.25239 |
| #3 | -.00063 | .00224 | -.31184 |
| 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 | **9660.6** | **77015.** | **6787.0** |
| Stddev | 22.0 | 255. | 77.8 |
| %RSD | .22759 | .33116 | 1.1468 |
| #1 | 9641.1 | 76721. | 6874.3 |
| #2 | 9656.3 | 77161. | 6724.9 |
| #3 | 9684.5 | 77164. | 6761.9 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155707 Acquired: 9/1/2017 15:56:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00163** | **.01574** | **.00096** | **.89993** | **.02155** | **-.00001** | **159.71** |
| Stddev | .00259 | .00612 | .00280 | .00256 | .00101 | .00005 | .58 |
| %RSD | 158.57 | 38.858 | 292.16 | .28411 | 4.7045 | 717.40 | .36127 |
| #1 | -.00014 | .01785 | .00318 | .89852 | .02272 | -.00002 | 159.76 |
| #2 | .00043 | .02053 | .00189 | .90289 | .02104 | .00005 | 159.10 |
| #3 | .00460 | .00885 | -.00219 | .89840 | .02089 | -.00005 | 160.25 |
| 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 | **.00059** | **-.00019** | **.00696** | **.00172** | **.10152** | **2.4794** | **.00735** |
| Stddev | .00028 | .00018 | .00053 | .00279 | .01864 | .0818 | .00136 |
| %RSD | 46.701 | 96.273 | 7.5668 | 161.85 | 18.364 | 3.2975 | 18.457 |
| #1 | .00045 | -.00007 | .00637 | .00250 | .08166 | 2.5281 | .00865 |
| #2 | .00041 | -.00010 | .00712 | .00404 | .10424 | 2.5251 | .00747 |
| #3 | .00091 | -.00039 | .00738 | -.00137 | .11865 | 2.3850 | .00594 |
| 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 | **24.850** | **.05674** | **.00108** | **106.41** | **-.00103** | **.01110** | **.00409** |
| Stddev | .079 | .00089 | .00029 | .26 | .00155 | .00996 | .00176 |
| %RSD | .31634 | 1.5677 | 27.131 | .23992 | 151.66 | 89.682 | 43.163 |
| #1 | 24.760 | .05760 | .00113 | 106.33 | -.00242 | .02209 | .00458 |
| #2 | 24.908 | .05679 | .00076 | 106.20 | -.00130 | .00854 | .00555 |
| #3 | 24.881 | .05582 | .00134 | 106.69 | .00065 | .00268 | .00213 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

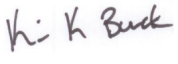
Sample Name: L1708155707 Acquired: 9/1/2017 15:56:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00108** | **.01124** | **6.9427** | **-.00067** | **.93488** | **-.00818** | **.00213** |
| Stddev | .00261 | .00263 | .0140 | .00027 | .00018 | .00704 | .00215 |
| %RSD | 242.45 | 23.406 | .20205 | 40.421 | .01883 | 86.034 | 101.16 |
| #1 | .00173 | .00976 | 6.9471 | -.00043 | .93506 | -.00242 | .00224 |
| #2 | -.00180 | .00968 | 6.9539 | -.00096 | .93470 | -.00610 | .00422 |
| #3 | .00330 | .01428 | 6.9270 | -.00062 | .93487 | -.01603 | -.00008 |
| 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 | **-.00052** | **.00169** | F **-.11980** |
| Stddev | .00106 | .00020 | .17206 |
| %RSD | 202.55 | 11.576 | 143.63 |
| #1 | .00029 | .00173 | .07817 |
| #2 | -.00172 | .00148 | -.23332 |
| #3 | -.00014 | .00187 | -.20423 |
| 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 | **9615.7** | **76330.** | **6817.5** |
| Stddev | 20.8 | 108. | 35.0 |
| %RSD | .21637 | .14134 | .51380 |
| #1 | 9631.5 | 76452. | 6827.1 |
| #2 | 9623.4 | 76291. | 6778.7 |
| #3 | 9592.1 | 76246. | 6846.8 |

Approved: September 05, 2017



Sample Name: L1708155708 Acquired: 9/1/2017 16:00:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00113** | **.02162** | **.00642** | **2.5320** | **.03196** | **.00005** | **139.35** |
| Stddev | .00380 | .00310 | .00341 | .0048 | .00067 | .00007 | .33 |
| %RSD | 338.15 | 14.321 | 53.134 | .19094 | 2.0938 | 130.76 | .23729 |
| #1 | .00461 | .02387 | .00764 | 2.5308 | .03274 | .00008 | 139.27 |
| #2 | -.00293 | .02290 | .00906 | 2.5279 | .03154 | .00009 | 139.06 |
| #3 | .00169 | .01809 | .00257 | 2.5373 | .03161 | -.00003 | 139.71 |
| 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** | **.00087** | **.00102** | **.00348** | **.26938** | **13.482** | **.00628** |
| Stddev | .00014 | .00030 | .00108 | .00159 | .01555 | .056 | .00837 |
| %RSD | 27.388 | 34.786 | 106.21 | 45.692 | 5.7715 | .41501 | 133.30 |
| #1 | .00052 | .00109 | .00068 | .00294 | .28721 | 13.543 | .00815 |
| #2 | .00062 | .00100 | .00223 | .00527 | .25860 | 13.433 | .01356 |
| #3 | .00035 | .00052 | .00015 | .00222 | .26235 | 13.469 | -.00287 |
| 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 | **38.263** | **.31749** | **.00938** | **161.22** | **.00203** | **.00426** | **.00970** |
| Stddev | .073 | .00250 | .00083 | .85 | .00253 | .00673 | .00197 |
| %RSD | .19155 | .78743 | 8.8977 | .52665 | 124.62 | 157.86 | 20.305 |
| #1 | 38.347 | .32038 | .00897 | 162.19 | .00489 | .01175 | .00799 |
| #2 | 38.232 | .31592 | .01034 | 160.82 | .00005 | -.00127 | .00925 |
| #3 | 38.211 | .31618 | .00882 | 160.64 | .00117 | .00230 | .01185 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708155708 Acquired: 9/1/2017 16:00:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00650** | **.01226** | **5.5760** | **-.00080** | **.95848** | **-.00827** | **.00471** |
| Stddev | .00692 | .01204 | .0049 | .00099 | .00258 | .00243 | .00019 |
| %RSD | 106.37 | 98.199 | .08859 | 123.95 | .26934 | 29.388 | 3.9735 |
| #1 | .00960 | .00945 | 5.5735 | -.00125 | .95779 | -.00617 | .00492 |
| #2 | -.00142 | .02547 | 5.5728 | .00034 | .95631 | -.01093 | .00463 |
| #3 | .01132 | .00188 | 5.5817 | -.00147 | .96134 | -.00770 | .00457 |
| 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 | **.00009** | **.03617** | F **-.16600** |
| Stddev | .00081 | .00021 | .13667 |
| %RSD | 869.93 | .56984 | 82.330 |
| #1 | -.00032 | .03594 | -.17124 |
| #2 | .00103 | .03628 | -.02679 |
| #3 | -.00043 | .03631 | -.29997 |
| 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 | **9575.6** | **75899.** | **6799.6** |
| Stddev | 53.3 | 175. | 14.7 |
| %RSD | .55676 | .23061 | .21552 |
| #1 | 9634.1 | 76038. | 6804.3 |
| #2 | 9562.9 | 75956. | 6783.2 |
| #3 | 9529.8 | 75702. | 6811.3 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708155709 Acquired: 9/1/2017 16:03:51 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00029** | **.05434** | **.00605** | **2.7937** | **.01615** | **.00008** | F **297.05** |
| Stddev | .00081 | .00239 | .00341 | .0046 | .00049 | .00008 | .78 |
| %RSD | 282.22 | 4.3949 | 56.406 | .16286 | 3.0436 | 109.80 | .26289 |
| #1 | -.00031 | .05166 | .00899 | 2.7966 | .01652 | .00014 | 297.28 |
| #2 | -.00109 | .05624 | .00686 | 2.7960 | .01635 | .00010 | 297.69 |
| #3 | .00054 | .05512 | .00231 | 2.7885 | .01559 | -.00002 | 296.18 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | 270.00 |
| Low Limit | | | | | | | -.10000 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu2247 | Fe2611 | K_7664 | Li6707 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00098** | **.00184** | **.00277** | **.00308** | **13.570** | **48.960** | **.03782** |
| Stddev | .00011 | .00022 | .00151 | .00058 | .032 | .044 | .00692 |
| %RSD | 11.383 | 12.134 | 54.645 | 18.797 | .23738 | .08899 | 18.295 |
| #1 | .00085 | .00169 | .00225 | .00241 | 13.551 | 48.926 | .04523 |
| #2 | .00106 | .00209 | .00447 | .00336 | 13.608 | 49.009 | .03154 |
| #3 | .00103 | .00173 | .00158 | .00346 | 13.553 | 48.945 | .03668 |
| 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 | **262.87** | **.98410** | **.01622** | **83.945** | **.04640** | **.12079** | **.01913** |
| Stddev | 1.23 | .00534 | .00048 | .285 | .00122 | .00276 | .00139 |
| %RSD | .46619 | .54219 | 2.9860 | .33984 | 2.6292 | 2.2865 | 7.2689 |
| #1 | 262.07 | .99010 | .01588 | 83.829 | .04552 | .11896 | .02043 |
| #2 | 262.26 | .98232 | .01677 | 83.736 | .04779 | .11945 | .01767 |
| #3 | 264.28 | .97988 | .01601 | 84.270 | .04589 | .12397 | .01929 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155709 Acquired: 9/1/2017 16:03:51 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00138** | **.00502** | **6.0423** | **-.00070** | **2.4564** | **-.02222** | **.00354** |
| Stddev | .00352 | .00703 | .0113 | .00038 | .0023 | .00443 | .00269 |
| %RSD | 255.38 | 140.07 | .18614 | 53.887 | .09264 | 19.941 | 75.945 |
| #1 | .00458 | .00106 | 6.0483 | -.00052 | 2.4548 | -.02658 | .00258 |
| #2 | .00194 | .00086 | 6.0494 | -.00113 | 2.4590 | -.01772 | .00147 |
| #3 | -.00239 | .01313 | 6.0294 | -.00044 | 2.4555 | -.02236 | .00659 |
| 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 | **-.00030** | **.17682** | F **-.54993** |
| Stddev | .00151 | .00025 | .43738 |
| %RSD | 499.62 | .13882 | 79.535 |
| #1 | -.00200 | .17662 | -1.0514 |
| #2 | .00021 | .17709 | -.35110 |
| #3 | .00088 | .17676 | -.24728 |
| 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 | **9370.7** | **74713.** | **6745.9** |
| Stddev | 24.2 | 218. | 27.0 |
| %RSD | .25843 | .29126 | .40096 |
| #1 | 9343.2 | 74739. | 6773.5 |
| #2 | 9380.2 | 74484. | 6719.4 |
| #3 | 9388.7 | 74916. | 6744.9 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708155710 Acquired: 9/1/2017 16:07:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00026** | **.05423** | **.00455** | **.28772** | **.04243** | **-.00004** | **122.61** | **.00265** |
| Stddev | .00295 | .00024 | .00047 | .00111 | .00115 | .00005 | .33 | .00027 |
| %RSD | 1129.2 | .43422 | 10.422 | .38556 | 2.7156 | 127.48 | .26688 | 10.085 |
| #1 | -.00314 | .05448 | .00508 | .28768 | .04286 | -.00003 | 122.36 | .00249 |
| #2 | -.00039 | .05402 | .00443 | .28885 | .04112 | .00000 | 122.98 | .00251 |
| #3 | .00275 | .05417 | .00415 | .28664 | .04329 | -.00010 | 122.49 | .00296 |
| 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 | **.00014** | **.06395** | **.00618** | **.10897** | **3.2584** | **.00736** | **9.7845** | **.05610** |
| Stddev | .00052 | .00007 | .00118 | .00279 | .1223 | .00285 | .0655 | .00261 |
| %RSD | 368.27 | .10619 | 19.162 | 2.5605 | 3.7532 | 38.654 | .66917 | 4.6515 |
| #1 | .00060 | .06401 | .00481 | .11185 | 3.2066 | .00462 | 9.7254 | .05502 |
| #2 | .00025 | .06388 | .00683 | .10628 | 3.1706 | .01030 | 9.8549 | .05421 |
| #3 | -.00042 | .06397 | .00690 | .10880 | 3.3981 | .00715 | 9.7731 | .05908 |
| 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 | **.00243** | **87.956** | **.00669** | **.00879** | **.01333** | **.01873** | **.00352** | **5.7862** |
| Stddev | .00022 | .396 | .00178 | .00245 | .00332 | .00586 | .00131 | .0106 |
| %RSD | 9.2674 | .45003 | 26.672 | 27.815 | 24.878 | 31.259 | 37.111 | .18314 |
| #1 | .00227 | 87.578 | .00810 | .00597 | .00953 | .01200 | .00377 | 5.7861 |
| #2 | .00233 | 88.367 | .00728 | .01025 | .01479 | .02259 | .00210 | 5.7757 |
| #3 | .00268 | 87.924 | .00468 | .01016 | .01567 | .02162 | .00468 | 5.7968 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155710 Acquired: 9/1/2017 16:07:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00112** | **.72626** | **-.00701** | **-.00023** | **-.00002** | **.03415** | **-.02906** |
| Stddev | .00131 | .00119 | .00701 | .00223 | .00044 | .00014 | .48156 |
| %RSD | 116.86 | .16404 | 100.02 | 954.48 | 2018.9 | .42192 | 1657.4 |
| #1 | -.00100 | .72490 | .00106 | .00189 | .00006 | .03429 | -.21147 |
| #2 | -.00250 | .72709 | -.01158 | -.00003 | .00037 | .03415 | -.39276 |
| #3 | .00012 | .72681 | -.01051 | -.00255 | -.00050 | .03401 | .51707 |
| 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 | **9636.9** | **76801.** | **6834.9** |
| Stddev | 12.8 | 357. | 57.0 |
| %RSD | .13314 | .46531 | .83412 |
| #1 | 9625.3 | 77118. | 6877.0 |
| #2 | 9634.7 | 76870. | 6770.0 |
| #3 | 9650.7 | 76414. | 6857.7 |

Approved: September 05, 2017

Kristi K Burk

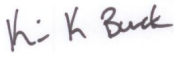
Sample Name: CCV Acquired: 9/1/2017 16:11:12 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.40685** | **10.087** | **.40096** | **.50785** | **.99734** | **.04983** | **9.8909** |
| Stddev | .00260 | .044 | .00183 | .00313 | .00098 | .00003 | .0374 |
| %RSD | .63924 | .43688 | .45706 | .61614 | .09806 | .06407 | .37804 |
| #1 | .40896 | 10.088 | .40152 | .50488 | .99652 | .04983 | 9.8508 |
| #2 | .40394 | 10.130 | .40245 | .51111 | .99842 | .04986 | 9.9249 |
| #3 | .40764 | 10.042 | .39891 | .50755 | .99708 | .04980 | 9.8971 |
| 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 | **.04972** | **.19976** | **.49683** | **.50290** | **3.9739** | **49.925** | **1.0069** |
| Stddev | .00035 | .00053 | .00081 | .00146 | .0146 | .128 | .0105 |
| %RSD | .71376 | .26576 | .16208 | .29080 | .36635 | .25616 | 1.0448 |
| #1 | .04981 | .19955 | .49639 | .50437 | 3.9686 | 49.999 | 1.0121 |
| #2 | .05003 | .19937 | .49634 | .50289 | 3.9903 | 49.998 | 1.0139 |
| #3 | .04933 | .20037 | .49776 | .50144 | 3.9627 | 49.777 | .99483 |
| 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 | **10.059** | **.49735** | **.99556** | **50.009** | **.50100** | **9.9351** | **.50426** |
| Stddev | .156 | .00343 | .00137 | .151 | .00181 | .0121 | .00238 |
| %RSD | 1.5519 | .69064 | .13741 | .30247 | .36070 | .12143 | .47174 |
| #1 | 9.8931 | .49850 | .99562 | 50.083 | .50296 | 9.9287 | .50397 |
| #2 | 10.203 | .49348 | .99417 | 50.109 | .50065 | 9.9490 | .50205 |
| #3 | 10.082 | .50005 | .99690 | 49.835 | .49939 | 9.9275 | .50678 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Approved: September 05, 2017



Sample Name: CCV Acquired: 9/1/2017 16:11:12 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **1.2017** | **.40126** | **4.9654** | **.99786** | **.99541** | **1.0026** | **.50523** |
| Stddev | .0045 | .00409 | .0071 | .00101 | .00259 | .0065 | .00568 |
| %RSD | .37078 | 1.0193 | .14281 | .10123 | .26009 | .65166 | 1.1244 |
| #1 | 1.2065 | .39807 | 4.9591 | .99815 | .99432 | .99778 | .50934 |
| #2 | 1.1977 | .39983 | 4.9731 | .99869 | .99836 | 1.0100 | .50761 |
| #3 | 1.2008 | .40587 | 4.9640 | .99673 | .99354 | 1.0000 | .49875 |
| 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 | **.99568** | **1.0007** | F **669.15** |
| Stddev | .00104 | .0009 | .75 |
| %RSD | .10488 | .08601 | .11204 |
| #1 | .99464 | 1.0010 | 669.77 |
| #2 | .99673 | 1.0014 | 669.37 |
| #3 | .99567 | .99973 | 668.32 |
| 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 | **9778.9** | **77026.** | **6809.6** |
| Stddev | 33.9 | 124. | 14.1 |
| %RSD | .34618 | .16088 | .20741 |
| #1 | 9742.1 | 77100. | 6807.3 |
| #2 | 9785.7 | 76883. | 6796.8 |
| #3 | 9808.8 | 77096. | 6824.7 |

Approved: September 05, 2017

Ki K Buck

Sample Name: CCB Acquired: 9/1/2017 16:14:37 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00019** | **-.00874** | **-.00194** | **.00863** | **-.00070** | **.00000** | **.01361** |
| Stddev | .00097 | .00592 | .00158 | .00167 | .00086 | .00008 | .02039 |
| %RSD | 506.85 | 67.665 | 81.546 | 19.339 | 122.79 | 14622. | 149.83 |
| #1 | -.00004 | -.00888 | -.00061 | .01036 | -.00168 | .00007 | .02200 |
| #2 | -.00123 | -.00276 | -.00369 | .00851 | -.00015 | -.00008 | -.00964 |
| #3 | .00069 | -.01459 | -.00152 | .00703 | -.00026 | .00001 | .02845 |
| 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 | **.00021** | **-.00014** | **-.00015** | **.00104** | **.00426** | **.18454** | **.00148** |
| Stddev | .00024 | .00051 | .00031 | .00045 | .01428 | .10426 | .00432 |
| %RSD | 113.23 | 369.42 | 205.16 | 42.915 | 335.42 | 56.500 | 291.63 |
| #1 | .00026 | -.00070 | -.00049 | .00102 | .00313 | .08208 | .00504 |
| #2 | -.00005 | .00028 | -.00007 | .00150 | .01907 | .18102 | .00272 |
| #3 | .00041 | .00000 | .00011 | .00061 | -.00943 | .29052 | -.00332 |
| 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 | **.04889** | **-.00120** | **-.00032** | **.06785** | **.00050** | **-.00214** | F **.00567** |
| Stddev | .04186 | .00138 | .00010 | .03679 | .00139 | .01232 | .00214 |
| %RSD | 85.612 | 114.66 | 31.130 | 54.226 | 274.64 | 576.97 | 37.717 |
| #1 | .09196 | .00039 | -.00034 | .10939 | .00188 | .01089 | .00348 |
| #2 | .00835 | -.00203 | -.00021 | .05480 | -.00089 | -.00369 | .00579 |
| #3 | .04637 | -.00196 | -.00040 | .03936 | .00052 | -.01361 | .00776 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | .00500 |
| Low Limit | | | | | | | -.00500 |

Approved: September 05, 2017

Ki K Buck

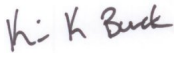
Sample Name: CCB Acquired: 9/1/2017 16:14:37 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00322** | **.00498** | **.00097** | **-.00003** | **-.00011** | **-.00179** | **.00178** |
| Stddev | .00155 | .00157 | .00229 | .00044 | .00021 | .00190 | .00165 |
| %RSD | 47.986 | 31.514 | 237.00 | 1610.3 | 199.67 | 106.29 | 92.812 |
| #1 | .00223 | .00657 | .00151 | .00045 | .00012 | .00040 | -.00013 |
| #2 | .00243 | .00496 | -.00155 | -.00011 | -.00030 | -.00299 | .00270 |
| #3 | .00500 | .00343 | .00293 | -.00042 | -.00014 | -.00277 | .00276 |
| 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 | **.00041** | **.00012** | **-.01044** |
| Stddev | .00080 | .00010 | .11364 |
| %RSD | 196.10 | 83.544 | 1088.8 |
| #1 | -.00015 | .00003 | -.14158 |
| #2 | .00132 | .00023 | .05907 |
| #3 | .00005 | .00010 | .05120 |
| 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 | **9921.5** | **79783.** | **6802.3** |
| Stddev | 16.0 | 194. | 11.5 |
| %RSD | .16175 | .24278 | .16939 |
| #1 | 9928.4 | 79963. | 6813.1 |
| #2 | 9933.1 | 79809. | 6790.2 |
| #3 | 9903.2 | 79578. | 6803.6 |

Approved: September 05, 2017



Sample Name: L1708155711 Acquired: 9/1/2017 16:18:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627917-01

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00294** | **.02510** | **.00444** | **.05134** | **.07675** | **-.00001** | **83.192** | **.00031** |
| Stddev | .00256 | .00988 | .00344 | .00310 | .00095 | .00007 | .192 | .00026 |
| %RSD | 87.033 | 39.361 | 77.496 | 6.0307 | 1.2414 | 562.20 | .23062 | 84.777 |
| #1 | .00289 | .02706 | .00816 | .05354 | .07673 | -.00004 | 82.984 | .00003 |
| #2 | .00040 | .03385 | .00139 | .04780 | .07581 | -.00006 | 83.229 | .00055 |
| #3 | .00552 | .01439 | .00376 | .05268 | .07772 | .00006 | 83.362 | .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 | **.00038** | **.00068** | **.00307** | **.42421** | **.57929** | **.00766** | **2.2057** | **.06038** |
| Stddev | .00034 | .00082 | .00089 | .01340 | .08841 | .00194 | .0871 | .00260 |
| %RSD | 90.146 | 119.45 | 29.075 | 3.1582 | 15.262 | 25.366 | 3.9488 | 4.2987 |
| #1 | .00039 | .00094 | .00241 | .41456 | .67607 | .00548 | 2.1448 | .05742 |
| #2 | .00071 | .00134 | .00270 | .41857 | .50278 | .00921 | 2.3055 | .06230 |
| #3 | .00003 | -.00023 | .00408 | .43951 | .55902 | .00829 | 2.1668 | .06141 |
| 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 | **.00092** | **157.50** | **-.00083** | **.00729** | **.00712** | **.00758** | **-.00145** | **6.1115** |
| Stddev | .00033 | .60 | .00148 | .00458 | .00238 | .00159 | .00746 | .0065 |
| %RSD | 36.001 | .38073 | 177.06 | 62.897 | 33.375 | 20.909 | 513.94 | .10640 |
| #1 | .00078 | 156.81 | -.00223 | .01200 | .00986 | .00579 | -.00529 | 6.1097 |
| #2 | .00069 | 157.91 | .00071 | .00702 | .00561 | .00880 | -.00621 | 6.1061 |
| #3 | .00130 | 157.78 | -.00099 | .00284 | .00589 | .00816 | .00714 | 6.1187 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Kristi K Burk

Sample Name: L1708155711 Acquired: 9/1/2017 16:18:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627917-01

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00041** | **.21128** | **-.00520** | **.00277** | **.00374** | **.00144** | **-.02350** |
| Stddev | .00068 | .00075 | .00355 | .00312 | .00007 | .00010 | .12991 |
| %RSD | 165.37 | .35277 | 68.235 | 112.62 | 1.7628 | 7.2211 | 552.90 |
| #1 | -.00117 | .21045 | -.00198 | -.00076 | .00378 | .00140 | -.16594 |
| #2 | -.00022 | .21190 | -.00900 | .00517 | .00378 | .00136 | .08844 |
| #3 | .00015 | .21148 | -.00462 | .00391 | .00367 | .00156 | .00701 |
| 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 | **9649.0** | **76641.** | **6823.4** |
| Stddev | 12.0 | 428. | 50.9 |
| %RSD | .12470 | .55822 | .74542 |
| #1 | 9642.7 | 77084. | 6874.0 |
| #2 | 9662.9 | 76607. | 6823.8 |
| #3 | 9641.4 | 76231. | 6772.3 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155711MS Acquired: 9/1/2017 16:22:04 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627917-04

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.20340** | **4.9217** | **.20438** | **1.0615** | **.57029** | **.02547** | **85.126** | **.02507** |
| Stddev | .00112 | .0131 | .00440 | .0053 | .00159 | .00009 | .175 | .00021 |
| %RSD | .55014 | .26611 | 2.1534 | .49509 | .27874 | .35535 | .20587 | .84802 |
| #1 | .20467 | 4.9169 | .20465 | 1.0569 | .56968 | .02540 | 85.134 | .02484 |
| #2 | .20258 | 4.9365 | .20863 | 1.0672 | .56910 | .02557 | 84.947 | .02512 |
| #3 | .20295 | 4.9116 | .19984 | 1.0603 | .57209 | .02544 | 85.297 | .02525 |
| 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 | **.09884** | **.24759** | **.24840** | **2.3650** | **25.653** | **.50298** | **7.0346** | **.30408** |
| Stddev | .00019 | .00226 | .00227 | .0083 | .121 | .00362 | .0654 | .00461 |
| %RSD | .19151 | .91439 | .91382 | .35043 | .47293 | .71969 | .92946 | 1.5160 |
| #1 | .09874 | .24510 | .25102 | 2.3555 | 25.535 | .50115 | 6.9669 | .29989 |
| #2 | .09906 | .24816 | .24697 | 2.3684 | 25.646 | .50715 | 7.0974 | .30902 |
| #3 | .09873 | .24952 | .24721 | 2.3710 | 25.777 | .50065 | 7.0394 | .30334 |
| 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 | **.48654** | **176.15** | **.24698** | **5.1119** | **.24984** | **.60923** | **.20420** | **8.5099** |
| Stddev | .00078 | .52 | .00151 | .0103 | .00695 | .00552 | .01226 | .0184 |
| %RSD | .16051 | .29710 | .61130 | .20063 | 2.7831 | .90538 | 6.0059 | .21651 |
| #1 | .48645 | 175.56 | .24809 | 5.1180 | .24950 | .60689 | .19114 | 8.5312 |
| #2 | .48580 | 176.31 | .24526 | 5.1001 | .25696 | .61553 | .20599 | 8.5001 |
| #3 | .48736 | 176.57 | .24758 | 5.1177 | .24306 | .60527 | .21547 | 8.4985 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

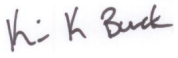
Ki K Buck

Sample Name: L1708155711MS Acquired: 9/1/2017 16:22:04 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627917-04

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.49901** | **.69854** | **.49341** | **.24241** | **.50482** | **.49917** | **.68531** |
| Stddev | .00209 | .00280 | .00322 | .00469 | .00074 | .00095 | .09272 |
| %RSD | .41898 | .40075 | .65282 | 1.9365 | .14640 | .19065 | 13.530 |
| #1 | .50143 | .69818 | .48990 | .24760 | .50512 | .49815 | .79064 |
| #2 | .49772 | .69594 | .49408 | .24116 | .50398 | .50003 | .61600 |
| #3 | .49790 | .70151 | .49623 | .23846 | .50537 | .49935 | .64930 |
| 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 | **9579.3** | **75855.** | **6854.5** |
| Stddev | 11.4 | 557. | 17.3 |
| %RSD | .11849 | .73487 | .25248 |
| #1 | 9575.4 | 76477. | 6871.2 |
| #2 | 9592.1 | 75400. | 6836.7 |
| #3 | 9570.5 | 75687. | 6855.5 |

Approved: September 05, 2017



Sample Name: L1708155711MSD Acquired: 9/1/2017 16:25:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627917-05

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.20006** | **4.8537** | **.20623** | **1.0516** | **.57510** | **.02520** | **87.736** | **.02486** |
| Stddev | .00286 | .0132 | .00218 | .0074 | .01433 | .00009 | 2.014 | .00016 |
| %RSD | 1.4288 | .27263 | 1.0583 | .70493 | 2.4921 | .34452 | 2.2955 | .65613 |
| #1 | .20332 | 4.8690 | .20686 | 1.0539 | .57340 | .02530 | 87.626 | .02468 |
| #2 | .19797 | 4.8456 | .20380 | 1.0434 | .59021 | .02514 | 89.803 | .02500 |
| #3 | .19889 | 4.8466 | .20802 | 1.0577 | .56170 | .02516 | 85.779 | .02490 |
| 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 | **.09753** | **.24633** | **.24599** | **2.4146** | **25.772** | **.51069** | **7.1305** | **.30645** |
| Stddev | .00023 | .00117 | .00092 | .0466 | .444 | .01030 | .0932 | .00594 |
| %RSD | .23727 | .47483 | .37257 | 1.9294 | 1.7219 | 2.0169 | 1.3068 | 1.9381 |
| #1 | .09737 | .24766 | .24664 | 2.4368 | 25.767 | .50578 | 7.1390 | .30811 |
| #2 | .09742 | .24585 | .24639 | 2.4459 | 26.218 | .52253 | 7.2192 | .31138 |
| #3 | .09779 | .24548 | .24494 | 2.3611 | 25.331 | .50377 | 7.0334 | .29985 |
| 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 | **.48139** | **181.33** | **.24390** | **5.0569** | **.24744** | **.59479** | **.20966** | **8.5627** |
| Stddev | .00201 | 3.68 | .00131 | .0167 | .00343 | .00452 | .00361 | .0263 |
| %RSD | .41786 | 2.0283 | .53807 | .33095 | 1.3880 | .76055 | 1.7209 | .30670 |
| #1 | .48371 | 181.08 | .24451 | 5.0757 | .25135 | .59154 | .20581 | 8.5823 |
| #2 | .48031 | 185.13 | .24240 | 5.0511 | .24490 | .59996 | .21296 | 8.5730 |
| #3 | .48016 | 177.79 | .24480 | 5.0438 | .24607 | .59287 | .21021 | 8.5329 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155711MSD Acquired: 9/1/2017 16:25:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627917-05

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.49452** | **.70959** | **.49426** | **.24179** | **.50175** | **.49513** | **.09819** |
| Stddev | .00155 | .01583 | .00971 | .00315 | .00041 | .00162 | .16260 |
| %RSD | .31406 | 2.2310 | 1.9637 | 1.3014 | .08254 | .32703 | 165.60 |
| #1 | .49513 | .70841 | .49052 | .24244 | .50191 | .49655 | .20998 |
| #2 | .49568 | .72598 | .50528 | .23837 | .50128 | .49547 | .17294 |
| #3 | .49275 | .69438 | .48699 | .24456 | .50206 | .49336 | -.08835 |
| 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 | **9561.3** | **75337.** | **6738.6** |
| Stddev | 31.3 | 66. | 157.8 |
| %RSD | .32782 | .08827 | 2.3424 |
| #1 | 9535.4 | 75287. | 6758.8 |
| #2 | 9552.3 | 75312. | 6571.6 |
| #3 | 9596.2 | 75412. | 6885.3 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: L1708156402 Acquired: 9/1/2017 16:29:01 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00048** | **.01601** | **.00008** | **.01848** | **.00005** | **-.00009** | **8.5411** |
| Stddev | .00217 | .00691 | .00237 | .00381 | .00073 | .00002 | .1668 |
| %RSD | 456.02 | 43.182 | 3027.6 | 20.628 | 1484.0 | 26.780 | 1.9531 |
| #1 | .00078 | .00826 | -.00157 | .02286 | .00076 | -.00010 | 8.7320 |
| #2 | -.00298 | .01824 | .00280 | .01591 | -.00070 | -.00009 | 8.4677 |
| #3 | .00077 | .02154 | -.00100 | .01667 | .00009 | -.00006 | 8.4236 |
| 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** | **.00060** | **.00013** | **.00477** | **.02462** | **15.814** | **-.00023** |
| Stddev | .00013 | .00034 | .00047 | .00245 | .00809 | .314 | .00184 |
| %RSD | 137.30 | 56.990 | 358.73 | 51.345 | 32.868 | 1.9830 | 796.95 |
| #1 | .00017 | .00052 | .00022 | .00752 | .03382 | 16.176 | .00186 |
| #2 | -.00005 | .00097 | .00055 | .00393 | .02143 | 15.627 | -.00095 |
| #3 | .00016 | .00031 | -.00038 | .00285 | .01861 | 15.640 | -.00160 |
| 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 | **.97585** | **.00315** | **.00089** | **31.894** | **.00315** | **1.0574** | **.00418** |
| Stddev | .08345 | .00134 | .00030 | .504 | .00062 | .0227 | .00172 |
| %RSD | 8.5514 | 42.760 | 33.577 | 1.5796 | 19.642 | 2.1422 | 41.099 |
| #1 | 1.0386 | .00415 | .00074 | 32.475 | .00385 | 1.0776 | .00237 |
| #2 | 1.0078 | .00366 | .00124 | 31.632 | .00296 | 1.0329 | .00580 |
| #3 | .88115 | .00162 | .00070 | 31.575 | .00265 | 1.0618 | .00437 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708156402 Acquired: 9/1/2017 16:29:01 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00383** | **.00209** | **.20780** | **.00017** | **.00631** | **.00309** | **.00208** |
| Stddev | .00493 | .00944 | .00267 | .00034 | .00019 | .00396 | .00563 |
| %RSD | 128.82 | 451.43 | 1.2868 | 197.53 | 2.9839 | 128.24 | 270.30 |
| #1 | .00565 | -.00084 | .20829 | -.00021 | .00651 | -.00098 | -.00380 |
| #2 | .00759 | -.00554 | .20491 | .00045 | .00613 | .00692 | .00743 |
| #3 | -.00176 | .01265 | .21019 | .00028 | .00630 | .00332 | .00262 |
| 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** | **.00990** | F **-.26812** |
| Stddev | .00058 | .00018 | .14190 |
| %RSD | 70.010 | 1.8219 | 52.925 |
| #1 | -.00019 | .00975 | -.10460 |
| #2 | -.00132 | .01010 | -.34088 |
| #3 | -.00096 | .00984 | -.35890 |
| 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 | **9951.3** | **79185.** | **6853.0** |
| Stddev | 18.2 | 291. | 102.6 |
| %RSD | .18273 | .36780 | 1.4977 |
| #1 | 9930.6 | 79223. | 6734.6 |
| #2 | 9958.1 | 79456. | 6906.1 |
| #3 | 9965.0 | 78877. | 6918.1 |

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Ki K Buck

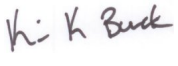
Sample Name: L1708156404 Acquired: 9/1/2017 16:32:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00038** | **.12056** | **.00460** | **.02243** | **.00994** | **-.00005** | **63.444** | **.00036** |
| Stddev | .00187 | .00459 | .00111 | .00620 | .00126 | .00004 | .262 | .00029 |
| %RSD | 495.24 | 3.8097 | 24.125 | 27.654 | 12.681 | 85.261 | .41328 | 80.960 |
| #1 | .00045 | .12323 | .00559 | .02912 | .00941 | -.00003 | 63.145 | .00039 |
| #2 | -.00153 | .12320 | .00340 | .01687 | .00903 | -.00010 | 63.554 | .00063 |
| #3 | .00221 | .11526 | .00482 | .02129 | .01138 | -.00002 | 63.633 | .00005 |
| 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 | **.00441** | **.00381** | **.01788** | **.28208** | **18.480** | **-.00131** | **2.2585** | **.19788** |
| Stddev | .00021 | .00095 | .00087 | .00508 | .102 | .00256 | .0445 | .00446 |
| %RSD | 4.6780 | 25.029 | 4.8750 | 1.8000 | .55326 | 195.98 | 1.9693 | 2.2533 |
| #1 | .00453 | .00279 | .01688 | .28220 | 18.390 | .00162 | 2.3097 | .19454 |
| #2 | .00417 | .00468 | .01849 | .28710 | 18.459 | -.00312 | 2.2287 | .19616 |
| #3 | .00453 | .00396 | .01827 | .27695 | 18.591 | -.00243 | 2.2373 | .20294 |
| 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 | **.00255** | **37.679** | **.00366** | **29.156** | **.00542** | **.00064** | **.00021** | **.32205** |
| Stddev | .00017 | .105 | .00143 | .042 | .00399 | .00205 | .00611 | .00291 |
| %RSD | 6.7177 | .27878 | 38.971 | .14416 | 73.633 | 319.50 | 2955.9 | .90402 |
| #1 | .00256 | 37.565 | .00209 | 29.194 | .01002 | -.00113 | .00397 | .32529 |
| #2 | .00237 | 37.772 | .00487 | 29.162 | .00341 | .00017 | .00349 | .31964 |
| #3 | .00271 | 37.701 | .00402 | 29.111 | .00284 | .00289 | -.00684 | .32122 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: L1708156404 Acquired: 9/1/2017 16:32:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00066** | **.03759** | **-.00308** | **.00060** | **.00140** | **.12202** | **-.01825** |
| Stddev | .00095 | .00084 | .00495 | .00181 | .00101 | .00029 | .15397 |
| %RSD | 144.43 | 2.2220 | 160.77 | 302.93 | 72.208 | .23391 | 843.49 |
| #1 | .00042 | .03663 | -.00772 | -.00148 | .00127 | .12231 | -.05515 |
| #2 | -.00138 | .03798 | -.00364 | .00180 | .00046 | .12174 | .15081 |
| #3 | -.00100 | .03815 | .00213 | .00148 | .00248 | .12202 | -.15043 |
| 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 | **9927.8** | **78024.** | **6946.7** |
| Stddev | 16.0 | 1717. | 76.1 |
| %RSD | .16100 | 2.2005 | 1.0957 |
| #1 | 9909.7 | 76042. | 7017.5 |
| #2 | 9933.7 | 79042. | 6956.2 |
| #3 | 9940.0 | 78989. | 6866.2 |

Approved: September 05, 2017

Ki K Buck

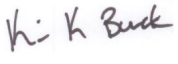
Sample Name: L1708156406 Acquired: 9/1/2017 16:36:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00202** | **.00543** | **-.00012** | **.00775** | **-.00008** | **-.00005** | **2.7057** |
| Stddev | .00190 | .00620 | .00036 | .00236 | .00067 | .00005 | .0432 |
| %RSD | 94.256 | 114.06 | 291.54 | 30.467 | 830.27 | 105.05 | 1.5960 |
| #1 | .00421 | .00736 | -.00027 | .01046 | -.00011 | -.00008 | 2.7032 |
| #2 | .00093 | -.00150 | -.00038 | .00664 | -.00073 | .00001 | 2.7501 |
| #3 | .00091 | .01044 | .00028 | .00615 | .00060 | -.00008 | 2.6638 |
| 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** | **.00015** | **.00035** | **.00479** | **.04015** | **.70356** | **-.00142** |
| Stddev | .00007 | .00049 | .00119 | .00086 | .02452 | .07843 | .00108 |
| %RSD | 21.280 | 326.60 | 339.16 | 18.075 | 61.069 | 11.148 | 75.764 |
| #1 | .00029 | -.00041 | -.00081 | .00492 | .04707 | .69861 | -.00074 |
| #2 | .00040 | .00048 | .00156 | .00386 | .06047 | .78435 | -.00086 |
| #3 | .00028 | .00039 | .00030 | .00558 | .01292 | .62772 | -.00267 |
| 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 | **.28003** | **.04569** | **-.00042** | **.74594** | **.00040** | **.10355** | **.00386** |
| Stddev | .04965 | .00077 | .00024 | .01559 | .00059 | .00953 | .00332 |
| %RSD | 17.732 | 1.6875 | 55.793 | 2.0896 | 147.19 | 9.2080 | 85.797 |
| #1 | .23431 | .04498 | -.00061 | .74423 | .00052 | .11456 | .00395 |
| #2 | .27291 | .04558 | -.00050 | .73128 | -.00024 | .09826 | .00714 |
| #3 | .33285 | .04651 | -.00016 | .76231 | .00093 | .09783 | .00051 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017



Sample Name: L1708156406 Acquired: 9/1/2017 16:36:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00041** | **.00364** | **.10354** | **-.00111** | **.00570** | **-.00121** | **.00013** |
| Stddev | .00575 | .01187 | .00183 | .00091 | .00024 | .00285 | .00253 |
| %RSD | 1412.7 | 325.81 | 1.7629 | 82.022 | 4.2965 | 235.86 | 1990.4 |
| #1 | -.00409 | .01289 | .10477 | -.00056 | .00569 | .00202 | -.00273 |
| #2 | -.00158 | -.00975 | .10441 | -.00061 | .00595 | -.00227 | .00101 |
| #3 | .00689 | .00779 | .10144 | -.00215 | .00546 | -.00338 | .00209 |
| 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 | **-.00041** | **.00475** | F **-.07444** |
| Stddev | .00117 | .00016 | .16090 |
| %RSD | 286.67 | 3.3778 | 216.14 |
| #1 | -.00129 | .00462 | -.19576 |
| #2 | .00092 | .00470 | .10808 |
| #3 | -.00086 | .00493 | -.13564 |
| 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 | **9976.6** | **79076.** | **6807.0** |
| Stddev | 13.7 | 501. | 46.2 |
| %RSD | .13752 | .63396 | .67856 |
| #1 | 9975.7 | 79604. | 6774.6 |
| #2 | 9963.4 | 79018. | 6786.7 |
| #3 | 9990.8 | 78606. | 6859.9 |

Approved: September 05, 2017

Kristi K Buck

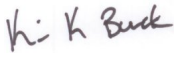
Sample Name: CCV Acquired: 9/1/2017 16:40:09 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.40705** | **10.097** | **.39336** | **.50104** | **.99800** | **.04989** | **9.8929** |
| Stddev | .00365 | .065 | .00398 | .00381 | .00334 | .00005 | .0910 |
| %RSD | .89762 | .64520 | 1.0123 | .76075 | .33513 | .09450 | .92024 |
| #1 | .41077 | 10.172 | .39626 | .50522 | .99421 | .04993 | 9.7917 |
| #2 | .40692 | 10.069 | .38882 | .50012 | .99922 | .04990 | 9.9682 |
| #3 | .40346 | 10.051 | .39501 | .49776 | 1.0006 | .04984 | 9.9188 |
| 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 | **.04955** | **.19982** | **.49540** | **.50113** | **3.9932** | **50.187** | **1.0084** |
| Stddev | .00024 | .00038 | .00031 | .00074 | .0130 | .239 | .0112 |
| %RSD | .47480 | .19165 | .06256 | .14749 | .32470 | .47635 | 1.1106 |
| #1 | .04977 | .20009 | .49524 | .50074 | 3.9783 | 49.941 | 1.0102 |
| #2 | .04931 | .19938 | .49575 | .50198 | 4.0006 | 50.202 | .99638 |
| #3 | .04958 | .19998 | .49519 | .50067 | 4.0009 | 50.418 | 1.0186 |
| 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 | **10.079** | **.49613** | **.99764** | **50.348** | **.50255** | **9.9282** | **.49875** |
| Stddev | .089 | .00169 | .00106 | .153 | .00188 | .0078 | .00414 |
| %RSD | .87892 | .33972 | .10641 | .30333 | .37332 | .07859 | .82948 |
| #1 | 10.008 | .49556 | .99870 | 50.181 | .50038 | 9.9196 | .49561 |
| #2 | 10.049 | .49802 | .99658 | 50.381 | .50366 | 9.9348 | .50344 |
| #3 | 10.178 | .49480 | .99763 | 50.481 | .50359 | 9.9303 | .49721 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Approved: September 05, 2017



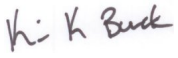
Sample Name: CCV Acquired: 9/1/2017 16:40:09 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **1.1965** | **.39870** | **4.9595** | **1.0001** | **.99864** | **1.0059** | **.50803** |
| Stddev | .0015 | .00098 | .0010 | .0001 | .00358 | .0029 | .00374 |
| %RSD | .12651 | .24545 | .01967 | .01058 | .35837 | .29272 | .73638 |
| #1 | 1.1949 | .39823 | 4.9584 | 1.0002 | .99495 | 1.0031 | .51179 |
| #2 | 1.1979 | .39805 | 4.9596 | 1.0000 | .99886 | 1.0057 | .50799 |
| #3 | 1.1968 | .39982 | 4.9604 | 1.0002 | 1.0021 | 1.0090 | .50430 |
| 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 | **.99376** | **1.0018** | F **674.90** |
| Stddev | .00297 | .0005 | .92 |
| %RSD | .29875 | .05305 | .13622 |
| #1 | .99538 | 1.0022 | 674.07 |
| #2 | .99556 | 1.0012 | 674.76 |
| #3 | .99033 | 1.0020 | 675.89 |
| 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 | **9759.1** | **77382.** | **6786.4** |
| Stddev | 18.9 | 164. | 32.9 |
| %RSD | .19317 | .21133 | .48479 |
| #1 | 9740.6 | 77518. | 6823.4 |
| #2 | 9758.2 | 77200. | 6775.6 |
| #3 | 9778.3 | 77426. | 6760.3 |

Approved: September 05, 2017



Sample Name: CCB Acquired: 9/1/2017 16:43:33 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00236** | **.00393** | **-.00031** | **.00563** | **-.00081** | **-.00002** | **.02821** |
| Stddev | .00091 | .00640 | .00336 | .00379 | .00042 | .00003 | .02441 |
| %RSD | 38.708 | 163.06 | 1082.6 | 67.362 | 51.400 | 159.85 | 86.527 |
| #1 | .00139 | .00464 | -.00419 | .00158 | -.00120 | -.00004 | .00237 |
| #2 | .00249 | -.00280 | .00181 | .00910 | -.00086 | .00000 | .05087 |
| #3 | .00320 | .00995 | .00144 | .00622 | -.00037 | -.00001 | .03139 |
| 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** | **.00019** | **.00019** | **.00096** | **.00724** | **.12502** | **-.00487** |
| Stddev | .00004 | .00016 | .00116 | .00172 | .01148 | .11532 | .00052 |
| %RSD | 67.413 | 82.695 | 600.77 | 179.32 | 158.52 | 92.243 | 10.586 |
| #1 | -.00003 | .00021 | -.00086 | .00037 | .01947 | -.00080 | -.00497 |
| #2 | -.00011 | .00003 | .00001 | .00290 | -.00330 | .22569 | -.00431 |
| #3 | -.00005 | .00035 | .00144 | -.00039 | .00556 | .15016 | -.00533 |
| 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 | **.09916** | **-.00064** | **-.00027** | **.05107** | **-.00052** | **.00866** | F **.00573** |
| Stddev | .00477 | .00203 | .00023 | .02029 | .00219 | .01276 | .00168 |
| %RSD | 4.8142 | 316.34 | 87.258 | 39.730 | 423.27 | 147.35 | 29.245 |
| #1 | .09825 | -.00118 | -.00003 | .07206 | -.00250 | .01706 | .00689 |
| #2 | .10432 | .00160 | -.00050 | .04959 | .00183 | -.00602 | .00381 |
| #3 | .09490 | -.00235 | -.00028 | .03156 | -.00088 | .01494 | .00649 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | .00500 |
| Low Limit | | | | | | | -.00500 |

Approved: September 05, 2017

Ki K Buck

Sample Name: CCB Acquired: 9/1/2017 16:43:33 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00255** | **-.00180** | **-.00054** | **-.00045** | **-.00043** | **-.00224** | **.00472** |
| Stddev | .00108 | .00390 | .00061 | .00068 | .00029 | .00428 | .00467 |
| %RSD | 42.402 | 216.71 | 113.02 | 148.73 | 67.331 | 190.99 | 98.985 |
| #1 | -.00317 | -.00032 | -.00013 | -.00111 | -.00048 | -.00494 | .00562 |
| #2 | -.00317 | -.00623 | -.00124 | -.00050 | -.00070 | .00269 | .00887 |
| #3 | -.00130 | .00115 | -.00024 | .00024 | -.00012 | -.00448 | -.00034 |
| 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 | **-.00032** | **.00013** | F **.04207** |
| Stddev | .00107 | .00017 | .54163 |
| %RSD | 333.04 | 128.16 | 1287.4 |
| #1 | .00061 | -.00003 | .09811 |
| #2 | -.00008 | .00011 | -.52540 |
| #3 | -.00150 | .00031 | .55350 |
| 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 | **9904.3** | **78647.** | **6698.1** |
| Stddev | 29.4 | 764. | 130.6 |
| %RSD | .29645 | .97197 | 1.9503 |
| #1 | 9874.9 | 77764. | 6789.6 |
| #2 | 9904.4 | 79093. | 6756.2 |
| #3 | 9933.7 | 79084. | 6548.5 |

Approved: September 05, 2017

Ki K Buck

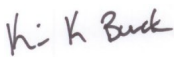
Sample Name: LLCCV Acquired: 9/1/2017 16:47:18 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00868** | **.16907** | **.00917** | **.08233** | **.00699** | **.00160** | **.42338** | **.00094** |
| Stddev | .00086 | .01081 | .00467 | .00166 | .00024 | .00003 | .03122 | .00045 |
| %RSD | 9.8620 | 6.3937 | 50.905 | 2.0172 | 3.4792 | 2.0704 | 7.3745 | 48.186 |
| #1 | .00868 | .17223 | .00776 | .08307 | .00727 | .00157 | .45942 | .00085 |
| #2 | .00782 | .17794 | .01438 | .08349 | .00684 | .00163 | .40462 | .00054 |
| #3 | .00953 | .15703 | .00536 | .08043 | .00687 | .00162 | .40609 | .00143 |
| 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 | **.00403** | **.00426** | **.00512** | **.08014** | **.98512** | **.08342** | **.38804** | **.00834** |
| Stddev | .00042 | .00021 | .00206 | .02006 | .04237 | .00416 | .00951 | .00204 |
| %RSD | 10.311 | 5.0364 | 40.325 | 25.032 | 4.3006 | 4.9908 | 2.4496 | 24.491 |
| #1 | .00417 | .00401 | .00543 | .09718 | .94293 | .08800 | .39262 | .00605 |
| #2 | .00356 | .00435 | .00701 | .08522 | .98478 | .08241 | .37711 | .00901 |
| #3 | .00436 | .00441 | .00292 | .05803 | 1.0277 | .07986 | .39439 | .00998 |
| 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 | **.00746** | **.49669** | **.01707** | **.79886** | **.01124** | **.08468** | **.02072** | **.73148** |
| Stddev | .00033 | .01709 | .00152 | .00912 | .00345 | .00437 | .00603 | .00287 |
| %RSD | 4.4418 | 3.4411 | 8.9273 | 1.1417 | 30.690 | 5.1660 | 29.097 | .39258 |
| #1 | .00742 | .48644 | .01879 | .80934 | .01402 | .08969 | .01430 | .72977 |
| #2 | .00782 | .48721 | .01655 | .79452 | .00738 | .08276 | .02159 | .72988 |
| #3 | .00716 | .51642 | .01588 | .79272 | .01233 | .08160 | .02626 | .73480 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: LLCCV Acquired: 9/1/2017 16:47:18 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.41073** | **.04079** | **.02400** | **.16045** | **.00714** | **.01872** | **27.263** |
| Stddev | .00168 | .00038 | .00385 | .00168 | .00027 | .00006 | .684 |
| %RSD | .40979 | .93707 | 16.045 | 1.0478 | 3.8193 | .31464 | 2.5086 |
| #1 | .41196 | .04048 | .02148 | .16117 | .00727 | .01872 | 26.780 |
| #2 | .40881 | .04068 | .02843 | .15853 | .00733 | .01867 | 26.963 |
| #3 | .41141 | .04122 | .02208 | .16165 | .00683 | .01879 | 28.046 |
| 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 | **9972.6** | **78927.** | **6836.4** |
| Stddev | 21.2 | 1045. | 69.0 |
| %RSD | .21261 | 1.3236 | 1.0088 |
| #1 | 9987.2 | 77936. | 6881.6 |
| #2 | 9982.4 | 78825. | 6870.6 |
| #3 | 9948.3 | 80018. | 6757.0 |

Approved: September 05, 2017

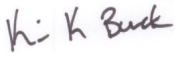
Sample Name: LLCCV Acquired: 9/1/2017 16:51:01 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.01004** | **.16097** | **.00885** | **.08321** | **.00635** | **.00158** | **.41805** | **.00083** |
| Stddev | .00089 | .00030 | .00175 | .00477 | .00055 | .00003 | .05336 | .00050 |
| %RSD | 8.9101 | .18603 | 19.757 | 5.7296 | 8.6885 | 1.7339 | 12.764 | 60.044 |
| #1 | .01007 | .16112 | .00686 | .07913 | .00699 | .00159 | .36432 | .00039 |
| #2 | .01093 | .16062 | .00956 | .08204 | .00600 | .00155 | .47103 | .00138 |
| #3 | .00914 | .16116 | .01014 | .08845 | .00606 | .00161 | .41880 | .00073 |
| 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 | **.00414** | **.00416** | **.00586** | **.07751** | **.91984** | **.08446** | **.44607** | **.00749** |
| Stddev | .00017 | .00117 | .00085 | .01827 | .12750 | .00299 | .00925 | .00129 |
| %RSD | 4.1230 | 28.179 | 14.468 | 23.570 | 13.861 | 3.5408 | 2.0729 | 17.196 |
| #1 | .00395 | .00549 | .00635 | .05681 | 1.0172 | .08670 | .45188 | .00626 |
| #2 | .00423 | .00373 | .00488 | .09139 | .96681 | .08561 | .43540 | .00739 |
| #3 | .00425 | .00327 | .00634 | .08432 | .77552 | .08106 | .45092 | .00882 |
| 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 | **.00769** | **.47859** | **.01844** | **.80871** | **.01242** | **.09046** | **.02153** | **.73905** |
| Stddev | .00084 | .01659 | .00165 | .00836 | .00130 | .00049 | .00434 | .00224 |
| %RSD | 10.863 | 3.4656 | 8.9357 | 1.0334 | 10.486 | .54366 | 20.133 | .30327 |
| #1 | .00675 | .46000 | .01960 | .79947 | .01262 | .09084 | .01653 | .73666 |
| #2 | .00834 | .49186 | .01916 | .81573 | .01362 | .09063 | .02392 | .73938 |
| #3 | .00799 | .48392 | .01656 | .81095 | .01103 | .08990 | .02416 | .74111 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: LLCCV Acquired: 9/1/2017 16:51:01 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.41443** | **.04104** | **.02988** | **.16284** | **.00814** | **.01823** | **27.242** |
| Stddev | .00050 | .00073 | .00487 | .00267 | .00064 | .00009 | .436 |
| %RSD | .12166 | 1.7770 | 16.285 | 1.6378 | 7.8473 | .48823 | 1.6014 |
| #1 | .41388 | .04028 | .02741 | .16524 | .00856 | .01823 | 26.831 |
| #2 | .41487 | .04110 | .02674 | .15997 | .00741 | .01814 | 27.700 |
| #3 | .41454 | .04173 | .03548 | .16331 | .00845 | .01831 | 27.194 |
| 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 | **9974.3** | **80073.** | **6909.1** |
| Stddev | 14.6 | 438. | 39.7 |
| %RSD | .14602 | .54707 | .57398 |
| #1 | 9957.6 | 79823. | 6937.9 |
| #2 | 9981.5 | 80579. | 6863.8 |
| #3 | 9983.9 | 79818. | 6925.4 |

Approved: September 05, 2017

Kristi K Burk

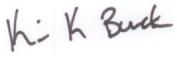
Sample Name: LLCCV Acquired: 9/1/2017 16:54:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00949** | **.16898** | **.00757** | **.08125** | **.00748** | **.00157** | **.42874** | **.00109** |
| Stddev | .00168 | .00678 | .00131 | .00252 | .00058 | .00004 | .02384 | .00009 |
| %RSD | 17.718 | 4.0099 | 17.268 | 3.0994 | 7.7619 | 2.4283 | 5.5598 | 8.3865 |
| #1 | .00938 | .16240 | .00606 | .08375 | .00723 | .00153 | .43942 | .00118 |
| #2 | .01122 | .17594 | .00842 | .07871 | .00814 | .00157 | .40143 | .00108 |
| #3 | .00787 | .16860 | .00821 | .08128 | .00706 | .00161 | .44537 | .00099 |
| 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 | **.00393** | **.00423** | **.00387** | **.08697** | **.87788** | **.08162** | **.40079** | **.00708** |
| Stddev | .00036 | .00119 | .00073 | .00262 | .00853 | .00402 | .04812 | .00105 |
| %RSD | 9.0365 | 28.051 | 18.740 | 3.0087 | .97148 | 4.9268 | 12.005 | 14.783 |
| #1 | .00433 | .00299 | .00312 | .08578 | .87446 | .07699 | .43726 | .00642 |
| #2 | .00365 | .00536 | .00393 | .08997 | .87159 | .08419 | .34626 | .00653 |
| #3 | .00383 | .00433 | .00457 | .08516 | .88759 | .08368 | .41886 | .00829 |
| 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 | **.00746** | **.44359** | **.01817** | **.79613** | **.01198** | **.08769** | **.02227** | **.73563** |
| Stddev | .00021 | .02187 | .00029 | .00454 | .00173 | .00283 | .00316 | .00164 |
| %RSD | 2.8251 | 4.9299 | 1.5948 | .57009 | 14.477 | 3.2327 | 14.193 | .22356 |
| #1 | .00765 | .45591 | .01790 | .79100 | .01109 | .08693 | .02368 | .73751 |
| #2 | .00751 | .41834 | .01814 | .79961 | .01087 | .09082 | .02448 | .73447 |
| #3 | .00723 | .45653 | .01848 | .79779 | .01398 | .08531 | .01865 | .73490 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: LLCCV Acquired: 9/1/2017 16:54:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.41385** | **.04102** | **.02953** | **.16166** | **.00736** | **.01828** | **27.361** |
| Stddev | .00087 | .00020 | .00584 | .00242 | .00092 | .00010 | .486 |
| %RSD | .20906 | .47615 | 19.784 | 1.4945 | 12.548 | .55091 | 1.7777 |
| #1 | .41286 | .04084 | .03179 | .15902 | .00841 | .01838 | 26.801 |
| #2 | .41427 | .04123 | .02289 | .16222 | .00666 | .01818 | 27.611 |
| #3 | .41443 | .04098 | .03390 | .16375 | .00702 | .01827 | 27.673 |
| 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 | **10015.** | **79759.** | **6717.9** |
| Stddev | 23. | 124. | 157.5 |
| %RSD | .22806 | .15491 | 2.3443 |
| #1 | 10014. | 79901. | 6891.9 |
| #2 | 9992.1 | 79680. | 6676.5 |
| #3 | 10038. | 79696. | 6585.2 |

Approved: September 05, 2017

Ki K Buck

Sample Name: PBW 8P Acquired: 9/1/2017 16:58:28 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627899-02

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00019** | **.00297** | **.00014** | **.00664** | **-.00076** | **-.00003** | **.02768** | **.00053** |
| Stddev | .00290 | .00118 | .00074 | .00388 | .00136 | .00007 | .00729 | .00009 |
| %RSD | 1493.0 | 39.786 | 525.80 | 58.455 | 179.72 | 271.65 | 26.352 | 17.934 |
| #1 | .00111 | .00364 | -.00069 | .00492 | -.00230 | .00002 | .01988 | .00058 |
| #2 | .00252 | .00160 | .00073 | .00392 | .00026 | -.00011 | .03434 | .00058 |
| #3 | -.00305 | .00366 | .00038 | .01108 | -.00022 | .00002 | .02881 | .00042 |
| 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 | **-.00041** | **.00047** | **.00070** | **-.00069** | **.06003** | **.00043** | **.04068** | **-.00252** |
| Stddev | .00071 | .00065 | .00105 | .02578 | .03849 | .00447 | .03515 | .00188 |
| %RSD | 174.16 | 140.53 | 148.94 | 3740.7 | 64.121 | 1044.9 | 86.400 | 74.685 |
| #1 | -.00123 | .00035 | .00151 | .02396 | .02179 | -.00179 | .04113 | -.00470 |
| #2 | .00002 | -.00012 | .00108 | -.02746 | .09878 | .00558 | .07560 | -.00140 |
| #3 | -.00002 | .00117 | -.00048 | .00144 | .05953 | -.00250 | .00531 | -.00147 |
| 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 | **.00008** | **.04720** | **-.00046** | **-.00503** | **.00543** | **.00386** | **.00916** | **.00206** |
| Stddev | .00046 | .01383 | .00058 | .00406 | .00198 | .00228 | .01354 | .00268 |
| %RSD | 612.33 | 29.300 | 125.36 | 80.750 | 36.462 | 59.048 | 147.87 | 130.21 |
| #1 | -.00037 | .03414 | -.00055 | -.00256 | .00320 | .00368 | -.00446 | .00515 |
| #2 | .00004 | .04578 | -.00099 | -.00282 | .00609 | .00168 | .00931 | .00038 |
| #3 | .00055 | .06169 | .00016 | -.00972 | .00699 | .00622 | .02263 | .00065 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: PBW 8P Acquired: 9/1/2017 16:58:28 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627899-02

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00050** | **-.00002** | **-.00215** | **.00074** | **.00063** | **.00138** | **.08676** |
| Stddev | .00054 | .00026 | .00654 | .00182 | .00053 | .00019 | .06276 |
| %RSD | 108.04 | 1127.2 | 303.75 | 245.54 | 83.862 | 13.879 | 72.333 |
| #1 | -.00101 | -.00028 | -.00615 | .00164 | .00010 | .00122 | .14060 |
| #2 | -.00053 | .00024 | -.00569 | -.00136 | .00064 | .00159 | .01783 |
| #3 | .00006 | -.00003 | .00539 | .00194 | .00116 | .00132 | .10185 |
| 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 | **9988.2** | **80796.** | **6895.7** |
| Stddev | 9.3 | 195. | 28.8 |
| %RSD | .09281 | .24129 | .41771 |
| #1 | 9982.7 | 81008. | 6913.8 |
| #2 | 9983.0 | 80757. | 6862.5 |
| #3 | 9998.9 | 80624. | 6910.9 |

Approved: September 05, 2017

Kristi K Burk

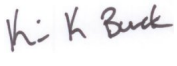
Sample Name: LCSW 8P Acquired: 9/1/2017 17:02:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627899-03

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.19672** | **5.0407** | **.19406** | **.93952** | **.49595** | **.02412** | **4.8844** | **.02468** |
| Stddev | .00364 | .0333 | .00329 | .00423 | .00237 | .00007 | .0421 | .00028 |
| %RSD | 1.8488 | .66006 | 1.6970 | .45074 | .47788 | .28642 | .86197 | 1.1483 |
| #1 | .20018 | 5.0678 | .19158 | .93697 | .49535 | .02419 | 4.9309 | .02501 |
| #2 | .19293 | 5.0036 | .19280 | .94440 | .49393 | .02412 | 4.8736 | .02454 |
| #3 | .19705 | 5.0507 | .19779 | .93717 | .49856 | .02406 | 4.8488 | .02450 |
| 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 | **.09981** | **.24623** | **.24865** | **2.0018** | **24.890** | **.50228** | **5.0319** | **.24672** |
| Stddev | .00084 | .00138 | .00065 | .0278 | .037 | .00518 | .0322 | .00249 |
| %RSD | .84564 | .56204 | .26233 | 1.3889 | .15005 | 1.0322 | .63935 | 1.0092 |
| #1 | .09926 | .24589 | .24813 | 1.9754 | 24.931 | .50077 | 5.0670 | .24406 |
| #2 | .10078 | .24775 | .24939 | 1.9993 | 24.860 | .49802 | 5.0248 | .24710 |
| #3 | .09938 | .24505 | .24845 | 2.0308 | 24.878 | .50806 | 5.0039 | .24900 |
| 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 | **.48400** | **25.192** | **.25150** | **4.7627** | **.25316** | **.58543** | **.19516** | **2.4556** |
| Stddev | .00171 | .089 | .00119 | .0046 | .00239 | .00336 | .00954 | .0087 |
| %RSD | .35250 | .35447 | .47303 | .09696 | .94435 | .57361 | 4.8884 | .35417 |
| #1 | .48556 | 25.106 | .25116 | 4.7637 | .25516 | .58241 | .19684 | 2.4495 |
| #2 | .48218 | 25.186 | .25051 | 4.7577 | .25382 | .58905 | .18489 | 2.4517 |
| #3 | .48428 | 25.284 | .25282 | 4.7668 | .25051 | .58485 | .20375 | 2.4655 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

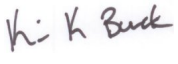


Sample Name: LCSW 8P Acquired: 9/1/2017 17:02:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627899-03

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.49874** | **.49702** | **.49564** | **.24882** | **.49236** | **.49342** | **.97664** |
| Stddev | .00008 | .00252 | .00321 | .00347 | .00115 | .00078 | .16445 |
| %RSD | .01580 | .50705 | .64738 | 1.3926 | .23411 | .15800 | 16.839 |
| #1 | .49871 | .49543 | .49458 | .24600 | .49109 | .49257 | .80602 |
| #2 | .49869 | .49571 | .49310 | .24777 | .49263 | .49356 | .98977 |
| #3 | .49883 | .49993 | .49925 | .25269 | .49335 | .49411 | 1.1341 |
| 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 | **9814.9** | **78588.** | **6809.3** |
| Stddev | 11.3 | 204. | 18.4 |
| %RSD | .11527 | .25985 | .27062 |
| #1 | 9826.4 | 78479. | 6816.1 |
| #2 | 9814.6 | 78461. | 6788.4 |
| #3 | 9803.8 | 78823. | 6823.3 |

Approved: September 05, 2017



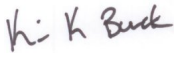
Sample Name: L1708149801 Acquired: 9/1/2017 17:05:41 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00039** | **.11574** | **.00549** | **.05740** | **.07850** | **-.00002** | **77.383** | **.00162** |
| Stddev | .00156 | .00366 | .00416 | .00216 | .00046 | .00006 | .334 | .00043 |
| %RSD | 398.10 | 3.1586 | 75.890 | 3.7639 | .59036 | 268.64 | .43216 | 26.379 |
| #1 | -.00025 | .11948 | .00247 | .05500 | .07803 | -.00006 | 77.032 | .00150 |
| #2 | .00218 | .11558 | .01024 | .05801 | .07850 | .00005 | 77.420 | .00127 |
| #3 | -.00075 | .11217 | .00376 | .05920 | .07896 | -.00006 | 77.698 | .00210 |
| 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 | **.00029** | **.00141** | **.00431** | **.12134** | **3.4250** | **.02128** | **11.757** | **.20350** |
| Stddev | .00028 | .00039 | .00284 | .01382 | .1181 | .00199 | .048 | .00264 |
| %RSD | 97.927 | 27.861 | 65.902 | 11.386 | 3.4480 | 9.3537 | .41145 | 1.2960 |
| #1 | .00010 | .00150 | .00736 | .13428 | 3.5604 | .02047 | 11.783 | .20081 |
| #2 | .00061 | .00176 | .00174 | .10679 | 3.3436 | .01983 | 11.701 | .20608 |
| #3 | .00015 | .00098 | .00383 | .12294 | 3.3709 | .02355 | 11.787 | .20361 |
| 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 | **.00331** | **209.38** | **.00269** | **.02622** | **.00622** | **.00514** | **.00302** | **4.3227** |
| Stddev | .00021 | .51 | .00067 | .00792 | .00443 | .00393 | .00631 | .0059 |
| %RSD | 6.4774 | .24220 | 24.737 | 30.216 | 71.203 | 76.597 | 208.56 | .13709 |
| #1 | .00329 | 208.81 | .00346 | .02808 | .00115 | .00074 | .00874 | 4.3249 |
| #2 | .00353 | 209.52 | .00231 | .03304 | .00820 | .00833 | .00408 | 4.3160 |
| #3 | .00310 | 209.79 | .00230 | .01753 | .00931 | .00634 | -.00374 | 4.3272 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

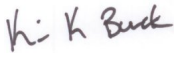


Sample Name: L1708149801 Acquired: 9/1/2017 17:05:41 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00032** | **.75245** | **-.00748** | **.00212** | **.01433** | **.01600** | **-.03604** |
| Stddev | .00088 | .00390 | .00130 | .00147 | .00064 | .00010 | .36097 |
| %RSD | 270.09 | .51824 | 17.417 | 69.339 | 4.4751 | .63534 | 1001.6 |
| #1 | -.00044 | .74870 | -.00598 | .00357 | .01393 | .01592 | .37900 |
| #2 | .00060 | .75215 | -.00819 | .00064 | .01400 | .01596 | -.27679 |
| #3 | -.00114 | .75649 | -.00828 | .00214 | .01507 | .01611 | -.21033 |
| 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 | **9583.1** | **75384.** | **6759.6** |
| Stddev | 21.3 | 1214. | 65.1 |
| %RSD | .22255 | 1.6106 | .96280 |
| #1 | 9604.8 | 73985. | 6834.2 |
| #2 | 9582.4 | 76162. | 6729.9 |
| #3 | 9562.2 | 76004. | 6714.6 |

Approved: September 05, 2017



Sample Name: L1708149802 Acquired: 9/1/2017 17:09:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00110** | **.02122** | **.00135** | **.06762** | **.09198** | **-.00003** | **86.202** |
| Stddev | .00133 | .00886 | .00258 | .00269 | .00116 | .00006 | .182 |
| %RSD | 121.47 | 41.754 | 190.54 | 3.9740 | 1.2606 | 217.98 | .21093 |
| #1 | .00045 | .01141 | .00269 | .06486 | .09111 | -.00003 | 85.994 |
| #2 | .00263 | .02362 | -.00162 | .07023 | .09154 | -.00010 | 86.330 |
| #3 | .00021 | .02864 | .00299 | .06777 | .09330 | .00003 | 86.282 |
| 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 | **.00181** | **-.00009** | **.00031** | **.00362** | **.01029** | **3.9558** | **.02745** |
| Stddev | .00010 | .00061 | .00044 | .00212 | .00917 | .0718 | .00104 |
| %RSD | 5.2912 | 692.07 | 144.14 | 58.490 | 89.122 | 1.8142 | 3.7938 |
| #1 | .00186 | -.00002 | .00059 | .00156 | -.00021 | 3.8832 | .02626 |
| #2 | .00187 | .00048 | .00053 | .00352 | .01671 | 4.0267 | .02788 |
| #3 | .00170 | -.00072 | -.00020 | .00578 | .01437 | 3.9573 | .02821 |
| 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 | **12.857** | **.23691** | **.00323** | F **276.43** | **.00332** | **.02721** | **.00761** |
| Stddev | .028 | .00163 | .00035 | .78 | .00118 | .00167 | .00057 |
| %RSD | .21488 | .68669 | 10.947 | .28334 | 35.519 | 6.1269 | 7.4839 |
| #1 | 12.882 | .23865 | .00284 | 275.87 | .00465 | .02880 | .00758 |
| #2 | 12.862 | .23666 | .00354 | 276.10 | .00293 | .02548 | .00705 |
| #3 | 12.827 | .23542 | .00332 | 277.33 | .00239 | .02735 | .00819 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | 270.00 | | | |
| Low Limit | | | | -.50000 | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708149802 Acquired: 9/1/2017 17:09:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00404** | **.00212** | **4.3278** | **-.00110** | **.79498** | **-.00682** | **.00009** |
| Stddev | .00359 | .00968 | .0068 | .00102 | .00132 | .00411 | .00169 |
| %RSD | 88.955 | 455.70 | .15724 | 92.756 | .16588 | 60.219 | 1982.1 |
| #1 | .00772 | .00997 | 4.3357 | -.00090 | .79572 | -.01018 | -.00183 |
| #2 | .00054 | -.00869 | 4.3238 | -.00222 | .79346 | -.00805 | .00137 |
| #3 | .00386 | .00510 | 4.3240 | -.00020 | .79577 | -.00224 | .00072 |
| 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 | **.01521** | **.01633** | F **-.38256** |
| Stddev | .00184 | .00010 | .13576 |
| %RSD | 12.121 | .62144 | 35.489 |
| #1 | .01700 | .01629 | -.25302 |
| #2 | .01532 | .01625 | -.37086 |
| #3 | .01332 | .01644 | -.52379 |
| 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 | **9500.7** | **74948.** | **6714.9** |
| Stddev | 18.7 | 491. | 44.1 |
| %RSD | .19727 | .65463 | .65748 |
| #1 | 9501.9 | 74389. | 6750.4 |
| #2 | 9518.9 | 75149. | 6665.5 |
| #3 | 9481.4 | 75306. | 6728.8 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708149803 Acquired: 9/1/2017 17:13:02 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00043** | **.03101** | **.00212** | **.03506** | **.05248** | **.00000** | **91.485** |
| Stddev | .00120 | .00543 | .00371 | .00107 | .00192 | .00008 | .136 |
| %RSD | 277.40 | 17.518 | 175.53 | 3.0459 | 3.6593 | 28566. | .14817 |
| #1 | -.00058 | .03213 | .00410 | .03591 | .05033 | -.00003 | 91.543 |
| #2 | -.00155 | .02510 | .00442 | .03386 | .05308 | .00009 | 91.331 |
| #3 | .00083 | .03579 | -.00217 | .03540 | .05403 | -.00006 | 91.583 |
| 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** | **-.00004** | **.00106** | **.00170** | **.02888** | **1.4141** | **.01027** |
| Stddev | .00020 | .00032 | .00102 | .00244 | .01737 | .0779 | .00249 |
| %RSD | 27.302 | 766.76 | 96.209 | 143.33 | 60.153 | 5.5079 | 24.209 |
| #1 | .00079 | -.00029 | .00008 | -.00091 | .01844 | 1.4983 | .01040 |
| #2 | .00088 | .00032 | .00098 | .00392 | .04893 | 1.3445 | .00772 |
| #3 | .00050 | -.00016 | .00212 | .00209 | .01926 | 1.3997 | .01269 |
| 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 | **20.656** | **.05262** | **.00068** | **34.907** | **.00098** | **.00755** | **.00742** |
| Stddev | .179 | .00023 | .00013 | .130 | .00067 | .00209 | .00154 |
| %RSD | .86864 | .43983 | 19.766 | .37226 | 68.308 | 27.603 | 20.787 |
| #1 | 20.576 | .05235 | .00053 | 34.815 | .00031 | .00552 | .00605 |
| #2 | 20.531 | .05277 | .00078 | 34.850 | .00165 | .00746 | .00909 |
| #3 | 20.862 | .05273 | .00072 | 35.055 | .00099 | .00969 | .00712 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708149803 Acquired: 9/1/2017 17:13:02 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00093** | **.00466** | **4.7657** | **-.00058** | **.27659** | **-.00621** | **-.00155** |
| Stddev | .00297 | .00402 | .0105 | .00127 | .00016 | .00585 | .00334 |
| %RSD | 319.08 | 86.266 | .21971 | 217.45 | .05808 | 94.194 | 215.77 |
| #1 | -.00114 | .00927 | 4.7626 | .00088 | .27675 | -.00053 | .00021 |
| #2 | .00214 | .00291 | 4.7774 | -.00121 | .27660 | -.00588 | -.00540 |
| #3 | -.00380 | .00182 | 4.7572 | -.00141 | .27643 | -.01222 | .00055 |
| 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 | **.00110** | **.00245** | F **-.08754** |
| Stddev | .00068 | .00031 | .20692 |
| %RSD | 61.592 | 12.818 | 236.37 |
| #1 | .00184 | .00223 | .10977 |
| #2 | .00096 | .00281 | -.06951 |
| #3 | .00050 | .00231 | -.30288 |
| 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 | **9604.9** | **76976.** | **6668.7** |
| Stddev | 9.1 | 225. | 62.9 |
| %RSD | .09478 | .29262 | .94349 |
| #1 | 9597.4 | 77232. | 6737.1 |
| #2 | 9615.0 | 76886. | 6655.7 |
| #3 | 9602.2 | 76810. | 6613.3 |

Approved: September 05, 2017

Ki K Buck

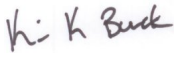
Sample Name: L1708149804 Acquired: 9/1/2017 17:16:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00100** | **.17336** | **.00318** | **.03432** | **.06044** | **.00002** | **95.133** | **.00061** |
| Stddev | .00015 | .00580 | .00083 | .00283 | .00219 | .00007 | .033 | .00014 |
| %RSD | 14.815 | 3.3458 | 26.205 | 8.2452 | 3.6277 | 405.78 | .03508 | 23.411 |
| #1 | .00117 | .17998 | .00355 | .03593 | .05800 | -.00003 | 95.157 | .00071 |
| #2 | .00089 | .17095 | .00377 | .03106 | .06110 | .00010 | 95.095 | .00068 |
| #3 | .00095 | .16916 | .00223 | .03598 | .06223 | -.00002 | 95.146 | .00045 |
| 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** | **.00088** | **.00762** | **.02518** | **1.4030** | **.00728** | **21.855** | **.02065** |
| Stddev | .00040 | .00113 | .00099 | .01247 | .0610 | .00321 | .239 | .00096 |
| %RSD | 6133.0 | 127.35 | 12.941 | 49.502 | 4.3451 | 44.027 | 1.0915 | 4.6597 |
| #1 | -.00021 | .00153 | .00855 | .01117 | 1.4319 | .00922 | 21.796 | .02046 |
| #2 | .00045 | -.00042 | .00658 | .03504 | 1.3329 | .00905 | 21.652 | .01980 |
| #3 | -.00026 | .00154 | .00773 | .02934 | 1.4441 | .00358 | 22.118 | .02169 |
| 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 | **.00044** | **36.278** | **.00166** | **.00189** | **.00159** | **.00509** | **.00201** | **4.9953** |
| Stddev | .00022 | .109 | .00101 | .00570 | .00349 | .00936 | .00577 | .0060 |
| %RSD | 49.363 | .30148 | 60.499 | 301.77 | 218.79 | 183.90 | 287.55 | .12052 |
| #1 | .00042 | 36.163 | .00061 | -.00019 | .00286 | -.00501 | -.00292 | 4.9917 |
| #2 | .00023 | 36.290 | .00177 | -.00248 | .00427 | .01346 | .00059 | 5.0023 |
| #3 | .00066 | 36.380 | .00261 | .00834 | -.00235 | .00682 | .00835 | 4.9920 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: L1708149804 Acquired: 9/1/2017 17:16:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00127** | **.29344** | **-.01019** | **-.00180** | **-.00024** | **.00457** | **.09565** |
| Stddev | .00089 | .00106 | .00472 | .00277 | .00035 | .00013 | .10936 |
| %RSD | 69.535 | .36293 | 46.267 | 154.08 | 148.18 | 2.8688 | 114.33 |
| #1 | -.00180 | .29425 | -.00880 | -.00404 | -.00010 | .00448 | .22041 |
| #2 | -.00177 | .29383 | -.01544 | -.00267 | -.00064 | .00472 | .01635 |
| #3 | -.00025 | .29223 | -.00633 | .00130 | .00003 | .00451 | .05021 |
| 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 | **9612.4** | **76702.** | **6731.4** |
| Stddev | 26.6 | 257. | 32.9 |
| %RSD | .27703 | .33564 | .48906 |
| #1 | 9640.1 | 76926. | 6713.4 |
| #2 | 9587.0 | 76421. | 6711.4 |
| #3 | 9610.0 | 76758. | 6769.4 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708149807 Acquired: 9/1/2017 17:20:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00105** | **.04388** | **.00681** | **.08092** | **.04555** | **-.00002** | **65.909** | **.00032** |
| Stddev | .00168 | .00552 | .00235 | .00074 | .00118 | .00007 | .208 | .00021 |
| %RSD | 159.93 | 12.584 | 34.599 | .91869 | 2.5799 | 309.44 | .31517 | 65.236 |
| #1 | -.00130 | .04865 | .00676 | .08178 | .04484 | .00004 | 66.030 | .00021 |
| #2 | .00074 | .03783 | .00448 | .08042 | .04491 | -.00010 | 66.028 | .00019 |
| #3 | -.00259 | .04516 | .00918 | .08058 | .04691 | -.00001 | 65.669 | .00056 |
| 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 | **.00045** | **-.00035** | **.00182** | **.22062** | **1.9309** | **.00437** | **16.097** | **.17661** |
| Stddev | .00003 | .00028 | .00073 | .02107 | .1494 | .00240 | .133 | .00120 |
| %RSD | 6.7432 | 80.321 | 40.236 | 9.5520 | 7.7385 | 54.891 | .82501 | .67687 |
| #1 | .00044 | -.00006 | .00115 | .20024 | 1.8161 | .00700 | 16.144 | .17787 |
| #2 | .00048 | -.00036 | .00171 | .24232 | 2.0998 | .00232 | 15.947 | .17550 |
| #3 | .00042 | -.00062 | .00260 | .21931 | 1.8767 | .00377 | 16.200 | .17645 |
| 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 | **.00156** | **137.87** | **.00024** | **.05448** | **.00266** | **.00019** | **.00805** | **4.1191** |
| Stddev | .00014 | .27 | .00162 | .00511 | .00310 | .00182 | .00257 | .0098 |
| %RSD | 8.9002 | .19903 | 686.27 | 9.3879 | 116.31 | 975.01 | 31.960 | .23914 |
| #1 | .00169 | 137.67 | -.00155 | .05647 | -.00091 | -.00190 | .01079 | 4.1294 |
| #2 | .00156 | 137.75 | .00159 | .04867 | .00433 | .00145 | .00767 | 4.1180 |
| #3 | .00142 | 138.18 | .00066 | .05831 | .00457 | .00101 | .00569 | 4.1098 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708149807 Acquired: 9/1/2017 17:20:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00035** | **.42314** | **-.00749** | **.00009** | **.00112** | **.01010** | **.10207** |
| Stddev | .00041 | .00040 | .00025 | .00214 | .00132 | .00010 | .03239 |
| %RSD | 115.08 | .09497 | 3.3956 | 2278.9 | 118.10 | 1.0265 | 31.733 |
| #1 | -.00078 | .42355 | -.00742 | .00248 | .00072 | .01022 | .06563 |
| #2 | -.00029 | .42275 | -.00777 | -.00165 | .00005 | .01005 | .12759 |
| #3 | .00002 | .42313 | -.00727 | -.00055 | .00260 | .01003 | .11299 |
| 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 | **9547.3** | **75765.** | **6706.8** |
| Stddev | 18.4 | 214. | 46.4 |
| %RSD | .19295 | .28221 | .69181 |
| #1 | 9534.4 | 75988. | 6724.0 |
| #2 | 9539.2 | 75743. | 6654.3 |
| #3 | 9568.4 | 75562. | 6742.1 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: L1708149808 Acquired: 9/1/2017 17:24:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00012** | **.02486** | **.00426** | **.06827** | **.04948** | **.00001** | **74.301** | **.00051** |
| Stddev | .00340 | .00169 | .00167 | .00381 | .00031 | .00006 | .169 | .00016 |
| %RSD | 2767.1 | 6.8135 | 39.161 | 5.5776 | .62648 | 1022.1 | .22690 | 30.564 |
| #1 | -.00217 | .02303 | .00289 | .06390 | .04950 | .00008 | 74.216 | .00066 |
| #2 | -.00149 | .02517 | .00377 | .07090 | .04915 | -.00001 | 74.192 | .00035 |
| #3 | .00403 | .02638 | .00611 | .07000 | .04977 | -.00005 | 74.495 | .00053 |
| 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 | **.00004** | **.00031** | **.00193** | **1.4814** | **3.6726** | **.01059** | **30.362** | **.10341** |
| Stddev | .00022 | .00100 | .00067 | .0183 | .0539 | .00301 | .139 | .00093 |
| %RSD | 560.15 | 324.05 | 34.923 | 1.2369 | 1.4662 | 28.374 | .45869 | .89602 |
| #1 | -.00011 | .00124 | .00235 | 1.4883 | 3.7261 | .00936 | 30.209 | .10327 |
| #2 | -.00006 | .00045 | .00115 | 1.4606 | 3.6732 | .00840 | 30.482 | .10440 |
| #3 | .00029 | -.00076 | .00229 | 1.4952 | 3.6184 | .01402 | 30.395 | .10256 |
| 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 | **.00172** | **179.41** | **-.00013** | **.03736** | **.00259** | **.00147** | **.00530** | **4.0283** |
| Stddev | .00052 | .71 | .00038 | .00816 | .00458 | .00301 | .00805 | .0025 |
| %RSD | 30.003 | .39761 | 290.59 | 21.840 | 176.82 | 205.01 | 151.83 | .06115 |
| #1 | .00119 | 178.64 | .00019 | .04471 | -.00018 | -.00138 | .00558 | 4.0291 |
| #2 | .00223 | 179.53 | -.00003 | .03879 | .00008 | .00116 | -.00288 | 4.0302 |
| #3 | .00174 | 180.05 | -.00055 | .02858 | .00787 | .00462 | .01322 | 4.0255 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708149808 Acquired: 9/1/2017 17:24:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00006** | **.77625** | **-.00991** | **-.00045** | **.00009** | **.00671** | **.04066** |
| Stddev | .00093 | .00131 | .00254 | .00340 | .00063 | .00019 | .24554 |
| %RSD | 1572.7 | .16928 | 25.677 | 751.82 | 672.93 | 2.8837 | 603.92 |
| #1 | .00094 | .77679 | -.01076 | -.00159 | -.00034 | .00650 | .00548 |
| #2 | -.00090 | .77476 | -.00705 | -.00315 | .00081 | .00688 | -.18539 |
| #3 | -.00022 | .77722 | -.01192 | .00337 | -.00020 | .00674 | .30188 |
| 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 | **9567.7** | **75277.** | **6657.5** |
| Stddev | 42.8 | 184. | 57.4 |
| %RSD | .44688 | .24377 | .86288 |
| #1 | 9518.7 | 75148. | 6722.0 |
| #2 | 9597.0 | 75487. | 6638.6 |
| #3 | 9587.6 | 75196. | 6611.8 |

Approved: September 05, 2017

Kim K Burk

Sample Name: L1708149808PS Acquired: 9/1/2017 17:27:49 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628174-01

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.19487** | **4.7885** | **.20134** | **1.0141** | **.53014** | **.02454** | **72.186** | **.02410** |
| Stddev | .00249 | .0110 | .00151 | .0021 | .00112 | .00004 | .349 | .00015 |
| %RSD | 1.2802 | .23062 | .75163 | .20678 | .21071 | .17193 | .48377 | .61127 |
| #1 | .19248 | 4.7789 | .20263 | 1.0165 | .52885 | .02452 | 71.843 | .02426 |
| #2 | .19469 | 4.7859 | .19967 | 1.0127 | .53083 | .02459 | 72.541 | .02397 |
| #3 | .19745 | 4.8006 | .20170 | 1.0131 | .53074 | .02452 | 72.175 | .02408 |
| 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 | **.09602** | **.24289** | **.24013** | **3.2412** | **28.043** | **.49837** | **32.330** | **.33383** |
| Stddev | .00035 | .00214 | .00092 | .0263 | .040 | .00258 | .144 | .00109 |
| %RSD | .36682 | .88230 | .38497 | .81152 | .14322 | .51803 | .44524 | .32535 |
| #1 | .09632 | .24516 | .24101 | 3.2534 | 28.029 | .49740 | 32.386 | .33261 |
| #2 | .09563 | .24259 | .24020 | 3.2110 | 28.011 | .49641 | 32.166 | .33419 |
| #3 | .09611 | .24091 | .23917 | 3.2592 | 28.088 | .50129 | 32.437 | .33469 |
| 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 | **.48212** | **185.95** | **.24225** | **4.9311** | **.24189** | **.58996** | **.19070** | **6.1237** |
| Stddev | .00091 | .60 | .00138 | .0038 | .00393 | .00395 | .00647 | .0060 |
| %RSD | .18963 | .32219 | .56886 | .07663 | 1.6259 | .66873 | 3.3903 | .09757 |
| #1 | .48165 | 185.54 | .24310 | 4.9341 | .24204 | .59451 | .19440 | 6.1269 |
| #2 | .48154 | 185.68 | .24299 | 4.9324 | .24575 | .58800 | .18323 | 6.1275 |
| #3 | .48318 | 186.64 | .24066 | 4.9269 | .23788 | .58738 | .19447 | 6.1168 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708149808PS Acquired: 9/1/2017 17:27:49 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628174-01

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.48784** | **1.1896** | **.49492** | **.23802** | **.49577** | **.48835** | **.49534** |
| Stddev | .00178 | .0015 | .00446 | .00532 | .00075 | .00023 | .14851 |
| %RSD | .36525 | .12495 | .90162 | 2.2342 | .15097 | .04649 | 29.981 |
| #1 | .48587 | 1.1882 | .49012 | .23300 | .49566 | .48842 | .37359 |
| #2 | .48831 | 1.1912 | .49893 | .24359 | .49508 | .48810 | .45164 |
| #3 | .48933 | 1.1896 | .49571 | .23747 | .49656 | .48854 | .66080 |
| 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 | **9504.0** | **75174.** | **6780.1** |
| Stddev | 25.5 | 224. | 59.6 |
| %RSD | .26782 | .29749 | .87850 |
| #1 | 9523.5 | 75245. | 6822.3 |
| #2 | 9513.3 | 74924. | 6805.9 |
| #3 | 9475.2 | 75354. | 6711.9 |

Approved: September 05, 2017

Sample Name: L1708149808SDL Acquired: 9/1/2017 17:31:18 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG628174-02

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00121** | **-.00065** | **.00055** | **.02092** | **.00961** | **-.00003** | **15.296** | **.00051** |
| Stddev | .00252 | .00329 | .00344 | .00170 | .00057 | .00003 | .046 | .00039 |
| %RSD | 208.40 | 510.60 | 619.80 | 8.1331 | 5.9565 | 91.731 | .30250 | 76.429 |
| #1 | -.00167 | .00294 | -.00326 | .02154 | .01027 | -.00007 | 15.310 | .00092 |
| #2 | .00229 | -.00135 | .00341 | .01900 | .00920 | -.00003 | 15.244 | .00015 |
| #3 | .00300 | -.00353 | .00151 | .02223 | .00938 | -.00000 | 15.333 | .00046 |
| 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 | **-.00035** | **.00036** | **.00099** | **.29176** | **.87203** | **-.00010** | **6.3946** | **.01887** |
| Stddev | .00026 | .00058 | .00116 | .00556 | .07315 | .00296 | .0565 | .00364 |
| %RSD | 74.896 | 163.72 | 117.64 | 1.9055 | 8.3887 | 3079.1 | .88377 | 19.309 |
| #1 | -.00037 | -.00032 | .00222 | .28546 | .91387 | .00264 | 6.3297 | .01985 |
| #2 | -.00060 | .00072 | .00085 | .29599 | .78756 | .00030 | 6.4330 | .02193 |
| #3 | -.00008 | .00066 | -.00010 | .29384 | .91466 | -.00324 | 6.4211 | .01484 |
| 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 | **-.00018** | **37.520** | **.00149** | **.00617** | **.00452** | **-.00011** | **.00819** | **.82470** |
| Stddev | .00025 | .043 | .00064 | .00780 | .00208 | .00251 | .00212 | .00358 |
| %RSD | 140.89 | .11466 | 42.781 | 126.41 | 45.935 | 2193.0 | 25.888 | .43400 |
| #1 | -.00042 | 37.481 | .00114 | -.00022 | .00473 | .00091 | .01007 | .82878 |
| #2 | .00008 | 37.512 | .00112 | .01487 | .00235 | .00172 | .00862 | .82208 |
| #3 | -.00019 | 37.566 | .00223 | .00387 | .00648 | -.00298 | .00589 | .82325 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708149808SDL Acquired: 9/1/2017 17:31:18 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG628174-02

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00081** | **.15929** | **-.00471** | **.00053** | **.00020** | **.00189** | **.23531** |
| Stddev | .00142 | .00057 | .00377 | .00357 | .00189 | .00006 | .13122 |
| %RSD | 175.04 | .35884 | 80.136 | 669.46 | 955.24 | 3.3274 | 55.766 |
| #1 | -.00226 | .15864 | -.00693 | .00366 | .00031 | .00183 | .22445 |
| #2 | .00057 | .15954 | -.00684 | -.00336 | -.00174 | .00195 | .10985 |
| #3 | -.00074 | .15969 | -.00035 | .00130 | .00203 | .00188 | .37163 |
| 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 | **9848.8** | **78179.** | **6730.4** |
| Stddev | 18.1 | 156. | 38.4 |
| %RSD | .18338 | .19986 | .56981 |
| #1 | 9843.1 | 78148. | 6770.3 |
| #2 | 9869.0 | 78349. | 6693.8 |
| #3 | 9834.3 | 78041. | 6727.1 |

Approved: September 05, 2017

Kristi K Burk

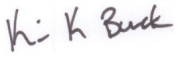
Sample Name: CCV Acquired: 9/1/2017 17:35:00 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.40264** | **10.059** | **.39366** | **.49824** | **1.0020** | **.04961** | **9.9659** |
| Stddev | .00131 | .021 | .00161 | .00110 | .0060 | .00021 | .0880 |
| %RSD | .32439 | .20888 | .40956 | .22047 | .59978 | .41351 | .88343 |
| #1 | .40412 | 10.084 | .39285 | .49936 | 1.0088 | .04985 | 10.063 |
| #2 | .40213 | 10.048 | .39261 | .49717 | .99988 | .04946 | 9.9431 |
| #3 | .40167 | 10.046 | .39551 | .49818 | .99740 | .04954 | 9.8914 |
| 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 | **.04963** | **.19838** | **.49554** | **.49620** | **3.9739** | **50.123** | **1.0084** |
| Stddev | .00035 | .00055 | .00106 | .00128 | .0179 | .229 | .0086 |
| %RSD | .70155 | .27717 | .21293 | .25749 | .44978 | .45642 | .85032 |
| #1 | .05001 | .19901 | .49675 | .49618 | 3.9661 | 50.247 | 1.0067 |
| #2 | .04953 | .19799 | .49478 | .49748 | 3.9944 | 50.263 | 1.0176 |
| #3 | .04934 | .19814 | .49511 | .49493 | 3.9613 | 49.859 | 1.0007 |
| 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 | **9.9750** | **.49842** | **.99076** | **50.188** | **.49900** | **9.8480** | **.49694** |
| Stddev | .0954 | .00482 | .00217 | .122 | .00052 | .0164 | .00252 |
| %RSD | .95653 | .96799 | .21936 | .24238 | .10411 | .16659 | .50804 |
| #1 | 10.072 | .50056 | .98855 | 50.322 | .49927 | 9.8290 | .49666 |
| #2 | 9.8813 | .50180 | .99289 | 50.085 | .49934 | 9.8568 | .49456 |
| #3 | 9.9718 | .49290 | .99085 | 50.157 | .49840 | 9.8580 | .49959 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Approved: September 05, 2017



Sample Name: CCV Acquired: 9/1/2017 17:35:00 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **1.1897** | **.39164** | **4.9280** | **.99302** | **1.0010** | **1.0062** | **.49735** |
| Stddev | .0029 | .00719 | .0046 | .00276 | .0073 | .0097 | .00573 |
| %RSD | .24559 | 1.8351 | .09416 | .27834 | .72847 | .96197 | 1.1521 |
| #1 | 1.1931 | .38342 | 4.9227 | .99262 | 1.0082 | 1.0166 | .49076 |
| #2 | 1.1879 | .39478 | 4.9314 | .99048 | 1.0011 | 1.0046 | .50014 |
| #3 | 1.1882 | .39673 | 4.9298 | .99596 | .99367 | .99744 | .50115 |
| 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 | **.99175** | **.99550** | F **679.46** |
| Stddev | .00378 | .00109 | 4.46 |
| %RSD | .38145 | .10937 | .65692 |
| #1 | .99575 | .99647 | 684.36 |
| #2 | .98823 | .99433 | 678.41 |
| #3 | .99127 | .99572 | 675.62 |
| 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 | **9653.9** | **77303.** | **6713.6** |
| Stddev | 55.9 | 257. | 22.5 |
| %RSD | .57895 | .33247 | .33478 |
| #1 | 9591.5 | 77451. | 6691.5 |
| #2 | 9671.1 | 77451. | 6736.4 |
| #3 | 9699.2 | 77006. | 6712.9 |

Approved: September 05, 2017

Ki K Buck

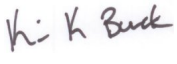
Sample Name: CCB Acquired: 9/1/2017 17:38:26 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00145** | **-.00551** | **.00214** | **.00565** | **-.00037** | **.00009** | **-.00238** |
| Stddev | .00309 | .00981 | .00354 | .00226 | .00046 | .00008 | .01564 |
| %RSD | 213.05 | 178.09 | 165.36 | 40.101 | 124.31 | 89.027 | 657.03 |
| #1 | .00388 | -.00729 | .00492 | .00701 | -.00067 | -.00000 | -.01454 |
| #2 | -.00203 | .00507 | -.00184 | .00303 | .00016 | .00011 | .01526 |
| #3 | .00250 | -.01430 | .00333 | .00690 | -.00059 | .00014 | -.00786 |
| 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** | **-.00041** | **.00057** | **.00005** | **.00664** | **.09053** | **-.00469** |
| Stddev | .00041 | .00015 | .00052 | .00040 | .01618 | .05318 | .00310 |
| %RSD | 104.99 | 35.617 | 92.685 | 757.51 | 243.68 | 58.744 | 66.234 |
| #1 | -.00008 | -.00035 | .00055 | .00030 | .01324 | .09922 | -.00385 |
| #2 | .00065 | -.00058 | .00005 | .00027 | -.01180 | .03354 | -.00812 |
| #3 | .00060 | -.00031 | .00110 | -.00041 | .01848 | .13884 | -.00209 |
| 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 | **-.00718** | **-.00183** | **-.00062** | **.07845** | **.00075** | **.00547** | **.00422** |
| Stddev | .10125 | .00291 | .00037 | .01983 | .00102 | .00433 | .00093 |
| %RSD | 1410.8 | 159.00 | 59.938 | 25.279 | 136.71 | 79.226 | 22.033 |
| #1 | -.03089 | .00113 | -.00096 | .09312 | .00143 | .01033 | .00517 |
| #2 | .10382 | -.00470 | -.00067 | .08634 | .00124 | .00406 | .00331 |
| #3 | -.09447 | -.00192 | -.00023 | .05589 | -.00043 | .00202 | .00419 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017



Sample Name: CCB Acquired: 9/1/2017 17:38:26 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00310** | **.00583** | **-.00046** | **-.00051** | **-.00004** | **-.00176** | **.00168** |
| Stddev | .00173 | .00736 | .00113 | .00076 | .00024 | .00427 | .00330 |
| %RSD | 55.701 | 126.26 | 245.31 | 147.61 | 560.68 | 241.95 | 196.68 |
| #1 | .00222 | .00444 | .00079 | -.00124 | -.00025 | .00155 | .00399 |
| #2 | .00509 | .01380 | -.00140 | -.00056 | -.00010 | -.00026 | -.00210 |
| #3 | .00199 | -.00073 | -.00078 | .00027 | .00022 | -.00658 | .00315 |
| 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 | **-.00025** | **.00031** | F **.31083** |
| Stddev | .00099 | .00003 | .34221 |
| %RSD | 396.95 | 10.612 | 110.10 |
| #1 | -.00084 | .00033 | .43088 |
| #2 | -.00080 | .00027 | -.07523 |
| #3 | .00089 | .00033 | .57683 |
| 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 | **9872.5** | **78762.** | **6760.9** |
| Stddev | 22.9 | 308. | 49.6 |
| %RSD | .23216 | .39088 | .73384 |
| #1 | 9846.6 | 78610. | 6817.8 |
| #2 | 9880.4 | 78560. | 6738.7 |
| #3 | 9890.3 | 79117. | 6726.3 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708149809 Acquired: 9/1/2017 17:42:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00085** | **.05023** | **.00331** | **.07007** | **.05423** | **.00002** | **88.664** | **.00032** |
| Stddev | .00178 | .00467 | .00219 | .00066 | .00094 | .00005 | .374 | .00013 |
| %RSD | 208.46 | 9.2990 | 66.227 | .94204 | 1.7365 | 205.37 | .42171 | 41.818 |
| #1 | .00270 | .04487 | .00578 | .06942 | .05430 | .00006 | 88.240 | .00030 |
| #2 | -.00085 | .05344 | .00252 | .07074 | .05326 | .00004 | 88.946 | .00020 |
| #3 | .00071 | .05239 | .00162 | .07003 | .05514 | -.00003 | 88.807 | .00046 |
| 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 | **-.00011** | **.00139** | **.00250** | **.06312** | **2.9486** | **.00700** | **24.088** | **.02622** |
| Stddev | .00062 | .00151 | .00107 | .00888 | .0680 | .00280 | .291 | .00248 |
| %RSD | 587.82 | 108.60 | 42.659 | 14.070 | 2.3073 | 40.042 | 1.2085 | 9.4506 |
| #1 | -.00044 | -.00035 | .00364 | .05767 | 2.9644 | .00377 | 23.752 | .02347 |
| #2 | -.00049 | .00227 | .00235 | .07336 | 3.0073 | .00838 | 24.267 | .02690 |
| #3 | .00061 | .00227 | .00152 | .05831 | 2.8740 | .00883 | 24.244 | .02829 |
| 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 | **.00098** | **18.327** | **.00090** | **.00802** | **.00610** | **.00287** | **.00435** | **5.2026** |
| Stddev | .00038 | .093 | .00078 | .00194 | .00525 | .00580 | .00535 | .0030 |
| %RSD | 38.354 | .50640 | 86.372 | 24.152 | 86.039 | 202.08 | 123.20 | .05764 |
| #1 | .00055 | 18.246 | .00137 | .00600 | .01158 | .00828 | .00181 | 5.2054 |
| #2 | .00126 | 18.305 | .00000 | .00986 | .00112 | .00358 | .01049 | 5.1994 |
| #3 | .00114 | 18.428 | .00134 | .00821 | .00560 | -.00325 | .00073 | 5.2029 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708149809 Acquired: 9/1/2017 17:42:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00025** | **.44382** | **-.00586** | **.00273** | **.00058** | **.00165** | **.14304** |
| Stddev | .00057 | .00157 | .00345 | .00588 | .00078 | .00018 | .15658 |
| %RSD | 228.83 | .35484 | 58.854 | 215.83 | 135.41 | 10.783 | 109.46 |
| #1 | .00086 | .44210 | -.00365 | .00876 | .00105 | .00186 | .13580 |
| #2 | .00016 | .44519 | -.00409 | -.00300 | .00100 | .00155 | -.00979 |
| #3 | -.00027 | .44417 | -.00983 | .00242 | -.00032 | .00155 | .30311 |
| 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 | **9670.6** | **77437.** | **6783.2** |
| Stddev | 13.5 | 383. | 11.4 |
| %RSD | .13951 | .49479 | .16827 |
| #1 | 9657.5 | 77876. | 6770.1 |
| #2 | 9669.8 | 77263. | 6791.3 |
| #3 | 9684.5 | 77171. | 6788.2 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708149810 Acquired: 9/1/2017 17:45:52 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00374** | **.00591** | **.00073** | **.07170** | **.06323** | **-.00001** | **87.381** |
| Stddev | .00055 | .00646 | .00154 | .00060 | .00037 | .00003 | .433 |
| %RSD | 14.667 | 109.31 | 210.89 | .84174 | .58140 | 282.86 | .49559 |
| #1 | .00312 | .00683 | -.00105 | .07136 | .06344 | -.00002 | 87.204 |
| #2 | .00417 | -.00096 | .00161 | .07240 | .06344 | .00002 | 87.065 |
| #3 | .00393 | .01187 | .00163 | .07134 | .06280 | -.00004 | 87.874 |
| 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 | **.00058** | **.00061** | **.00012** | **.00146** | **.05999** | **2.6478** | **.01129** |
| Stddev | .00046 | .00040 | .00087 | .00088 | .02105 | .0693 | .00248 |
| %RSD | 78.589 | 65.445 | 703.05 | 60.386 | 35.093 | 2.6162 | 21.963 |
| #1 | .00031 | .00027 | -.00024 | .00102 | .05305 | 2.6075 | .01111 |
| #2 | .00111 | .00052 | .00112 | .00088 | .04329 | 2.6080 | .01385 |
| #3 | .00032 | .00105 | -.00050 | .00248 | .08364 | 2.7278 | .00891 |
| 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 | **25.882** | **.10001** | **.00165** | **19.626** | **-.00008** | **.00093** | **.00594** |
| Stddev | .118 | .00213 | .00042 | .141 | .00057 | .01016 | .00703 |
| %RSD | .45580 | 2.1304 | 25.341 | .72019 | 697.76 | 1093.1 | 118.33 |
| #1 | 25.745 | .10144 | .00121 | 19.616 | -.00072 | .00502 | .01362 |
| #2 | 25.954 | .09756 | .00204 | 19.489 | .00008 | .00841 | -.00019 |
| #3 | 25.945 | .10103 | .00169 | 19.772 | .00039 | -.01064 | .00440 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708149810 Acquired: 9/1/2017 17:45:52 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00342** | **-.00229** | **5.1837** | **-.00097** | **.49745** | **-.00571** | **.00442** |
| Stddev | .00517 | .00869 | .0145 | .00026 | .00302 | .00327 | .00234 |
| %RSD | 151.11 | 378.69 | .27888 | 26.435 | .60724 | 57.389 | 52.881 |
| #1 | -.00148 | -.00366 | 5.1833 | -.00101 | .49604 | -.00300 | .00173 |
| #2 | .00882 | .00700 | 5.1983 | -.00070 | .49540 | -.00935 | .00594 |
| #3 | .00293 | -.01022 | 5.1694 | -.00120 | .50092 | -.00477 | .00558 |
| 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 | **.00012** | **.00180** | F **-.11550** |
| Stddev | .00088 | .00018 | .16438 |
| %RSD | 716.63 | 10.251 | 142.32 |
| #1 | .00063 | .00189 | .07367 |
| #2 | .00064 | .00158 | -.19654 |
| #3 | -.00089 | .00191 | -.22363 |
| 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 | **9757.1** | **77801.** | **6685.8** |
| Stddev | 22.7 | 74. | 56.9 |
| %RSD | .23286 | .09453 | .85097 |
| #1 | 9742.9 | 77794. | 6751.0 |
| #2 | 9745.1 | 77878. | 6660.6 |
| #3 | 9783.3 | 77732. | 6645.9 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708155901 Acquired: 9/1/2017 17:49:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00193** | **.01618** | **.00133** | **.09989** | **.04234** | **.00008** | **103.29** |
| Stddev | .00203 | .00366 | .00435 | .00285 | .00073 | .00006 | .22 |
| %RSD | 104.69 | 22.595 | 327.35 | 2.8577 | 1.7340 | 69.895 | .21032 |
| #1 | -.00035 | .01488 | -.00214 | .10145 | .04154 | .00008 | 103.13 |
| #2 | .00351 | .02031 | -.00009 | .09659 | .04248 | .00013 | 103.54 |
| #3 | .00264 | .01336 | .00621 | .10162 | .04299 | .00002 | 103.21 |
| 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 | **.00047** | **.00277** | **.00049** | **.00167** | **2.7349** | **5.5866** | **.03579** |
| Stddev | .00060 | .00022 | .00016 | .00138 | .0078 | .0242 | .00241 |
| %RSD | 127.04 | 7.9452 | 33.444 | 82.393 | .28559 | .43239 | 6.7458 |
| #1 | .00042 | .00254 | .00040 | .00041 | 2.7267 | 5.5664 | .03856 |
| #2 | .00109 | .00278 | .00068 | .00147 | 2.7423 | 5.6134 | .03414 |
| #3 | -.00010 | .00298 | .00039 | .00314 | 2.7358 | 5.5801 | .03468 |
| 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 | **22.063** | **.15164** | **.00055** | **32.261** | **.00394** | **.00431** | **.00894** |
| Stddev | .183 | .00092 | .00047 | .124 | .00198 | .01507 | .00343 |
| %RSD | .82869 | .60370 | 86.945 | .38502 | 50.205 | 349.58 | 38.393 |
| #1 | 22.003 | .15147 | .00103 | 32.202 | .00411 | .00360 | .00996 |
| #2 | 21.918 | .15264 | .00053 | 32.177 | .00583 | .01973 | .01174 |
| #3 | 22.268 | .15083 | .00008 | 32.404 | .00189 | -.01039 | .00511 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155901 Acquired: 9/1/2017 17:49:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00099** | **.00682** | **6.4708** | **-.00053** | **4.4963** | **-.00214** | **-.00093** |
| Stddev | .00734 | .00615 | .0113 | .00025 | .0053 | .00471 | .00280 |
| %RSD | 738.04 | 90.234 | .17421 | 47.205 | .11861 | 220.23 | 300.65 |
| #1 | .00874 | .01065 | 6.4659 | -.00064 | 4.4926 | -.00476 | -.00114 |
| #2 | -.00586 | .01008 | 6.4628 | -.00070 | 4.4940 | .00330 | -.00362 |
| #3 | .00011 | -.00028 | 6.4837 | -.00024 | 4.5024 | -.00495 | .00197 |
| 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 | **-.00036** | **.00934** | F **-.11647** |
| Stddev | .00024 | .00009 | .28670 |
| %RSD | 66.075 | .98436 | 246.15 |
| #1 | -.00011 | .00923 | .19290 |
| #2 | -.00039 | .00941 | -.16911 |
| #3 | -.00059 | .00937 | -.37320 |
| 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 | **9692.8** | **77713.** | **6697.2** |
| Stddev | 16.8 | 406. | 67.5 |
| %RSD | .17368 | .52288 | 1.0072 |
| #1 | 9673.5 | 78033. | 6766.9 |
| #2 | 9704.0 | 77256. | 6692.4 |
| #3 | 9701.0 | 77850. | 6632.3 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155902 Acquired: 9/1/2017 17:53:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00063** | **.01254** | **.00278** | **.09802** | **.04161** | **.00002** | **102.14** |
| Stddev | .00079 | .00825 | .00068 | .00158 | .00056 | .00009 | .24 |
| %RSD | 125.10 | 65.758 | 24.448 | 1.6129 | 1.3571 | 501.20 | .23923 |
| #1 | .00075 | .01794 | .00218 | .09754 | .04192 | -.00006 | 102.06 |
| #2 | -.00021 | .01664 | .00263 | .09675 | .04196 | .00012 | 101.95 |
| #3 | .00135 | .00305 | .00352 | .09979 | .04096 | -.00000 | 102.42 |
| 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 | **.00025** | **.00210** | **.00042** | **.00081** | **2.5885** | **5.4319** | **.02707** |
| Stddev | .00019 | .00019 | .00094 | .00132 | .0197 | .0262 | .00240 |
| %RSD | 78.956 | 9.2233 | 225.74 | 163.13 | .76187 | .48261 | 8.8794 |
| #1 | .00026 | .00191 | .00146 | -.00071 | 2.5742 | 5.4536 | .02486 |
| #2 | .00043 | .00230 | -.00037 | .00156 | 2.6110 | 5.4028 | .02672 |
| #3 | .00005 | .00210 | .00017 | .00157 | 2.5803 | 5.4393 | .02963 |
| 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 | **21.986** | **.15238** | **.00027** | **31.912** | **.00359** | **-.00160** | **.00115** |
| Stddev | .113 | .00099 | .00025 | .096 | .00046 | .00638 | .00375 |
| %RSD | .51430 | .65211 | 89.904 | .30218 | 12.934 | 398.17 | 325.81 |
| #1 | 21.875 | .15136 | .00009 | 31.933 | .00314 | .00203 | -.00221 |
| #2 | 22.101 | .15244 | .00055 | 31.997 | .00407 | -.00897 | .00046 |
| #3 | 21.983 | .15334 | .00017 | 31.807 | .00356 | .00213 | .00520 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155902 Acquired: 9/1/2017 17:53:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00478** | **.00093** | **6.4093** | **-.00087** | **4.4624** | **-.00962** | **.00226** |
| Stddev | .00350 | .00927 | .0063 | .00007 | .0056 | .00548 | .00423 |
| %RSD | 73.201 | 997.93 | .09795 | 7.5241 | .12656 | 57.016 | 186.75 |
| #1 | .00877 | .00778 | 6.4116 | -.00087 | 4.4559 | -.00382 | .00604 |
| #2 | .00330 | .00462 | 6.4022 | -.00081 | 4.4660 | -.01032 | .00305 |
| #3 | .00226 | -.00961 | 6.4141 | -.00094 | 4.4654 | -.01472 | -.00230 |
| 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 | **-.00154** | **.01020** | F **-.21575** |
| Stddev | .00024 | .00020 | .17535 |
| %RSD | 15.423 | 1.9743 | 81.273 |
| #1 | -.00153 | .01021 | -.09410 |
| #2 | -.00131 | .01039 | -.13640 |
| #3 | -.00179 | .00999 | -.41674 |
| 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 | **9696.8** | **77794.** | **6747.1** |
| Stddev | 1.7 | 139. | 63.0 |
| %RSD | .01708 | .17890 | .93410 |
| #1 | 9696.2 | 77641. | 6776.3 |
| #2 | 9695.5 | 77829. | 6674.8 |
| #3 | 9698.6 | 77912. | 6790.2 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155903 Acquired: 9/1/2017 17:56:55 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627899-01

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00228** | **.01588** | **.00042** | **.15321** | **.08129** | **.00002** | **61.963** | **.00032** |
| Stddev | .00139 | .00722 | .00148 | .00097 | .00080 | .00002 | .142 | .00017 |
| %RSD | 61.194 | 45.482 | 355.82 | .63356 | .98765 | 106.44 | .22861 | 53.039 |
| #1 | .00268 | .01628 | .00188 | .15404 | .08190 | .00002 | 61.803 | .00035 |
| #2 | .00343 | .02289 | .00045 | .15346 | .08038 | -.00000 | 62.071 | .00014 |
| #3 | .00073 | .00846 | -.00108 | .15214 | .08158 | .00004 | 62.015 | .00048 |
| 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 | **-.00021** | **.00166** | **.00066** | **.36621** | **2.2115** | **.03501** | **6.5909** | **.00403** |
| Stddev | .00029 | .00137 | .00110 | .01527 | .0584 | .00730 | .0378 | .00061 |
| %RSD | 135.23 | 82.713 | 166.43 | 4.1698 | 2.6393 | 20.843 | .57370 | 15.088 |
| #1 | -.00034 | .00287 | .00128 | .34920 | 2.2205 | .03537 | 6.5588 | .00459 |
| #2 | .00012 | .00194 | -.00061 | .37875 | 2.2649 | .04212 | 6.5813 | .00411 |
| #3 | -.00042 | .00017 | .00130 | .37067 | 2.1492 | .02754 | 6.6326 | .00338 |
| 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 | **.00134** | **19.583** | **.00162** | **.00985** | **.00448** | **.00649** | **-.00288** | **6.7232** |
| Stddev | .00035 | .059 | .00085 | .00160 | .00391 | .00220 | .00877 | .0067 |
| %RSD | 26.176 | .30293 | 52.222 | 16.265 | 87.267 | 33.967 | 304.21 | .09919 |
| #1 | .00094 | 19.638 | .00206 | .01074 | .00010 | .00691 | .00624 | 6.7298 |
| #2 | .00159 | 19.592 | .00065 | .01081 | .00763 | .00411 | -.00364 | 6.7165 |
| #3 | .00149 | 19.520 | .00217 | .00800 | .00572 | .00845 | -.01125 | 6.7232 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155903 Acquired: 9/1/2017 17:56:55 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627899-01

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00063** | **.97419** | **-.00355** | **.00102** | **.00016** | **.00632** | **.03891** |
| Stddev | .00040 | .00225 | .00173 | .00233 | .00094 | .00022 | .04664 |
| %RSD | 63.317 | .23115 | 48.712 | 227.79 | 602.71 | 3.4704 | 119.86 |
| #1 | -.00051 | .97159 | -.00205 | -.00117 | .00098 | .00651 | .08751 |
| #2 | -.00108 | .97545 | -.00544 | .00077 | -.00087 | .00637 | -.00549 |
| #3 | -.00031 | .97553 | -.00316 | .00346 | .00035 | .00608 | .03472 |
| 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 | **9778.4** | **78497.** | **6852.1** |
| Stddev | 16.6 | 317. | 23.7 |
| %RSD | .17001 | .40384 | .34532 |
| #1 | 9797.6 | 78412. | 6855.7 |
| #2 | 9768.3 | 78848. | 6826.9 |
| #3 | 9769.4 | 78231. | 6873.8 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155904MS Acquired: 9/1/2017 18:00:36 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627899-04

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.19889** | **4.9018** | **.19587** | **1.1135** | **.57938** | **.02464** | **68.313** | **.02439** |
| Stddev | .00163 | .0111 | .00179 | .0045 | .00087 | .00001 | .162 | .00020 |
| %RSD | .81743 | .22643 | .91463 | .40005 | .15031 | .02978 | .23683 | .82964 |
| #1 | .19712 | 4.9000 | .19712 | 1.1084 | .57838 | .02465 | 68.159 | .02429 |
| #2 | .19923 | 4.9136 | .19667 | 1.1168 | .57996 | .02465 | 68.482 | .02462 |
| #3 | .20032 | 4.8916 | .19382 | 1.1151 | .57980 | .02463 | 68.299 | .02426 |
| 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 | **.09754** | **.24639** | **.24238** | **2.3509** | **27.361** | **.53473** | **11.743** | **.24896** |
| Stddev | .00019 | .00169 | .00162 | .0102 | .166 | .00340 | .019 | .00455 |
| %RSD | .19812 | .68507 | .66770 | .43431 | .60581 | .63613 | .16259 | 1.8260 |
| #1 | .09749 | .24774 | .24175 | 2.3473 | 27.206 | .53431 | 11.738 | .24374 |
| #2 | .09738 | .24693 | .24422 | 2.3430 | 27.535 | .53156 | 11.765 | .25199 |
| #3 | .09776 | .24450 | .24117 | 2.3624 | 27.341 | .53833 | 11.728 | .25116 |
| 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 | **.48808** | **45.009** | **.24450** | **4.8864** | **.25040** | **.59356** | **.19131** | **9.4661** |
| Stddev | .00051 | .052 | .00223 | .0213 | .00158 | .00763 | .00934 | .0205 |
| %RSD | .10382 | .11644 | .91390 | .43616 | .63247 | 1.2850 | 4.8829 | .21617 |
| #1 | .48750 | 44.961 | .24192 | 4.8629 | .24867 | .59905 | .20164 | 9.4427 |
| #2 | .48838 | 45.065 | .24576 | 4.8916 | .25076 | .58486 | .18344 | 9.4803 |
| #3 | .48837 | 45.000 | .24582 | 4.9046 | .25178 | .59678 | .18886 | 9.4754 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155904MS Acquired: 9/1/2017 18:00:36 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627899-04

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.50044** | **1.5199** | **.49413** | **.24736** | **.49764** | **.48810** | **.79810** |
| Stddev | .00217 | .0021 | .00237 | .00134 | .00168 | .00048 | .11591 |
| %RSD | .43387 | .13811 | .47986 | .54165 | .33772 | .09746 | 14.523 |
| | | | | | | | |
| #1 | .49801 | 1.5180 | .49685 | .24583 | .49698 | .48765 | .81782 |
| #2 | .50113 | 1.5222 | .49306 | .24794 | .49639 | .48860 | .67360 |
| #3 | .50218 | 1.5195 | .49249 | .24831 | .49955 | .48805 | .90289 |
| | | | | | | | |
| 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 | **9696.4** | **77155.** | **6752.2** |
| Stddev | 36.1 | 285. | 43.7 |
| %RSD | .37253 | .36948 | .64763 |
| | | | |
| #1 | 9713.6 | 77433. | 6781.6 |
| #2 | 9654.9 | 76864. | 6701.9 |
| #3 | 9720.7 | 77168. | 6773.0 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155905MSD Acquired: 9/1/2017 18:04:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627899-05

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.19967** | **4.9089** | **.19758** | **1.1127** | **.57891** | **.02467** | **66.482** | **.02483** |
| Stddev | .00200 | .0098 | .00246 | .0061 | .00165 | .00001 | .199 | .00025 |
| %RSD | .99989 | .19856 | 1.2470 | .54709 | .28510 | .05371 | .29994 | 1.0014 |
| #1 | .19942 | 4.9122 | .19712 | 1.1066 | .57705 | .02465 | 66.355 | .02468 |
| #2 | .19782 | 4.9166 | .19538 | 1.1188 | .58021 | .02467 | 66.379 | .02512 |
| #3 | .20179 | 4.8979 | .20024 | 1.1127 | .57948 | .02468 | 66.712 | .02471 |
| 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 | **.09760** | **.24591** | **.24556** | **2.3188** | **27.395** | **.53383** | **11.638** | **.25081** |
| Stddev | .00020 | .00080 | .00330 | .0136 | .154 | .00630 | .123 | .00363 |
| %RSD | .20951 | .32632 | 1.3422 | .58731 | .56307 | 1.1798 | 1.0585 | 1.4478 |
| #1 | .09743 | .24539 | .24840 | 2.3288 | 27.488 | .53363 | 11.746 | .25479 |
| #2 | .09783 | .24683 | .24195 | 2.3033 | 27.217 | .52763 | 11.504 | .24768 |
| #3 | .09755 | .24551 | .24634 | 2.3243 | 27.480 | .54023 | 11.665 | .24995 |
| 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 | **.48972** | **44.697** | **.24469** | **4.9038** | **.25222** | **.59203** | **.19358** | **9.2722** |
| Stddev | .00076 | .197 | .00194 | .0107 | .00359 | .00444 | .00205 | .0032 |
| %RSD | .15489 | .44104 | .79233 | .21870 | 1.4241 | .74956 | 1.0583 | .03412 |
| #1 | .48908 | 44.542 | .24672 | 4.9159 | .25188 | .58906 | .19538 | 9.2748 |
| #2 | .48953 | 44.630 | .24449 | 4.8956 | .25597 | .59713 | .19135 | 9.2731 |
| #3 | .49056 | 44.919 | .24286 | 4.8998 | .24881 | .58990 | .19401 | 9.2686 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

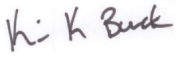
Ki K Buck

Sample Name: L1708155905MSD Acquired: 9/1/2017 18:04:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG627899-05

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.50068** | **1.4999** | **.49034** | **.25057** | **.49930** | **.49056** | **.26770** |
| Stddev | .00285 | .0044 | .00425 | .00140 | .00156 | .00081 | .18482 |
| %RSD | .56890 | .29332 | .86767 | .55858 | .31339 | .16539 | 69.043 |
| #1 | .50393 | 1.4969 | .49434 | .25192 | .49808 | .49086 | .47299 |
| #2 | .49953 | 1.4979 | .49080 | .24912 | .50106 | .48964 | .21556 |
| #3 | .49859 | 1.5050 | .48587 | .25067 | .49875 | .49117 | .11454 |
| 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 | **9713.3** | **77517.** | **6794.5** |
| Stddev | 11.7 | 143. | 67.4 |
| %RSD | .12065 | .18438 | .99145 |
| #1 | 9726.5 | 77657. | 6855.1 |
| #2 | 9708.9 | 77523. | 6806.4 |
| #3 | 9704.4 | 77371. | 6722.0 |

Approved: September 05, 2017



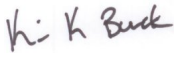
Sample Name: L1708155906 Acquired: 9/1/2017 18:07:34 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00178** | **.01821** | **.00620** | **1.4657** | **.00600** | **-.00003** | **122.66** | **.00042** |
| Stddev | .00309 | .00401 | .00233 | .0021 | .00053 | .00004 | .41 | .00010 |
| %RSD | 173.80 | 22.030 | 37.654 | .14202 | 8.8352 | 150.94 | .33100 | 23.377 |
| #1 | .00354 | .01947 | .00889 | 1.4658 | .00598 | .00002 | 122.24 | .00048 |
| #2 | .00358 | .02145 | .00472 | 1.4636 | .00548 | -.00006 | 122.69 | .00031 |
| #3 | -.00179 | .01372 | .00498 | 1.4677 | .00654 | -.00004 | 123.05 | .00048 |
| 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 | **.00006** | **.00255** | **.00035** | **2.8890** | **4.4705** | **.00344** | **31.797** | **.77266** |
| Stddev | .00022 | .00133 | .00066 | .0431 | .0672 | .00680 | .166 | .00234 |
| %RSD | 390.78 | 51.956 | 190.29 | 1.4913 | 1.5039 | 198.06 | .52346 | .30344 |
| #1 | .00027 | .00408 | .00058 | 2.8839 | 4.5345 | .00925 | 31.791 | .77536 |
| #2 | .00005 | .00194 | .00086 | 2.9344 | 4.4005 | -.00405 | 31.967 | .77151 |
| #3 | -.00016 | .00165 | -.00040 | 2.8486 | 4.4765 | .00511 | 31.634 | .77112 |
| 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 | **.00067** | **38.440** | **.00201** | **8.1355** | **.00447** | **.00321** | **.00112** | **6.4740** |
| Stddev | .00022 | .107 | .00111 | .0215 | .00297 | .00474 | .00140 | .0077 |
| %RSD | 32.407 | .27814 | 55.168 | .26417 | 66.364 | 147.67 | 125.11 | .11960 |
| #1 | .00091 | 38.424 | .00161 | 8.1510 | .00776 | .00424 | .00115 | 6.4828 |
| #2 | .00062 | 38.554 | .00326 | 8.1445 | .00201 | .00736 | .00251 | 6.4682 |
| #3 | .00049 | 38.342 | .00116 | 8.1110 | .00364 | -.00196 | -.00029 | 6.4711 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: L1708155906 Acquired: 9/1/2017 18:07:34 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00023** | **.48049** | **-.01149** | **.00486** | **-.00005** | **.00271** | **.05406** |
| Stddev | .00134 | .00109 | .00187 | .00429 | .00137 | .00017 | .19476 |
| %RSD | 591.09 | .22683 | 16.273 | 88.384 | 2699.3 | 6.2290 | 360.23 |
| #1 | .00072 | .47926 | -.00962 | .00982 | -.00094 | .00252 | .20491 |
| #2 | .00036 | .48135 | -.01337 | .00235 | -.00074 | .00284 | .12309 |
| #3 | -.00176 | .48084 | -.01149 | .00241 | .00152 | .00278 | -.16580 |
| 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 | **9753.7** | **78084.** | **6858.9** |
| Stddev | 23.1 | 70. | 77.7 |
| %RSD | .23703 | .09010 | 1.1329 |
| #1 | 9731.3 | 78112. | 6840.2 |
| #2 | 9777.5 | 78136. | 6792.3 |
| #3 | 9752.3 | 78004. | 6944.3 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708155907 Acquired: 9/1/2017 18:11:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00113** | **.01252** | **.00677** | **.14256** | **.02075** | **.00004** | **118.63** |
| Stddev | .00236 | .00748 | .00112 | .00203 | .00138 | .00001 | .24 |
| %RSD | 208.34 | 59.775 | 16.568 | 1.4249 | 6.6713 | 19.160 | .20425 |
| #1 | .00128 | .00787 | .00779 | .14096 | .02084 | .00005 | 118.80 |
| #2 | -.00344 | .02115 | .00696 | .14188 | .02209 | .00004 | 118.73 |
| #3 | -.00124 | .00854 | .00557 | .14485 | .01933 | .00004 | 118.35 |
| 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 | **.00037** | **-.00022** | **.00030** | **.00062** | **1.8534** | **3.9044** | **.02491** |
| Stddev | .00031 | .00021 | .00090 | .00142 | .0246 | .0400 | .00147 |
| %RSD | 84.948 | 96.766 | 304.26 | 228.41 | 1.3267 | 1.0256 | 5.9157 |
| #1 | .00068 | -.00009 | .00097 | .00212 | 1.8379 | 3.8856 | .02605 |
| #2 | .00037 | -.00010 | .00065 | -.00070 | 1.8817 | 3.8772 | .02544 |
| #3 | .00006 | -.00047 | -.00073 | .00045 | 1.8405 | 3.9504 | .02325 |
| 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 | **10.685** | **.33051** | **.00074** | **36.561** | **.00092** | **-.00331** | **.00454** |
| Stddev | .167 | .00080 | .00022 | .044 | .00205 | .00219 | .00295 |
| %RSD | 1.5637 | .24232 | 29.051 | .12123 | 224.15 | 66.396 | 64.940 |
| #1 | 10.877 | .32978 | .00096 | 36.607 | .00003 | -.00077 | .00794 |
| #2 | 10.580 | .33137 | .00074 | 36.519 | .00326 | -.00451 | .00258 |
| #3 | 10.596 | .33039 | .00053 | 36.557 | -.00054 | -.00463 | .00311 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155907 Acquired: 9/1/2017 18:11:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00112** | **.00169** | **5.9248** | **-.00132** | **1.7919** | **-.00785** | **.00071** |
| Stddev | .00244 | .00363 | .0068 | .00052 | .0039 | .00190 | .00433 |
| %RSD | 217.87 | 215.03 | .11427 | 39.532 | .21641 | 24.197 | 613.61 |
| #1 | .00393 | .00518 | 5.9200 | -.00072 | 1.7945 | -.00574 | .00206 |
| #2 | -.00002 | .00194 | 5.9217 | -.00155 | 1.7938 | -.00941 | .00420 |
| #3 | -.00054 | -.00206 | 5.9325 | -.00169 | 1.7874 | -.00842 | -.00414 |
| 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 | **.00012** | **.00380** | F **-.13999** |
| Stddev | .00044 | .00015 | .45635 |
| %RSD | 380.94 | 3.8671 | 325.99 |
| #1 | .00029 | .00364 | -.39025 |
| #2 | .00044 | .00381 | -.41646 |
| #3 | -.00039 | .00394 | .38674 |
| 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 | **9653.2** | **77418.** | **6749.0** |
| Stddev | 2.3 | 257. | 23.1 |
| %RSD | .02346 | .33259 | .34239 |
| #1 | 9650.8 | 77715. | 6725.0 |
| #2 | 9653.5 | 77291. | 6771.1 |
| #3 | 9655.4 | 77249. | 6751.0 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708155908 Acquired: 9/1/2017 18:14:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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** | **.02887** | **.02410** | **.17618** | **1.2588** | **.00010** | F **845.05** |
| Stddev | .00102 | .00077 | .00112 | .00144 | .0018 | .00004 | 2.27 |
| %RSD | 756.92 | 2.6515 | 4.6653 | .81786 | .14355 | 37.728 | .26831 |
| #1 | .00075 | .02822 | .02506 | .17719 | 1.2569 | .00015 | 842.56 |
| #2 | -.00124 | .02972 | .02286 | .17683 | 1.2605 | .00008 | 845.61 |
| #3 | .00009 | .02868 | .02437 | .17453 | 1.2591 | .00009 | 846.99 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | 270.00 |
| Low Limit | | | | | | | -.10000 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu2247 | Fe2611 | K_7664 | Li6707 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00137** | **.00095** | **.00182** | **.00483** | **7.7194** | **9.0412** | **.19762** |
| Stddev | .00021 | .00038 | .00108 | .00187 | .0460 | .0172 | .00306 |
| %RSD | 15.505 | 39.979 | 59.514 | 38.768 | .59633 | .19024 | 1.5467 |
| #1 | .00113 | .00092 | .00239 | .00595 | 7.7726 | 9.0234 | .19680 |
| #2 | .00152 | .00134 | .00250 | .00267 | 7.6921 | 9.0577 | .19506 |
| #3 | .00147 | .00059 | .00057 | .00588 | 7.6936 | 9.0427 | .20100 |
| 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 | **92.974** | **.10458** | **.00484** | **50.017** | **.00126** | **1.8381** | **.00643** |
| Stddev | .451 | .00157 | .00051 | .048 | .00031 | .0158 | .00336 |
| %RSD | .48510 | 1.5009 | 10.541 | .09639 | 24.839 | .86011 | 52.264 |
| #1 | 92.793 | .10584 | .00426 | 50.037 | .00141 | 1.8426 | .00525 |
| #2 | 93.487 | .10507 | .00504 | 50.053 | .00147 | 1.8205 | .01022 |
| #3 | 92.641 | .10282 | .00521 | 49.962 | .00090 | 1.8512 | .00382 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

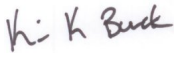
Sample Name: L1708155908 Acquired: 9/1/2017 18:14:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00491** | **.00770** | **10.939** | **.00121** | F **15.787** | F **-.05440** | **-.00531** |
| Stddev | .00476 | .00226 | .004 | .00161 | .094 | .00482 | .00863 |
| %RSD | 97.125 | 29.372 | .03440 | 133.53 | .59338 | 8.8606 | 162.71 |
| #1 | .00135 | .00944 | 10.936 | .00306 | 15.817 | -.05939 | -.01162 |
| #2 | .01032 | .00514 | 10.939 | .00038 | 15.681 | -.05404 | -.00882 |
| #3 | .00305 | .00853 | 10.943 | .00018 | 15.861 | -.04977 | .00453 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| High Limit | | | | | 9.0000 | 36.000 | |
| Low Limit | | | | | -.01000 | -.03000 | |

| Elem | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.00039** | **.00390** | F **-.17121** |
| Stddev | .00090 | .00013 | .18433 |
| %RSD | 228.58 | 3.3046 | 107.66 |
| #1 | -.00117 | .00405 | -.05857 |
| #2 | .00060 | .00382 | -.38392 |
| #3 | -.00061 | .00383 | -.07113 |
| 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 | **9363.4** | **74615.** | **6886.7** |
| Stddev | 15.9 | 107. | 25.0 |
| %RSD | .16946 | .14290 | .36297 |
| #1 | 9377.8 | 74659. | 6902.1 |
| #2 | 9346.4 | 74493. | 6857.9 |
| #3 | 9366.0 | 74692. | 6900.2 |

Approved: September 05, 2017



Sample Name: CCV Acquired: 9/1/2017 18:18:37 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.40401** | **10.139** | **.39894** | **.50643** | **.99964** | **.04989** | **9.9660** |
| Stddev | .00064 | .016 | .00347 | .00232 | .00309 | .00007 | .0531 |
| %RSD | .15794 | .15831 | .87103 | .45873 | .30879 | .13227 | .53267 |
| #1 | .40472 | 10.125 | .39495 | .50465 | .99624 | .04981 | 9.9048 |
| #2 | .40349 | 10.136 | .40135 | .50906 | 1.0004 | .04990 | 9.9932 |
| #3 | .40382 | 10.157 | .40050 | .50557 | 1.0023 | .04995 | 10.0000 |
| 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 | **.04956** | **.19944** | **.49776** | **.50174** | **3.9485** | **50.233** | **1.0049** |
| Stddev | .00022 | .00018 | .00092 | .00087 | .0039 | .141 | .0011 |
| %RSD | .45118 | .09155 | .18398 | .17304 | .09953 | .28030 | .10813 |
| #1 | .04934 | .19924 | .49674 | .50075 | 3.9488 | 50.194 | 1.0053 |
| #2 | .04978 | .19958 | .49799 | .50209 | 3.9444 | 50.116 | 1.0058 |
| #3 | .04955 | .19951 | .49853 | .50238 | 3.9522 | 50.389 | 1.0037 |
| 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 | **9.9743** | **.49383** | **1.0030** | **50.251** | **.50436** | **9.9059** | **.50344** |
| Stddev | .0306 | .00152 | .0010 | .013 | .00109 | .0067 | .00652 |
| %RSD | .30720 | .30859 | .09705 | .02683 | .21655 | .06768 | 1.2959 |
| #1 | 9.9389 | .49260 | 1.0020 | 50.245 | .50487 | 9.9007 | .50559 |
| #2 | 9.9920 | .49554 | 1.0039 | 50.267 | .50511 | 9.9134 | .50862 |
| #3 | 9.9919 | .49337 | 1.0033 | 50.242 | .50311 | 9.9034 | .49611 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: CCV Acquired: 9/1/2017 18:18:37 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **1.1958** | **.39580** | **4.9746** | **1.0041** | **.99875** | **.99518** | **.50347** |
| Stddev | .0066 | .00495 | .0028 | .0008 | .00199 | .00274 | .00149 |
| %RSD | .54737 | 1.2512 | .05650 | .07495 | .19953 | .27545 | .29643 |
| #1 | 1.1890 | .39020 | 4.9714 | 1.0033 | .99661 | .99307 | .50517 |
| #2 | 1.1965 | .39958 | 4.9764 | 1.0044 | .99909 | .99420 | .50283 |
| #3 | 1.2020 | .39764 | 4.9761 | 1.0047 | 1.0006 | .99828 | .50240 |
| 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 | **.99682** | **1.0036** | F **675.21** |
| Stddev | .00200 | .0011 | 3.46 |
| %RSD | .20083 | .10558 | .51213 |
| #1 | .99451 | 1.0027 | 678.97 |
| #2 | .99797 | 1.0048 | 674.49 |
| #3 | .99800 | 1.0032 | 672.16 |
| 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 | **9775.7** | **77388.** | **6797.3** |
| Stddev | 31.5 | 500. | 5.7 |
| %RSD | .32266 | .64600 | .08449 |
| #1 | 9798.9 | 77911. | 6795.1 |
| #2 | 9739.8 | 77338. | 6803.8 |
| #3 | 9788.4 | 76915. | 6793.0 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: CCB Acquired: 9/1/2017 18:22:02 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00032** | **-.00838** | **.00223** | **.00530** | **.00102** | **.00007** | **.02596** |
| Stddev | .00151 | .00488 | .00180 | .00144 | .00100 | .00002 | .02884 |
| %RSD | 465.68 | 58.316 | 80.608 | 27.233 | 98.074 | 33.784 | 111.12 |
| #1 | -.00113 | -.01121 | .00102 | .00381 | .00019 | .00009 | -.00373 |
| #2 | .00022 | -.00274 | .00138 | .00540 | .00212 | .00008 | .05387 |
| #3 | .00188 | -.01118 | .00430 | .00670 | .00074 | .00004 | .02772 |
| 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 | **.00010** | **.00004** | **.00014** | **.00030** | **.00099** | **.12868** | **.00090** |
| Stddev | .00029 | .00031 | .00049 | .00103 | .01695 | .01987 | .00294 |
| %RSD | 278.53 | 755.55 | 361.51 | 343.26 | 1714.8 | 15.443 | 327.36 |
| #1 | -.00021 | .00029 | .00034 | -.00012 | .01383 | .10918 | .00216 |
| #2 | .00017 | .00014 | -.00042 | -.00045 | -.01822 | .14890 | -.00246 |
| #3 | .00035 | -.00030 | .00049 | .00148 | .00735 | .12795 | .00300 |
| 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 | **.05192** | **-.00289** | **-.00020** | **.04342** | **.00125** | **-.00140** | F **.00564** |
| Stddev | .05624 | .00219 | .00022 | .01911 | .00141 | .01009 | .00460 |
| %RSD | 108.31 | 75.811 | 110.06 | 44.011 | 112.60 | 721.29 | 81.631 |
| #1 | .08458 | -.00315 | -.00027 | .06514 | .00265 | .00959 | .00568 |
| #2 | .08421 | -.00495 | .00005 | .02918 | .00125 | -.01023 | .01023 |
| #3 | -.01302 | -.00058 | -.00038 | .03594 | -.00016 | -.00356 | .00102 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | .00500 |
| Low Limit | | | | | | | -.00500 |

Approved: September 05, 2017

Ki K Buck

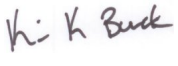
Sample Name: CCB Acquired: 9/1/2017 18:22:02 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00582** | **.00220** | **.00266** | **-.00015** | **.00020** | **.00461** | **.00075** |
| Stddev | .00492 | .00455 | .00087 | .00073 | .00062 | .00227 | .00195 |
| %RSD | 84.542 | 206.73 | 32.646 | 474.22 | 302.09 | 49.221 | 258.66 |
| #1 | .00963 | -.00172 | .00252 | .00068 | .00014 | .00499 | .00246 |
| #2 | .00758 | .00114 | .00187 | -.00049 | .00085 | .00217 | -.00138 |
| #3 | .00026 | .00719 | .00359 | -.00066 | -.00038 | .00666 | .00118 |
| 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 | **-.00040** | **.00045** | **-.01896** |
| Stddev | .00084 | .00015 | .14704 |
| %RSD | 208.68 | 33.812 | 775.43 |
| #1 | -.00135 | .00049 | .10595 |
| #2 | -.00011 | .00057 | .01817 |
| #3 | .00025 | .00028 | -.18101 |
| 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 | **9879.6** | **79194.** | **6676.4** |
| Stddev | 11.4 | 61. | 90.9 |
| %RSD | .11502 | .07659 | 1.3620 |
| #1 | 9867.6 | 79253. | 6781.1 |
| #2 | 9881.0 | 79131. | 6617.0 |
| #3 | 9890.2 | 79198. | 6631.1 |

Approved: September 05, 2017



Sample Name: L1708155909 Acquired: 9/1/2017 18:25:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00016** | **.00973** | **.01416** | **1.0924** | **.12538** | **.00003** | **144.47** |
| Stddev | .00171 | .00278 | .00125 | .0044 | .00073 | .00007 | .47 |
| %RSD | 1039.8 | 28.612 | 8.8382 | .40156 | .57919 | 205.55 | .32516 |
| #1 | -.00212 | .00658 | .01482 | 1.0889 | .12519 | .00005 | 143.95 |
| #2 | .00106 | .01187 | .01494 | 1.0910 | .12619 | -.00004 | 144.85 |
| #3 | .00056 | .01074 | .01271 | 1.0973 | .12477 | .00010 | 144.61 |
| 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 | **.00061** | **.00038** | **.00084** | **.00019** | **7.3880** | **4.0490** | **.00115** |
| Stddev | .00016 | .00029 | .00060 | .00214 | .0432 | .1524 | .00423 |
| %RSD | 26.278 | 75.000 | 71.393 | 1143.1 | .58473 | 3.7641 | 368.80 |
| #1 | .00073 | .00043 | .00122 | .00171 | 7.4233 | 3.8741 | -.00355 |
| #2 | .00068 | .00008 | .00015 | -.00226 | 7.4009 | 4.1535 | .00233 |
| #3 | .00043 | .00065 | .00115 | .00111 | 7.3398 | 4.1193 | .00465 |
| 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 | **30.577** | **.65878** | **.00076** | **34.152** | **-.00033** | **.09453** | **.00577** |
| Stddev | .127 | .00621 | .00012 | .162 | .00058 | .00236 | .00111 |
| %RSD | .41585 | .94280 | 15.395 | .47455 | 178.11 | 2.4928 | 19.229 |
| #1 | 30.528 | .65478 | .00078 | 34.196 | -.00045 | .09182 | .00449 |
| #2 | 30.721 | .66594 | .00063 | 34.287 | -.00084 | .09604 | .00651 |
| #3 | 30.481 | .65564 | .00086 | 33.972 | .00031 | .09574 | .00631 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155909 Acquired: 9/1/2017 18:25:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00131** | **.00803** | **5.7304** | **-.00078** | **.59173** | **-.00840** | **-.00408** |
| Stddev | .00245 | .00498 | .0048 | .00041 | .00179 | .00336 | .00288 |
| %RSD | 187.43 | 62.016 | .08341 | 52.648 | .30203 | 39.991 | 70.627 |
| #1 | -.00094 | .00241 | 5.7320 | -.00033 | .59315 | -.00461 | -.00739 |
| #2 | .00391 | .00982 | 5.7341 | -.00113 | .59232 | -.00958 | -.00208 |
| #3 | .00095 | .01188 | 5.7250 | -.00090 | .58972 | -.01101 | -.00279 |
| 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 | **-.00024** | **.00144** | F **-.04041** |
| Stddev | .00064 | .00016 | .33055 |
| %RSD | 267.13 | 11.390 | 818.08 |
| #1 | -.00015 | .00148 | -.09914 |
| #2 | .00035 | .00159 | -.33765 |
| #3 | -.00091 | .00126 | .31558 |
| 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 | **9614.4** | **76110.** | **6681.0** |
| Stddev | 12.2 | 222. | 48.0 |
| %RSD | .12666 | .29139 | .71877 |
| #1 | 9627.4 | 76161. | 6708.5 |
| #2 | 9603.2 | 75867. | 6625.6 |
| #3 | 9612.7 | 76302. | 6709.0 |

Approved: September 05, 2017

Kristi K Buck

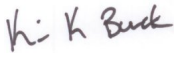
Sample Name: L1708155910 Acquired: 9/1/2017 18:29:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00034** | **.01887** | **.01579** | **1.1310** | **.12249** | **.00004** | **146.88** |
| Stddev | .00364 | .00396 | .00251 | .0141 | .00028 | .00005 | .07 |
| %RSD | 1063.4 | 21.004 | 15.883 | 1.2488 | .22558 | 108.12 | .04669 |
| #1 | -.00271 | .02204 | .01293 | 1.1468 | .12279 | .00009 | 146.90 |
| #2 | .00437 | .02014 | .01685 | 1.1196 | .12224 | .00002 | 146.81 |
| #3 | -.00063 | .01442 | .01759 | 1.1266 | .12244 | .00002 | 146.94 |
| 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 | **.00058** | **.00044** | **-.00046** | **.00126** | **7.7168** | **4.2573** | **.00517** |
| Stddev | .00018 | .00007 | .00044 | .00047 | .0150 | .0681 | .00450 |
| %RSD | 31.797 | 15.334 | 97.164 | 37.661 | .19388 | 1.6003 | 87.118 |
| #1 | .00040 | .00052 | -.00081 | .00079 | 7.7096 | 4.2924 | .00937 |
| #2 | .00076 | .00042 | -.00060 | .00125 | 7.7068 | 4.1788 | .00571 |
| #3 | .00058 | .00039 | .00004 | .00173 | 7.7340 | 4.3008 | .00042 |
| 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 | **32.498** | **.70364** | **.00117** | **35.141** | **.00114** | **.09857** | **.00483** |
| Stddev | .112 | .00055 | .00050 | .057 | .00089 | .00750 | .00265 |
| %RSD | .34602 | .07881 | 42.424 | .16242 | 77.709 | 7.6084 | 54.880 |
| #1 | 32.543 | .70406 | .00083 | 35.124 | .00060 | .09657 | .00466 |
| #2 | 32.580 | .70384 | .00175 | 35.094 | .00216 | .09227 | .00756 |
| #3 | 32.370 | .70301 | .00095 | 35.204 | .00066 | .10687 | .00227 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017



Sample Name: L1708155910 Acquired: 9/1/2017 18:29:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00141** | **.00024** | **5.7033** | **.00019** | **.60216** | **-.00842** | **-.00024** |
| Stddev | .00352 | .00519 | .0041 | .00043 | .00010 | .00438 | .00315 |
| %RSD | 248.87 | 2138.2 | .07160 | 230.07 | .01717 | 52.080 | 1326.3 |
| #1 | .00218 | .00557 | 5.7002 | .00068 | .60205 | -.00688 | -.00373 |
| #2 | -.00243 | -.00004 | 5.7018 | .00000 | .60226 | -.00501 | .00061 |
| #3 | .00449 | -.00480 | 5.7079 | -.00012 | .60217 | -.01336 | .00240 |
| 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 | **-.00059** | **.00172** | F **-.36915** |
| Stddev | .00106 | .00005 | .28721 |
| %RSD | 178.29 | 2.8430 | 77.802 |
| #1 | .00055 | .00169 | -.69108 |
| #2 | -.00155 | .00170 | -.13920 |
| #3 | -.00078 | .00178 | -.27717 |
| 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 | **9591.7** | **76540.** | **6717.5** |
| Stddev | 9.0 | 365. | 80.7 |
| %RSD | .09389 | .47740 | 1.2009 |
| #1 | 9591.0 | 76120. | 6809.6 |
| #2 | 9601.0 | 76788. | 6659.3 |
| #3 | 9583.1 | 76711. | 6683.7 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708155911 Acquired: 9/1/2017 18:33:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00084** | **.03299** | **.03843** | **.18576** | **1.3737** | **.00004** | F **755.87** |
| Stddev | .00024 | .00735 | .00120 | .00220 | .0169 | .00011 | 8.45 |
| %RSD | 28.211 | 22.280 | 3.1296 | 1.1832 | 1.2267 | 240.81 | 1.1180 |
| #1 | .00065 | .04134 | .03750 | .18335 | 1.3684 | .00017 | 751.71 |
| #2 | .00111 | .03011 | .03800 | .18765 | 1.3602 | -.00000 | 750.32 |
| #3 | .00077 | .02751 | .03979 | .18629 | 1.3926 | -.00003 | 765.60 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | 270.00 |
| Low Limit | | | | | | | -.10000 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu2247 | Fe2611 | K_7664 | Li6707 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00096** | **.00132** | **.00304** | **.00678** | **7.0446** | **14.063** | **.22323** |
| Stddev | .00026 | .00016 | .00086 | .00117 | .0642 | .227 | .00353 |
| %RSD | 27.361 | 11.951 | 28.367 | 17.309 | .91159 | 1.6125 | 1.5824 |
| #1 | .00100 | .00140 | .00226 | .00544 | 7.0263 | 13.932 | .21930 |
| #2 | .00068 | .00142 | .00396 | .00760 | 6.9915 | 13.932 | .22427 |
| #3 | .00119 | .00114 | .00288 | .00730 | 7.1160 | 14.325 | .22613 |
| 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 | **138.26** | **.11384** | **.00810** | **49.926** | **.00516** | **2.3922** | **.00915** |
| Stddev | 1.28 | .00161 | .00050 | .372 | .00028 | .0143 | .00218 |
| %RSD | .92625 | 1.4133 | 6.1222 | .74424 | 5.3857 | .59886 | 23.795 |
| #1 | 137.78 | .11262 | .00766 | 49.894 | .00537 | 2.3906 | .01143 |
| #2 | 137.28 | .11324 | .00801 | 49.571 | .00527 | 2.3787 | .00708 |
| #3 | 139.71 | .11566 | .00864 | 50.312 | .00485 | 2.4072 | .00895 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155911 Acquired: 9/1/2017 18:33:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00085** | **.00350** | **10.143** | **.00039** | F **24.726** | F **-.05388** | **.00021** |
| Stddev | .00306 | .00284 | .006 | .00037 | .415 | .00275 | .00132 |
| %RSD | 358.84 | 81.344 | .05450 | 94.770 | 1.6791 | 5.1075 | 634.43 |
| #1 | -.00081 | .00661 | 10.139 | -.00001 | 24.549 | -.05589 | .00076 |
| #2 | -.00393 | .00283 | 10.140 | .00071 | 24.429 | -.05074 | .00116 |
| #3 | .00219 | .00104 | 10.149 | .00047 | 25.201 | -.05500 | -.00130 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Fail | Chk Pass |
| High Limit | | | | | 9.0000 | 36.000 | |
| Low Limit | | | | | -.01000 | -.03000 | |

| Elem | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **-.00043** | **.07049** | F **-.50976** |
| Stddev | .00107 | .00032 | .16703 |
| %RSD | 246.43 | .45583 | 32.766 |
| #1 | -.00057 | .07053 | -.61392 |
| #2 | -.00142 | .07016 | -.31711 |
| #3 | .00070 | .07080 | -.59827 |
| 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 | **9284.8** | **74267.** | **6716.4** |
| Stddev | 8.5 | 83. | 14.1 |
| %RSD | .09131 | .11192 | .21068 |
| #1 | 9276.9 | 74231. | 6703.0 |
| #2 | 9293.7 | 74362. | 6715.0 |
| #3 | 9283.9 | 74208. | 6731.2 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155912 Acquired: 9/1/2017 18:36:53 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00035** | **.02742** | **.00215** | **2.0682** | **.03427** | **.00005** | **249.28** |
| Stddev | .00189 | .00212 | .00072 | .0066 | .00051 | .00001 | .29 |
| %RSD | 534.57 | 7.7249 | 33.444 | .32038 | 1.4767 | 19.789 | .11806 |
| #1 | -.00089 | .02560 | .00196 | 2.0711 | .03485 | .00006 | 249.04 |
| #2 | -.00058 | .02691 | .00154 | 2.0606 | .03393 | .00004 | 249.20 |
| #3 | .00253 | .02974 | .00294 | 2.0729 | .03403 | .00006 | 249.61 |
| 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 | **.00044** | **.00047** | **.00093** | **.00280** | **.54627** | **3.1361** | **.00734** |
| Stddev | .00016 | .00035 | .00045 | .00208 | .02989 | .0060 | .00262 |
| %RSD | 36.059 | 75.206 | 48.384 | 74.428 | 5.4710 | .19154 | 35.703 |
| #1 | .00033 | .00082 | .00114 | .00243 | .53004 | 3.1429 | .00675 |
| #2 | .00063 | .00048 | .00041 | .00093 | .52802 | 3.1316 | .00507 |
| #3 | .00037 | .00012 | .00123 | .00504 | .58076 | 3.1337 | .01021 |
| 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 | **48.169** | **.01296** | **.00161** | **68.607** | **.00155** | **.04589** | **.00797** |
| Stddev | .119 | .00031 | .00074 | .243 | .00033 | .00381 | .00105 |
| %RSD | .24725 | 2.4100 | 46.010 | .35402 | 21.620 | 8.2907 | 13.188 |
| #1 | 48.197 | .01292 | .00194 | 68.608 | .00151 | .04151 | .00852 |
| #2 | 48.038 | .01329 | .00213 | 68.364 | .00123 | .04829 | .00862 |
| #3 | 48.272 | .01267 | .00076 | 68.850 | .00190 | .04788 | .00676 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708155912 Acquired: 9/1/2017 18:36:53 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00256** | **.00329** | **5.3686** | **-.00041** | **.90293** | **-.01702** | **-.00347** |
| Stddev | .00333 | .00213 | .0065 | .00032 | .00136 | .00512 | .00416 |
| %RSD | 129.81 | 64.850 | .12083 | 78.881 | .15094 | 30.058 | 119.64 |
| #1 | .00633 | .00252 | 5.3638 | -.00010 | .90419 | -.02088 | .00057 |
| #2 | .00136 | .00570 | 5.3660 | -.00074 | .90148 | -.01122 | -.00326 |
| #3 | .00000 | .00165 | 5.3760 | -.00038 | .90311 | -.01896 | -.00773 |
| 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 | **.00034** | **.00265** | F **-.09981** |
| Stddev | .00018 | .00012 | .06060 |
| %RSD | 53.529 | 4.5963 | 60.717 |
| #1 | .00013 | .00262 | -.07481 |
| #2 | .00048 | .00279 | -.16891 |
| #3 | .00041 | .00255 | -.05571 |
| 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 | **9471.2** | **75841.** | **6716.9** |
| Stddev | 9.6 | 85. | 25.3 |
| %RSD | .10102 | .11246 | .37706 |
| #1 | 9477.9 | 75935. | 6697.5 |
| #2 | 9460.2 | 75818. | 6745.5 |
| #3 | 9475.4 | 75769. | 6707.6 |

Approved: September 05, 2017

Ki K Buck

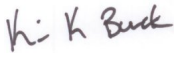
Sample Name: L1708156901 Acquired: 9/1/2017 18:40:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00012** | **.04011** | **.00146** | **.01640** | **.12339** | **.00005** | **49.181** | **.00072** |
| Stddev | .00153 | .00482 | .00164 | .00150 | .00122 | .00003 | .117 | .00034 |
| %RSD | 1305.9 | 12.022 | 112.43 | 9.1632 | .98615 | 64.788 | .23854 | 47.411 |
| #1 | -.00166 | .04409 | .00008 | .01581 | .12210 | .00001 | 49.046 | .00043 |
| #2 | .00140 | .03475 | .00102 | .01528 | .12452 | .00007 | 49.239 | .00063 |
| #3 | -.00010 | .04150 | .00327 | .01811 | .12355 | .00008 | 49.258 | .00110 |
| 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 | **.00066** | **.01297** | **.00701** | **.89664** | **.80460** | **.00278** | **5.1761** | **.25687** |
| Stddev | .00005 | .00043 | .00141 | .02919 | .05947 | .00615 | .1564 | .00085 |
| %RSD | 6.9896 | 3.3017 | 20.112 | 3.2555 | 7.3913 | 221.05 | 3.0214 | .33001 |
| #1 | .00069 | .01290 | .00856 | .86577 | .81903 | .00883 | 5.3385 | .25753 |
| #2 | .00061 | .01258 | .00581 | .90035 | .85552 | .00297 | 5.1634 | .25717 |
| #3 | .00067 | .01343 | .00665 | .92380 | .73924 | -.00346 | 5.0265 | .25592 |
| 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 | **.00175** | **6.2025** | **.01875** | **.03507** | **.00228** | **.00068** | **.00308** | **4.1345** |
| Stddev | .00043 | .0490 | .00134 | .00777 | .00256 | .00254 | .00093 | .0036 |
| %RSD | 24.668 | .78953 | 7.1326 | 22.160 | 112.17 | 371.90 | 30.026 | .08755 |
| #1 | .00133 | 6.1465 | .01729 | .03616 | .00060 | -.00053 | .00234 | 4.1307 |
| #2 | .00219 | 6.2376 | .01905 | .02681 | .00102 | .00360 | .00412 | 4.1349 |
| #3 | .00173 | 6.2233 | .01992 | .04225 | .00523 | -.00102 | .00279 | 4.1379 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: L1708156901 Acquired: 9/1/2017 18:40:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00143** | **.25436** | **-.00613** | **.00186** | **-.00019** | **.00486** | **.00098** |
| Stddev | .00061 | .00090 | .00729 | .00239 | .00173 | .00010 | .22435 |
| %RSD | 42.601 | .35404 | 118.99 | 128.46 | 888.42 | 1.9726 | 23001. |
| #1 | -.00136 | .25450 | -.01453 | .00177 | .00144 | .00478 | -.02071 |
| #2 | -.00086 | .25519 | -.00240 | -.00049 | -.00200 | .00496 | -.21175 |
| #3 | -.00208 | .25340 | -.00145 | .00429 | -.00003 | .00483 | .23538 |
| 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 | **9771.7** | **78286.** | **6740.2** |
| Stddev | 1.8 | 310. | 19.6 |
| %RSD | .01869 | .39555 | .29040 |
| #1 | 9772.0 | 78626. | 6734.1 |
| #2 | 9773.4 | 78213. | 6724.4 |
| #3 | 9769.7 | 78020. | 6762.1 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: L1708157701 Acquired: 9/1/2017 18:44:13 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00112** | **.16456** | **.00093** | **.07119** | **.07233** | **-.00000** | **54.531** | **.00021** |
| Stddev | .00232 | .00233 | .00137 | .00241 | .00064 | .00008 | .195 | .00041 |
| %RSD | 208.15 | 1.4136 | 147.68 | 3.3881 | .89176 | 1828.6 | .35730 | 192.78 |
| #1 | .00240 | .16279 | .00132 | .06843 | .07251 | -.00006 | 54.608 | -.00015 |
| #2 | -.00157 | .16719 | .00206 | .07292 | .07161 | -.00004 | 54.309 | .00014 |
| #3 | .00252 | .16369 | -.00060 | .07221 | .07286 | .00009 | 54.676 | .00066 |
| 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 | **.00053** | **.00056** | **.00239** | **.09437** | **2.3553** | **.00471** | **21.696** | **.00894** |
| Stddev | .00047 | .00161 | .00211 | .01689 | .0401 | .00313 | .112 | .00107 |
| %RSD | 88.613 | 285.24 | 88.116 | 17.898 | 1.7016 | 66.406 | .51538 | 11.932 |
| #1 | .00023 | -.00024 | .00068 | .07674 | 2.3398 | .00688 | 21.775 | .00863 |
| #2 | .00107 | .00242 | .00175 | .11040 | 2.3253 | .00612 | 21.568 | .01013 |
| #3 | .00029 | -.00049 | .00474 | .09598 | 2.4008 | .00113 | 21.745 | .00806 |
| 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 | **.00137** | **51.708** | **-.00035** | **.00886** | **.00719** | **.00435** | **.00131** | **1.5769** |
| Stddev | .00096 | .165 | .00007 | .00660 | .00169 | .00449 | .00569 | .0016 |
| %RSD | 70.082 | .31947 | 21.027 | 74.501 | 23.572 | 103.30 | 435.51 | .10380 |
| #1 | .00087 | 51.558 | -.00033 | .01594 | .00752 | .00882 | .00464 | 1.5751 |
| #2 | .00076 | 51.679 | -.00029 | .00776 | .00535 | .00438 | -.00527 | 1.5783 |
| #3 | .00248 | 51.885 | -.00044 | .00288 | .00868 | -.00016 | .00455 | 1.5774 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708157701 Acquired: 9/1/2017 18:44:13 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00049** | **.58746** | **-.00039** | **-.00236** | **-.00069** | **.00257** | **.16826** |
| Stddev | .00028 | .00138 | .00559 | .00256 | .00095 | .00029 | .08409 |
| %RSD | 56.881 | .23453 | 1439.9 | 108.47 | 137.62 | 11.315 | 49.974 |
| #1 | -.00026 | .58760 | .00002 | -.00025 | .00009 | .00253 | .13267 |
| #2 | -.00079 | .58601 | .00498 | -.00521 | -.00175 | .00288 | .10783 |
| #3 | -.00040 | .58876 | -.00617 | -.00162 | -.00042 | .00230 | .26430 |
| 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 | **9708.7** | **77537.** | **6714.9** |
| Stddev | 12.4 | 550. | 12.1 |
| %RSD | .12736 | .70972 | .18079 |
| #1 | 9722.5 | 78085. | 6727.6 |
| #2 | 9698.6 | 77542. | 6703.4 |
| #3 | 9705.1 | 76984. | 6713.7 |

Approved: September 05, 2017

Kim K Buck

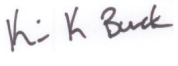
Sample Name: CCV Acquired: 9/1/2017 18:47:54 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.40490** | **10.058** | **.39623** | **.50169** | **.99800** | **.04987** | **9.9258** |
| Stddev | .00142 | .035 | .00285 | .00215 | .00268 | .00011 | .0261 |
| %RSD | .35004 | .34607 | .71998 | .42860 | .26821 | .21134 | .26241 |
| #1 | .40363 | 10.079 | .39303 | .50100 | .99516 | .04999 | 9.9381 |
| #2 | .40643 | 10.018 | .39717 | .49997 | .99837 | .04982 | 9.8958 |
| #3 | .40463 | 10.078 | .39850 | .50410 | 1.0005 | .04979 | 9.9433 |
| 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 | **.04992** | **.19843** | **.49675** | **.50217** | **3.9869** | **50.353** | **1.0058** |
| Stddev | .00027 | .00047 | .00101 | .00040 | .0026 | .140 | .0034 |
| %RSD | .54566 | .23734 | .20391 | .08019 | .06539 | .27876 | .33700 |
| #1 | .05022 | .19791 | .49720 | .50262 | 3.9841 | 50.229 | 1.0025 |
| #2 | .04984 | .19859 | .49746 | .50184 | 3.9893 | 50.323 | 1.0093 |
| #3 | .04969 | .19881 | .49559 | .50204 | 3.9872 | 50.505 | 1.0054 |
| 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 | **10.051** | **.49546** | **1.0015** | **50.462** | **.50423** | **9.8918** | **.49945** |
| Stddev | .042 | .00380 | .0017 | .044 | .00184 | .0133 | .00367 |
| %RSD | .42263 | .76691 | .16964 | .08782 | .36399 | .13401 | .73452 |
| #1 | 10.016 | .49120 | 1.0034 | 50.417 | .50381 | 9.8948 | .49788 |
| #2 | 10.040 | .49672 | 1.0003 | 50.505 | .50624 | 9.8773 | .50365 |
| #3 | 10.099 | .49848 | 1.0008 | 50.465 | .50264 | 9.9033 | .49684 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Approved: September 05, 2017



Sample Name: CCV Acquired: 9/1/2017 18:47:54 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **1.1996** | **.39512** | **4.9541** | **1.0032** | **.99667** | **1.0029** | **.50370** |
| Stddev | .0021 | .00677 | .0051 | .0012 | .00413 | .0092 | .00379 |
| %RSD | .17080 | 1.7140 | .10336 | .11794 | .41420 | .91668 | .75152 |
| #1 | 1.2002 | .38877 | 4.9600 | 1.0039 | .99394 | 1.0024 | .50658 |
| #2 | 1.1973 | .39434 | 4.9508 | 1.0039 | .99465 | 1.0123 | .49941 |
| #3 | 1.2013 | .40225 | 4.9515 | 1.0019 | 1.0014 | .99392 | .50509 |
| 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 | **.99844** | **1.0039** | F **694.76** |
| Stddev | .00031 | .0009 | 7.14 |
| %RSD | .03148 | .08818 | 1.0276 |
| #1 | .99844 | 1.0030 | 688.80 |
| #2 | .99876 | 1.0041 | 692.81 |
| #3 | .99813 | 1.0047 | 702.67 |
| 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 | **9691.8** | **76636.** | **6538.7** |
| Stddev | 12.0 | 119. | 58.6 |
| %RSD | .12392 | .15486 | .89560 |
| #1 | 9692.9 | 76616. | 6598.4 |
| #2 | 9703.2 | 76528. | 6536.3 |
| #3 | 9679.3 | 76763. | 6481.4 |

Approved: September 05, 2017

Ki K Buck

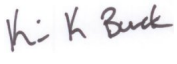
Sample Name: CCB Acquired: 9/1/2017 18:51:19 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00170** | **-.00555** | **-.00059** | **.00575** | **.00110** | **-.00002** | **.02116** |
| Stddev | .00035 | .00431 | .00149 | .00191 | .00039 | .00004 | .00322 |
| %RSD | 20.562 | 77.585 | 252.87 | 33.245 | 35.684 | 239.35 | 15.220 |
| #1 | .00136 | -.00907 | -.00227 | .00556 | .00121 | .00001 | .01744 |
| #2 | .00206 | -.00684 | -.00009 | .00775 | .00067 | -.00000 | .02303 |
| #3 | .00167 | -.00075 | .00059 | .00394 | .00144 | -.00007 | .02301 |
| 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** | **.00016** | **.00062** | **.00058** | **-.00756** | **.09925** | **.00173** |
| Stddev | .00026 | .00017 | .00046 | .00037 | .01885 | .12713 | .00255 |
| %RSD | 72.952 | 104.69 | 74.531 | 63.788 | 249.32 | 128.08 | 147.07 |
| #1 | .00006 | .00023 | .00009 | .00099 | -.02707 | .24525 | .00342 |
| #2 | .00052 | -.00003 | .00093 | .00027 | .01055 | .01302 | -.00120 |
| #3 | .00048 | .00028 | .00084 | .00047 | -.00616 | .03948 | .00298 |
| 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 | **-.01082** | **.00098** | **.00073** | **.05683** | **.00147** | **.00188** | **.00275** |
| Stddev | .02896 | .00297 | .00031 | .01502 | .00206 | .00265 | .00378 |
| %RSD | 267.72 | 302.29 | 42.117 | 26.434 | 140.35 | 141.25 | 137.27 |
| #1 | -.02055 | -.00240 | .00101 | .05541 | .00149 | .00243 | .00208 |
| #2 | -.03367 | .00219 | .00078 | .04257 | -.00060 | -.00101 | -.00064 |
| #3 | .02176 | .00316 | .00040 | .07251 | .00352 | .00422 | .00682 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017



Sample Name: CCB Acquired: 9/1/2017 18:51:19 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00339** | **.00139** | **.00325** | **-.00012** | **.00033** | **-.00184** | **.00148** |
| Stddev | .00702 | .00639 | .00164 | .00048 | .00020 | .00354 | .00367 |
| %RSD | 207.11 | 459.30 | 50.457 | 408.44 | 59.793 | 192.33 | 247.46 |
| #1 | .01107 | -.00597 | .00456 | -.00044 | .00033 | -.00576 | -.00170 |
| #2 | .00176 | .00475 | .00141 | -.00034 | .00053 | -.00089 | .00550 |
| #3 | -.00267 | .00539 | .00379 | .00043 | .00013 | .00113 | .00065 |
| 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 | **-.00098** | **.00032** | F **.07934** |
| Stddev | .00103 | .00027 | .16997 |
| %RSD | 105.78 | 86.006 | 214.24 |
| #1 | -.00205 | .00045 | -.09684 |
| #2 | -.00089 | .00000 | .24233 |
| #3 | .00001 | .00049 | .09252 |
| 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 | **9806.3** | **78249.** | **6621.8** |
| Stddev | 13.2 | 294. | 181.3 |
| %RSD | .13479 | .37612 | 2.7383 |
| #1 | 9813.9 | 78589. | 6769.2 |
| #2 | 9791.1 | 78075. | 6419.3 |
| #3 | 9814.1 | 78085. | 6676.8 |

Approved: September 05, 2017

Ki K Buck

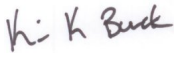
Sample Name: LLCCV Acquired: 9/1/2017 18:55:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00995** | **.17146** | **.00851** | **.08222** | **.00751** | **.00155** | **.40404** | **.00138** |
| Stddev | .00063 | .00605 | .00278 | .00022 | .00060 | .00010 | .02928 | .00012 |
| %RSD | 6.3068 | 3.5308 | 32.657 | .27329 | 7.9636 | 6.3900 | 7.2477 | 8.8410 |
| #1 | .01009 | .16447 | .00624 | .08219 | .00738 | .00151 | .42843 | .00140 |
| #2 | .01050 | .17516 | .00767 | .08201 | .00816 | .00166 | .41212 | .00149 |
| #3 | .00927 | .17475 | .01161 | .08246 | .00699 | .00147 | .37156 | .00125 |
| 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 | **.00377** | **.00442** | **.00529** | **.09552** | **.97611** | **.08533** | **.43365** | **.00675** |
| Stddev | .00019 | .00067 | .00049 | .01360 | .05136 | .00172 | .07047 | .00120 |
| %RSD | 4.9469 | 15.105 | 9.2916 | 14.238 | 5.2620 | 2.0188 | 16.252 | 17.698 |
| #1 | .00398 | .00493 | .00550 | .11122 | .92688 | .08731 | .49313 | .00794 |
| #2 | .00365 | .00366 | .00473 | .08754 | 1.0294 | .08413 | .45200 | .00676 |
| #3 | .00368 | .00466 | .00565 | .08779 | .97207 | .08457 | .35581 | .00555 |
| 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 | **.00810** | **.45429** | **.01611** | **.79295** | **.01224** | **.08410** | **.01620** | **.72783** |
| Stddev | .00018 | .02489 | .00176 | .00601 | .00137 | .00567 | .00495 | .00254 |
| %RSD | 2.2105 | 5.4782 | 10.913 | .75849 | 11.196 | 6.7460 | 30.574 | .34847 |
| #1 | .00819 | .45548 | .01484 | .79903 | .01071 | .09040 | .01153 | .72827 |
| #2 | .00790 | .42883 | .01812 | .78700 | .01266 | .07939 | .01567 | .73011 |
| #3 | .00822 | .47857 | .01537 | .79281 | .01336 | .08251 | .02139 | .72510 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: LLCCV Acquired: 9/1/2017 18:55:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.41129** | **.04031** | **.02603** | **.15944** | **.00818** | **.01935** | **27.457** |
| Stddev | .00106 | .00035 | .00196 | .00305 | .00029 | .00005 | .149 |
| %RSD | .25810 | .85741 | 7.5342 | 1.9106 | 3.5261 | .25612 | .54099 |
| #1 | .41058 | .03992 | .02587 | .16295 | .00786 | .01929 | 27.301 |
| #2 | .41079 | .04053 | .02807 | .15755 | .00827 | .01938 | 27.596 |
| #3 | .41251 | .04050 | .02416 | .15781 | .00842 | .01937 | 27.475 |
| 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 | **9871.9** | **78703.** | **6735.4** |
| Stddev | 18.0 | 333. | 58.8 |
| %RSD | .18283 | .42254 | .87333 |
| #1 | 9865.3 | 78711. | 6747.8 |
| #2 | 9892.3 | 79032. | 6671.4 |
| #3 | 9858.1 | 78367. | 6787.1 |

Approved: September 05, 2017

Kristi K Burk

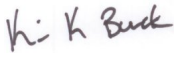
Sample Name: LLCCV Acquired: 9/1/2017 18:58:45 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00837** | **.16685** | **.01130** | **.08349** | **.00785** | **.00162** | **.39781** | **.00139** |
| Stddev | .00069 | .00835 | .00254 | .00263 | .00047 | .00005 | .01255 | .00024 |
| %RSD | 8.2020 | 5.0041 | 22.470 | 3.1498 | 5.9938 | 2.7897 | 3.1537 | 17.006 |
| #1 | .00759 | .16116 | .01289 | .08570 | .00730 | .00161 | .40350 | .00148 |
| #2 | .00860 | .16296 | .00837 | .08421 | .00814 | .00168 | .38342 | .00112 |
| #3 | .00891 | .17644 | .01264 | .08058 | .00809 | .00159 | .40649 | .00157 |
| 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 | **.00403** | **.00463** | **.00544** | **.09164** | **.89567** | **.08272** | **.46231** | **.00712** |
| Stddev | .00092 | .00047 | .00061 | .00701 | .08788 | .00849 | .06091 | .00306 |
| %RSD | 22.784 | 10.175 | 11.254 | 7.6490 | 9.8112 | 10.266 | 13.175 | 42.882 |
| #1 | .00332 | .00458 | .00474 | .09908 | .96024 | .07296 | .51974 | .00919 |
| #2 | .00370 | .00419 | .00590 | .08516 | .93117 | .08672 | .46876 | .00857 |
| #3 | .00507 | .00513 | .00567 | .09068 | .79559 | .08847 | .39843 | .00361 |
| 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 | **.00754** | **.42037** | **.01729** | **.79282** | **.01285** | **.08352** | **.01501** | **.73017** |
| Stddev | .00101 | .02687 | .00042 | .00392 | .00355 | .00110 | .00198 | .00470 |
| %RSD | 13.407 | 6.3918 | 2.4150 | .49506 | 27.646 | 1.3119 | 13.181 | .64354 |
| #1 | .00644 | .44934 | .01760 | .79158 | .01055 | .08468 | .01728 | .72838 |
| #2 | .00844 | .41553 | .01682 | .78965 | .01694 | .08251 | .01404 | .72663 |
| #3 | .00773 | .39626 | .01745 | .79721 | .01106 | .08336 | .01370 | .73550 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: LLCCV Acquired: 9/1/2017 18:58:45 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.41560** | **.04090** | **.01658** | **.16079** | **.00756** | **.01868** | **27.674** |
| Stddev | .00066 | .00060 | .00423 | .00725 | .00097 | .00005 | .159 |
| %RSD | .15843 | 1.4589 | 25.543 | 4.5063 | 12.854 | .24256 | .57627 |
| #1 | .41609 | .04121 | .01636 | .16909 | .00792 | .01873 | 27.853 |
| #2 | .41485 | .04129 | .01246 | .15754 | .00646 | .01867 | 27.546 |
| #3 | .41586 | .04022 | .02092 | .15573 | .00830 | .01865 | 27.624 |
| 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 | **9872.7** | **78868.** | **6709.4** |
| Stddev | 9.7 | 292. | 35.6 |
| %RSD | .09851 | .37002 | .53079 |
| #1 | 9870.7 | 78816. | 6704.6 |
| #2 | 9864.1 | 79182. | 6676.5 |
| #3 | 9883.2 | 78606. | 6747.3 |

Approved: September 05, 2017

Kristi K Buck

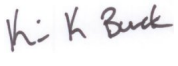
Sample Name: LLCCV Acquired: 9/1/2017 19:02:27 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00978** | **.16844** | **.00696** | **.08339** | **.00832** | **.00161** | **.43145** | **.00134** |
| Stddev | .00113 | .00543 | .00067 | .00288 | .00032 | .00001 | .02671 | .00018 |
| %RSD | 11.585 | 3.2264 | 9.5823 | 3.4548 | 3.8104 | .64331 | 6.1899 | 13.298 |
| #1 | .00857 | .17424 | .00633 | .08148 | .00819 | .00162 | .40280 | .00134 |
| #2 | .01081 | .16763 | .00766 | .08670 | .00869 | .00160 | .43591 | .00116 |
| #3 | .00996 | .16346 | .00690 | .08198 | .00809 | .00162 | .45565 | .00152 |
| 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 | **.00413** | **.00416** | **.00706** | **.08162** | **.96622** | **.07527** | **.47012** | **.00698** |
| Stddev | .00060 | .00057 | .00177 | .01052 | .02849 | .00036 | .06220 | .00067 |
| %RSD | 14.477 | 13.675 | 25.117 | 12.887 | 2.9487 | .47548 | 13.231 | 9.5513 |
| #1 | .00345 | .00402 | .00910 | .07915 | .99870 | .07526 | .39835 | .00664 |
| #2 | .00437 | .00367 | .00604 | .09316 | .94546 | .07564 | .50828 | .00774 |
| #3 | .00457 | .00478 | .00602 | .07256 | .95449 | .07493 | .50374 | .00654 |
| 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 | **.00777** | **.42778** | **.01874** | **.79385** | **.01372** | **.08682** | **.01953** | **.72891** |
| Stddev | .00034 | .01049 | .00101 | .01176 | .00223 | .00469 | .00446 | .00433 |
| %RSD | 4.3248 | 2.4523 | 5.3996 | 1.4810 | 16.288 | 5.4035 | 22.844 | .59459 |
| #1 | .00748 | .43914 | .01971 | .78451 | .01603 | .08326 | .01547 | .72486 |
| #2 | .00769 | .42575 | .01881 | .78997 | .01156 | .09214 | .02431 | .73348 |
| #3 | .00814 | .41845 | .01769 | .80705 | .01357 | .08506 | .01882 | .72837 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: LLCCV Acquired: 9/1/2017 19:02:27 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.41327** | **.04008** | **.02445** | **.16029** | **.00723** | **.01843** | **27.841** |
| Stddev | .00125 | .00051 | .00740 | .00059 | .00107 | .00005 | .284 |
| %RSD | .30314 | 1.2668 | 30.271 | .36888 | 14.801 | .25460 | 1.0209 |
| #1 | .41256 | .04015 | .01609 | .16077 | .00827 | .01847 | 27.525 |
| #2 | .41471 | .03953 | .03017 | .15963 | .00613 | .01844 | 28.075 |
| #3 | .41253 | .04054 | .02710 | .16047 | .00728 | .01838 | 27.922 |
| 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 | **9860.1** | **78793.** | **6573.4** |
| Stddev | 12.7 | 120. | 69.7 |
| %RSD | .12837 | .15192 | 1.0600 |
| #1 | 9873.2 | 78697. | 6623.6 |
| #2 | 9847.9 | 78927. | 6602.6 |
| #3 | 9859.2 | 78755. | 6493.8 |

Approved: September 05, 2017

Kristi K Burk

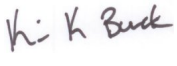
Sample Name: PBW 46 Acquired: 9/1/2017 19:06:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628013-02

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00154** | **-.00517** | **-.00122** | **.00571** | **-.00053** | **.00003** | **.03588** | **.00033** |
| Stddev | .00275 | .00656 | .00337 | .00181 | .00052 | .00007 | .04615 | .00031 |
| %RSD | 179.29 | 126.75 | 275.81 | 31.772 | 98.348 | 226.17 | 128.61 | 92.921 |
| #1 | .00238 | .00144 | .00111 | .00726 | .00003 | -.00005 | .08123 | -.00001 |
| #2 | -.00154 | -.00529 | .00031 | .00371 | -.00060 | .00005 | -.01103 | .00059 |
| #3 | .00377 | -.01168 | -.00508 | .00615 | -.00101 | .00009 | .03744 | .00042 |
| 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 | **-.00008** | **.00064** | **.00063** | **.02115** | **.08592** | **-.00193** | **.00314** | **-.00177** |
| Stddev | .00061 | .00129 | .00301 | .01677 | .04796 | .00511 | .05019 | .00106 |
| %RSD | 783.92 | 200.82 | 474.18 | 79.282 | 55.820 | 264.52 | 1597.6 | 59.688 |
| #1 | .00007 | -.00081 | .00403 | .00217 | .13186 | -.00104 | .06103 | -.00292 |
| #2 | -.00074 | .00163 | -.00168 | .02731 | .03617 | .00267 | -.02355 | -.00154 |
| #3 | .00044 | .00110 | -.00045 | .03397 | .08973 | -.00743 | -.02806 | -.00085 |
| 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 | **.00018** | **.02384** | **.00280** | **-.00320** | **.00061** | **.00004** | **.00520** | **.00391** |
| Stddev | .00020 | .00986 | .00134 | .01086 | .00260 | .00579 | .00402 | .00076 |
| %RSD | 112.59 | 41.350 | 47.813 | 339.75 | 428.92 | 14087. | 77.184 | 19.443 |
| #1 | .00007 | .03177 | .00298 | -.01441 | -.00222 | -.00376 | .00943 | .00305 |
| #2 | .00006 | .02694 | .00403 | .00728 | .00291 | .00670 | .00144 | .00450 |
| #3 | .00042 | .01280 | .00138 | -.00246 | .00113 | -.00282 | .00475 | .00417 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: PBW 46 Acquired: 9/1/2017 19:06:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628013-02

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00081** | **.00022** | **-.00684** | **.00054** | **-.00025** | **.00131** | **.17869** |
| Stddev | .00060 | .00107 | .01064 | .00425 | .00075 | .00020 | .06462 |
| %RSD | 74.635 | 486.55 | 155.56 | 784.33 | 296.89 | 15.375 | 36.162 |
| #1 | -.00141 | -.00063 | -.01254 | -.00207 | -.00074 | .00140 | .22523 |
| #2 | -.00020 | -.00013 | .00543 | .00544 | .00061 | .00108 | .10491 |
| #3 | -.00081 | .00142 | -.01341 | -.00174 | -.00063 | .00145 | .20593 |
| 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 | **9848.3** | **79453.** | **6701.3** |
| Stddev | 4.1 | 250. | 45.0 |
| %RSD | .04113 | .31496 | .67110 |
| #1 | 9845.8 | 79195. | 6723.8 |
| #2 | 9853.0 | 79695. | 6649.5 |
| #3 | 9846.2 | 79469. | 6730.6 |

Approved: September 05, 2017

Ki K Buck

Sample Name: LCSW 46 Acquired: 9/1/2017 19:09:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628013-03

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.19786** | **5.0406** | **.19269** | **.94367** | **.49826** | **.02427** | **4.8575** | **.02446** |
| Stddev | .00122 | .0180 | .00168 | .00627 | .00240 | .00004 | .0337 | .00023 |
| %RSD | .61608 | .35665 | .86936 | .66392 | .48206 | .17342 | .69342 | .92476 |
| #1 | .19770 | 5.0203 | .19423 | .93777 | .49563 | .02423 | 4.8621 | .02471 |
| #2 | .19673 | 5.0467 | .19294 | .94299 | .49879 | .02426 | 4.8218 | .02440 |
| #3 | .19915 | 5.0547 | .19091 | .95025 | .50035 | .02431 | 4.8887 | .02427 |
| 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 | **.09967** | **.24705** | **.25029** | **1.9652** | **25.121** | **.49863** | **4.9625** | **.24699** |
| Stddev | .00055 | .00199 | .00161 | .0485 | .234 | .00498 | .0485 | .00196 |
| %RSD | .55067 | .80720 | .64508 | 2.4662 | .93063 | .99893 | .97651 | .79178 |
| #1 | .10020 | .24934 | .24844 | 1.9141 | 24.927 | .49292 | 4.9309 | .24569 |
| #2 | .09911 | .24616 | .25140 | 1.9709 | 25.056 | .50088 | 4.9384 | .24924 |
| #3 | .09971 | .24567 | .25103 | 2.0105 | 25.381 | .50209 | 5.0183 | .24604 |
| 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 | **.48898** | **25.236** | **.25061** | **4.7836** | **.25191** | **.58853** | **.19787** | **2.4612** |
| Stddev | .00144 | .149 | .00135 | .0125 | .00024 | .00784 | .00301 | .0032 |
| %RSD | .29488 | .59138 | .54023 | .26090 | .09364 | 1.3327 | 1.5235 | .13153 |
| #1 | .48748 | 25.169 | .25015 | 4.7732 | .25200 | .58106 | .19590 | 2.4622 |
| #2 | .49036 | 25.132 | .24954 | 4.7802 | .25164 | .59670 | .20134 | 2.4639 |
| #3 | .48911 | 25.407 | .25213 | 4.7974 | .25208 | .58783 | .19637 | 2.4576 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

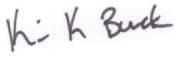
Ki K Buck

Sample Name: LCSW 46 Acquired: 9/1/2017 19:09:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628013-03

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.50362** | **.49677** | **.49617** | **.25217** | **.49615** | **.49929** | **.41374** |
| Stddev | .00029 | .00323 | .00976 | .00304 | .00091 | .00071 | .18343 |
| %RSD | .05721 | .65025 | 1.9667 | 1.2036 | .18288 | .14312 | 44.333 |
| #1 | .50373 | .49407 | .48692 | .25017 | .49717 | .49847 | .25358 |
| #2 | .50384 | .49589 | .49521 | .25566 | .49542 | .49962 | .61385 |
| #3 | .50330 | .50035 | .50637 | .25068 | .49586 | .49978 | .37380 |
| 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 | **9749.1** | **77866.** | **6738.9** |
| Stddev | 15.3 | 275. | 14.5 |
| %RSD | .15720 | .35268 | .21495 |
| #1 | 9766.0 | 78158. | 6746.6 |
| #2 | 9745.0 | 77613. | 6747.9 |
| #3 | 9736.2 | 77826. | 6722.2 |

Approved: September 05, 2017



Sample Name: L1708158917 Acquired: 9/1/2017 19:13:23 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00005** | **.01686** | **.00071** | **.00788** | **-.00040** | **.00001** | **.07699** | **.00046** |
| Stddev | .00287 | .00643 | .00281 | .00211 | .00058 | .00005 | .00776 | .00011 |
| %RSD | 5423.0 | 38.123 | 394.62 | 26.782 | 144.41 | 457.55 | 10.074 | 24.431 |
| #1 | .00152 | .01652 | -.00071 | .00778 | .00027 | -.00001 | .07745 | .00043 |
| #2 | -.00337 | .02345 | -.00110 | .01004 | -.00077 | -.00003 | .06901 | .00037 |
| #3 | .00169 | .01061 | .00395 | .00582 | -.00071 | .00007 | .08450 | .00059 |
| 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 | **.00005** | **.00030** | **.00112** | **.02492** | **.22584** | **-.00343** | **.00909** | **-.00069** |
| Stddev | .00069 | .00040 | .00083 | .01227 | .06076 | .00026 | .01915 | .00197 |
| %RSD | 1456.8 | 133.35 | 74.033 | 49.252 | 26.903 | 7.6776 | 210.59 | 286.30 |
| #1 | -.00037 | .00031 | .00098 | .03003 | .22113 | -.00342 | .03088 | -.00275 |
| #2 | .00085 | -.00010 | .00201 | .01092 | .16757 | -.00317 | .00147 | -.00051 |
| #3 | -.00034 | .00071 | .00037 | .03381 | .28881 | -.00369 | -.00507 | .00119 |
| 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 | **.00003** | **.07405** | **.00071** | **.00322** | **.00745** | **-.00203** | **.00490** | **.02409** |
| Stddev | .00022 | .02029 | .00173 | .00741 | .00078 | .00197 | .00350 | .00439 |
| %RSD | 758.92 | 27.399 | 243.30 | 229.79 | 10.468 | 97.110 | 71.346 | 18.222 |
| #1 | -.00021 | .08286 | -.00103 | .00855 | .00811 | -.00143 | .00188 | .01978 |
| #2 | .00021 | .05084 | .00242 | .00635 | .00764 | -.00422 | .00874 | .02856 |
| #3 | .00008 | .08844 | .00074 | -.00523 | .00659 | -.00042 | .00409 | .02394 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708158917 Acquired: 9/1/2017 19:13:23 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00122** | **.00012** | **.00327** | **-.00067** | **-.00030** | **.00631** | **.14925** |
| Stddev | .00153 | .00019 | .00161 | .00539 | .00118 | .00030 | .14742 |
| %RSD | 125.06 | 155.08 | 49.214 | 806.34 | 393.34 | 4.8042 | 98.775 |
| #1 | -.00176 | -.00001 | .00142 | -.00598 | -.00166 | .00608 | .26140 |
| #2 | .00050 | .00004 | .00404 | -.00081 | .00034 | .00665 | .20408 |
| #3 | -.00241 | .00034 | .00435 | .00479 | .00042 | .00620 | -.01773 |
| 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 | **9862.4** | **79170.** | **6623.3** |
| Stddev | 31.6 | 142. | 35.7 |
| %RSD | .32050 | .17953 | .53932 |
| #1 | 9827.0 | 79268. | 6646.6 |
| #2 | 9872.5 | 79007. | 6641.1 |
| #3 | 9887.7 | 79236. | 6582.1 |

Approved: September 05, 2017

Ki K Buck

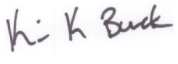
Sample Name: L1708159218 Acquired: 9/1/2017 19:17:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00208** | **.09351** | **.00221** | **.00709** | **.00002** | **.00002** | **.17942** | **.00038** |
| Stddev | .00108 | .00606 | .00225 | .00135 | .00053 | .00005 | .01470 | .00043 |
| %RSD | 51.825 | 6.4768 | 101.74 | 19.087 | 2814.2 | 221.21 | 8.1922 | 114.13 |
| #1 | .00128 | .08982 | .00220 | .00565 | .00025 | .00004 | .16344 | .00087 |
| #2 | .00331 | .10050 | .00446 | .00731 | -.00058 | .00006 | .18246 | .00023 |
| #3 | .00165 | .09020 | -.00003 | .00833 | .00039 | -.00004 | .19236 | .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 | **-.00043** | **.00019** | **-.00058** | **.11289** | **.26212** | **-.00355** | **.04250** | **.00110** |
| Stddev | .00050 | .00043 | .00121 | .00503 | .05506 | .00574 | .05738 | .00048 |
| %RSD | 116.23 | 225.91 | 208.97 | 4.4598 | 21.005 | 161.76 | 135.01 | 43.394 |
| #1 | -.00100 | -.00006 | -.00035 | .10708 | .24601 | -.00504 | .00451 | .00083 |
| #2 | -.00016 | .00069 | .00050 | .11563 | .21691 | -.00840 | .01448 | .00082 |
| #3 | -.00012 | -.00006 | -.00188 | .11597 | .32343 | .00279 | .10851 | .00166 |
| 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 | **-.00006** | **.07006** | **.00197** | **-.00125** | **.00586** | **.00063** | **.00180** | **.12948** |
| Stddev | .00017 | .03496 | .00068 | .00422 | .00225 | .00625 | .00321 | .00314 |
| %RSD | 287.87 | 49.895 | 34.364 | 337.32 | 38.445 | 997.27 | 178.01 | 2.4276 |
| #1 | -.00026 | .03919 | .00195 | .00021 | .00329 | .00783 | -.00093 | .13310 |
| #2 | .00004 | .06297 | .00266 | .00205 | .00749 | -.00268 | .00100 | .12744 |
| #3 | .00004 | .10802 | .00131 | -.00601 | .00681 | -.00327 | .00534 | .12790 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: L1708159218 Acquired: 9/1/2017 19:17:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00051** | **.00000** | **.00648** | **.00251** | **.00053** | **.00314** | **.22571** |
| Stddev | .00142 | .00051 | .00265 | .00299 | .00067 | .00003 | .15777 |
| %RSD | 277.26 | 179860. | 40.911 | 119.13 | 125.87 | .98489 | 69.902 |
| #1 | -.00200 | .00057 | .00366 | .00471 | -.00015 | .00318 | .32469 |
| #2 | -.00038 | -.00015 | .00686 | .00371 | .00120 | .00314 | .30867 |
| #3 | .00084 | -.00042 | .00892 | -.00089 | .00055 | .00312 | .04376 |
| 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 | **9796.3** | **79293.** | **6651.0** |
| Stddev | 21.0 | 187. | 22.1 |
| %RSD | .21483 | .23569 | .33152 |
| #1 | 9774.7 | 79122. | 6670.5 |
| #2 | 9816.7 | 79493. | 6627.1 |
| #3 | 9797.4 | 79263. | 6655.6 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708163701 Acquired: 9/1/2017 19:20:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00126** | **.01463** | **.00344** | **.07042** | **.59455** | **.00005** | **17.685** | **.00062** |
| Stddev | .00347 | .00378 | .00163 | .00117 | .00231 | .00007 | .095 | .00021 |
| %RSD | 274.73 | 25.832 | 47.364 | 1.6557 | .38918 | 151.46 | .53777 | 33.716 |
| #1 | .00403 | .01149 | .00158 | .06924 | .59261 | -.00001 | 17.640 | .00076 |
| #2 | -.00263 | .01357 | .00414 | .07157 | .59711 | .00003 | 17.794 | .00071 |
| #3 | .00239 | .01882 | .00460 | .07046 | .59391 | .00012 | 17.621 | .00038 |
| 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** | **-.00024** | **.00085** | **.02529** | **.98097** | **.00744** | **3.8975** | **.03497** |
| Stddev | .00036 | .00071 | .00097 | .02621 | .09928 | .00499 | .0523 | .00055 |
| %RSD | 3151.9 | 297.26 | 113.91 | 103.61 | 10.121 | 67.061 | 1.3421 | 1.5668 |
| #1 | -.00035 | -.00001 | -.00026 | .00247 | .97990 | .00753 | 3.9313 | .03514 |
| #2 | .00038 | .00033 | .00150 | .01949 | 1.0808 | .00241 | 3.8372 | .03435 |
| #3 | .00000 | -.00104 | .00131 | .05392 | .88223 | .01239 | 3.9239 | .03541 |
| 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 | **.00049** | **143.27** | **-.00135** | **.02211** | **.00682** | **.00414** | **.01329** | **4.4575** |
| Stddev | .00056 | .66 | .00075 | .00966 | .00086 | .00296 | .00401 | .0155 |
| %RSD | 113.51 | .46181 | 55.749 | 43.677 | 12.544 | 71.590 | 30.172 | .34657 |
| #1 | .00007 | 142.65 | -.00098 | .02414 | .00585 | .00576 | .01681 | 4.4751 |
| #2 | .00112 | 143.18 | -.00222 | .01160 | .00715 | .00594 | .00893 | 4.4461 |
| #3 | .00028 | 143.97 | -.00086 | .03060 | .00746 | .00072 | .01412 | 4.4513 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708163701 Acquired: 9/1/2017 19:20:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00006** | **.35902** | **-.00063** | **.00201** | **.00056** | **.00198** | **.13525** |
| Stddev | .00056 | .00111 | .00425 | .00196 | .00015 | .00010 | .30872 |
| %RSD | 937.53 | .30931 | 671.68 | 97.538 | 27.389 | 4.8157 | 228.26 |
| #1 | -.00070 | .35826 | .00423 | .00409 | .00060 | .00203 | .20916 |
| #2 | .00028 | .36030 | -.00247 | .00021 | .00068 | .00205 | -.20371 |
| #3 | .00025 | .35851 | -.00367 | .00172 | .00039 | .00187 | .40030 |
| 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 | **9555.9** | **76164.** | **6506.7** |
| Stddev | 13.3 | 136. | 91.0 |
| %RSD | .13874 | .17848 | 1.3987 |
| #1 | 9541.2 | 76245. | 6608.5 |
| #2 | 9559.7 | 76239. | 6478.7 |
| #3 | 9566.9 | 76007. | 6433.0 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708163801 Acquired: 9/1/2017 19:24:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00097** | **.26854** | **.00224** | **.06698** | **1.8257** | **.00025** | **39.365** |
| Stddev | .00117 | .00459 | .00173 | .00116 | .0006 | .00003 | .084 |
| %RSD | 121.03 | 1.7085 | 77.354 | 1.7251 | .03502 | 13.525 | .21319 |
| #1 | -.00037 | .27133 | .00086 | .06749 | 1.8250 | .00028 | 39.278 |
| #2 | .00180 | .27104 | .00168 | .06566 | 1.8259 | .00025 | 39.445 |
| #3 | .00148 | .26324 | .00419 | .06779 | 1.8262 | .00021 | 39.372 |
| 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 | **.04502** | **.00001** | **.00099** | **.01098** | **25.165** | **1.3425** | **.00346** |
| Stddev | .00017 | .00012 | .00048 | .00052 | .051 | .1110 | .00271 |
| %RSD | .38359 | 991.81 | 48.551 | 4.7037 | .20328 | 8.2668 | 78.149 |
| #1 | .04518 | .00015 | .00142 | .01130 | 25.164 | 1.4673 | .00658 |
| #2 | .04503 | -.00005 | .00047 | .01038 | 25.216 | 1.3054 | .00193 |
| #3 | .04484 | -.00006 | .00109 | .01126 | 25.114 | 1.2548 | .00187 |
| 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 | **7.7099** | **.23137** | **.00068** | **98.687** | **-.00074** | **1.1317** | **.52959** |
| Stddev | .0497 | .00096 | .00020 | .077 | .00143 | .0021 | .00055 |
| %RSD | .64433 | .41303 | 28.920 | .07813 | 193.32 | .18206 | .10427 |
| #1 | 7.7569 | .23092 | .00045 | 98.664 | -.00237 | 1.1331 | .52895 |
| #2 | 7.7150 | .23247 | .00081 | 98.773 | -.00008 | 1.1294 | .52996 |
| #3 | 7.6579 | .23073 | .00077 | 98.624 | .00024 | 1.1328 | .52985 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708163801 Acquired: 9/1/2017 19:24:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.01101** | **-.00278** | **7.5650** | **.00259** | **.57365** | **.00901** | **-.00099** |
| Stddev | .00293 | .00573 | .0087 | .00043 | .00150 | .00102 | .00557 |
| %RSD | 26.648 | 206.14 | .11554 | 16.674 | .26215 | 11.267 | 564.41 |
| #1 | .01438 | -.00725 | 7.5728 | .00214 | .57202 | .00969 | -.00695 |
| #2 | .00967 | .00368 | 7.5666 | .00300 | .57393 | .00951 | .00407 |
| #3 | .00899 | -.00477 | 7.5555 | .00262 | .57499 | .00784 | -.00008 |
| 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 | **-.00113** | **15.259** | F **-.08321** |
| Stddev | .00088 | .005 | .24971 |
| %RSD | 78.090 | .02954 | 300.08 |
| #1 | -.00157 | 15.260 | .00337 |
| #2 | -.00170 | 15.264 | -.36470 |
| #3 | -.00011 | 15.255 | .11168 |
| 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 | **9588.4** | **76472.** | **6676.0** |
| Stddev | 15.3 | 234. | 23.1 |
| %RSD | .15974 | .30547 | .34635 |
| #1 | 9598.4 | 76427. | 6700.1 |
| #2 | 9596.0 | 76265. | 6674.1 |
| #3 | 9570.7 | 76725. | 6653.9 |

Approved: September 05, 2017

Ki K Buck

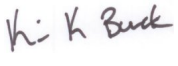
Sample Name: L1708163901 Acquired: 9/1/2017 19:28:09 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00026** | **.00961** | **.00237** | **.02618** | **.29586** | **.00000** | **79.967** |
| Stddev | .00322 | .00224 | .00218 | .00170 | .00074 | .00010 | .263 |
| %RSD | 1248.0 | 23.292 | 91.842 | 6.4956 | .25132 | 2058.9 | .32881 |
| #1 | .00331 | .00808 | .00095 | .02601 | .29500 | .00011 | 79.674 |
| #2 | .00057 | .00858 | .00128 | .02458 | .29628 | -.00009 | 80.045 |
| #3 | -.00311 | .01218 | .00488 | .02796 | .29630 | -.00001 | 80.183 |
| 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 | **.00071** | **.00009** | **.00031** | **.00347** | **2.8672** | **1.4357** | **.00722** |
| Stddev | .00023 | .00070 | .00081 | .00161 | .0052 | .0706 | .00506 |
| %RSD | 32.506 | 747.84 | 264.72 | 46.309 | .18158 | 4.9190 | 70.101 |
| #1 | .00058 | .00013 | .00040 | .00450 | 2.8722 | 1.3999 | .00491 |
| #2 | .00098 | -.00062 | -.00055 | .00162 | 2.8618 | 1.5170 | .00373 |
| #3 | .00058 | .00078 | .00107 | .00429 | 2.8674 | 1.3900 | .01303 |
| 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 | **12.252** | **.62164** | **-.00035** | **11.505** | **.00196** | **.02666** | **.00487** |
| Stddev | .113 | .00264 | .00054 | .087 | .00081 | .00831 | .00615 |
| %RSD | .92577 | .42393 | 153.32 | .75937 | 41.293 | 31.159 | 126.21 |
| #1 | 12.169 | .61865 | -.00092 | 11.409 | .00106 | .02675 | .00198 |
| #2 | 12.381 | .62266 | .00016 | 11.579 | .00219 | .01830 | .00070 |
| #3 | 12.207 | .62362 | -.00030 | 11.526 | .00263 | .03491 | .01194 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017



Sample Name: L1708163901 Acquired: 9/1/2017 19:28:09 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00398** | **.00248** | **5.8288** | **-.00076** | **.34711** | **-.00805** | **.00090** |
| Stddev | .00379 | .00606 | .0025 | .00034 | .00029 | .00241 | .00258 |
| %RSD | 95.350 | 244.33 | .04279 | 44.832 | .08490 | 29.973 | 284.91 |
| #1 | .00083 | .00809 | 5.8316 | -.00104 | .34679 | -.00577 | -.00157 |
| #2 | .00819 | -.00394 | 5.8279 | -.00085 | .34720 | -.00780 | .00357 |
| #3 | .00291 | .00329 | 5.8269 | -.00038 | .34736 | -.01058 | .00071 |
| 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 | **.00030** | **.00323** | F **-.33661** |
| Stddev | .00043 | .00006 | .12753 |
| %RSD | 143.21 | 1.9458 | 37.888 |
| #1 | .00053 | .00318 | -.29742 |
| #2 | -.00020 | .00330 | -.23327 |
| #3 | .00056 | .00321 | -.47914 |
| 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 | **9644.7** | **77408.** | **6714.5** |
| Stddev | 14.0 | 84. | 36.7 |
| %RSD | .14551 | .10830 | .54683 |
| #1 | 9660.1 | 77314. | 6755.0 |
| #2 | 9632.7 | 77475. | 6683.4 |
| #3 | 9641.3 | 77436. | 6705.2 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164001 Acquired: 9/1/2017 19:31:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00352** | **.12553** | **.00207** | **.09113** | **.03080** | **.00000** | **14.078** | **.00061** |
| Stddev | .00382 | .00259 | .00075 | .00108 | .00061 | .00006 | .181 | .00016 |
| %RSD | 108.33 | 2.0636 | 36.297 | 1.1852 | 1.9866 | 3121.8 | 1.2848 | 26.207 |
| #1 | .00743 | .12580 | .00187 | .08995 | .03057 | .00002 | 13.917 | .00064 |
| #2 | -.00020 | .12798 | .00290 | .09207 | .03034 | -.00006 | 14.043 | .00076 |
| #3 | .00335 | .12282 | .00144 | .09138 | .03150 | .00005 | 14.274 | .00044 |
| 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 | **.00035** | **.00053** | **.00424** | **4.8939** | **3.4167** | **.00381** | **3.0995** | **.01557** |
| Stddev | .00025 | .00093 | .00081 | .0582 | .1513 | .00682 | .1355 | .00183 |
| %RSD | 71.880 | 175.93 | 19.051 | 1.1890 | 4.4287 | 178.83 | 4.3709 | 11.765 |
| #1 | .00050 | -.00041 | .00387 | 4.8535 | 3.2705 | -.00375 | 3.0202 | .01430 |
| #2 | .00006 | .00055 | .00368 | 4.8677 | 3.4069 | .00949 | 3.0223 | .01474 |
| #3 | .00047 | .00145 | .00516 | 4.9606 | 3.5726 | .00571 | 3.2559 | .01767 |
| 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 | **.00016** | **11.908** | **-.00007** | **.05156** | **.00941** | **-.00128** | **.00997** | **1.3637** |
| Stddev | .00052 | .096 | .00138 | .00416 | .00326 | .00330 | .00265 | .0059 |
| %RSD | 327.94 | .80610 | 2075.4 | 8.0608 | 34.591 | 256.98 | 26.577 | .43168 |
| #1 | .00002 | 11.864 | -.00147 | .05636 | .00855 | .00006 | .01251 | 1.3690 |
| #2 | -.00028 | 11.842 | -.00002 | .04929 | .00667 | -.00504 | .01016 | 1.3648 |
| #3 | .00074 | 12.018 | .00129 | .04903 | .01301 | .00113 | .00723 | 1.3574 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708164001 Acquired: 9/1/2017 19:31:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00079** | **.09413** | **.00175** | **-.00008** | **.00000** | **.00855** | **.04376** |
| Stddev | .00122 | .00049 | .00907 | .00139 | .00045 | .00013 | .01887 |
| %RSD | 154.32 | .51918 | 516.85 | 1657.5 | 15475. | 1.5150 | 43.122 |
| #1 | -.00127 | .09429 | .00973 | .00076 | .00024 | .00865 | .06386 |
| #2 | .00060 | .09358 | .00364 | .00068 | -.00052 | .00840 | .04100 |
| #3 | -.00168 | .09452 | -.00811 | -.00169 | .00029 | .00860 | .02642 |
| 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 | **9804.7** | **78989.** | **6590.7** |
| Stddev | 30.6 | 324. | 33.1 |
| %RSD | .31176 | .40993 | .50203 |
| #1 | 9801.5 | 79046. | 6617.7 |
| #2 | 9775.9 | 78640. | 6600.6 |
| #3 | 9836.8 | 79280. | 6553.8 |

Approved: September 05, 2017

Ki K Buck

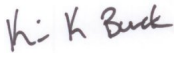
Sample Name: L1708164001PS Acquired: 9/1/2017 19:35:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628176-01

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.19166** | **5.0049** | **.19110** | **1.0097** | **.52060** | **.02406** | **17.427** | **.02433** |
| Stddev | .00301 | .0118 | .00268 | .0061 | .00367 | .00007 | .083 | .00029 |
| %RSD | 1.5704 | .23483 | 1.4025 | .60259 | .70435 | .30366 | .47775 | 1.2079 |
| #1 | .18820 | 5.0136 | .18803 | 1.0150 | .51652 | .02408 | 17.336 | .02399 |
| #2 | .19308 | 4.9915 | .19229 | 1.0031 | .52165 | .02398 | 17.443 | .02447 |
| #3 | .19370 | 5.0095 | .19297 | 1.0111 | .52363 | .02412 | 17.501 | .02453 |
| 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 | **.09760** | **.24357** | **.24522** | **6.3379** | **27.720** | **.49285** | **7.6499** | **.25695** |
| Stddev | .00006 | .00260 | .00079 | .0277 | .228 | .00543 | .0935 | .00333 |
| %RSD | .05675 | 1.0661 | .32103 | .43757 | .82185 | 1.1018 | 1.2223 | 1.2947 |
| #1 | .09760 | .24072 | .24525 | 6.3140 | 27.478 | .49138 | 7.5464 | .25799 |
| #2 | .09766 | .24416 | .24441 | 6.3683 | 27.750 | .48832 | 7.7283 | .25323 |
| #3 | .09755 | .24581 | .24599 | 6.3316 | 27.930 | .49887 | 7.6750 | .25964 |
| 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 | **.48092** | **35.612** | **.24557** | **4.7899** | **.24896** | **.58190** | **.18085** | **3.6640** |
| Stddev | .00109 | .220 | .00154 | .0130 | .00167 | .00747 | .00764 | .0024 |
| %RSD | .22658 | .61768 | .62628 | .27146 | .67100 | 1.2835 | 4.2271 | .06575 |
| #1 | .48059 | 35.360 | .24570 | 4.7818 | .24808 | .57716 | .18007 | 3.6664 |
| #2 | .48214 | 35.706 | .24703 | 4.7830 | .25089 | .59051 | .18885 | 3.6642 |
| #3 | .48004 | 35.769 | .24397 | 4.8049 | .24792 | .57804 | .17362 | 3.6615 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: L1708164001PS Acquired: 9/1/2017 19:35:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628176-01

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.49684** | **.57660** | **.49771** | **.24598** | **.48963** | **.49265** | **.16393** |
| Stddev | .00165 | .00272 | .00275 | .00287 | .00202 | .00077 | .54110 |
| %RSD | .33131 | .47230 | .55171 | 1.1649 | .41258 | .15598 | 330.08 |
| #1 | .49725 | .57373 | .49457 | .24791 | .48740 | .49353 | -.14204 |
| #2 | .49824 | .57691 | .49969 | .24735 | .49013 | .49228 | -.15486 |
| #3 | .49503 | .57915 | .49886 | .24269 | .49135 | .49213 | .78869 |
| 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 | **9701.8** | **77151.** | **6627.9** |
| Stddev | 24.2 | 146. | 41.5 |
| %RSD | .24901 | .18978 | .62680 |
| #1 | 9677.6 | 77280. | 6670.2 |
| #2 | 9702.0 | 76992. | 6626.3 |
| #3 | 9725.9 | 77182. | 6587.1 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164001SDL Acquired: 9/1/2017 19:39:00 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG628176-02

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00026** | **.02917** | **.00063** | **.02489** | **.00629** | **.00004** | **2.8748** |
| Stddev | .00158 | .00662 | .00099 | .00189 | .00016 | .00004 | .0179 |
| %RSD | 609.17 | 22.689 | 157.73 | 7.6021 | 2.5588 | 100.30 | .62398 |
| #1 | .00088 | .03001 | .00051 | .02494 | .00615 | .00004 | 2.8888 |
| #2 | -.00207 | .03533 | -.00030 | .02675 | .00646 | .00000 | 2.8810 |
| #3 | .00041 | .02217 | .00168 | .02297 | .00624 | .00008 | 2.8546 |
| 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** | **.00010** | **-.00034** | **.00091** | **1.0129** | **.80812** | **-.00109** |
| Stddev | .00037 | .00048 | .00021 | .00034 | .0532 | .11301 | .00657 |
| %RSD | 94.301 | 484.27 | 61.754 | 37.277 | 5.2519 | 13.985 | 601.11 |
| #1 | .00056 | -.00015 | -.00023 | .00094 | .98497 | .70253 | -.00867 |
| #2 | -.00003 | -.00020 | -.00058 | .00055 | .97953 | .92732 | .00307 |
| #3 | .00064 | .00065 | -.00020 | .00123 | 1.0743 | .79451 | .00232 |
| 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 | **.66828** | **.00252** | **.00054** | **2.4201** | **.00083** | **.01846** | **.00884** |
| Stddev | .03431 | .00063 | .00026 | .0331 | .00065 | .00564 | .00169 |
| %RSD | 5.1336 | 25.043 | 47.727 | 1.3679 | 77.801 | 30.536 | 19.173 |
| #1 | .70356 | .00325 | .00037 | 2.4567 | .00118 | .01388 | .00700 |
| #2 | .63503 | .00220 | .00041 | 2.4112 | .00123 | .02476 | .01033 |
| #3 | .66626 | .00211 | .00084 | 2.3923 | .00009 | .01675 | .00918 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164001SDL Acquired: 9/1/2017 19:39:00 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG628176-02

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00197** | **-.00013** | **.28433** | **-.00070** | **.01916** | **.00415** | **-.00284** |
| Stddev | .00205 | .00742 | .00245 | .00045 | .00022 | .00373 | .00106 |
| %RSD | 104.12 | 5804.2 | .86119 | 64.726 | 1.1278 | 89.883 | 37.162 |
| #1 | -.00244 | -.00739 | .28549 | -.00093 | .01920 | .00708 | -.00369 |
| #2 | .00028 | -.00044 | .28151 | -.00018 | .01935 | .00543 | -.00318 |
| #3 | -.00375 | .00745 | .28598 | -.00100 | .01892 | -.00005 | -.00166 |
| 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 | **.00036** | **.00237** | F **-.17221** |
| Stddev | .00069 | .00014 | .20467 |
| %RSD | 190.60 | 5.6927 | 118.85 |
| #1 | .00007 | .00251 | -.28610 |
| #2 | -.00013 | .00236 | -.29462 |
| #3 | .00115 | .00224 | .06407 |
| 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 | **9889.4** | **79223.** | **6618.5** |
| Stddev | 15.3 | 311. | 45.6 |
| %RSD | .15454 | .39289 | .68836 |
| #1 | 9906.7 | 79524. | 6656.5 |
| #2 | 9877.9 | 78902. | 6631.1 |
| #3 | 9883.6 | 79243. | 6568.0 |

Approved: September 05, 2017

Ki K Buck

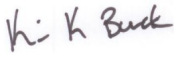
Sample Name: CCV Acquired: 9/1/2017 19:42:43 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.40747** | **10.072** | **.39349** | **.50049** | **.99852** | **.04995** | **9.9283** |
| Stddev | .00240 | .008 | .00304 | .00359 | .00506 | .00012 | .0320 |
| %RSD | .58786 | .07827 | .77294 | .71683 | .50690 | .23328 | .32219 |
| #1 | .40509 | 10.063 | .39175 | .50045 | .99597 | .05002 | 9.9609 |
| #2 | .40745 | 10.075 | .39700 | .50411 | .99524 | .04981 | 9.8970 |
| #3 | .40988 | 10.078 | .39171 | .49693 | 1.0043 | .05001 | 9.9269 |
| 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 | **.04956** | **.19891** | **.49857** | **.50144** | **3.9193** | **50.118** | **1.0025** |
| Stddev | .00017 | .00057 | .00296 | .00014 | .0146 | .200 | .0083 |
| %RSD | .35248 | .28616 | .59289 | .02871 | .37295 | .39815 | .82931 |
| #1 | .04948 | .19834 | .49970 | .50147 | 3.9233 | 49.968 | 1.0056 |
| #2 | .04976 | .19948 | .49521 | .50128 | 3.9315 | 50.042 | .99311 |
| #3 | .04944 | .19892 | .50079 | .50157 | 3.9031 | 50.345 | 1.0089 |
| 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 | **9.9402** | **.49400** | **1.0042** | **50.203** | **.50419** | **9.8561** | **.49343** |
| Stddev | .0307 | .00388 | .0005 | .266 | .00025 | .0090 | .00313 |
| %RSD | .30849 | .78565 | .04667 | .52909 | .05034 | .09093 | .63340 |
| #1 | 9.9577 | .49107 | 1.0041 | 50.220 | .50399 | 9.8574 | .49009 |
| #2 | 9.9580 | .49253 | 1.0037 | 49.930 | .50410 | 9.8643 | .49392 |
| #3 | 9.9048 | .49840 | 1.0047 | 50.460 | .50447 | 9.8465 | .49628 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Approved: September 05, 2017



Sample Name: CCV Acquired: 9/1/2017 19:42:43 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **1.1958** | **.39270** | **4.9498** | **1.0050** | **.99389** | **.99268** | **.50083** |
| Stddev | .0040 | .00982 | .0076 | .0011 | .00539 | .00415 | .00378 |
| %RSD | .33387 | 2.5005 | .15392 | .10914 | .54190 | .41828 | .75520 |
| #1 | 1.1972 | .39973 | 4.9419 | 1.0062 | .99246 | .99164 | .50504 |
| #2 | 1.1989 | .39689 | 4.9504 | 1.0048 | .98936 | .98915 | .49772 |
| #3 | 1.1913 | .38148 | 4.9571 | 1.0040 | .99985 | .99726 | .49973 |
| 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 | **.99453** | **1.0032** | F **691.55** |
| Stddev | .00213 | .0013 | 13.98 |
| %RSD | .21427 | .13045 | 2.0221 |
| #1 | .99429 | 1.0046 | 677.33 |
| #2 | .99253 | 1.0021 | 692.04 |
| #3 | .99677 | 1.0028 | 705.28 |
| 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 | **9618.1** | **75811.** | **6504.3** |
| Stddev | 14.5 | 614. | 104.4 |
| %RSD | .15031 | .80935 | 1.6049 |
| #1 | 9602.4 | 75163. | 6568.6 |
| #2 | 9621.1 | 76384. | 6560.5 |
| #3 | 9630.9 | 75885. | 6383.9 |

Approved: September 05, 2017

Ki K Buck

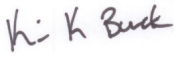
Sample Name: CCB Acquired: 9/1/2017 19:46:08 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00236** | **-.00266** | **.00275** | **.00329** | **.00193** | **-.00002** | **.08478** |
| Stddev | .00121 | .00368 | .00348 | .00515 | .00037 | .00004 | .12687 |
| %RSD | 51.221 | 138.40 | 126.73 | 156.28 | 19.050 | 208.85 | 149.65 |
| #1 | .00102 | -.00051 | .00101 | .00697 | .00235 | -.00004 | .23110 |
| #2 | .00336 | -.00056 | .00676 | .00550 | .00169 | .00002 | .00542 |
| #3 | .00270 | -.00691 | .00048 | -.00259 | .00174 | -.00003 | .01781 |
| 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** | **-.00026** | **.00008** | **.00016** | **.02514** | **.22413** | **.00387** |
| Stddev | .00016 | .00017 | .00086 | .00118 | .01073 | .21975 | .00376 |
| %RSD | 80.432 | 66.264 | 1044.9 | 729.24 | 42.668 | 98.046 | 97.056 |
| #1 | -.00006 | -.00046 | .00094 | -.00073 | .01279 | .44566 | .00765 |
| #2 | -.00038 | -.00018 | -.00078 | .00150 | .03213 | .22051 | .00383 |
| #3 | -.00017 | -.00014 | .00009 | -.00029 | .03050 | .00621 | .00013 |
| 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 | **.06530** | **-.00140** | **.00040** | **.05205** | **.00139** | **.00344** | F **.00613** |
| Stddev | .10406 | .00134 | .00035 | .06727 | .00133 | .00704 | .00266 |
| %RSD | 159.37 | 95.322 | 87.692 | 129.25 | 95.687 | 204.87 | 43.490 |
| #1 | .15693 | -.00087 | .00011 | .12457 | .00067 | -.00459 | .00531 |
| #2 | -.04783 | -.00293 | .00030 | .03989 | .00058 | .00634 | .00910 |
| #3 | .08679 | -.00041 | .00079 | -.00832 | .00293 | .00857 | .00396 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | .00500 |
| Low Limit | | | | | | | -.00500 |

Approved: September 05, 2017



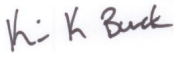
Sample Name: CCB Acquired: 9/1/2017 19:46:08 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00139** | **.00320** | **.00077** | **-.00030** | **.00086** | **-.00208** | **-.00007** |
| Stddev | .00519 | .00602 | .00274 | .00002 | .00176 | .00591 | .00442 |
| %RSD | 371.90 | 188.06 | 356.54 | 6.8651 | 203.61 | 283.40 | 6357.4 |
| #1 | .00459 | .00930 | .00271 | -.00032 | .00289 | .00116 | .00284 |
| #2 | -.00427 | .00303 | -.00236 | -.00030 | -.00003 | -.00890 | -.00516 |
| #3 | -.00450 | -.00273 | .00196 | -.00028 | -.00027 | .00149 | .00211 |
| 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 | **-.00006** | **.00037** | F **.17237** |
| Stddev | .00071 | .00004 | .07358 |
| %RSD | 1127.2 | 10.655 | 42.688 |
| #1 | -.00048 | .00041 | .09070 |
| #2 | .00075 | .00036 | .23349 |
| #3 | -.00046 | .00033 | .19292 |
| 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 | **9759.8** | **78001.** | **6641.6** |
| Stddev | 33.0 | 239. | 24.3 |
| %RSD | .33799 | .30577 | .36534 |
| #1 | 9781.2 | 77736. | 6633.3 |
| #2 | 9721.8 | 78068. | 6622.6 |
| #3 | 9776.3 | 78199. | 6668.9 |

Approved: September 05, 2017



Sample Name: L1708164401 Acquired: 9/1/2017 19:49:51 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00078** | **.03593** | **.00279** | **.39158** | **.00558** | **.00004** | **137.93** |
| Stddev | .00304 | .01029 | .00267 | .00534 | .00212 | .00011 | .22 |
| %RSD | 391.48 | 28.634 | 95.639 | 1.3645 | 38.040 | 246.96 | .15626 |
| #1 | -.00023 | .02467 | .00320 | .39473 | .00784 | -.00006 | 137.69 |
| #2 | .00195 | .03827 | .00523 | .38541 | .00363 | .00015 | 138.00 |
| #3 | -.00405 | .04484 | -.00006 | .39460 | .00528 | .00004 | 138.10 |
| 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 | **.00052** | **.00102** | **.00241** | **.00322** | **.04636** | **12.790** | **.13934** |
| Stddev | .00056 | .00046 | .00044 | .00080 | .01428 | .237 | .00309 |
| %RSD | 107.64 | 44.537 | 18.101 | 24.946 | 30.804 | 1.8521 | 2.2201 |
| #1 | .00076 | .00087 | .00286 | .00303 | .03076 | 12.516 | .14028 |
| #2 | -.00012 | .00153 | .00238 | .00253 | .04952 | 12.928 | .13589 |
| #3 | .00091 | .00066 | .00199 | .00411 | .05880 | 12.925 | .14186 |
| 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 | **182.47** | **.01726** | **.00102** | F **1920.9** | **.01264** | **.00533** | **.00487** |
| Stddev | .68 | .00143 | .00051 | 26.9 | .00237 | .00657 | .00138 |
| %RSD | .37123 | 8.3113 | 49.638 | 1.4004 | 18.729 | 123.28 | 28.229 |
| #1 | 181.78 | .01638 | .00152 | 1951.4 | .01169 | .01179 | .00646 |
| #2 | 182.49 | .01892 | .00051 | 1910.3 | .01534 | .00556 | .00404 |
| #3 | 183.14 | .01649 | .00103 | 1900.9 | .01090 | -.00135 | .00411 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | 270.00 | | | |
| Low Limit | | | | -.50000 | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164401 Acquired: 9/1/2017 19:49:51 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00316** | **-.00334** | **2.2873** | **-.00046** | **2.9616** | **-.01029** | **-.00182** |
| Stddev | .00310 | .00734 | .0090 | .00053 | .0048 | .00091 | .00264 |
| %RSD | 98.051 | 219.53 | .39508 | 113.91 | .16272 | 8.8007 | 144.77 |
| #1 | .00280 | .00413 | 2.2821 | -.00105 | 2.9574 | -.00925 | -.00426 |
| #2 | .00643 | -.01054 | 2.2977 | -.00029 | 2.9604 | -.01073 | -.00218 |
| #3 | .00026 | -.00362 | 2.2821 | -.00004 | 2.9668 | -.01089 | .00098 |
| 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 | **-.00043** | **.00166** | F **-.31172** |
| Stddev | .00067 | .00012 | .10719 |
| %RSD | 155.80 | 7.4425 | 34.387 |
| #1 | .00007 | .00153 | -.40312 |
| #2 | -.00120 | .00165 | -.33829 |
| #3 | -.00017 | .00178 | -.19374 |
| 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 | **8503.4** | **65363.** | **6370.5** |
| Stddev | 24.7 | 70. | 52.6 |
| %RSD | .29011 | .10636 | .82540 |
| #1 | 8516.4 | 65369. | 6394.3 |
| #2 | 8475.0 | 65291. | 6310.3 |
| #3 | 8518.9 | 65430. | 6407.0 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164402 Acquired: 9/1/2017 19:53:40 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00017** | **.03461** | **.00160** | **.38349** | **.00562** | **.00006** | **136.41** |
| Stddev | .00219 | .00702 | .00272 | .00325 | .00130 | .00003 | .24 |
| %RSD | 1256.1 | 20.279 | 170.26 | .84840 | 23.175 | 46.957 | .17528 |
| #1 | -.00252 | .02697 | .00272 | .38718 | .00412 | .00009 | 136.16 |
| #2 | .00182 | .04076 | -.00151 | .38106 | .00649 | .00006 | 136.63 |
| #3 | .00018 | .03609 | .00358 | .38221 | .00624 | .00003 | 136.46 |
| 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 | **.00073** | **.00011** | **.00360** | **.00251** | **.02667** | **12.888** | **.14114** |
| Stddev | .00027 | .00038 | .00060 | .00055 | .00592 | .292 | .00399 |
| %RSD | 36.682 | 349.24 | 16.773 | 22.129 | 22.213 | 2.2663 | 2.8296 |
| #1 | .00059 | -.00012 | .00400 | .00204 | .02238 | 12.565 | .14549 |
| #2 | .00056 | .00054 | .00291 | .00236 | .02420 | 12.967 | .14031 |
| #3 | .00104 | -.00010 | .00390 | .00312 | .03343 | 13.133 | .13764 |
| 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 | **179.85** | **.00309** | **.00117** | F **1849.6** | **.01532** | **-.00419** | **.00128** |
| Stddev | .86 | .00057 | .00004 | 32.0 | .00098 | .00777 | .00205 |
| %RSD | .47925 | 18.574 | 3.0403 | 1.7296 | 6.3932 | 185.48 | 160.19 |
| #1 | 178.87 | .00375 | .00119 | 1879.7 | .01561 | -.01017 | .00020 |
| #2 | 180.47 | .00267 | .00113 | 1853.1 | .01612 | -.00699 | -.00000 |
| #3 | 180.22 | .00287 | .00120 | 1816.0 | .01423 | .00459 | .00365 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | 270.00 | | | |
| Low Limit | | | | -.50000 | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164402 Acquired: 9/1/2017 19:53:40 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00907** | **.00814** | **2.2476** | **-.00077** | **2.9268** | **-.01162** | **-.00164** |
| Stddev | .00280 | .00768 | .0028 | .00073 | .0107 | .00360 | .00288 |
| %RSD | 30.879 | 94.359 | .12391 | 94.547 | .36498 | 30.988 | 175.89 |
| #1 | .01043 | .01439 | 2.2454 | -.00159 | 2.9165 | -.01186 | .00154 |
| #2 | .01093 | -.00043 | 2.2507 | -.00021 | 2.9378 | -.01509 | -.00237 |
| #3 | .00585 | .01046 | 2.2465 | -.00051 | 2.9261 | -.00790 | -.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 | **-.00023** | **.00214** | F **-.27318** |
| Stddev | .00114 | .00018 | .22039 |
| %RSD | 498.92 | 8.2725 | 80.675 |
| #1 | -.00000 | .00208 | -.45625 |
| #2 | -.00146 | .00234 | -.02856 |
| #3 | .00078 | .00201 | -.33473 |
| 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 | **8492.7** | **65263.** | **6333.6** |
| Stddev | 23.0 | 122. | 35.7 |
| %RSD | .27108 | .18627 | .56382 |
| #1 | 8481.6 | 65156. | 6356.9 |
| #2 | 8519.1 | 65395. | 6292.5 |
| #3 | 8477.3 | 65238. | 6351.3 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708164901 Acquired: 9/1/2017 19:57:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00263** | **.00094** | **.00231** | **.13781** | **.06519** | **-.00001** | **43.764** | **.00071** |
| Stddev | .00111 | .00538 | .00368 | .00202 | .00088 | .00002 | .153 | .00021 |
| %RSD | 42.155 | 570.14 | 159.58 | 1.4659 | 1.3507 | 166.31 | .34994 | 29.774 |
| #1 | .00171 | .00716 | .00591 | .13646 | .06444 | .00000 | 43.877 | .00052 |
| #2 | .00386 | -.00214 | -.00145 | .14013 | .06498 | -.00003 | 43.590 | .00094 |
| #3 | .00232 | -.00218 | .00246 | .13685 | .06616 | -.00001 | 43.826 | .00068 |
| 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 | **.00029** | **.00014** | **.00487** | **.01930** | **6.3020** | **.02724** | **16.836** | **.01013** |
| Stddev | .00063 | .00056 | .00028 | .02280 | .0209 | .00348 | .114 | .00127 |
| %RSD | 216.40 | 409.18 | 5.7368 | 118.08 | .33127 | 12.792 | .67452 | 12.530 |
| #1 | .00102 | -.00036 | .00456 | -.00084 | 6.3212 | .02978 | 16.964 | .01125 |
| #2 | -.00010 | .00074 | .00510 | .04405 | 6.3051 | .02867 | 16.748 | .01039 |
| #3 | -.00005 | .00003 | .00496 | .01471 | 6.2798 | .02327 | 16.796 | .00875 |
| 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 | **.00135** | **30.735** | **.00132** | **.00522** | **.00403** | **.00378** | **-.00109** | **5.3704** |
| Stddev | .00028 | .123 | .00049 | .00098 | .00311 | .01117 | .00430 | .0089 |
| %RSD | 20.797 | .40082 | 37.576 | 18.764 | 77.037 | 295.80 | 393.15 | .16580 |
| #1 | .00103 | 30.618 | .00098 | .00513 | .00723 | .00215 | -.00495 | 5.3805 |
| #2 | .00145 | 30.724 | .00108 | .00429 | .00102 | .01567 | .00354 | 5.3674 |
| #3 | .00155 | 30.863 | .00189 | .00625 | .00385 | -.00649 | -.00187 | 5.3635 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164901 Acquired: 9/1/2017 19:57:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00037** | **3.2514** | **-.00040** | **-.00149** | **.00056** | **.08933** | **.15190** |
| Stddev | .00064 | .0089 | .00831 | .00332 | .00082 | .00010 | .21647 |
| %RSD | 173.78 | .27489 | 2093.5 | 222.13 | 145.71 | .10779 | 142.51 |
| #1 | -.00034 | 3.2475 | .00747 | .00219 | -.00022 | .08940 | .06122 |
| #2 | .00053 | 3.2452 | .00043 | -.00241 | .00049 | .08937 | -.00448 |
| #3 | .00092 | 3.2617 | -.00909 | -.00426 | .00141 | .08922 | .39897 |
| 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 | **9618.6** | **77062.** | **6584.2** |
| Stddev | 11.2 | 71. | 50.2 |
| %RSD | .11632 | .09240 | .76202 |
| #1 | 9630.7 | 77027. | 6641.5 |
| #2 | 9616.4 | 77015. | 6548.2 |
| #3 | 9608.7 | 77143. | 6562.9 |

Approved: September 05, 2017

Sample Name: L1708164902 Acquired: 9/1/2017 20:01:09 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628013-01

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00024** | **.18756** | **.00000** | **.72618** | **.01384** | **.00008** | F **420.54** |
| Stddev | .00230 | .00395 | .00178 | .00158 | .00121 | .00005 | .84 |
| %RSD | 942.63 | 2.1080 | 81783. | .21701 | 8.7231 | 64.954 | .20085 |
| #1 | -.00041 | .18912 | .00027 | .72800 | .01521 | .00013 | 421.51 |
| #2 | .00280 | .19050 | -.00189 | .72533 | .01336 | .00005 | 420.13 |
| #3 | -.00166 | .18307 | .00163 | .72522 | .01294 | .00005 | 419.97 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | 270.00 |
| Low Limit | | | | | | | -.10000 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu2247 | Fe2611 | K_7664 | Li6707 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00097** | **.00122** | **.00138** | **.00544** | **.13031** | **1.9522** | **.14267** |
| Stddev | .00009 | .00015 | .00013 | .00303 | .00205 | .0705 | .00400 |
| %RSD | 9.2756 | 12.414 | 9.0941 | 55.621 | 1.5769 | 3.6097 | 2.8024 |
| #1 | .00087 | .00117 | .00125 | .00855 | .13220 | 1.9160 | .13861 |
| #2 | .00105 | .00109 | .00150 | .00251 | .12813 | 2.0334 | .14660 |
| #3 | .00099 | .00138 | .00140 | .00526 | .13062 | 1.9071 | .14279 |
| 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 | **59.786** | **.22263** | **.00217** | **72.051** | **.01407** | **.00626** | **.00836** |
| Stddev | .148 | .00245 | .00051 | .212 | .00168 | .00789 | .00431 |
| %RSD | .24818 | 1.1008 | 23.390 | .29401 | 11.948 | 125.97 | 51.536 |
| #1 | 59.835 | .22249 | .00160 | 71.882 | .01251 | .01535 | .00388 |
| #2 | 59.903 | .22025 | .00257 | 72.289 | .01585 | .00126 | .01248 |
| #3 | 59.619 | .22514 | .00234 | 71.983 | .01385 | .00217 | .00873 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164902 Acquired: 9/1/2017 20:01:09 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628013-01

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00678** | **.00206** | **7.9198** | **.00057** | **6.0246** | F **-.03048** | **-.00001** |
| Stddev | .00637 | .00854 | .0152 | .00079 | .0131 | .00328 | .00354 |
| %RSD | 93.904 | 414.28 | .19125 | 137.92 | .21785 | 10.766 | 39918. |
| #1 | .00183 | -.00470 | 7.9114 | -.00012 | 6.0327 | -.03144 | .00382 |
| #2 | .01397 | -.00077 | 7.9373 | .00040 | 6.0316 | -.03318 | -.00316 |
| #3 | .00454 | .01166 | 7.9107 | .00143 | 6.0094 | -.02683 | -.00069 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit | | | | | | 36.000 | |
| Low Limit | | | | | | -.03000 | |

| Elem | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|
| Units | ppm | ppm | ppm |
| Avg | **.00031** | **.00843** | **.11445** |
| Stddev | .00048 | .00021 | .29292 |
| %RSD | 153.97 | 2.4625 | 255.94 |
| #1 | .00080 | .00819 | .12458 |
| #2 | -.00016 | .00851 | .40217 |
| #3 | .00030 | .00858 | -.18341 |
| 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 | **9217.6** | **73896.** | **6554.9** |
| Stddev | 8.8 | 205. | 21.2 |
| %RSD | .09496 | .27711 | .32317 |
| #1 | 9222.7 | 73976. | 6576.6 |
| #2 | 9222.6 | 73663. | 6534.3 |
| #3 | 9207.5 | 74048. | 6553.8 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: L1708164903MS Acquired: 9/1/2017 20:04:48 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628013-04

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.20349** | **5.2108** | **.20716** | **1.7610** | **.52082** | **.02500** | F **441.52** |
| Stddev | .00195 | .0063 | .00675 | .0022 | .00303 | .00002 | 1.34 |
| %RSD | .95610 | .12174 | 3.2588 | .12616 | .58271 | .07899 | .30383 |
| #1 | .20318 | 5.2041 | .21357 | 1.7635 | .51905 | .02502 | 440.23 |
| #2 | .20557 | 5.2117 | .20779 | 1.7593 | .51908 | .02499 | 441.41 |
| #3 | .20171 | 5.2167 | .20011 | 1.7602 | .52432 | .02499 | 442.91 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | 270.00 |
| Low Limit | | | | | | | -.10000 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu2247 | Fe2611 | K_7664 | Li6707 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.02588** | **.09908** | **.24983** | **.24938** | **2.1414** | **27.792** | **.66189** |
| Stddev | .00024 | .00070 | .00119 | .00103 | .0136 | .168 | .00293 |
| %RSD | .91305 | .70696 | .47548 | .41369 | .63422 | .60290 | .44342 |
| #1 | .02562 | .09988 | .24859 | .25045 | 2.1257 | 27.602 | .65921 |
| #2 | .02591 | .09876 | .24994 | .24929 | 2.1492 | 27.855 | .66145 |
| #3 | .02609 | .09860 | .25096 | .24839 | 2.1493 | 27.918 | .66502 |
| 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 | **66.859** | **.46116** | **.50267** | **100.74** | **.25835** | **5.0912** | **.24727** |
| Stddev | .200 | .00459 | .00062 | .15 | .00139 | .0070 | .00417 |
| %RSD | .29930 | .99580 | .12292 | .14614 | .53988 | .13694 | 1.6853 |
| #1 | 67.090 | .45926 | .50279 | 100.89 | .25678 | 5.0848 | .24249 |
| #2 | 66.748 | .45782 | .50322 | 100.60 | .25946 | 5.0902 | .24918 |
| #3 | 66.739 | .46639 | .50200 | 100.74 | .25880 | 5.0986 | .25014 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164903MS Acquired: 9/1/2017 20:04:48 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628013-04

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.61496** | **.19818** | **11.244** | **.50232** | **6.7721** | **.48226** | **.24095** |
| Stddev | .00223 | .00852 | .024 | .00158 | .0176 | .00653 | .00118 |
| %RSD | .36327 | 4.2969 | .21192 | .31496 | .25973 | 1.3540 | .49117 |
| #1 | .61726 | .20125 | 11.223 | .50058 | 6.7572 | .47752 | .23996 |
| #2 | .61279 | .18855 | 11.270 | .50368 | 6.7676 | .47954 | .24063 |
| #3 | .61482 | .20473 | 11.238 | .50268 | 6.7915 | .48970 | .24226 |
| 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 | **.50781** | **.49307** | **.21834** |
| Stddev | .00105 | .00057 | .22363 |
| %RSD | .20712 | .11582 | 102.42 |
| #1 | .50747 | .49285 | .34125 |
| #2 | .50697 | .49372 | .35356 |
| #3 | .50899 | .49264 | -.03978 |
| 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 | **9056.7** | **72274.** | **6365.5** |
| Stddev | 12.8 | 207. | 39.7 |
| %RSD | .14146 | .28573 | .62392 |
| #1 | 9060.1 | 72403. | 6404.3 |
| #2 | 9042.5 | 72384. | 6324.9 |
| #3 | 9067.5 | 72036. | 6367.4 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164904MSD Acquired: 9/1/2017 20:08:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628013-05

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.19882** | **5.0189** | **.20470** | **1.7252** | **.51436** | **.02462** | F **425.91** |
| Stddev | .00432 | .0109 | .00289 | .0035 | .00376 | .00009 | 2.07 |
| %RSD | 2.1749 | .21803 | 1.4106 | .20277 | .73134 | .37957 | .48534 |
| #1 | .19383 | 5.0314 | .20608 | 1.7290 | .51021 | .02456 | 423.65 |
| #2 | .20125 | 5.0141 | .20664 | 1.7246 | .51531 | .02457 | 426.39 |
| #3 | .20138 | 5.0111 | .20138 | 1.7221 | .51756 | .02473 | 427.70 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | 270.00 |
| Low Limit | | | | | | | -.10000 |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu2247 | Fe2611 | K_7664 | Li6707 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.02514** | **.09790** | **.24566** | **.24657** | **2.1095** | **27.557** | **.65164** |
| Stddev | .00010 | .00026 | .00025 | .00164 | .0073 | .190 | .00358 |
| %RSD | .39926 | .26284 | .10210 | .66484 | .34681 | .68959 | .54954 |
| #1 | .02524 | .09780 | .24562 | .24745 | 2.1130 | 27.420 | .64860 |
| #2 | .02504 | .09819 | .24544 | .24758 | 2.1011 | 27.477 | .65072 |
| #3 | .02514 | .09770 | .24593 | .24468 | 2.1145 | 27.774 | .65559 |
| 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 | **64.394** | **.43698** | **.49396** | **98.626** | **.25321** | **5.0169** | **.24522** |
| Stddev | .085 | .00357 | .00171 | .550 | .00052 | .0141 | .00519 |
| %RSD | .13243 | .81620 | .34601 | .55796 | .20546 | .28187 | 2.1171 |
| #1 | 64.301 | .43308 | .49200 | 98.056 | .25373 | 5.0163 | .25049 |
| #2 | 64.413 | .43780 | .49468 | 98.666 | .25322 | 5.0031 | .24011 |
| #3 | 64.469 | .44007 | .49519 | 99.155 | .25269 | 5.0314 | .24506 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164904MSD Acquired: 9/1/2017 20:08:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG628013-05

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.60720** | **.19592** | **10.674** | **.49552** | **6.5259** | **.47779** | **.23474** |
| Stddev | .00511 | .01372 | .016 | .00257 | .0291 | .00772 | .00669 |
| %RSD | .84217 | 7.0020 | .14830 | .51816 | .44611 | 1.6148 | 2.8496 |
| #1 | .60843 | .20715 | 10.656 | .49258 | 6.4965 | .48632 | .24132 |
| #2 | .61160 | .18063 | 10.687 | .49732 | 6.5266 | .47576 | .22794 |
| #3 | .60159 | .19997 | 10.679 | .49667 | 6.5547 | .47129 | .23497 |
| 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 | **.50010** | **.48764** | **.52894** |
| Stddev | .00249 | .00099 | .22399 |
| %RSD | .49838 | .20223 | 42.346 |
| #1 | .50161 | .48664 | .75904 |
| #2 | .49722 | .48768 | .31161 |
| #3 | .50146 | .48861 | .51616 |
| 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 | **9159.9** | **72662.** | **6425.4** |
| Stddev | 12.3 | 886. | 43.2 |
| %RSD | .13460 | 1.2195 | .67261 |
| #1 | 9148.9 | 71694. | 6475.0 |
| #2 | 9173.2 | 73433. | 6395.9 |
| #3 | 9157.6 | 72858. | 6405.3 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164905 Acquired: 9/1/2017 20:11:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00093** | **.00773** | **.00282** | **.10149** | **.04613** | **.00002** | **105.52** |
| Stddev | .00121 | .00115 | .00311 | .00124 | .00067 | .00011 | .44 |
| %RSD | 129.25 | 14.912 | 110.13 | 1.2263 | 1.4447 | 471.90 | .41866 |
| #1 | .00177 | .00648 | .00022 | .10171 | .04567 | .00014 | 105.02 |
| #2 | -.00045 | .00874 | .00198 | .10260 | .04689 | .00000 | 105.84 |
| #3 | .00149 | .00798 | .00627 | .10014 | .04582 | -.00007 | 105.70 |
| 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** | **.00050** | **-.00011** | **.00186** | **.93283** | **7.1868** | **.03727** |
| Stddev | .00032 | .00065 | .00059 | .00058 | .00513 | .0377 | .01069 |
| %RSD | 97.728 | 130.34 | 515.42 | 30.885 | .54993 | .52515 | 28.677 |
| #1 | .00064 | .00124 | -.00071 | .00188 | .93383 | 7.1517 | .03990 |
| #2 | .00033 | .00019 | -.00010 | .00243 | .92727 | 7.1821 | .04640 |
| #3 | .00000 | .00006 | .00047 | .00128 | .93738 | 7.2267 | .02551 |
| 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 | **23.373** | **.08645** | **.00076** | **32.395** | **.00094** | **.00081** | **.00317** |
| Stddev | .110 | .00160 | .00069 | .108 | .00139 | .01240 | .00206 |
| %RSD | .47113 | 1.8476 | 91.245 | .33243 | 146.79 | 1524.8 | 64.860 |
| #1 | 23.448 | .08460 | .00024 | 32.272 | .00251 | -.00218 | .00367 |
| #2 | 23.424 | .08732 | .00049 | 32.446 | -.00011 | -.00981 | .00091 |
| #3 | 23.247 | .08742 | .00154 | 32.469 | .00043 | .01443 | .00493 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164905 Acquired: 9/1/2017 20:11:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00219** | **.00766** | **6.1674** | **.00094** | **5.0537** | **-.00801** | **-.00149** |
| Stddev | .00481 | .00583 | .0034 | .00019 | .0132 | .00664 | .00352 |
| %RSD | 220.10 | 76.114 | .05488 | 20.355 | .26148 | 82.834 | 236.44 |
| #1 | .00272 | .01036 | 6.1650 | .00108 | 5.0385 | -.01567 | .00242 |
| #2 | -.00287 | .00097 | 6.1660 | .00072 | 5.0603 | -.00403 | -.00439 |
| #3 | .00671 | .01165 | 6.1713 | .00102 | 5.0624 | -.00433 | -.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 | **-.00080** | **.06239** | F **-.05191** |
| Stddev | .00040 | .00034 | .06644 |
| %RSD | 50.576 | .54321 | 127.99 |
| #1 | -.00125 | .06254 | .01577 |
| #2 | -.00068 | .06200 | -.11703 |
| #3 | -.00047 | .06263 | -.05446 |
| 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 | **9523.8** | **76221.** | **6565.0** |
| Stddev | 20.7 | 197. | 47.9 |
| %RSD | .21761 | .25842 | .73011 |
| #1 | 9546.4 | 76200. | 6563.6 |
| #2 | 9505.7 | 76427. | 6517.8 |
| #3 | 9519.3 | 76035. | 6613.7 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164906 Acquired: 9/1/2017 20:15:24 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00007** | **.17137** | **.00240** | **1.3189** | **.07395** | **-.00001** | **169.78** |
| Stddev | .00222 | .00203 | .00341 | .0029 | .00131 | .00003 | .75 |
| %RSD | 3204.9 | 1.1855 | 142.27 | .21673 | 1.7689 | 419.43 | .44034 |
| #1 | -.00167 | .16935 | .00583 | 1.3158 | .07312 | -.00003 | 169.18 |
| #2 | .00258 | .17134 | -.00099 | 1.3214 | .07328 | .00002 | 169.54 |
| #3 | -.00070 | .17342 | .00234 | 1.3196 | .07546 | -.00001 | 170.62 |
| 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 | **.00215** | **.00277** | **.00197** | **.00392** | **2.0132** | **3.3198** | **.01244** |
| Stddev | .00030 | .00047 | .00100 | .00113 | .0158 | .1269 | .00492 |
| %RSD | 13.868 | 17.020 | 50.734 | 28.980 | .78448 | 3.8225 | 39.590 |
| #1 | .00232 | .00235 | .00099 | .00404 | 2.0295 | 3.3469 | .01408 |
| #2 | .00181 | .00268 | .00299 | .00272 | 2.0120 | 3.1815 | .01634 |
| #3 | .00234 | .00328 | .00194 | .00498 | 1.9980 | 3.4309 | .00690 |
| 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 | **16.105** | **.11353** | **.00855** | **94.147** | **.00457** | **.04119** | **.00642** |
| Stddev | .153 | .00182 | .00017 | .308 | .00114 | .00490 | .00297 |
| %RSD | .95299 | 1.5987 | 1.9672 | .32676 | 25.049 | 11.893 | 46.179 |
| #1 | 16.050 | .11557 | .00864 | 93.960 | .00460 | .03637 | .00704 |
| #2 | 15.986 | .11208 | .00835 | 93.980 | .00341 | .04617 | .00903 |
| #3 | 16.278 | .11296 | .00865 | 94.502 | .00569 | .04104 | .00320 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164906 Acquired: 9/1/2017 20:15:24 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00095** | **.00728** | **7.5106** | **-.00029** | **1.6092** | **-.01309** | **-.00021** |
| Stddev | .00275 | .00697 | .0053 | .00076 | .0064 | .00113 | .00383 |
| %RSD | 290.20 | 95.823 | .07106 | 263.59 | .39803 | 8.6020 | 1869.1 |
| #1 | -.00061 | .01532 | 7.5074 | .00057 | 1.6068 | -.01439 | .00114 |
| #2 | -.00067 | .00303 | 7.5077 | -.00056 | 1.6044 | -.01246 | -.00453 |
| #3 | .00412 | .00347 | 7.5168 | -.00087 | 1.6165 | -.01242 | .00277 |
| 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 | **.00098** | **.05638** | F **-.07521** |
| Stddev | .00066 | .00020 | .34686 |
| %RSD | 67.481 | .35381 | 461.20 |
| #1 | .00161 | .05627 | -.45456 |
| #2 | .00029 | .05661 | .22574 |
| #3 | .00103 | .05627 | .00319 |
| 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 | **9430.9** | **75613.** | **6681.7** |
| Stddev | 31.3 | 243. | 28.9 |
| %RSD | .33228 | .32203 | .43325 |
| #1 | 9460.5 | 75887. | 6695.0 |
| #2 | 9398.1 | 75531. | 6701.6 |
| #3 | 9434.2 | 75422. | 6648.5 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164907 Acquired: 9/1/2017 20:19:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00040** | **.01839** | **.01803** | **1.7446** | **.03951** | **.00000** | **224.23** |
| Stddev | .00165 | .00192 | .00349 | .0060 | .00049 | .00007 | .91 |
| %RSD | 410.12 | 10.429 | 19.339 | .34707 | 1.2343 | 13389. | .40582 |
| #1 | -.00019 | .01926 | .01752 | 1.7393 | .03908 | -.00005 | 223.22 |
| #2 | .00113 | .01972 | .01482 | 1.7431 | .03942 | -.00002 | 224.46 |
| #3 | -.00215 | .01619 | .02173 | 1.7512 | .04004 | .00008 | 225.00 |
| 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 | **.00047** | **.00002** | **.00285** | **.00345** | **10.894** | **18.822** | **.01579** |
| Stddev | .00017 | .00050 | .00032 | .00023 | .048 | .146 | .00451 |
| %RSD | 35.864 | 2788.0 | 11.143 | 6.7870 | .44043 | .77456 | 28.542 |
| #1 | .00066 | .00042 | .00288 | .00335 | 10.847 | 18.762 | .01441 |
| #2 | .00037 | -.00054 | .00315 | .00372 | 10.891 | 18.715 | .01214 |
| #3 | .00037 | .00018 | .00251 | .00329 | 10.943 | 18.988 | .02083 |
| 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 | **58.183** | **.82488** | **.00144** | **63.076** | **-.00064** | **.04136** | **.00700** |
| Stddev | .225 | .00080 | .00039 | .096 | .00079 | .01086 | .00573 |
| %RSD | .38756 | .09707 | 27.310 | .15143 | 123.32 | 26.260 | 81.881 |
| #1 | 57.944 | .82396 | .00152 | 63.001 | -.00125 | .03988 | .01259 |
| #2 | 58.213 | .82529 | .00178 | 63.044 | .00025 | .05289 | .00728 |
| #3 | 58.392 | .82540 | .00101 | 63.184 | -.00091 | .03132 | .00113 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164907 Acquired: 9/1/2017 20:19:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00087** | **.00985** | **8.1920** | **-.00061** | **1.7302** | **-.01362** | **-.00137** |
| Stddev | .00420 | .00337 | .0113 | .00010 | .0069 | .00224 | .00073 |
| %RSD | 481.15 | 34.220 | .13754 | 16.289 | .39732 | 16.476 | 53.636 |
| #1 | .00102 | .01325 | 8.1857 | -.00070 | 1.7248 | -.01123 | -.00168 |
| #2 | .00204 | .00980 | 8.1854 | -.00050 | 1.7279 | -.01569 | -.00053 |
| #3 | -.00568 | .00651 | 8.2051 | -.00064 | 1.7379 | -.01393 | -.00189 |
| 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 | **-.00012** | **.00241** | F **-.57783** |
| Stddev | .00115 | .00008 | .15736 |
| %RSD | 975.67 | 3.4675 | 27.234 |
| #1 | -.00110 | .00239 | -.75953 |
| #2 | .00114 | .00233 | -.48554 |
| #3 | -.00039 | .00250 | -.48842 |
| 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 | **9281.5** | **74243.** | **6529.7** |
| Stddev | 28.8 | 176. | 15.0 |
| %RSD | .31051 | .23684 | .23031 |
| #1 | 9248.2 | 74437. | 6534.6 |
| #2 | 9299.0 | 74095. | 6512.8 |
| #3 | 9297.3 | 74197. | 6541.6 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708164908 Acquired: 9/1/2017 20:22:43 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | .00354 | .00827 | -.00162 | .87663 | .03635 | .00001 | 147.63 | .00080 |
| Stddev | .00047 | .00675 | .00370 | .00862 | .00041 | .00003 | .39 | .00016 |
| %RSD | 13.185 | 81.620 | 228.06 | .98316 | 1.1190 | 175.66 | .26379 | 20.053 |
| #1 | .00306 | .00548 | .00188 | .88623 | .03678 | .00004 | 147.40 | .00085 |
| #2 | .00356 | .01597 | -.00126 | .87409 | .03598 | -.00001 | 148.08 | .00062 |
| #3 | .00399 | .00336 | -.00549 | .86956 | .03628 | .00001 | 147.41 | .00093 |
| 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 | -.00005 | .00137 | .00317 | .00321 | 2.5917 | .00506 | 11.639 | .15665 |
| Stddev | .00064 | .00065 | .00074 | .01934 | .1182 | .00312 | .099 | .00208 |
| %RSD | 1176.4 | 47.335 | 23.444 | 602.39 | 4.5609 | 61.709 | .84964 | 1.3266 |
| #1 | .00065 | .00208 | .00390 | .02344 | 2.7237 | .00396 | 11.658 | .15577 |
| #2 | -.00024 | .00124 | .00242 | .00130 | 2.5556 | .00858 | 11.727 | .15903 |
| #3 | -.00058 | .00080 | .00320 | -.01510 | 2.4957 | .00264 | 11.532 | .15516 |
| 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 | .00070 | 24.310 | .00178 | -.00284 | .00591 | .00600 | .00403 | 5.0652 |
| Stddev | .00039 | .041 | .00139 | .00252 | .00242 | .00807 | .00442 | .0095 |
| %RSD | 55.251 | .16864 | 78.034 | 88.593 | 40.886 | 134.47 | 109.68 | .18829 |
| #1 | .00027 | 24.302 | .00060 | -.00361 | .00393 | .00804 | .00850 | 5.0573 |
| #2 | .00102 | 24.273 | .00143 | -.00489 | .00860 | -.00289 | .00392 | 5.0625 |
| #3 | .00081 | 24.354 | .00331 | -.00003 | .00519 | .01286 | -.00034 | 5.0758 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164908 Acquired: 9/1/2017 20:22:43 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00032** | **.51611** | **-.01293** | **.00066** | **.00021** | **.00190** | **.09134** |
| Stddev | .00129 | .00018 | .00446 | .00221 | .00059 | .00022 | .03086 |
| %RSD | 400.94 | .03503 | 34.516 | 332.50 | 288.25 | 11.641 | 33.781 |
| #1 | .00116 | .51602 | -.01020 | -.00165 | .00077 | .00173 | .09725 |
| #2 | -.00091 | .51632 | -.01051 | .00274 | -.00042 | .00214 | .11882 |
| #3 | -.00121 | .51599 | -.01808 | .00091 | .00027 | .00181 | .05796 |
| 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 | **9453.1** | **75788.** | **6485.0** |
| Stddev | 16.0 | 87. | 34.3 |
| %RSD | .16883 | .11418 | .52861 |
| #1 | 9435.1 | 75859. | 6500.1 |
| #2 | 9465.3 | 75812. | 6445.8 |
| #3 | 9459.0 | 75691. | 6509.1 |

Approved: September 05, 2017

Kristi K Burk

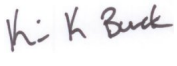
Sample Name: CCV Acquired: 9/1/2017 20:26:23 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.40713** | **10.016** | **.39515** | **.50592** | **.99833** | **.04982** | **9.8388** |
| Stddev | .00281 | .042 | .00053 | .00197 | .00302 | .00007 | .1437 |
| %RSD | .68980 | .41599 | .13355 | .38962 | .30216 | .13643 | 1.4606 |
| #1 | .41032 | 10.064 | .39555 | .50792 | .99918 | .04990 | 10.001 |
| #2 | .40607 | 9.9960 | .39455 | .50587 | .99497 | .04978 | 9.7281 |
| #3 | .40501 | 9.9889 | .39534 | .50397 | 1.0008 | .04978 | 9.7871 |
| 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 | **.04919** | **.19760** | **.49612** | **.49988** | **3.9220** | **50.317** | **1.0057** |
| Stddev | .00036 | .00044 | .00199 | .00356 | .0288 | .088 | .0045 |
| %RSD | .72724 | .22029 | .40154 | .71165 | .73531 | .17564 | .44705 |
| #1 | .04903 | .19716 | .49630 | .49987 | 3.8951 | 50.293 | 1.0043 |
| #2 | .04894 | .19761 | .49404 | .49633 | 3.9183 | 50.243 | 1.0021 |
| #3 | .04960 | .19803 | .49801 | .50345 | 3.9525 | 50.415 | 1.0108 |
| 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 | **9.8176** | **.48599** | **1.0046** | **50.287** | **.50072** | **9.8001** | **.49629** |
| Stddev | .0481 | .00174 | .0016 | .216 | .00250 | .0070 | .00401 |
| %RSD | .49007 | .35803 | .15756 | .42952 | .49923 | .07118 | .80837 |
| #1 | 9.7987 | .48406 | 1.0054 | 50.041 | .49898 | 9.7989 | .49616 |
| #2 | 9.7819 | .48649 | 1.0028 | 50.372 | .50359 | 9.8076 | .49234 |
| #3 | 9.8723 | .48743 | 1.0056 | 50.446 | .49959 | 9.7938 | .50036 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Approved: September 05, 2017



Sample Name: CCV Acquired: 9/1/2017 20:26:23 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **1.1893** | **.39530** | **4.9416** | **1.0059** | **.99266** | **.99376** | **.50414** |
| Stddev | .0045 | .00557 | .0103 | .0042 | .00202 | .00359 | .00263 |
| %RSD | .37987 | 1.4098 | .20883 | .41687 | .20379 | .36130 | .52110 |
| #1 | 1.1942 | .39029 | 4.9533 | 1.0055 | .99246 | .99018 | .50111 |
| #2 | 1.1883 | .39432 | 4.9336 | 1.0019 | .99074 | .99736 | .50583 |
| #3 | 1.1853 | .40130 | 4.9380 | 1.0102 | .99477 | .99373 | .50547 |
| 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 | **.99270** | **1.0005** | F **688.65** |
| Stddev | .00208 | .0015 | 9.06 |
| %RSD | .20961 | .15096 | 1.3155 |
| #1 | .99469 | 1.0018 | 678.89 |
| #2 | .99054 | .99888 | 696.79 |
| #3 | .99286 | 1.0009 | 690.27 |
| 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 | **9630.8** | **75668.** | **6509.7** |
| Stddev | 25.9 | 600. | 44.2 |
| %RSD | .26919 | .79229 | .67903 |
| #1 | 9627.5 | 75107. | 6560.7 |
| #2 | 9658.2 | 76300. | 6485.0 |
| #3 | 9606.7 | 75598. | 6483.3 |

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Ki K Buck

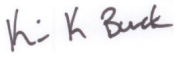
Sample Name: CCB Acquired: 9/1/2017 20:29:47 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00139** | **.00275** | **.00164** | **.00830** | **.00177** | **.00007** | **.03073** |
| Stddev | .00216 | .00685 | .00300 | .00092 | .00151 | .00001 | .04051 |
| %RSD | 155.47 | 249.32 | 182.54 | 11.106 | 85.185 | 20.120 | 131.84 |
| #1 | .00389 | -.00303 | .00412 | .00933 | .00229 | .00008 | .06826 |
| #2 | .00012 | .01032 | -.00169 | .00801 | .00007 | .00007 | .03615 |
| #3 | .00017 | .00096 | .00250 | .00756 | .00296 | .00005 | -.01222 |
| 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** | **-.00042** | **.00067** | **.00200** | **.00334** | **.19555** | **.00023** |
| Stddev | .00004 | .00013 | .00052 | .00082 | .02700 | .08073 | .00398 |
| %RSD | 12.649 | 31.658 | 78.714 | 41.032 | 807.47 | 41.283 | 1758.3 |
| #1 | .00032 | -.00046 | .00013 | .00165 | .03016 | .24052 | -.00203 |
| #2 | .00033 | -.00027 | .00118 | .00295 | .00369 | .24379 | -.00211 |
| #3 | .00040 | -.00053 | .00068 | .00142 | -.02383 | .10235 | .00482 |
| 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 | **.02476** | **-.00275** | **-.00041** | **.10470** | **.00076** | **.00393** | **.00344** |
| Stddev | .07398 | .00087 | .00058 | .04238 | .00076 | .00944 | .00032 |
| %RSD | 298.84 | 31.409 | 141.17 | 40.477 | 100.12 | 240.28 | 9.3451 |
| #1 | .10658 | -.00371 | -.00003 | .06644 | .00147 | -.00253 | .00312 |
| #2 | .00511 | -.00203 | -.00108 | .15025 | .00087 | -.00045 | .00376 |
| #3 | -.03742 | -.00252 | -.00012 | .09741 | -.00005 | .01477 | .00342 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017



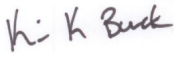
Sample Name: CCB Acquired: 9/1/2017 20:29:47 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00034** | **.00911** | **.00241** | **-.00035** | **-.00008** | **-.00032** | **-.00214** |
| Stddev | .00202 | .00567 | .00272 | .00063 | .00008 | .00547 | .00469 |
| %RSD | 599.18 | 62.296 | 112.82 | 181.17 | 101.36 | 1717.5 | 219.15 |
| #1 | -.00189 | .01373 | .00103 | .00012 | -.00016 | -.00420 | -.00585 |
| #2 | .00206 | .01082 | .00066 | -.00010 | .00000 | -.00270 | -.00370 |
| #3 | .00084 | .00278 | .00555 | -.00107 | -.00009 | .00594 | .00313 |
| 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 | **-.00008** | **.00030** | F **.05106** |
| Stddev | .00048 | .00019 | .19980 |
| %RSD | 562.28 | 64.882 | 391.30 |
| #1 | -.00059 | .00019 | -.11689 |
| #2 | -.00001 | .00052 | .27202 |
| #3 | .00035 | .00018 | -.00195 |
| 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 | **9693.1** | **77567.** | **6539.4** |
| Stddev | 11.9 | 214. | 82.2 |
| %RSD | .12296 | .27606 | 1.2573 |
| #1 | 9706.8 | 77369. | 6542.7 |
| #2 | 9684.7 | 77537. | 6455.6 |
| #3 | 9687.9 | 77794. | 6619.9 |

Approved: September 05, 2017



Sample Name: L1708164909 Acquired: 9/1/2017 20:33:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00053** | **.01198** | **.00090** | **.29503** | **.04242** | **.00000** | **88.364** | **.00065** |
| Stddev | .00301 | .00533 | .00186 | .00159 | .00007 | .00004 | .556 | .00020 |
| %RSD | 564.19 | 44.459 | 206.52 | .53767 | .16124 | 1064.6 | .62974 | 30.450 |
| #1 | -.00124 | .01797 | .00254 | .29581 | .04244 | .00005 | 87.783 | .00055 |
| #2 | -.00117 | .00777 | .00128 | .29321 | .04247 | -.00003 | 88.416 | .00088 |
| #3 | .00400 | .01021 | -.00112 | .29607 | .04234 | -.00001 | 88.892 | .00052 |
| 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 | **.00132** | **.00795** | **.00191** | **.06490** | **3.4940** | **.00867** | **10.571** | **.25567** |
| Stddev | .00039 | .00015 | .00008 | .01168 | .0816 | .00357 | .127 | .00409 |
| %RSD | 29.571 | 1.9429 | 4.1781 | 18.001 | 2.3346 | 41.210 | 1.2017 | 1.5980 |
| #1 | .00095 | .00802 | .00191 | .07738 | 3.4378 | .00576 | 10.523 | .25521 |
| #2 | .00128 | .00806 | .00199 | .06310 | 3.4566 | .01266 | 10.474 | .25996 |
| #3 | .00172 | .00777 | .00183 | .05423 | 3.5876 | .00760 | 10.715 | .25183 |
| 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 | **.00075** | **99.678** | **.00265** | **.00886** | **.00541** | **.00188** | **.00517** | **5.1504** |
| Stddev | .00028 | .193 | .00114 | .00218 | .00279 | .00276 | .00550 | .0020 |
| %RSD | 36.861 | .19313 | 43.027 | 24.650 | 51.535 | 147.18 | 106.49 | .03812 |
| #1 | .00102 | 99.460 | .00355 | .00850 | .00706 | .00379 | -.00031 | 5.1499 |
| #2 | .00047 | 99.748 | .00137 | .01120 | .00697 | -.00129 | .00511 | 5.1525 |
| #3 | .00075 | 99.826 | .00303 | .00688 | .00219 | .00313 | .01070 | 5.1487 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164909 Acquired: 9/1/2017 20:33:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00041** | **.35246** | **-.00620** | **-.00111** | **.00122** | **.00204** | **.07621** |
| Stddev | .00093 | .00211 | .00070 | .00182 | .00057 | .00014 | .11495 |
| %RSD | 225.42 | .59912 | 11.315 | 164.16 | 46.673 | 6.8428 | 150.84 |
| #1 | -.00107 | .35005 | -.00701 | -.00141 | .00147 | .00219 | .08597 |
| #2 | .00065 | .35398 | -.00572 | .00084 | .00057 | .00200 | .18597 |
| #3 | -.00082 | .35336 | -.00588 | -.00276 | .00161 | .00192 | -.04331 |
| 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 | **9471.4** | **75757.** | **6446.9** |
| Stddev | 10.8 | 99. | 60.5 |
| %RSD | .11440 | .13108 | .93915 |
| #1 | 9466.7 | 75777. | 6516.1 |
| #2 | 9483.8 | 75844. | 6420.6 |
| #3 | 9463.7 | 75649. | 6403.9 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: L1708164910 Acquired: 9/1/2017 20:37:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00083** | **.01396** | **.00159** | **1.4424** | **.01701** | **.00001** | **211.66** | **.00094** |
| Stddev | .00219 | .00364 | .00308 | .0027 | .00055 | .00004 | .85 | .00029 |
| %RSD | 264.81 | 26.039 | 193.66 | .18585 | 3.2360 | 290.27 | .40183 | 30.754 |
| #1 | -.00165 | .01015 | .00501 | 1.4411 | .01638 | .00005 | 211.18 | .00087 |
| #2 | .00252 | .01740 | -.00096 | 1.4455 | .01730 | -.00001 | 212.64 | .00125 |
| #3 | .00162 | .01435 | .00071 | 1.4407 | .01737 | -.00000 | 211.14 | .00069 |
| 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 | **.00006** | **.00168** | **.00367** | **.00526** | **19.397** | **.02053** | **80.589** | **.11834** |
| Stddev | .00030 | .00060 | .00078 | .01406 | .181 | .00474 | .688 | .00241 |
| %RSD | 517.07 | 35.529 | 21.332 | 267.04 | .93222 | 23.106 | .85316 | 2.0369 |
| #1 | .00026 | .00106 | .00306 | -.00539 | 19.221 | .01548 | 79.866 | .11565 |
| #2 | .00021 | .00225 | .00340 | .02120 | 19.389 | .02489 | 81.234 | .12030 |
| #3 | -.00029 | .00174 | .00455 | -.00001 | 19.582 | .02123 | 80.668 | .11906 |
| 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 | **.00571** | **79.738** | **.00040** | **.00776** | **.00559** | **.00365** | **.00081** | **5.9962** |
| Stddev | .00036 | .487 | .00109 | .00324 | .00526 | .00239 | .00212 | .0120 |
| %RSD | 6.2325 | .61127 | 274.76 | 41.732 | 93.998 | 65.426 | 262.85 | .20001 |
| #1 | .00551 | 79.179 | -.00075 | .00510 | .00859 | .00252 | -.00123 | 5.9881 |
| #2 | .00549 | 80.075 | .00141 | .00681 | .00866 | .00638 | .00301 | 5.9905 |
| #3 | .00612 | 79.961 | .00052 | .01136 | -.00048 | .00203 | .00065 | 6.0099 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164910 Acquired: 9/1/2017 20:37:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00004** | **1.4629** | **-.01457** | **.00058** | **.00201** | **.00464** | **.25229** |
| Stddev | .00104 | .0055 | .00193 | .00232 | .00041 | .00019 | .29693 |
| %RSD | 2417.8 | .37605 | 13.248 | 402.85 | 20.572 | 4.0402 | 117.70 |
| #1 | -.00026 | 1.4581 | -.01629 | -.00103 | .00219 | .00445 | -.09042 |
| #2 | -.00096 | 1.4689 | -.01248 | .00324 | .00154 | .00464 | .43263 |
| #3 | .00109 | 1.4616 | -.01495 | -.00048 | .00231 | .00483 | .41465 |
| 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 | **9263.1** | **74038.** | **6529.0** |
| Stddev | 15.6 | 104. | 88.2 |
| %RSD | .16812 | .14044 | 1.3511 |
| #1 | 9245.5 | 74144. | 6608.1 |
| #2 | 9274.8 | 74033. | 6433.9 |
| #3 | 9269.2 | 73936. | 6544.9 |

Approved: September 05, 2017

Kristi K Buck

Sample Name: L1708164911 Acquired: 9/1/2017 20:40:51 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00041** | **.01983** | **.00273** | **1.6210** | **.02906** | **.00007** | **227.72** | **.00073** |
| Stddev | .00283 | .00773 | .00363 | .0049 | .00045 | .00009 | .54 | .00031 |
| %RSD | 692.10 | 38.985 | 132.93 | .30468 | 1.5492 | 130.45 | .23769 | 41.691 |
| #1 | -.00240 | .02833 | -.00143 | 1.6245 | .02868 | .00013 | 228.14 | .00083 |
| #2 | .00325 | .01793 | .00435 | 1.6153 | .02956 | -.00003 | 227.90 | .00098 |
| #3 | .00038 | .01322 | .00527 | 1.6232 | .02895 | .00009 | 227.11 | .00039 |
| 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 | **.01723** | **.00097** | **.00430** | **2.6000** | **16.791** | **.00877** | **99.639** | **.51341** |
| Stddev | .00046 | .00053 | .00054 | .0165 | .016 | .00383 | .324 | .00395 |
| %RSD | 2.6675 | 54.938 | 12.502 | .63464 | .09344 | 43.665 | .32544 | .76913 |
| #1 | .01687 | .00089 | .00368 | 2.5937 | 16.809 | .00549 | 99.286 | .51118 |
| #2 | .01708 | .00048 | .00466 | 2.6188 | 16.780 | .01298 | 99.923 | .51797 |
| #3 | .01775 | .00154 | .00456 | 2.5877 | 16.784 | .00784 | 99.710 | .51107 |
| 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 | **.00181** | **113.50** | **.00194** | **.04675** | **.00278** | **.00237** | **.00414** | **7.0163** |
| Stddev | .00088 | .13 | .00143 | .00647 | .00234 | .00047 | .00724 | .0129 |
| %RSD | 48.369 | .11650 | 73.645 | 13.838 | 84.085 | 19.839 | 174.91 | .18389 |
| #1 | .00093 | 113.38 | .00239 | .04993 | .00478 | .00234 | .00024 | 7.0015 |
| #2 | .00182 | 113.64 | .00034 | .05101 | .00021 | .00191 | -.00031 | 7.0230 |
| #3 | .00268 | 113.47 | .00308 | .03930 | .00334 | .00285 | .01250 | 7.0245 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164911 Acquired: 9/1/2017 20:40:51 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00037** | **1.4547** | **-.01847** | **-.00106** | **.00013** | **.00457** | **-.02296** |
| Stddev | .00104 | .0017 | .00319 | .00071 | .00092 | .00019 | .11655 |
| %RSD | 282.46 | .11527 | 17.258 | 66.324 | 718.25 | 4.1570 | 507.66 |
| #1 | -.00086 | 1.4538 | -.01482 | -.00187 | -.00093 | .00457 | -.06648 |
| #2 | .00083 | 1.4566 | -.02072 | -.00055 | .00074 | .00476 | -.11149 |
| #3 | -.00107 | 1.4536 | -.01987 | -.00078 | .00057 | .00438 | .10909 |
| 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 | **9258.9** | **73578.** | **6419.7** |
| Stddev | 25.1 | 297. | 47.7 |
| %RSD | .27111 | .40299 | .74258 |
| #1 | 9253.5 | 73268. | 6469.1 |
| #2 | 9237.0 | 73859. | 6374.0 |
| #3 | 9286.3 | 73607. | 6416.0 |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164912 Acquired: 9/1/2017 20:44:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00100** | **.01375** | **.00050** | **1.2234** | **.02297** | **.00005** | **136.96** |
| Stddev | .00316 | .00292 | .00031 | .0056 | .00131 | .00005 | 1.00 |
| %RSD | 315.53 | 21.256 | 63.240 | .45712 | 5.7147 | 95.799 | .73085 |
| #1 | -.00265 | .01578 | .00026 | 1.2266 | .02360 | .00010 | 136.67 |
| #2 | .00280 | .01507 | .00085 | 1.2266 | .02146 | .00001 | 136.14 |
| #3 | .00286 | .01040 | .00038 | 1.2169 | .02385 | .00004 | 138.08 |
| 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 | **.00064** | **.00102** | **.00038** | **.00365** | **.00681** | **8.9440** | **.00442** |
| Stddev | .00013 | .00019 | .00117 | .00055 | .01995 | .1580 | .00374 |
| %RSD | 20.303 | 18.531 | 309.31 | 15.064 | 292.86 | 1.7662 | 84.711 |
| #1 | .00064 | .00122 | .00036 | .00427 | -.01596 | 8.9766 | .00019 |
| #2 | .00050 | .00101 | -.00078 | .00320 | .02118 | 8.7723 | .00730 |
| #3 | .00076 | .00084 | .00156 | .00349 | .01521 | 9.0832 | .00578 |
| 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 | **33.848** | **.19934** | **.00142** | **89.890** | **.00101** | **.01136** | **.00639** |
| Stddev | .173 | .00248 | .00043 | .392 | .00132 | .00485 | .00138 |
| %RSD | .51120 | 1.2418 | 30.082 | .43642 | 130.79 | 42.665 | 21.571 |
| #1 | 33.797 | .19736 | .00180 | 90.122 | -.00045 | .01690 | .00484 |
| #2 | 33.706 | .19856 | .00149 | 89.437 | .00135 | .00787 | .00747 |
| #3 | 34.041 | .20212 | .00096 | 90.110 | .00211 | .00932 | .00686 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164912 Acquired: 9/1/2017 20:44:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00283** | **.00745** | **5.1930** | **-.00070** | **.57865** | **-.01062** | **.00325** |
| Stddev | .00087 | .00745 | .0062 | .00140 | .00284 | .00616 | .00102 |
| %RSD | 30.611 | 100.09 | .11892 | 199.10 | .49089 | 58.036 | 31.362 |
| #1 | .00329 | .01572 | 5.2001 | -.00110 | .57953 | -.01270 | .00209 |
| #2 | .00183 | .00537 | 5.1899 | .00085 | .57547 | -.00369 | .00368 |
| #3 | .00338 | .00125 | 5.1890 | -.00186 | .58094 | -.01548 | .00399 |
| 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 | **.00137** | **.00308** | F **-.07869** |
| Stddev | .00093 | .00034 | .21190 |
| %RSD | 67.723 | 11.006 | 269.29 |
| #1 | .00066 | .00337 | -.15909 |
| #2 | .00104 | .00316 | .16164 |
| #3 | .00242 | .00271 | -.23861 |
| 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 | **9385.1** | **74956.** | **6536.1** |
| Stddev | 29.3 | 168. | 24.0 |
| %RSD | .31206 | .22349 | .36723 |
| #1 | 9359.6 | 74811. | 6514.5 |
| #2 | 9417.1 | 74917. | 6562.0 |
| #3 | 9378.5 | 75139. | 6531.9 |

Approved: September 05, 2017

Ki K Buck

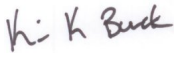
Sample Name: L1708164913 Acquired: 9/1/2017 20:48:11 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00117** | **.01198** | **.00014** | **.59108** | **.02519** | **-.00000** | **83.016** |
| Stddev | .00113 | .01012 | .00693 | .00149 | .00065 | .00002 | .362 |
| %RSD | 96.634 | 84.506 | 5113.9 | .25127 | 2.5749 | 1067.4 | .43625 |
| #1 | -.00003 | .00348 | -.00716 | .59268 | .02462 | .00002 | 82.983 |
| #2 | .00132 | .02318 | .00664 | .59081 | .02504 | .00001 | 82.672 |
| #3 | .00223 | .00929 | .00093 | .58974 | .02590 | -.00003 | 83.394 |
| 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 | **.00069** | **-.00002** | **.04847** | **.00103** | **.01875** | **7.8129** | **.00820** |
| Stddev | .00018 | .00058 | .00093 | .00085 | .00553 | .0642 | .00382 |
| %RSD | 26.603 | 2391.8 | 1.9200 | 81.735 | 29.500 | .82188 | 46.530 |
| #1 | .00055 | -.00067 | .04948 | .00137 | .01957 | 7.8604 | .00958 |
| #2 | .00063 | .00014 | .04764 | .00007 | .01285 | 7.8385 | .01114 |
| #3 | .00090 | .00046 | .04829 | .00166 | .02382 | 7.7398 | .00389 |
| 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 | **24.345** | **.04404** | **.00160** | **85.578** | **.00190** | **.00562** | **.00535** |
| Stddev | .271 | .00186 | .00063 | .391 | .00027 | .00403 | .00183 |
| %RSD | 1.1134 | 4.2119 | 39.033 | .45694 | 14.385 | 71.606 | 34.147 |
| #1 | 24.042 | .04468 | .00192 | 85.282 | .00219 | .00159 | .00369 |
| #2 | 24.430 | .04549 | .00088 | 85.429 | .00165 | .00964 | .00507 |
| #3 | 24.564 | .04195 | .00201 | 86.021 | .00185 | .00564 | .00731 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017



Sample Name: L1708164913 Acquired: 9/1/2017 20:48:11 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **-.00004** | **.00600** | **5.1344** | **-.00007** | **.38213** | **-.00323** | **.00102** |
| Stddev | .00226 | .00704 | .0094 | .00102 | .00100 | .00392 | .00444 |
| %RSD | 5506.7 | 117.41 | .18282 | 1524.1 | .26286 | 121.24 | 434.01 |
| #1 | .00163 | .00581 | 5.1250 | .00073 | .38216 | -.00107 | -.00161 |
| #2 | -.00261 | .01313 | 5.1438 | -.00121 | .38112 | -.00087 | .00615 |
| #3 | .00086 | -.00095 | 5.1345 | .00028 | .38313 | -.00775 | -.00148 |
| 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 | **.00147** | **.00260** | F **-.16130** |
| Stddev | .00059 | .00009 | .43363 |
| %RSD | 39.848 | 3.5262 | 268.83 |
| #1 | .00207 | .00270 | -.20907 |
| #2 | .00146 | .00252 | .29423 |
| #3 | .00089 | .00257 | -.56907 |
| 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 | **9512.4** | **75852.** | **6483.5** |
| Stddev | 26.6 | 50. | 55.5 |
| %RSD | .28003 | .06613 | .85618 |
| #1 | 9539.2 | 75899. | 6541.1 |
| #2 | 9485.9 | 75799. | 6478.9 |
| #3 | 9512.1 | 75857. | 6430.4 |

Approved: September 05, 2017

Kim K Buck

Sample Name: L1708164914 Acquired: 9/1/2017 20:51:51 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00077** | **.11077** | **.00076** | **1.4523** | **.02335** | **.00007** | **257.89** | **.00063** |
| Stddev | .00333 | .00153 | .00278 | .0049 | .00115 | .00004 | .45 | .00010 |
| %RSD | 430.14 | 1.3846 | 365.56 | .33540 | 4.9067 | 54.017 | .17333 | 16.454 |
| #1 | .00090 | .11200 | .00191 | 1.4472 | .02426 | .00007 | 257.61 | .00061 |
| #2 | .00404 | .10905 | -.00241 | 1.4569 | .02373 | .00011 | 257.66 | .00054 |
| #3 | -.00261 | .11127 | .00278 | 1.4527 | .02207 | .00003 | 258.40 | .00075 |
| 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 | **.00010** | **.00181** | **.00301** | **.08859** | **22.233** | **.03205** | **81.769** | **.40292** |
| Stddev | .00051 | .00028 | .00208 | .00579 | .167 | .00488 | .856 | .00353 |
| %RSD | 486.89 | 15.457 | 68.904 | 6.5363 | .75032 | 15.233 | 1.0464 | .87587 |
| #1 | .00069 | .00156 | .00437 | .08236 | 22.040 | .02960 | 80.830 | .40298 |
| #2 | -.00012 | .00176 | .00062 | .09381 | 22.326 | .03767 | 81.972 | .39936 |
| #3 | -.00025 | .00211 | .00404 | .08961 | 22.331 | .02887 | 82.505 | .40642 |
| 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 | **.00640** | **69.749** | **.00653** | **.00529** | **.00704** | **.00292** | **-.00085** | **6.7944** |
| Stddev | .00036 | .192 | .00157 | .00257 | .00515 | .00623 | .00645 | .0117 |
| %RSD | 5.5949 | .27458 | 23.983 | 48.668 | 73.100 | 213.39 | 756.19 | .17271 |
| #1 | .00619 | 69.576 | .00819 | .00809 | .01189 | .00240 | .00544 | 6.7918 |
| #2 | .00682 | 69.716 | .00631 | .00302 | .00164 | .00939 | -.00056 | 6.8073 |
| #3 | .00620 | 69.954 | .00508 | .00476 | .00760 | -.00304 | -.00744 | 6.7843 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: L1708164914 Acquired: 9/1/2017 20:51:51 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **-.00093** | **2.1602** | **-.01916** | **.00092** | **.00236** | **.02139** | **.20987** |
| Stddev | .00026 | .0064 | .00461 | .00326 | .00042 | .00009 | .26789 |
| %RSD | 28.019 | .29528 | 24.036 | 353.98 | 17.782 | .42466 | 127.65 |
| #1 | -.00114 | 2.1572 | -.01907 | -.00043 | .00254 | .02133 | -.01904 |
| #2 | -.00102 | 2.1558 | -.02381 | -.00145 | .00188 | .02149 | .14414 |
| #3 | -.00064 | 2.1675 | -.01460 | .00464 | .00266 | .02134 | .50451 |
| 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 | **9279.4** | **74006.** | **6520.2** |
| Stddev | 32.9 | 138. | 21.8 |
| %RSD | .35401 | .18663 | .33368 |
| #1 | 9310.8 | 74162. | 6539.5 |
| #2 | 9282.3 | 73954. | 6524.4 |
| #3 | 9245.3 | 73901. | 6496.6 |

Approved: September 05, 2017

Kristi K Buck

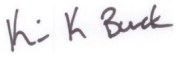
Sample Name: CCV Acquired: 9/1/2017 20:55:30 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.40771** | **10.024** | **.39636** | **.50449** | **.99614** | **.04988** | **9.8453** |
| Stddev | .00220 | .008 | .00285 | .00436 | .00400 | .00006 | .0742 |
| %RSD | .53921 | .07519 | .71809 | .86418 | .40159 | .12625 | .75401 |
| #1 | .40727 | 10.016 | .39310 | .50005 | 1.0003 | .04991 | 9.9171 |
| #2 | .40577 | 10.025 | .39834 | .50877 | .99231 | .04992 | 9.7689 |
| #3 | .41010 | 10.031 | .39763 | .50464 | .99583 | .04981 | 9.8501 |
| 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 | **.04981** | **.19831** | **.49779** | **.50050** | **3.9520** | **50.504** | **1.0039** |
| Stddev | .00049 | .00047 | .00193 | .00058 | .0252 | .242 | .0037 |
| %RSD | .98869 | .23712 | .38826 | .11675 | .63711 | .47830 | .36906 |
| #1 | .05003 | .19791 | .49623 | .50100 | 3.9652 | 50.405 | 1.0069 |
| #2 | .05016 | .19883 | .49995 | .50064 | 3.9230 | 50.328 | .99975 |
| #3 | .04925 | .19818 | .49718 | .49986 | 3.9680 | 50.780 | 1.0049 |
| 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 | **9.9010** | **.48613** | **1.0092** | **50.440** | **.50522** | **9.8445** | **.49559** |
| Stddev | .1415 | .00315 | .0011 | .149 | .00131 | .0129 | .00405 |
| %RSD | 1.4294 | .64862 | .10757 | .29545 | .25887 | .13051 | .81810 |
| #1 | 9.8448 | .48667 | 1.0102 | 50.504 | .50467 | 9.8593 | .49539 |
| #2 | 9.7962 | .48274 | 1.0094 | 50.269 | .50427 | 9.8374 | .49974 |
| #3 | 10.062 | .48898 | 1.0080 | 50.546 | .50671 | 9.8368 | .49163 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

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Sample Name: CCV Acquired: 9/1/2017 20:55:30 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **1.1891** | **.39683** | **4.9578** | **1.0124** | **.99218** | **.99169** | **.50825** |
| Stddev | .0035 | .00352 | .0031 | .0009 | .00169 | .00321 | .00414 |
| %RSD | .29632 | .88597 | .06169 | .08914 | .17004 | .32322 | .81372 |
| #1 | 1.1851 | .39734 | 4.9609 | 1.0114 | .99260 | .99111 | .50886 |
| #2 | 1.1916 | .40007 | 4.9548 | 1.0126 | .99032 | .98881 | .50384 |
| #3 | 1.1906 | .39309 | 4.9578 | 1.0132 | .99362 | .99515 | .51204 |
| 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 | **.99548** | **1.0051** | F **692.90** |
| Stddev | .00067 | .0006 | 15.06 |
| %RSD | .06755 | .06044 | 2.1738 |
| #1 | .99485 | 1.0054 | 681.03 |
| #2 | .99619 | 1.0055 | 687.84 |
| #3 | .99540 | 1.0044 | 709.84 |
| 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 | **9600.0** | **75199.** | **6449.5** |
| Stddev | 9.6 | 801. | 93.8 |
| %RSD | .09955 | 1.0653 | 1.4536 |
| #1 | 9589.1 | 74285. | 6477.3 |
| #2 | 9606.6 | 75531. | 6526.2 |
| #3 | 9604.4 | 75781. | 6345.0 |

Approved: September 05, 2017

Ki K Buck

Sample Name: CCB Acquired: 9/1/2017 20:58:55 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00281** | **-.00292** | **.00275** | **.00961** | **.00179** | **.00004** | **-.00544** |
| Stddev | .00263 | .00750 | .00298 | .00314 | .00049 | .00002 | .01854 |
| %RSD | 93.616 | 256.75 | 108.31 | 32.647 | 27.539 | 51.763 | 340.79 |
| #1 | .00496 | -.00408 | .00134 | .00612 | .00235 | .00005 | -.02561 |
| #2 | -.00012 | .00509 | .00074 | .01218 | .00147 | .00005 | -.00159 |
| #3 | .00359 | -.00978 | .00618 | .01053 | .00154 | .00001 | .01088 |
| 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** | **-.00011** | **.00026** | **.00093** | **.01757** | **.13911** | **-.00137** |
| Stddev | .00033 | .00013 | .00176 | .00182 | .01264 | .09886 | .00273 |
| %RSD | 91.051 | 116.54 | 674.74 | 196.85 | 71.946 | 71.068 | 199.88 |
| #1 | .00065 | -.00001 | -.00004 | -.00107 | .01944 | .06814 | -.00373 |
| #2 | .00043 | -.00007 | .00216 | .00134 | .00410 | .09715 | -.00199 |
| #3 | .00000 | -.00026 | -.00133 | .00251 | .02917 | .25203 | .00162 |
| 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 | **-.03776** | **-.00114** | **-.00028** | **.05652** | **.00169** | **.00373** | F **.00580** |
| Stddev | .07360 | .00014 | .00085 | .02276 | .00049 | .00536 | .00445 |
| %RSD | 194.90 | 12.382 | 306.05 | 40.266 | 29.168 | 143.79 | 76.758 |
| #1 | -.04207 | -.00099 | -.00029 | .06949 | .00168 | .00182 | .00356 |
| #2 | .03790 | -.00127 | -.00113 | .03024 | .00218 | .00977 | .00291 |
| #3 | -.10911 | -.00116 | .00058 | .06983 | .00120 | -.00042 | .01093 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | .00500 |
| Low Limit | | | | | | | -.00500 |

Approved: September 05, 2017

Ki K Buck

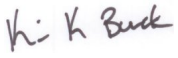
Sample Name: CCB Acquired: 9/1/2017 20:58:55 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sb2068 | Se1960 | Si2124 | Sn1899 | Sr4077 | Ti3372 | Tl1908 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00158** | **.00102** | **.00172** | **-.00006** | **.00021** | **.00137** | **-.00150** |
| Stddev | .00299 | .00291 | .00073 | .00130 | .00072 | .00478 | .00116 |
| %RSD | 189.00 | 284.35 | 42.601 | 2145.2 | 340.98 | 349.63 | 77.266 |
| #1 | .00269 | .00297 | .00173 | .00138 | -.00062 | .00343 | -.00246 |
| #2 | -.00180 | .00241 | .00098 | -.00116 | .00059 | .00477 | -.00021 |
| #3 | .00386 | -.00232 | .00244 | -.00040 | .00066 | -.00410 | -.00183 |
| 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 | **.00055** | **.00040** | F **.30922** |
| Stddev | .00071 | .00018 | .12620 |
| %RSD | 128.82 | 45.189 | 40.813 |
| #1 | .00092 | .00061 | .42126 |
| #2 | -.00027 | .00031 | .33389 |
| #3 | .00099 | .00028 | .17250 |
| 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 | **9724.0** | **77750.** | **6581.6** |
| Stddev | 33.8 | 52. | 29.7 |
| %RSD | .34735 | .06743 | .45167 |
| #1 | 9701.2 | 77809. | 6594.4 |
| #2 | 9762.8 | 77708. | 6602.7 |
| #3 | 9708.1 | 77735. | 6547.6 |

Approved: September 05, 2017



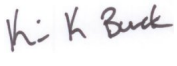
Sample Name: LLCCV Acquired: 9/1/2017 21:02:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 | Cd2288 |
|---|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00895** | **.17760** | **.00910** | **.08817** | **.00808** | **.00176** | **.45392** | **.00147** |
| Stddev | .00276 | .01239 | .00257 | .00218 | .00163 | .00005 | .02555 | .00003 |
| %RSD | 30.865 | 6.9775 | 28.224 | 2.4757 | 20.103 | 2.6417 | 5.6297 | 1.9456 |
| #1 | .00608 | .18348 | .00717 | .09026 | .00928 | .00173 | .42584 | .00145 |
| #2 | .01159 | .18596 | .01202 | .08834 | .00874 | .00173 | .47581 | .00150 |
| #3 | .00916 | .16336 | .00813 | .08590 | .00623 | .00181 | .46010 | .00145 |
| 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 | **.00411** | **.00383** | **.00683** | **.08564** | **1.1124** | **.08785** | **.49327** | **.00780** |
| Stddev | .00035 | .00081 | .00138 | .01460 | .0976 | .00300 | .03544 | .00274 |
| %RSD | 8.5343 | 21.046 | 20.195 | 17.044 | 8.7711 | 3.4103 | 7.1840 | 35.123 |
| #1 | .00402 | .00305 | .00806 | .07687 | 1.2121 | .08920 | .52212 | .00466 |
| #2 | .00381 | .00376 | .00534 | .10249 | 1.1081 | .08992 | .50398 | .00971 |
| #3 | .00449 | .00466 | .00710 | .07756 | 1.0171 | .08441 | .45372 | .00903 |
| 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 | **.00832** | **.45025** | **.01791** | **.82779** | **.01286** | **.09151** | **.02276** | **.76301** |
| Stddev | .00036 | .01045 | .00130 | .00173 | .00334 | .00172 | .00282 | .00649 |
| %RSD | 4.3333 | 2.3215 | 7.2375 | .20888 | 25.998 | 1.8843 | 12.369 | .85087 |
| #1 | .00794 | .45756 | .01928 | .82579 | .01143 | .09320 | .02422 | .75597 |
| #2 | .00837 | .43828 | .01775 | .82874 | .01046 | .09158 | .02455 | .76431 |
| #3 | .00866 | .45491 | .01670 | .82884 | .01668 | .08975 | .01952 | .76876 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017



Sample Name: LLCCV Acquired: 9/1/2017 21:02:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.43248** | **.04208** | **.02761** | **.16709** | **.00858** | **.01936** | **29.290** |
| Stddev | .00326 | .00054 | .00251 | .00179 | .00040 | .00012 | .340 |
| %RSD | .75492 | 1.2811 | 9.1035 | 1.0704 | 4.6270 | .60277 | 1.1599 |
| #1 | .42872 | .04148 | .02963 | .16608 | .00875 | .01922 | 29.139 |
| #2 | .43423 | .04224 | .02480 | .16604 | .00812 | .01945 | 29.679 |
| #3 | .43450 | .04253 | .02841 | .16916 | .00885 | .01940 | 29.051 |
| 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 | **9772.9** | **78150.** | **6580.0** |
| Stddev | 10.8 | 167. | 21.5 |
| %RSD | .11076 | .21308 | .32617 |
| #1 | 9784.4 | 78141. | 6556.9 |
| #2 | 9762.8 | 78321. | 6583.6 |
| #3 | 9771.6 | 77989. | 6599.4 |

Approved: September 05, 2017

Kim K Burk

Sample Name: LLCCV Acquired: 9/1/2017 21:06:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.01072** | **.16894** | **.00843** | **.08672** | **.00839** | **.00168** | **.44612** | **.00175** |
| Stddev | .00151 | .00429 | .00237 | .00312 | .00169 | .00004 | .03655 | .00026 |
| %RSD | 14.044 | 2.5420 | 28.090 | 3.5930 | 20.154 | 2.3289 | 8.1920 | 15.064 |
| #1 | .00901 | .17366 | .01064 | .08623 | .00672 | .00164 | .41628 | .00204 |
| #2 | .01132 | .16525 | .00593 | .09006 | .00837 | .00172 | .48688 | .00165 |
| #3 | .01184 | .16791 | .00873 | .08389 | .01010 | .00167 | .43520 | .00154 |
| 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 | **.00430** | **.00287** | **.00682** | **.09921** | **1.1000** | **.08633** | **.40359** | **.00695** |
| Stddev | .00033 | .00061 | .00080 | .02141 | .0809 | .00646 | .05627 | .00345 |
| %RSD | 7.7472 | 21.249 | 11.682 | 21.583 | 7.3587 | 7.4786 | 13.944 | 49.697 |
| #1 | .00462 | .00309 | .00748 | .11653 | 1.1544 | .07958 | .35836 | .00576 |
| #2 | .00395 | .00218 | .00704 | .07527 | 1.0070 | .09244 | .38580 | .01084 |
| #3 | .00434 | .00334 | .00594 | .10583 | 1.1386 | .08696 | .46661 | .00425 |
| 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 | **.00756** | **.47836** | **.01681** | **.79019** | **.01146** | **.08403** | **.01670** | **.73174** |
| Stddev | .00043 | .01453 | .00173 | .00743 | .00276 | .00459 | .00314 | .00403 |
| %RSD | 5.7181 | 3.0375 | 10.316 | .93992 | 24.074 | 5.4643 | 18.780 | .55125 |
| #1 | .00765 | .48187 | .01561 | .79339 | .01465 | .08562 | .01510 | .73016 |
| #2 | .00709 | .49080 | .01880 | .78170 | .00989 | .08761 | .01469 | .73632 |
| #3 | .00794 | .46239 | .01603 | .79549 | .00985 | .07885 | .02032 | .72874 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: LLCCV Acquired: 9/1/2017 21:06:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.41694** | **.04076** | **.02390** | **.16111** | **.00877** | **.01883** | **28.749** |
| Stddev | .00121 | .00030 | .00535 | .00632 | .00074 | .00011 | .508 |
| %RSD | .29084 | .73560 | 22.398 | 3.9231 | 8.4843 | .60565 | 1.7673 |
| #1 | .41793 | .04041 | .03000 | .15607 | .00848 | .01874 | 28.168 |
| #2 | .41731 | .04096 | .02000 | .15907 | .00962 | .01896 | 29.111 |
| #3 | .41559 | .04090 | .02170 | .16820 | .00822 | .01878 | 28.968 |
| 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 | **9740.3** | **77761.** | **6380.8** |
| Stddev | 5.4 | 231. | 142.7 |
| %RSD | .05578 | .29671 | 2.2367 |
| #1 | 9739.3 | 77593. | 6515.2 |
| #2 | 9746.1 | 78024. | 6396.2 |
| #3 | 9735.4 | 77666. | 6231.0 |

Approved: September 05, 2017

Kristi K Burk

Sample Name: LLCCV Acquired: 9/1/2017 21:10:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00880** | **.16865** | **.01079** | **.08471** | **.00843** | **.00162** | **.42540** | **.00133** |
| Stddev | .00224 | .00847 | .00189 | .00197 | .00038 | .00004 | .04719 | .00018 |
| %RSD | 25.491 | 5.0245 | 17.517 | 2.3243 | 4.5138 | 2.3782 | 11.093 | 13.307 |
| #1 | .00805 | .15998 | .00864 | .08694 | .00886 | .00166 | .37394 | .00140 |
| #2 | .01133 | .16906 | .01220 | .08320 | .00814 | .00158 | .43559 | .00147 |
| #3 | .00703 | .17691 | .01152 | .08399 | .00829 | .00161 | .46666 | .00113 |
| 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 | **.00372** | **.00258** | **.00571** | **.08838** | **.98773** | **.08760** | **.43299** | **.00879** |
| Stddev | .00028 | .00036 | .00149 | .02492 | .05145 | .00072 | .04295 | .00326 |
| %RSD | 7.5629 | 14.081 | 26.030 | 28.199 | 5.2086 | .82581 | 9.9198 | 37.146 |
| #1 | .00402 | .00224 | .00532 | .11647 | 1.0255 | .08793 | .38397 | .00502 |
| #2 | .00368 | .00296 | .00446 | .07976 | .92914 | .08678 | .46400 | .01083 |
| #3 | .00346 | .00253 | .00735 | .06891 | 1.0085 | .08811 | .45101 | .01051 |
| 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 | **.00819** | **.46883** | **.01666** | **.79867** | **.01502** | **.08835** | **.02800** | **.73130** |
| Stddev | .00027 | .04460 | .00035 | .00985 | .00461 | .00359 | .00706 | .00490 |
| %RSD | 3.2742 | 9.5127 | 2.0962 | 1.2327 | 30.724 | 4.0604 | 25.212 | .67045 |
| #1 | .00793 | .41788 | .01631 | .79438 | .01909 | .08577 | .02113 | .72654 |
| #2 | .00819 | .50082 | .01701 | .80994 | .01596 | .08684 | .03524 | .73103 |
| #3 | .00846 | .48778 | .01665 | .79171 | .01000 | .09245 | .02764 | .73633 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | | |
| Low Limit | | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: LLCCV Acquired: 9/1/2017 21:10:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Sn1899 | Sr4077 | Ti3372 | Tl1908 | V_2924 | Zn2062 | Zr3391 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.41695** | **.04097** | **.02071** | **.16134** | **.00855** | **.01864** | **27.774** |
| Stddev | .00183 | .00028 | .00466 | .00828 | .00059 | .00013 | .096 |
| %RSD | .43818 | .68724 | 22.484 | 5.1338 | 6.9300 | .68248 | .34498 |
| #1 | .41537 | .04123 | .01585 | .15486 | .00824 | .01870 | 27.884 |
| #2 | .41895 | .04102 | .02114 | .17067 | .00924 | .01873 | 27.715 |
| #3 | .41652 | .04067 | .02513 | .15848 | .00818 | .01849 | 27.722 |
| 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 | **9725.7** | **78031.** | **6532.6** |
| Stddev | 9.3 | 193. | 36.8 |
| %RSD | .09540 | .24698 | .56327 |
| #1 | 9725.0 | 77867. | 6506.9 |
| #2 | 9716.9 | 78243. | 6516.1 |
| #3 | 9735.4 | 77982. | 6574.7 |

Approved: September 05, 2017

Kim K Burk

Sample Name: ICSA Acquired: 9/1/2017 21:13:46 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | F **-.00600** | **246.92** | **.00315** | **.02121** | **-.00012** | **.00002** | **237.93** |
| Stddev | .00290 | .31 | .00113 | .00196 | .00110 | .00003 | .16 |
| %RSD | 48.365 | .12691 | 35.839 | 9.2475 | 895.97 | 152.41 | .06650 |
| #1 | -.00332 | 246.67 | .00364 | .02065 | -.00050 | .00006 | 238.03 |
| #2 | -.00560 | 246.82 | .00186 | .01958 | -.00099 | -.00001 | 237.75 |
| #3 | -.00908 | 247.27 | .00396 | .02338 | .00112 | .00002 | 238.02 |
| Check ? | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | .00400 | | | | | | |
| Low Limit | -.00400 | | | | | | |

| Elem | Cd2288 | Co2286 | Cr2677 | Cu2247 | Fe2611 | K_7664 | Li6707 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00014** | **.00001** | **-.00112** | F **.00804** | **94.611** | **.08061** | **.00091** |
| Stddev | .00035 | .00080 | .00041 | .00222 | .333 | .11527 | .00252 |
| %RSD | 255.38 | 7153.8 | 36.337 | 27.676 | .35180 | 143.00 | 278.39 |
| #1 | .00054 | -.00041 | -.00159 | .00879 | 94.461 | .20230 | .00243 |
| #2 | -.00004 | .00093 | -.00082 | .00978 | 94.379 | -.02692 | .00229 |
| #3 | -.00009 | -.00048 | -.00097 | .00553 | 94.992 | .06643 | -.00200 |
| 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 | **240.77** | **-.00322** | **-.00071** | **.05656** | **-.00393** | **.02382** | F **-.00613** |
| Stddev | .89 | .00346 | .00128 | .02006 | .00249 | .00812 | .00468 |
| %RSD | .37129 | 107.38 | 180.93 | 35.471 | 63.173 | 34.068 | 76.309 |
| #1 | 240.85 | -.00663 | .00056 | .05954 | -.00638 | .03316 | -.00808 |
| #2 | 239.83 | .00028 | -.00068 | .07497 | -.00401 | .01977 | -.00079 |
| #3 | 241.62 | -.00331 | -.00200 | .03517 | -.00141 | .01852 | -.00950 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit | | | | | | | .00400 |
| Low Limit | | | | | | | -.00400 |

Approved: September 05, 2017

Ki K Buck

Sample Name: ICSA Acquired: 9/1/2017 21:13:46 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.00544** | F **-.01318** | **.00890** | **.00011** | **.00115** | **.00488** | **.00184** |
| Stddev | .01251 | .00950 | .00257 | .00047 | .00066 | .00969 | .00158 |
| %RSD | 229.87 | 72.103 | 28.881 | 408.10 | 57.121 | 198.59 | 86.195 |
| #1 | .01986 | -.01558 | .01178 | .00002 | .00191 | .00104 | .00360 |
| #2 | -.00102 | -.00270 | .00805 | -.00030 | .00080 | .01590 | .00139 |
| #3 | -.00251 | -.02124 | .00686 | .00062 | .00074 | -.00230 | .00053 |
| 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 | **-.00495** | **-.00324** | F **-3.4830** |
| Stddev | .00082 | .00039 | .2619 |
| %RSD | 16.608 | 12.090 | 7.5180 |
| #1 | -.00423 | -.00282 | -3.3976 |
| #2 | -.00584 | -.00332 | -3.7768 |
| #3 | -.00477 | -.00359 | -3.2745 |
| 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 | **9102.1** | **71273.** | **6438.0** |
| Stddev | 8.7 | 103. | 27.0 |
| %RSD | .09596 | .14395 | .41973 |
| #1 | 9110.6 | 71165. | 6416.0 |
| #2 | 9102.7 | 71369. | 6468.1 |
| #3 | 9093.1 | 71284. | 6429.8 |

Approved: September 05, 2017

Ki K Buck

Sample Name: ICSAB Acquired: 9/1/2017 21:17:26 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.50448** | **243.32** | **.24249** | **.50372** | **.24529** | **.25361** | **235.06** |
| Stddev | .00084 | .24 | .00160 | .00613 | .00113 | .00023 | .82 |
| %RSD | .16577 | .09680 | .65903 | 1.2160 | .46148 | .08945 | .34875 |
| #1 | .50535 | 243.57 | .24102 | .51047 | .24448 | .25384 | 234.15 |
| #2 | .50442 | 243.10 | .24419 | .50217 | .24659 | .25338 | 235.73 |
| #3 | .50368 | 243.29 | .24226 | .49852 | .24481 | .25362 | 235.30 |
| 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 | **.46710** | **.23084** | **.24089** | **.24400** | **93.885** | **5.3660** | **.00156** |
| Stddev | .00020 | .00051 | .00120 | .00113 | .319 | .0505 | .00284 |
| %RSD | .04329 | .21991 | .49671 | .46361 | .33961 | .94035 | 182.25 |
| #1 | .46733 | .23031 | .24187 | .24497 | 93.588 | 5.3193 | .00309 |
| #2 | .46693 | .23089 | .23956 | .24428 | 94.222 | 5.4195 | .00331 |
| #3 | .46705 | .23132 | .24125 | .24276 | 93.846 | 5.3592 | -.00172 |
| 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 | **238.10** | **.23243** | **-.00107** | **5.1476** | **.46823** | **-.01653** | **.45896** |
| Stddev | .35 | .00112 | .00032 | .0070 | .00167 | .01044 | .00186 |
| %RSD | .14876 | .48284 | 30.125 | .13692 | .35590 | 63.155 | .40577 |
| #1 | 237.74 | .23347 | -.00131 | 5.1463 | .46715 | -.01092 | .45985 |
| #2 | 238.45 | .23124 | -.00121 | 5.1413 | .46739 | -.01010 | .45682 |
| #3 | 238.10 | .23259 | -.00070 | 5.1552 | .47015 | -.02858 | .46021 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017

Ki K Buck

Sample Name: ICSAB Acquired: 9/1/2017 21:17:26 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **.49367** | **.22611** | **.00637** | **.47967** | **.00068** | **.00175** | **.43806** |
| Stddev | .00273 | .00970 | .00018 | .00126 | .00011 | .00429 | .00323 |
| %RSD | .55389 | 4.2900 | 2.7474 | .26233 | 15.574 | 245.81 | .73634 |
| #1 | .49555 | .21896 | .00643 | .47834 | .00078 | .00117 | .44086 |
| #2 | .49493 | .22223 | .00651 | .47982 | .00057 | .00630 | .43453 |
| #3 | .49053 | .23715 | .00617 | .48085 | .00071 | -.00223 | .43880 |
| 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 | **.24128** | **.46567** | F **-2.9683** |
| Stddev | .00130 | .00018 | .0817 |
| %RSD | .53704 | .03863 | 2.7517 |
| #1 | .24060 | .46549 | -3.0460 |
| #2 | .24046 | .46566 | -2.9758 |
| #3 | .24277 | .46585 | -2.8831 |
| 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 | **9107.4** | **71013.** | **6374.7** |
| Stddev | 29.5 | 128. | 31.8 |
| %RSD | .32376 | .18036 | .49833 |
| #1 | 9111.1 | 70959. | 6347.3 |
| #2 | 9135.0 | 70922. | 6409.5 |
| #3 | 9076.3 | 71160. | 6367.3 |

Approved: September 05, 2017

Ki K Buck

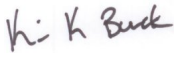
Sample Name: CCV Acquired: 9/1/2017 21:20:56 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.40409** | **10.053** | **.39665** | **.50255** | **.99926** | **.04985** | **9.8899** |
| Stddev | .00093 | .032 | .00182 | .00308 | .00283 | .00012 | .0260 |
| %RSD | .23072 | .31716 | .45975 | .61258 | .28345 | .23675 | .26242 |
| #1 | .40479 | 10.088 | .39655 | .50553 | .99890 | .04998 | 9.8980 |
| #2 | .40303 | 10.046 | .39852 | .49938 | 1.0022 | .04977 | 9.9108 |
| #3 | .40444 | 10.025 | .39487 | .50273 | .99662 | .04979 | 9.8608 |
| 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 | **.04978** | **.19734** | **.49611** | **.49970** | **3.9307** | **50.415** | **1.0029** |
| Stddev | .00024 | .00033 | .00029 | .00191 | .0417 | .211 | .0040 |
| %RSD | .47792 | .16871 | .05839 | .38169 | 1.0617 | .41785 | .40353 |
| #1 | .05005 | .19772 | .49637 | .49833 | 3.9765 | 50.654 | 1.0056 |
| #2 | .04971 | .19711 | .49617 | .50188 | 3.9209 | 50.256 | 1.0048 |
| #3 | .04959 | .19718 | .49580 | .49890 | 3.8948 | 50.334 | .99824 |
| 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 | **9.8669** | **.48421** | **1.0081** | **50.419** | **.50296** | **9.8248** | **.49865** |
| Stddev | .0294 | .00406 | .0008 | .129 | .00100 | .0104 | .00329 |
| %RSD | .29801 | .83843 | .07633 | .25677 | .19844 | .10637 | .65927 |
| #1 | 9.8330 | .48248 | 1.0088 | 50.557 | .50240 | 9.8214 | .50100 |
| #2 | 9.8859 | .48884 | 1.0082 | 50.400 | .50411 | 9.8365 | .50006 |
| #3 | 9.8818 | .48129 | 1.0073 | 50.300 | .50236 | 9.8165 | .49490 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value | | | | | | | |
| Range | | | | | | | |

Approved: September 05, 2017



Sample Name: CCV Acquired: 9/1/2017 21:20:56 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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 | **1.1960** | **.38744** | **4.9432** | **1.0102** | **.99571** | **.98610** | **.50333** |
| Stddev | .0041 | .00330 | .0043 | .0021 | .00141 | .00381 | .00076 |
| %RSD | .34530 | .85188 | .08667 | .20509 | .14140 | .38614 | .15164 |
| #1 | 1.2005 | .38929 | 4.9448 | 1.0126 | .99485 | .98540 | .50273 |
| #2 | 1.1925 | .38940 | 4.9383 | 1.0095 | .99733 | .98270 | .50419 |
| #3 | 1.1949 | .38363 | 4.9464 | 1.0086 | .99494 | .99022 | .50307 |
| 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 | **.99482** | **1.0039** | F **688.91** |
| Stddev | .00182 | .0006 | 5.40 |
| %RSD | .18294 | .06437 | .78343 |
| #1 | .99692 | 1.0032 | 695.14 |
| #2 | .99384 | 1.0044 | 685.98 |
| #3 | .99370 | 1.0041 | 685.62 |
| 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 | **9521.0** | **75215.** | **6491.7** |
| Stddev | 18.3 | 316. | 22.8 |
| %RSD | .19263 | .41976 | .35192 |
| #1 | 9504.7 | 75567. | 6465.3 |
| #2 | 9517.5 | 75124. | 6504.1 |
| #3 | 9540.8 | 74955. | 6505.7 |

Approved: September 05, 2017

Kristi K Burk

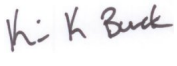
Sample Name: CCB Acquired: 9/1/2017 21:24:20 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

| Elem | Ag3280 | Al3082 | As1890 | B_2496 | Ba4554 | Be3131 | Ca4226 |
|---|---|---|---|---|---|---|---|
| Units | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Avg | **.00005** | **-.00874** | **-.00063** | **.00365** | **-.00054** | **.00011** | **.01817** |
| Stddev | .00296 | .00661 | .00273 | .00257 | .00119 | .00003 | .01712 |
| %RSD | 5463.2 | 75.577 | 433.33 | 70.317 | 219.41 | 30.306 | 94.218 |
| #1 | .00081 | -.00818 | .00135 | .00137 | -.00107 | .00015 | -.00044 |
| #2 | -.00321 | -.00243 | .00050 | .00316 | .00082 | .00010 | .03325 |
| #3 | .00257 | -.01562 | -.00375 | .00643 | -.00137 | .00008 | .02172 |
| 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** | **-.00027** | **.00005** | **.00077** | **.01541** | **.16859** | **.00149** |
| Stddev | .00026 | .00058 | .00170 | .00111 | .00851 | .00457 | .00268 |
| %RSD | 72.800 | 215.03 | 3374.3 | 143.58 | 55.239 | 2.7110 | 180.00 |
| #1 | .00029 | -.00008 | .00143 | .00204 | .02178 | .17068 | -.00144 |
| #2 | .00063 | .00019 | -.00186 | .00030 | .01871 | .16335 | .00381 |
| #3 | .00013 | -.00092 | .00058 | -.00002 | .00574 | .17175 | .00209 |
| 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 | **.07631** | **-.00149** | **-.00001** | **-.00671** | **.00001** | **.00633** | **.00471** |
| Stddev | .08814 | .00080 | .00069 | .03547 | .00108 | .00206 | .00428 |
| %RSD | 115.50 | 53.928 | 7757.7 | 528.31 | 8793.4 | 32.561 | 90.839 |
| #1 | .16315 | -.00216 | .00033 | .02512 | -.00084 | .00747 | .00421 |
| #2 | .07884 | -.00170 | .00045 | -.04495 | -.00036 | .00757 | .00921 |
| #3 | -.01307 | -.00060 | -.00080 | -.00031 | .00123 | .00395 | .00070 |
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | | | | | | | |
| Low Limit | | | | | | | |

Approved: September 05, 2017



Sample Name: CCB Acquired: 9/1/2017 21:24:20 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v478) Mode: CONC Corr. Factor: 1.00000(
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** | **.00547** | **-.00251** | **-.00037** | **.00015** | **.00061** | **-.00097** |
| Stddev | .00818 | .00405 | .00192 | .00050 | .00039 | .00392 | .00218 |
| %RSD | 509.78 | 73.962 | 76.614 | 135.85 | 256.76 | 646.60 | 225.08 |
| #1 | -.00730 | .00950 | -.00044 | -.00005 | .00004 | .00503 | -.00126 |
| #2 | .00332 | .00552 | -.00284 | -.00094 | -.00017 | -.00075 | -.00299 |
| #3 | .00879 | .00140 | -.00424 | -.00011 | .00059 | -.00246 | .00134 |
| 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 | **-.00000** | **.00008** | F **.35230** |
| Stddev | .00064 | .00010 | .36478 |
| %RSD | 17466. | 126.05 | 103.54 |
| #1 | -.00014 | -.00002 | .41457 |
| #2 | -.00057 | .00008 | -.03961 |
| #3 | .00070 | .00019 | .68193 |
| 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 | **9658.3** | **77198.** | **6479.3** |
| Stddev | 5.8 | 231. | 26.2 |
| %RSD | .06024 | .29892 | .40417 |
| #1 | 9652.7 | 77462. | 6502.2 |
| #2 | 9657.9 | 77034. | 6485.1 |
| #3 | 9664.3 | 77097. | 6450.7 |

Approved: September 05, 2017

Ki K Buck

# 2.3.2 Metals ICP-MS Data

# 2.3.2.1 Summary Data

**Login Number:** L17081498
**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:** WG628140 - All acceptance criteria were met.

**Matrix Spikes:** All acceptance criteria were met.

**SAMPLES**

**Samples:** All acceptance criteria were met.

**Narrative ID:** 128949
**Approved By:** Kerri Buck

# Certificate of Analysis

**Sample #:** L17081498-01 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW07-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 13:18
**Collect Date:** 08/25/2017 10:34 **Dilution:** 1 **File ID:** NI.090117.131831
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Total | 7440-38-2 | 0.00238 | | 0.00100 | 0.000500 |

**Sample #:** L17081498-02 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW07-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 13:21
**Collect Date:** 08/25/2017 10:34 **Dilution:** 1 **File ID:** NI.090117.132136
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Dissolved | 7440-38-2 | 0.00191 | | 0.00100 | 0.000500 |

**Sample #:** L17081498-03 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW06-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 13:24
**Collect Date:** 08/25/2017 13:54 **Dilution:** 1 **File ID:** NI.090117.132442
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Total | 7440-38-2 | 0.000929 | J | 0.00100 | 0.000500 |

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

**Sample #:** L17081498-04 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW06-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 13:27
**Collect Date:** 08/25/2017 13:54 **Dilution:** 1 **File ID:** NI.090117.132747
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Dissolved | 7440-38-2 | 0.000985 | J | 0.00100 | 0.000500 |

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

Certificate of Analysis

**Sample #:** L17081498-07 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW10-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 13:30
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** NI.090117.133053
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Total | 7440-38-2 | 0.00468 | | 0.00100 | 0.000500 |

**Sample #:** L17081498-08 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW10-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 12:41
**Collect Date:** 08/25/2017 10:20 **Dilution:** 1 **File ID:** NI.090117.124123
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Dissolved | 7440-38-2 | 0.00455 | | 0.00100 | 0.000500 |

**Sample #:** L17081498-09 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW20-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 13:33
**Collect Date:** 08/25/2017 14:10 **Dilution:** 1 **File ID:** NI.090117.133358
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Total | 7440-38-2 | 0.000821 | J | 0.00100 | 0.000500 |

| | |
|---|---|
| J | The analyte was positively identified, but the quantitation was below the RL. |

**Sample #:** L17081498-10 **PrePrep Method:** N/A **Instrument:** ICP-MS2
**Client ID:** MW20-082517 **Prep Method:** 3015A **Prep Date:** 08/31/2017 09:05
**Matrix:** Water **Analytical Method:** 6020A **Cal Date:** 09/01/2017 12:04
**Workgroup #:** WG628140 **Analyst:** JYH **Run Date:** 09/01/2017 13:37
**Collect Date:** 08/25/2017 14:10 **Dilution:** 1 **File ID:** NI.090117.133704
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | RL | MDL |
|---|---|---|---|---|---|
| Arsenic, Dissolved | 7440-38-2 | 0.000672 | 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: | **Example:** |
|---|---|
| $Cs$ = Concentration computed by the data system (ug/L) | 0.1 |
| $Vf$ = Final volume | 100 |
| $Vi$ = Initial volume | 40 |
| $D$ = Dilution factor as a multiplier (10X = 10) | 1 |
| | |
| $Cx$ = Concentration of element in (ug/L) | 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: | **Example:** |
|---|---|
| $Cs$ = Concentration computed by the data system (ug/L) | 0.1 |
| $Vf$ = Final volume | 200 |
| $Vi$ = Initial volume | 0.5 |
| $D$ = Dilution factor as a multiplier (10X = 10) | 1 |
| | |
| $Cx$ = Concentration of element in (ug/kg) | 40 |

**4.0 Adjusting the concentration to dry weight:**

$$Cdry = \frac{Cx \times 100}{Px}$$

| Where: | **Example:** |
|---|---|
| $Cx$ = Concentration calculated as received (wet basis) | 40 |
| $Px$ = Percent solids of sample (%wt) | 80 |
| | |
| $Cdry$ = Concentration calculated as dry weight (ug/kg) | 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:** | WG627948 | **SOP:** | ME407 Revison 19 |
| **Analyst:** | VC | **Spike Solution:** | STD80296 |
| **Spike Analyst:** | VC | **Spike Witness:** | ERP |
| **Run Date:** | 08/31/2017 09:05 | **40 & 50 ML. DIGESTION TU** | COA19932 |
| **Method:** | 3015A | **HNO3 Lot #:** | COA19940 |
| **Balance:** | BAL016 | **MS Filters- fisher-Lot#r** | RGT40686 |
| **Instrument:** | MW-3 | | |
| **Instrument Start:** | 08/31/2017 09:11 | | |

| | SAMPLE # | Type | Matrix | Initial Amount | Final Volume | Initial Vessel Wt | Final Vessel Wt | Spike Amount | Due Date |
|---|---|---|---|---|---|---|---|---|---|
| 1 | WG627948-02 | BLANK | 1 | 20 mL | 50 mL | 184.884 g | 184.864 g | | |
| 2 | WG627948-03 | LCS | 1 | 20 mL | 50 mL | 185.193 g | 185.186 g | .25 mL | |
| 3 | L17081498-01 | SAMP | 1 | 20 mL | 50 mL | 182.826 g | 182.822 g | | 09/12/17 |
| 4 | L17081498-02 | SAMP | 1 | 20 mL | 50 mL | 184.77 g | 184.757 g | | 09/12/17 |
| 5 | L17081498-03 | RS01 | 1 | 20 mL | 50 mL | 183.289 g | 183.275 g | | 09/12/17 |
| 6 | L17081498-04 | SAMP | 1 | 20 mL | 50 mL | 182.088 g | 182.094 g | | 09/12/17 |
| 7 | L17081498-07 | SAMP | 1 | 20 mL | 50 mL | 182.851 g | 182.811 g | | 09/12/17 |
| 8 | WG627948-01 | REF | 1 | 20 mL | 50 mL | 182.084 g | 182.062 g | | |
| 9 | L17081498-08 | SAMP | 1 | 20 mL | 50 mL | 182.084 g | 182.062 g | | 09/12/17 |
| 10 | L17081498-09 | SAMP | 1 | 20 mL | 50 mL | 181.372 g | 181.361 g | | 09/12/17 |
| 11 | L17081498-10 | SAMP | 1 | 20 mL | 50 mL | 183.546 g | 183.542 g | | 09/12/17 |
| 12 | L17081589-17 | SAMP | 1 | 20 mL | 50 mL | 182.112 g | 182.086 g | | 09/13/17 |
| 13 | L17081592-18 | SAMP | 1 | 20 mL | 50 mL | 182.652 g | 182.668 g | | 09/13/17 |
| 14 | L17081644-01 | SAMP | 1 | 20 mL | 50 mL | 184.441 g | 184.423 g | | 09/07/17 |
| 15 | L17081644-02 | SAMP | 1 | 20 mL | 50 mL | 182.98 g | 182.96 g | | 09/07/17 |
| 16 | WG627948-04 | MS | 1 | 20 mL | 50 mL | 183.562 g | 183.538 g | .25 mL | |
| 17 | WG627948-05 | MSD | 1 | 20 mL | 50 mL | 183.159 g | 183.152 g | .25 mL | |

**Analyst:** Vicki Collins

**Reviewer:** Erin Potter

MW_DIG - Modified 09/30/2009
PDF ID: 5456391
Report generated: 08/31/2017 11:00

**Microbac Laboratories Inc.**

Instrument Run Log

Instrument: ICP-MS2 Dataset: 090117A.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: 628140

Comments:

| Seq. | File ID | Sample | ID | Prep | Dil | Reference | Date/Time |
|---|---|---|---|---|---|---|---|
| 1 | NI.090117.115146 | Blank | Blank | | 1 | | 09/01/17 11:51 |
| 2 | NI.090117.115452 | WG628241-01 | Calibration Point | | 1 | | 09/01/17 11:54 |
| 3 | NI.090117.115758 | WG628241-02 | Calibration Point | | 1 | | 09/01/17 11:57 |
| 4 | NI.090117.120103 | WG628241-03 | Calibration Point | | 1 | | 09/01/17 12:01 |
| 5 | NI.090117.120409 | WG628241-04 | Calibration Point | | 1 | | 09/01/17 12:04 |
| 6 | NI.090117.120717 | WG628241-05 | Initial Calibration Verification | | 1 | | 09/01/17 12:07 |
| 7 | NI.090117.121025 | WG628241-06 | Initial Calib Blank | | 1 | | 09/01/17 12:10 |
| 8 | NI.090117.121332 | WG628241-07 | Low Level Initial Calibration V | | 1 | | 09/01/17 12:13 |
| 9 | NI.090117.121905 | WG628241-08 | Low Level Initial Calibration V | | 1 | | 09/01/17 12:19 |
| 10 | NI.090117.122223 | WG628241-09 | Interference Check | | 1 | | 09/01/17 12:22 |
| 11 | NI.090117.122529 | WG628241-10 | Interference Check | | 1 | | 09/01/17 12:25 |
| 12 | NI.090117.122835 | WG628241-11 | CCV | | 1 | | 09/01/17 12:28 |
| 13 | NI.090117.123141 | WG628241-12 | CCB | | 1 | | 09/01/17 12:31 |
| 14 | NI.090117.123512 | WG627948-02 | Method/Prep Blank | 20/50 | 1 | | 09/01/17 12:35 |
| 15 | NI.090117.123817 | WG627948-03 | Laboratory Control S | 20/50 | 1 | | 09/01/17 12:38 |
| 16 | NI.090117.124123 | L17081498-08 | MW10-082517 | | 1 | WG627948-01 | 09/01/17 12:41 |
| 17 | NI.090117.124429 | WG627948-04 | Matrix Spike | 20/50 | 1 | L17081498-08 | 09/01/17 12:44 |
| 18 | NI.090117.124734 | WG627948-05 | Matrix Spike Duplica | 20/50 | 1 | L17081498-08 | 09/01/17 12:47 |
| 19 | NI.090117.125040 | L17081589-17 | EQUIPMENT BLANK | 20/50 | 1 | | 09/01/17 12:50 |
| 20 | NI.090117.125345 | L17081592-18 | EQUIPMENT BLANK | 20/50 | 1 | | 09/01/17 12:53 |
| 21 | NI.090117.125651 | WG628140-01 | Post Digestion Spike | | 1 | L17081592-18 | 09/01/17 12:56 |
| 22 | NI.090117.125956 | WG628140-02 | Serial Dilution | | 5 | L17081592-18 | 09/01/17 12:59 |
| 23 | NI.090117.130302 | WG628140-02 | Serial Dilution | | 25 | L17081592-18 | 09/01/17 13:03 |
| 24 | NI.090117.130608 | WG628241-13 | CCV | | 1 | | 09/01/17 13:06 |
| 25 | NI.090117.130914 | WG628241-14 | CCB | | 1 | | 09/01/17 13:09 |
| 26 | NI.090117.131220 | L17081644-01 | BAILEY 006 PERMIT | 20/50 | 1 | | 09/01/17 13:12 |
| 27 | NI.090117.131525 | L17081644-02 | BAILEY 006 PERMIT | 20/50 | 1 | | 09/01/17 13:15 |
| 28 | NI.090117.131831 | L17081498-01 | MW07-082517 | 20/50 | 1 | | 09/01/17 13:18 |
| 29 | NI.090117.132136 | L17081498-02 | MW07-082517 | 20/50 | 1 | | 09/01/17 13:21 |
| 30 | NI.090117.132442 | L17081498-03 | MW06-082517 | 20/50 | 1 | | 09/01/17 13:24 |
| 31 | NI.090117.132747 | L17081498-04 | MW06-082517 | 20/50 | 1 | | 09/01/17 13:27 |
| 32 | NI.090117.133053 | L17081498-07 | MW10-082517 | 20/50 | 1 | | 09/01/17 13:30 |
| 33 | NI.090117.133358 | L17081498-09 | MW20-082517 | 20/50 | 1 | | 09/01/17 13:33 |
| 34 | NI.090117.133704 | L17081498-10 | MW20-082517 | 20/50 | 1 | | 09/01/17 13:37 |

Page: 1 Approved: September 05, 2017

**Microbac Laboratories Inc.**

Instrument Run Log

Instrument: ICP-MS2 Dataset: 090117A.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: 628140

Comments:

| Seq. | File ID | Sample | ID | Prep | Dil | Reference | Date/Time |
|---|---|---|---|---|---|---|---|
| 35 | NI.090117.134011 | WG628241-15 | CCV | | 1 | | 09/01/17 13:40 |
| 36 | NI.090117.134317 | WG628241-16 | CCB | | 1 | | 09/01/17 13:43 |
| 37 | NI.090117.134658 | WG628241-17 | LLCCV | | 1 | | 09/01/17 13:46 |
| 38 | NI.090117.135004 | WG628241-18 | Interference Check | | 1 | | 09/01/17 13:50 |
| 39 | NI.090117.135309 | WG628241-19 | Interference Check | | 1 | | 09/01/17 13:53 |
| 40 | NI.090117.135616 | WG628241-20 | CCV | | 1 | | 09/01/17 13:56 |
| 41 | NI.090117.135922 | WG628241-21 | CCB | | 1 | | 09/01/17 13:59 |
| 42 | NI.090117.140228 | WG628241-22 | Low Level Continuing Calibra | | 1 | | 09/01/17 14:02 |

**Comments**

| Seq. | Rerun | Dil. | Reason | Analytes |
|---|---|---|---|---|
| 8 | | | Rerun to verify. JYH | |

Page: 2 Approved: September 05, 2017

Microbac Laboratories Inc.

Data Checklist

Date: 01-SEP-2017
Analyst: JYH
Analyst: NA
Method: 6020/6020A/200.8
Instrument: ICP-MS
Curve Workgroup: 628241
Runlog ID: 84339
Analytical Workgroups: 628140

| | |
|---|---|
| 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 | 1498,1589,1592 |
| Client Forms | X |
| Level X | |
| Level 3 | 1589,1592 |
| Level 4 | 1498 |
| 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:
05-SEP-2017

CHECKLIST1 - Modified 03/05/2008
Generated: SEP-05-2017 08:05:32

Microbac Laboratories Inc.

# HOLDING TIMES
# EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6020A AAB#: WG628140

Login Number: L17081498

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW07-082517 | 01 | 08/25/17 | | | | | 08/31/2017 | 5.9 | 180 | | 09/01/17 | 7.1 | 180 | |
| MW07-082517 | 02 | 08/25/17 | | | | | 08/31/2017 | 5.9 | 180 | | 09/01/17 | 7.1 | 180 | |
| MW06-082517 | 03 | 08/25/17 | | | | | 08/31/2017 | 5.8 | 180 | | 09/01/17 | 7 | 180 | |
| MW06-082517 | 04 | 08/25/17 | | | | | 08/31/2017 | 5.8 | 180 | | 09/01/17 | 7 | 180 | |
| MW10-082517 | 07 | 08/25/17 | | | | | 08/31/2017 | 5.9 | 180 | | 09/01/17 | 7.1 | 180 | |
| MW10-082517 | 08 | 08/25/17 | | | | | 08/31/2017 | 5.9 | 180 | | 09/01/17 | 7.1 | 180 | |
| MW20-082517 | 09 | 08/25/17 | | | | | 08/31/2017 | 5.8 | 180 | | 09/01/17 | 7 | 180 | |
| MW20-082517 | 10 | 08/25/17 | | | | | 08/31/2017 | 5.8 | 180 | | 09/01/17 | 7 | 180 | |

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5459519
Report generated 09/01/2017 14:23

Microbac Laboratories Inc.

# METHOD BLANK SUMMARY

Login Number: L17081498
Work Group: WG628140
Blank File ID: NI.090117.123512
Blank Sample ID: WG627948-02
Prep Date: 08/31/17 09:05
Instrument ID: ICP-MS2
Analyzed Date: 09/01/17 12:35
Method: 6020A
Analyst: JYH

This Method Blank Applies To The Following Samples:

| Client ID | Lab Sample ID | Lab File ID | Time Analyzed | TAG |
|---|---|---|---|---|
| LCS | WG627948-03 | NI.090117.123817 | 09/01/17 12:38 | 01 |
| MW10-082517 | L17081498-08 | NI.090117.124123 | 09/01/17 12:41 | 01 |
| MW07-082517 | L17081498-01 | NI.090117.131831 | 09/01/17 13:18 | 01 |
| MW07-082517 | L17081498-02 | NI.090117.132136 | 09/01/17 13:21 | 01 |
| MW06-082517 | L17081498-03 | NI.090117.132442 | 09/01/17 13:24 | 01 |
| MW06-082517 | L17081498-04 | NI.090117.132747 | 09/01/17 13:27 | 01 |
| MW10-082517 | L17081498-07 | NI.090117.133053 | 09/01/17 13:30 | 01 |
| MW20-082517 | L17081498-09 | NI.090117.133358 | 09/01/17 13:33 | 01 |
| MW20-082517 | L17081498-10 | NI.090117.133704 | 09/01/17 13:37 | 01 |

Report Name: BLANK_SUMMARY
PDF File ID: 5459521
Report generated 09/01/2017 14:27

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L17081498 Prep Date: 08/31/17 09:05 Sample ID: WG627948-02
Instrument ID: ICP-MS2 Run Date: 09/01/17 12:35 Prep Method: 3015A
File ID: NI.090117.123512 Analyst: JYH Method: 6020A
Workgroup (AAB#): WG628140 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-MS-01-SEP-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: 5459523
01-SEP-2017 14:27

**Microbac Laboratories Inc.**
**LABORATORY CONTROL SAMPLE (LCS)**

**Login Number:** L17081498 **Run Date:** 09/01/2017 **Sample ID:** WG627948-03
**Instrument ID:** ICP-MS2 **Run Time:** 12:38 **Prep Method:** 3015A
**File ID:** NI.090117.123817 **Analyst:** JYH **Method:** 6020A
**Workgroup (AAB#):** WG628140 **Matrix:** Water **Units:** mg/L
**QC Key:** WATERLOO **Lot#:** STD80296 **Cal ID:** ICP-MS-01-SEP-17

| Analytes | Expected | Found | % Rec | LCS Limits | Q |
|---|---|---|---|---|---|
| Arsenic, Total | 0.125 | 0.117 | 93.5 | 80 - 120 | |

**LCS - Modified 03/06/2008**
**PDF File ID: 5459525**
**Report generated: 09/01/2017 14:27**

Microbac Laboratories Inc.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum:L17081498 Cal ID:ICP-MS2- Worknum:WG628140

Instrument ID:ICP-MS2 Contract #: Method:6020A

Parent ID:WG627948-01 File ID:NI.090117.124123 Dil:1 Matrix:WATER

Sample ID:WG627948-04 MS File ID:NI.090117.124429 Dil:1 Units:mg/L

Sample ID:WG627948-05 MSD File ID:NI.090117.124734 Dil:1

| Analyte | Parent | MS Spiked | MS Found | MS %Rec | MSD Spiked | MSD Found | MSD %Rec | %RPD | %Rec Limits | RPD Limit | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arsenic, Dissolved | 0.00455 | 0.125 | 0.129 | 99.8 | 0.125 | 0.130 | 100 | 0.448 | 80 - 120 | 20 | |

* FAILS %REC LIMIT

# FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

WG_MS_MSD_DRYWT - Modified 05/26/2011

PDF File ID:5459527

Report generated 09/01/2017 14:27

**Microbac Laboratories Inc.**
Serial Dilution Report

**Login:** L17081498 **Worknum:** WG628140
**Instrument:** ICP-MS2 **Method:** 6020A
**Serial Dil:** WG628140-02 **File ID:** NI.090117.125956 **Dil:** 5 **Units:** ug/L
**Sample:** L17081592-18 **File ID:** NI.090117.125345 **Dil:** 1

| Analyte | Sample | Qual | Serial Dil | Qual | % Diff | Q |
|---|---|---|---|---|---|---|
| Arsenic | ND | U | ND | U | | |

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: 5459517**
**09/01/2017 14:27**

**Microbac Laboratories Inc.**
**POST SPIKE REPORT**

**Sample Login ID:** L17081498 **Worknum:** WG628140
**Instrument ID:** ICP-MS2 **Method:** 6020A
**Post Spike ID:** WG628140-01 **File ID:** NI.090117.125651 **Dil:** 1 **Units:** ug/L
**Sample ID:** L17081592-18 **File ID:** NI.090117.125345 **Dil:** 1 **Matrix:** Water

| Analyte | Post Spike Result | C | Sample Result | C | Spike Added(SA) | % R | Control Limit %R | Q |
|---|---|---|---|---|---|---|---|---|
| ARSENIC | 50.5 | | 0 | U | 50 | 101.1 | 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: 5459518**
**Report generated: 09/01/2017 14:27**

# Microbac Laboratories Inc.
## Initial Calibration Summary

| | | | |
|---|---|---|---|
| Login: | **L17081498** | Workgroup (AAB#): | **WG628140** |
| Analytical Method: | **6020A** | Instrument ID: | **ICP-MS2** |
| ICAL Worknum: | **WG628241** | Initial Calibration Date: | **01-SEP-2017 12:04** |

| | WG628241-01 | | WG628241-02 | | WG628241-03 | | WG628241-04 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Conc | INT | Conc | INT | Conc | INT | Conc | INT | R | Q |
| ARSENIC | 0 | -83.9 | .4 | -69.6 | 50 | 33600 | 100 | 67700 | .999921 | |

**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: 5459532
Report generated: 01-SEP-2017 14:24

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628241-06
Instrument ID: ICP-MS2 Run Time: 12:10 Method: 6020A
File ID: NI.090117.121025 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG628140 Cal ID: ICP-MS2 - 01-SEP-17
Matrix: WATER

| Analytes | MDL | RDL | Concentration | Qualifier |
|---|---|---|---|---|
| ARSENIC | .2 | .4 | .2 | U |

ICB - Modified 07/14/2009
PDF File ID: 5459536
Report generated 09/01/2017 14:24

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628241-12

Instrument ID: ICP-MS2 Run Time: 12:31 Method: 6020A

File ID: NI.090117.123141 Analyst: JYH Units: ug/L

Workgroup (AAB#): WG628140 Cal ID: ICP-MS - 01-SEP-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: 5459540
Report generated 09/05/2017 08:23

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628241-14

Instrument ID: ICP-MS2 Run Time: 13:09 Method: 6020A

File ID: NI.090117.130914 Analyst: JYH Units: ug/L

Workgroup (AAB#): WG628140 Cal ID: ICP-MS - 01-SEP-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: 5459540
Report generated 09/05/2017 08:23

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628241-16

Instrument ID: ICP-MS2 Run Time: 13:43 Method: 6020A

File ID: NI.090117.134317 Analyst: JYH Units: ug/L

Workgroup (AAB#): WG628140 Cal ID: ICP-MS - 01-SEP-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: 5459540
Report generated 09/05/2017 08:23

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628241-21

Instrument ID: ICP-MS2 Run Time: 13:59 Method: 6020A

File ID: NI.090117.135922 Analyst: JYH Units: ug/L

Workgroup (AAB#): WG628140 Cal ID: ICP-MS - 01-SEP-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: 5459540
Report generated 09/05/2017 08:23

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628241-05
Instrument ID: ICP-MS2 Run Time: 12:07 Method: 6020A
File ID: NI.090117.120717 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG628140 Cal ID: ICP-MS - 01-SEP-17
QC Key: WATERLOO

| Analyte | | Expected | Found | %REC | LIMITS | Q |
|---|---|---|---|---|---|---|
| Arsenic | | 50 | 49.3 | 98.6 | 90 - 110 | |

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 5459534
Report generated 09/01/2017 14:24

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628241-11

Instrument ID: ICP-MS2 Run Time: 12:28 Method: 6020A

File ID: NI.090117.122835 Analyst: JYH QC Key: WATERLOO

Workgroup (AAB#): WG628140 Cal ID: ICP-MS - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Arsenic | | 0.0500 | 0.0511 | mg/L | 102 | 90 - 110 | | |

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5459538

Report generated 09/05/2017 08:23

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628241-13

Instrument ID: ICP-MS2 Run Time: 13:06 Method: 6020A

File ID: NI.090117.130608 Analyst: JYH QC Key: WATERLOO

Workgroup (AAB#): WG628140 Cal ID: ICP-MS - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Arsenic | | 0.0500 | 0.0496 | mg/L | 99.2 | 90 - 110 | | |

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5459538

Report generated 09/05/2017 08:23

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628241-15

Instrument ID: ICP-MS2 Run Time: 13:40 Method: 6020A

File ID: NI.090117.134011 Analyst: JYH QC Key: WATERLOO

Workgroup (AAB#): WG628140 Cal ID: ICP-MS - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Arsenic | | 0.0500 | 0.0485 | mg/L | 97.0 | 90 - 110 | | |

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5459538

Report generated 09/05/2017 08:23

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628241-20

Instrument ID: ICP-MS2 Run Time: 13:56 Method: 6020A

File ID: NI.090117.135616 Analyst: JYH QC Key: WATERLOO

Workgroup (AAB#): WG628140 Cal ID: ICP-MS - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Arsenic | | 0.0500 | 0.0491 | mg/L | 98.2 | 90 - 110 | | |

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 5459538

Report generated 09/05/2017 08:23

Microbac Laboratories Inc.

LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628241-08

Instrument ID: ICP-MS2 Run Time: 12:19 Method: 6020A

File ID: NI.090117.121905 Analyst: JYH QC Key: WATERLOO

Workgroup (AAB#): WG628140 Cal ID: ICP-MS - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Arsenic | | 0.400 | 0.433 | ug/L | 108 | 50 - 150 | | |

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010

PDF File ID: 5459541

Report generated 09/01/2017 14:28

Microbac Laboratories Inc.

LOW LEVEL CALIBRATION VERIFICATION

Login Number: L17081498 Run Date: 09/01/2017 Sample ID: WG628241-22

Instrument ID: ICP-MS2 Run Time: 14:02 Method: 6020A

File ID: NI.090117.140228 Analyst: JYH QC Key: WATERLOO

Workgroup (AAB#): WG628140 Cal ID: ICP-MS - 01-SEP-17

Matrix: WATER

| Analyte | | Expected | Found | UNITS | %REC | LIMITS | | Q |
|---|---|---|---|---|---|---|---|---|
| Arsenic | | 0.400 | 0.439 | ug/L | 110 | 50 - 150 | | |

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010

PDF File ID: 5459541

Report generated 09/01/2017 14:28

**Microbac Laboratories Inc.**
**INTERFERENCE CHECK SAMPLES**

**Login number:** L17081498 **Workgroup (AAB#):** WG628140
**Instrument ID:** ICP-MS2 **Method:** 6020A
**Sol. A :** WG628241-09 **File ID:** NI.090117.122223 **Units:** ug/L
**Sol. AB :** WG628241-10 **File ID:** NI.090117.122529 **Matrix:** Water

| | Sol. A | | | Sol. AB | | | |
|---|---|---|---|---|---|---|---|
| ANALYTE | True | Found | %Recovery | True | Found | %Recovery | Q |
| Arsenic | NS | 0.115 | NS | 100 | 106 | 106 | |

**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: 5459537**
**Report generated 09/01/2017 14:24**

**Microbac Laboratories Inc.**
**INTERFERENCE CHECK SAMPLES**

**Login number:** L17081498 **Workgroup (AAB#):** WG628140
**Instrument ID:** ICP-MS2 **Method:** 6020A
**Sol. A :** WG628241-18 **File ID:** NI.090117.135004 **Units:** ug/L
**Sol. AB :** WG628241-19 **File ID:** NI.090117.135309 **Matrix:** Water

| | Sol. A | | | Sol. AB | | | |
|---|---|---|---|---|---|---|---|
| ANALYTE | True | Found | %Recovery | True | Found | %Recovery | Q |
| Arsenic | NS | -0.0128 | 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.**

**ICS - Modified 03/06/2008**
**PDF File ID: 5459537**
**Report generated 09/01/2017 14:24**

# Microbac Laboratories Inc.

## INTERNAL STANDARD REPORT

**Login:** L17081498 **Analytical Method:** 6020
**Analytical Workgroup:** WG628140 **Matrix:** 1
**Instrument:** ICP-MS2 **Analyst:** JYH
**ICAL Date:** 01-SEP-2017 11:54

| | | | BISMUTH | GERMANIUM | INDIUM |
|---|---|---|---|---|---|
| Sample | Type | Run Date | % Rec | % Rec | % Rec |
| L17081498-01 | SAMP | 01-SEP-2017 13:18 | 93.259 | 95.872 | 104.02 |
| L17081498-02 | SAMP | 01-SEP-2017 13:21 | 92.056 | 95.258 | 102.934 |
| L17081498-03 | SAMP | 01-SEP-2017 13:24 | 97.583 | 97.789 | 105.352 |
| L17081498-04 | SAMP | 01-SEP-2017 13:27 | 99.626 | 99.358 | 105.737 |
| L17081498-07 | SAMP | 01-SEP-2017 13:30 | 96.482 | 96.851 | 103.565 |
| L17081498-08 | SAMP | 01-SEP-2017 12:41 | 95.242 | 95.681 | 99.75 |
| L17081498-09 | SAMP | 01-SEP-2017 13:33 | 100.837 | 100.144 | 105.049 |
| L17081498-10 | SAMP | 01-SEP-2017 13:37 | 99.2 | 99.076 | 103.742 |
| L17081592-18 | SAMP | 01-SEP-2017 12:53 | 102.492 | 100.946 | 103.986 |
| WG627948-02 | BLANK | 01-SEP-2017 12:35 | 102.191 | 98.585 | 103.483 |
| WG627948-03 | LCS | 01-SEP-2017 12:38 | 103.308 | 99.158 | 105.255 |
| WG627948-04 | MS | 01-SEP-2017 12:44 | 94.234 | 95.783 | 99.638 |
| WG627948-05 | MSD | 01-SEP-2017 12:47 | 94.965 | 96.308 | 99.516 |
| WG628140-01 | PSPK | 01-SEP-2017 12:56 | 102.136 | 100.884 | 102.648 |
| WG628140-02 | SERIAL | 01-SEP-2017 12:59 | 97.029 | 92.5 | 98.395 |
| WG628241-05 | ICV | 01-SEP-2017 12:07 | 100.104 | 95.865 | 102.15 |
| WG628241-06 | ICB | 01-SEP-2017 12:10 | 96.766 | 90.534 | 98.599 |
| WG628241-08 | LLICV | 01-SEP-2017 12:19 | 102.345 | 98.17 | 101.493 |
| WG628241-09 | ICS | 01-SEP-2017 12:22 | 95.043 | 89.774 | 96.598 |
| WG628241-10 | ICS | 01-SEP-2017 12:25 | 97.542 | 92.459 | 98.826 |
| WG628241-11 | CCV | 01-SEP-2017 12:28 | 98.429 | 94.35 | 100.359 |
| WG628241-12 | CCB | 01-SEP-2017 12:31 | 98.368 | 91.271 | 100.756 |
| WG628241-13 | CCV | 01-SEP-2017 13:06 | 99.384 | 98.323 | 100.386 |
| WG628241-14 | CCB | 01-SEP-2017 13:09 | 96.801 | 92.07 | 96.281 |
| WG628241-15 | CCV | 01-SEP-2017 13:40 | 99.444 | 98.257 | 104.677 |
| WG628241-16 | CCB | 01-SEP-2017 13:43 | 96.118 | 90.691 | 98.597 |
| WG628241-18 | ICS | 01-SEP-2017 13:50 | 92.529 | 88.901 | 96.508 |
| WG628241-19 | ICS | 01-SEP-2017 13:53 | 96.12 | 93.641 | 99.873 |
| WG628241-20 | CCV | 01-SEP-2017 13:56 | 100.303 | 98.208 | 102.963 |
| WG628241-21 | CCB | 01-SEP-2017 13:59 | 92.106 | 87.185 | 94.104 |
| WG628241-22 | LLCCV | 01-SEP-2017 14:02 | 101.417 | 100.248 | 102.939 |

**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: 5459530**
**Report generated: 09/01/2017 14:27**

**Microbac Laboratories Inc.**
**LINEAR RANGE (QUARTERLY)**

**Login Number:** L17081498 **Date:** 04/12/2017
**Insturment 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: 5459528**
**Report generated: 09/01/2017 14:23**

# 2.3.2.3 Raw Data

## MassCal File Name

Mass Calibration File Name Default.tun
MassCal File Path C:\NexION Data\MassCal\Default.tun
Peak Search Window: 1.00

## Sample Information

Sample Date/Time: Friday, September 01, 2017 11:31:19

## Mass Calibration and Resolution

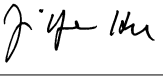
| Analyte | E Mass | Meas Mass | Mass C DAC Val | Res DAC Value | Meas Peak W | Custom Res |
|---|---|---|---|---|---|---|
| Li | 7.016 | 7.025 | 1312 | 2026 | 0.700 | |
| Mg | 23.985 | 23.975 | 4501 | 2020 | 0.702 | |
| Co | 58.933 | 58.925 | 11686 | 2022 | 0.708 | |
| In | 114.904 | 114.925 | 22861 | 2027 | 0.716 | |
| U | 238.050 | 238.025 | 47450 | 2044 | 0.710 | |

## Relative Std. Dev.

| Mass | Meas. Intens. RSD |
|---|---|
| 5.525 | 25.377 |
| 5.575 | 13.767 |
| 5.625 | 5.592 |
| 5.675 | 1.889 |
| 5.725 | 3.072 |
| 5.775 | 3.165 |
| 5.825 | 1.937 |
| 5.875 | 2.813 |
| 5.925 | 2.247 |
| 5.975 | 2.034 |
| 6.025 | 1.628 |
| 6.075 | 0.955 |
| 6.125 | 1.816 |
| 6.175 | 2.073 |
| 6.225 | 1.433 |
| 6.275 | 2.753 |
| 6.325 | 7.822 |
| 6.375 | 37.741 |
| 6.425 | 34.233 |
| 6.475 | 43.853 |
| 6.525 | 48.914 |
| 6.575 | 14.366 |
| 6.625 | 8.867 |
| 6.675 | 1.377 |
| 6.725 | 2.148 |
| 6.775 | 2.258 |
| 6.825 | 1.320 |

Report Date/Time: Friday, September 01, 2017 11:34:29
Page 1

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| | |
|---|---|
| 6.875 | 1.505 |
| 6.925 | 1.317 |
| 6.975 | 0.620 |
| 7.025 | 1.332 |
| 7.075 | 1.978 |
| 7.125 | 1.881 |
| 7.175 | 1.405 |
| 7.225 | 0.584 |
| 7.275 | 2.395 |
| 7.325 | 1.031 |
| 7.375 | 1.670 |
| 7.425 | 20.551 |
| 7.475 | 45.799 |
| 7.525 | 40.074 |
| 7.575 | 62.361 |
| 7.625 | 52.355 |
| 7.675 | 17.678 |
| 7.725 | 41.286 |
| 7.775 | 48.290 |
| 7.825 | 53.033 |
| 7.875 | 31.672 |
| 7.925 | 26.146 |
| 7.975 | 34.401 |
| 8.025 | 117.260 |
| 8.075 | 86.081 |
| 8.125 | 51.618 |
| 8.175 | 47.507 |
| 8.225 | 69.869 |
| 8.275 | 86.402 |
| 8.325 | 9.317 |
| 8.375 | 92.174 |
| 8.425 | 36.377 |
| 8.475 | 62.361 |
| 22.525 | 223.607 |
| 22.575 | 113.855 |
| 22.625 | 76.697 |
| 22.675 | 20.328 |
| 22.725 | 86.715 |
| 22.775 | 47.075 |
| 22.825 | 28.284 |
| 22.875 | 52.355 |
| 22.925 | 52.973 |
| 22.975 | 40.825 |
| 23.025 | 51.370 |
| 23.075 | 31.688 |
| 23.125 | 47.986 |
| 23.175 | 45.483 |

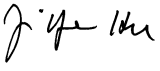


Approved: September 01, 2017

| | |
|---|---|
| 23.225 | 40.229 |
| 23.275 | 25.353 |
| 23.325 | 23.458 |
| 23.375 | 52.978 |
| 23.425 | 42.061 |
| 23.475 | 15.070 |
| 23.525 | 6.702 |
| 23.575 | 1.529 |
| 23.625 | 2.253 |
| 23.675 | 2.190 |
| 23.725 | 1.705 |
| 23.775 | 1.487 |
| 23.825 | 1.084 |
| 23.875 | 0.750 |
| 23.925 | 1.630 |
| 23.975 | 0.743 |
| 24.025 | 0.804 |
| 24.075 | 1.391 |
| 24.125 | 1.093 |
| 24.175 | 0.581 |
| 24.225 | 0.812 |
| 24.275 | 3.188 |
| 24.325 | 29.078 |
| 24.375 | 39.123 |
| 24.425 | 44.734 |
| 24.475 | 7.438 |
| 24.525 | 9.631 |
| 24.575 | 2.404 |
| 24.625 | 1.539 |
| 24.675 | 2.129 |
| 24.725 | 1.031 |
| 24.775 | 1.740 |
| 24.825 | 1.391 |
| 24.875 | 0.980 |
| 24.925 | 0.876 |
| 24.975 | 1.680 |
| 25.025 | 2.073 |
| 25.075 | 1.661 |
| 25.125 | 1.818 |
| 25.175 | 1.612 |
| 25.225 | 3.830 |
| 25.275 | 9.386 |
| 25.325 | 53.931 |
| 25.375 | 46.351 |
| 25.425 | 24.636 |
| 25.475 | 25.638 |
| 57.525 | 9.721 |



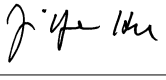
Approved: September 01, 2017



| | |
|---|---|
| 57.575 | 3.315 |
| 57.625 | 2.392 |
| 57.675 | 3.807 |
| 57.725 | 2.765 |
| 57.775 | 2.202 |
| 57.825 | 2.212 |
| 57.875 | 2.477 |
| 57.925 | 2.282 |
| 57.975 | 2.468 |
| 58.025 | 1.924 |
| 58.075 | 1.706 |
| 58.125 | 3.094 |
| 58.175 | 2.490 |
| 58.225 | 5.054 |
| 58.275 | 4.420 |
| 58.325 | 25.326 |
| 58.375 | 56.398 |
| 58.425 | 46.736 |
| 58.475 | 16.452 |
| 58.525 | 8.877 |
| 58.575 | 1.748 |
| 58.625 | 2.057 |
| 58.675 | 3.820 |
| 58.725 | 2.896 |
| 58.775 | 1.756 |
| 58.825 | 1.657 |
| 58.875 | 0.960 |
| 58.925 | 1.995 |
| 58.975 | 2.328 |
| 59.025 | 4.155 |
| 59.075 | 1.631 |
| 59.125 | 1.096 |
| 59.175 | 2.965 |
| 59.225 | 6.373 |
| 59.275 | 8.578 |
| 59.325 | 53.674 |
| 59.375 | 82.885 |
| 59.425 | 50.000 |
| 59.475 | 33.431 |
| 59.525 | 13.495 |
| 59.575 | 6.165 |
| 59.625 | 7.358 |
| 59.675 | 3.834 |
| 59.725 | 4.294 |
| 59.775 | 6.436 |
| 59.825 | 2.543 |
| 59.875 | 4.326 |



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| | |
|---|---|
| 59.925 | 6.102 |
| 59.975 | 5.632 |
| 60.025 | 3.992 |
| 60.075 | 1.532 |
| 60.125 | 3.293 |
| 60.175 | 7.264 |
| 60.225 | 8.530 |
| 60.275 | 16.983 |
| 60.325 | 43.241 |
| 60.375 | 34.312 |
| 60.425 | 57.045 |
| 60.475 | 81.441 |
| 113.525 | 12.029 |
| 113.575 | 8.434 |
| 113.625 | 8.559 |
| 113.675 | 1.840 |
| 113.725 | 6.698 |
| 113.775 | 3.230 |
| 113.825 | 8.085 |
| 113.875 | 1.870 |
| 113.925 | 4.088 |
| 113.975 | 6.065 |
| 114.025 | 4.022 |
| 114.075 | 4.202 |
| 114.125 | 3.065 |
| 114.175 | 1.696 |
| 114.225 | 8.623 |
| 114.275 | 25.309 |
| 114.325 | 42.959 |
| 114.375 | 24.549 |
| 114.425 | 14.949 |
| 114.475 | 14.153 |
| 114.525 | 6.345 |
| 114.575 | 3.605 |
| 114.625 | 3.140 |
| 114.675 | 2.278 |
| 114.725 | 2.535 |
| 114.775 | 1.992 |
| 114.825 | 1.843 |
| 114.875 | 1.496 |
| 114.925 | 1.888 |
| 114.975 | 1.608 |
| 115.025 | 1.744 |
| 115.075 | 1.602 |
| 115.125 | 1.814 |
| 115.175 | 2.976 |
| 115.225 | 2.272 |

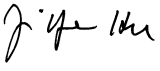


Approved: September 01, 2017

| | |
|---|---|
| 115.275 | 4.186 |
| 115.325 | 22.053 |
| 115.375 | 59.894 |
| 115.425 | 57.310 |
| 115.475 | 33.919 |
| 115.525 | 18.608 |
| 115.575 | 15.056 |
| 115.625 | 7.389 |
| 115.675 | 5.455 |
| 115.725 | 4.538 |
| 115.775 | 6.748 |
| 115.825 | 3.092 |
| 115.875 | 3.412 |
| 115.925 | 5.726 |
| 115.975 | 4.800 |
| 116.025 | 6.996 |
| 116.075 | 5.934 |
| 116.125 | 2.883 |
| 116.175 | 10.795 |
| 116.225 | 7.658 |
| 116.275 | 16.130 |
| 116.325 | 21.858 |
| 116.375 | 36.377 |
| 116.425 | 39.033 |
| 116.475 | 45.644 |
| 236.525 | |
| 236.575 | 20.306 |
| 236.625 | 31.417 |
| 236.675 | 37.134 |
| 236.725 | 18.708 |
| 236.775 | 41.833 |
| 236.825 | 19.357 |
| 236.875 | 29.211 |
| 236.925 | 17.430 |
| 236.975 | 24.776 |
| 237.025 | 20.908 |
| 237.075 | 26.854 |
| 237.125 | 24.601 |
| 237.175 | 22.720 |
| 237.225 | 19.628 |
| 237.275 | 25.495 |
| 237.325 | 18.858 |
| 237.375 | 21.317 |
| 237.425 | 30.532 |
| 237.475 | 33.171 |
| 237.525 | 25.913 |
| 237.575 | 9.565 |



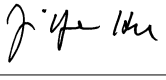
Approved: September 01, 2017



| | |
|---|---|
| 237.625 | 7.082 |
| 237.675 | 4.405 |
| 237.725 | 2.136 |
| 237.775 | 3.516 |
| 237.825 | 1.546 |
| 237.875 | 2.249 |
| 237.925 | 1.628 |
| 237.975 | 2.067 |
| 238.025 | 2.722 |
| 238.075 | 2.153 |
| 238.125 | 1.603 |
| 238.175 | 1.013 |
| 238.225 | 1.990 |
| 238.275 | 1.964 |
| 238.325 | 1.732 |
| 238.375 | 2.508 |
| 238.425 | 2.965 |
| 238.475 | 10.540 |
| 238.525 | 24.025 |
| 238.575 | 19.357 |
| 238.625 | 31.003 |
| 238.675 | 33.378 |
| 238.725 | 62.344 |
| 238.775 | 34.233 |
| 238.825 | 19.285 |
| 238.875 | 24.845 |
| 238.925 | 10.186 |
| 238.975 | 30.277 |
| 239.025 | 34.938 |
| 239.075 | 18.864 |
| 239.125 | 41.667 |
| 239.175 | 37.268 |
| 239.225 | 16.798 |
| 239.275 | 39.606 |
| 239.325 | 16.122 |
| 239.375 | 33.497 |
| 239.425 | 16.134 |
| 239.475 | 20.074 |



Approved: September 01, 2017



## SmartTune Wizard - Summary

Optimization Summary

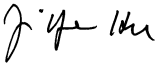
SmartTune file: C:\NexIONData\Wizard\SmartTune\SmartTune Fullmicrobac.swz

Start Time: 9/1/2017 11:36:52 AM
End Time: 9/1/2017 11:39:14 AM

Daily Performance Check - [Passed]  Optimum value(s): N/A
Obtained Intensity (Be 9.0122): 3463.60
Obtained Intensity (Mg 23.985): 119520.58
Obtained Intensity (In 114.904): 60250.23
Obtained Intensity (U 238.05): 47039.58
Obtained Intensity (Bkgd 220): 0.47
Obtained Formula (CeO 155.9 / Ce 139.905): 0.016 (=882.69 / 55302.09)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.006 (=310.94 / 55302.09)



Approved: September 01, 2017



## SmartTune Wizard - Details

```
Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\SmartTune Fullmicrobac.swz

Optimization Status

Start Time: 9/1/2017 11:36:52 AM

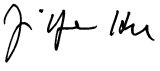
Daily Performance Check
        Optimization Settings:
                Method: C:\NexIONData\Method\ESI Daily Performance.mth.
                Intensity Criterion: Be 9.0122 > 2000
                Intensity Criterion: Mg 23.985 > 15000
                Intensity Criterion: In 114.904 > 40000
                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): 3463.60
                Obtained Intensity (Mg 23.985): 119520.58
                Obtained Intensity (In 114.904): 60250.23
                Obtained Intensity (U 238.05): 47039.58
                Obtained Intensity (Bkgd 220): 0.47
                Obtained Formula (CeO 155.9 / Ce 139.905): 0.016 (=882.69 / 55302.09)
                Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.006 (=310.94 / 55302.09)
[Passed]  Optimum value(s): N/A

End Time: 9/1/2017 11:39:14 AM
```



Approved: September 01, 2017



# Method 6020 - Summary Report

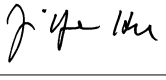
**Sample ID: Blank**
Sample Date/Time: Friday, September 01, 2017 11:51:46
Number of Replicates: 3
Autosampler Position: 1
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

## Concentration Results

| IS | Analyte | Mass | Intensity | RSD | Conc. | SD | RSD | Units | Blank Intens. | Mode |
|---|---|---|---|---|---|---|---|---|---|---|
| > | Li | 6 | 120981.2 | 2.0 | | | | ug/L | | Standard |
| | Be | 9 | 15.0 | 33.3 | | | | ug/L | | Standard |
| | Al | 27 | 4143.9 | 4.6 | | | | ug/L | | Standard |
| | Sc | 45 | 20033.2 | 3.4 | | | | ug/L | | Standard |
| | Ti | 47 | 38.3 | 22.2 | | | | ug/L | | Standard |
| | V | 51 | 1783.2 | 2.6 | | | | ug/L | | Standard |
| | Cr | 52 | 7920.4 | 1.9 | | | | ug/L | | Standard |
| | Cr | 53 | 745.0 | 9.0 | | | | ug/L | | Standard |
| | Mn | 55 | 1605.4 | 1.7 | | | | ug/L | | Standard |
| | Co | 59 | 431.3 | 5.9 | | | | ug/L | | Standard |
| | Ni | 60 | 587.7 | 1.8 | | | | ug/L | | Standard |
| | Cu | 65 | 166.7 | 6.4 | | | | ug/L | | Standard |
| | Zn | 66 | 973.0 | 5.6 | | | | ug/L | | Standard |
| > | Ge | 72 | 269739.3 | 2.6 | | | | ug/L | | Standard |
| | As | 75 | -48.8 | 111.3 | | | | ug/L | | Standard |
| | Se | 82 | 20.2 | 17.8 | | | | ug/L | | Standard |
| | Se-1 | 77 | 124.7 | 13.5 | | | | ug/L | | Standard |
| > | Ga | 71 | 30.0 | 33.3 | | | | mg/L | | Standard |
| | Rb | 85 | 46.7 | 27.0 | | | | ug/L | | Standard |
| | Y | 89 | 248303.3 | 3.8 | | | | ug/L | | Standard |
| > | Rh | 103 | 45.0 | 19.2 | | | | ug/L | | Standard |
| | Mo | 98 | 196.0 | 42.7 | | | | ug/L | | Standard |
| | Ag | 107 | 131.3 | 15.4 | | | | ug/L | | Standard |
| | Cd | 111 | 6.1 | 58.5 | | | | mg/L | | Standard |
| | Cd | 114 | 15.4 | 59.6 | | | | ug/L | | Standard |
| > | In | 115 | 310581.3 | 1.1 | | | | ug/L | | Standard |
| | Sn | 118 | 108.0 | 42.6 | | | | ug/L | | Standard |
| | Sb | 123 | 410.3 | 10.4 | | | | ug/L | | Standard |
| | Ba | 135 | 20.7 | 23.9 | | | | ug/L | | Standard |
| | Ce | 140 | 23.3 | 53.9 | | | | ug/L | | Standard |
| > | Tb | 159 | 504234.4 | 1.6 | | | | ug/L | | Standard |
| | Ho | 165 | 8.3 | 124.9 | | | | ug/L | | Standard |
| | Tl | 203 | 13.7 | 40.3 | | | | ug/L | | Standard |
| | Tl | 205 | 23.3 | 61.9 | | | | ug/L | | Standard |
| | Pb | 206 | 290.3 | 1.1 | | | | ug/L | | Standard |
| | Pb | 207 | 268.7 | 8.2 | | | | ug/L | | Standard |
| | Pb | 208 | 471.0 | 3.5 | | | | ug/L | | Standard |
| | U | 238 | 6.7 | 17.3 | | | | ug/L | | Standard |
| > | Bi | 209 | 414443.7 | 3.3 | | | | ug/L | | Standard |

**Sample ID: Blank**
Report Date/Time: Friday, September 01, 2017 11:53:57
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| | | | | | | |
|---|---|---|---|---|---|---|
| **Na** | 23 | 1.7 | 173.2 | mg/L | Standard |
| **Mg** | 24 | 30.0 | 28.9 | mg/L | Standard |
| **K** | 39 | 11.7 | 65.5 | mg/L | Standard |
| **Ca** | 43 | 43.3 | 46.6 | mg/L | Standard |
| **Fe** | 54 | 32.5 | 47.8 | mg/L | Standard |
| **Fe** | 57 | 628.3 | 20.7 | mg/L | Standard |
| **Sc-1** | 45 | 20033.2 | 3.4 | mg/L | Standard |
| **Cl** | 35 | 1.3 | 173.2 | ug/L | Standard |
| **Kr** | 83 | 4.0 | 43.3 | ug/L | Standard |
| **Br** | 81 | 1076.7 | 8.9 | ug/L | Standard |
| **P** | 31 | 35.0 | 14.3 | ug/L | Standard |
| **S** | 34 | 35.0 | 14.3 | ug/L | Standard |
| **Sr** | 88 | 346.7 | 9.2 | ug/L | Standard |
| **C** | 12 | 13.3 | 86.6 | mg/L | Standard |
| **N** | 14 | 0.0 | | mg/L | Standard |
| **Hg** | 202 | 3.3 | 173.2 | mg/L | Standard |
| **Dy** | 164 | 16.0 | 128.2 | mg/L | Standard |
| **Ho-1** | 165 | 8.3 | 124.9 | mg/L | Standard |
| **Er** | 166 | 13.3 | 43.3 | mg/L | Standard |
| **I** | 127 | 8118.8 | 3.3 | 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 | | | |

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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

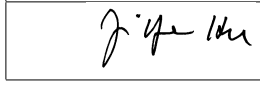
**Sample ID: Standard 1**
Sample Date/Time: Friday, September 01, 2017 11:54:52
Number of Replicates: 3
Autosampler Position: 1
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

## Concentration Results

| IS | Analyte | Mass | Intensity | RSD | Conc. | SD | RSD | Units | Blank Intens. | Mode |
|---|---|---|---|---|---|---|---|---|---|---|
| > | Li | 6 | 120176.4 | 1.4 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 13.3 | 57.3 | | | | ug/L | 15 | Standard |
| | Al | 27 | 4243.9 | 1.7 | | | | ug/L | 4144 | Standard |
| | Sc | 45 | 19924.8 | 2.1 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 31.0 | 8.5 | | | | ug/L | 38 | Standard |
| | V | 51 | 1787.4 | 1.2 | | | | ug/L | 1783 | Standard |
| | Cr | 52 | 7823.0 | 2.0 | | | | ug/L | 7920 | Standard |
| | Cr | 53 | 778.4 | 2.1 | | | | ug/L | 745 | Standard |
| | Mn | 55 | 1549.1 | 3.2 | | | | ug/L | 1605 | Standard |
| | Co | 59 | 432.0 | 9.9 | | | | ug/L | 431 | Standard |
| | Ni | 60 | 561.3 | 1.7 | | | | ug/L | 588 | Standard |
| | Cu | 65 | 139.7 | 8.1 | | | | ug/L | 167 | Standard |
| | Zn | 66 | 989.0 | 4.7 | | | | ug/L | 973 | Standard |
| > | Ge | 72 | 268016.3 | 2.0 | | | | ug/L | 269739 | Standard |
| | As | 75 | -83.9 | 18.9 | | | | ug/L | -49 | Standard |
| | Se | 82 | 21.2 | 23.5 | | | | ug/L | 20 | Standard |
| | Se-1 | 77 | 126.7 | 2.8 | | | | ug/L | 125 | Standard |
| > | Ga | 71 | 40.0 | 12.5 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 33.3 | 37.7 | | | | ug/L | 47 | Standard |
| | Y | 89 | 246944.5 | 0.3 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 51.7 | 24.4 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 77.5 | 20.3 | | | | ug/L | 196 | Standard |
| | Ag | 107 | 106.3 | 10.7 | | | | ug/L | 131 | Standard |
| | Cd | 111 | 7.3 | 42.0 | | | | mg/L | 6 | Standard |
| | Cd | 114 | 22.5 | 45.7 | | | | ug/L | 15 | Standard |
| > | In | 115 | 317281.5 | 0.7 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 91.7 | 13.6 | | | | ug/L | 108 | Standard |
| | Sb | 123 | 151.4 | 18.6 | | | | ug/L | 410 | Standard |
| | Ba | 135 | 25.0 | 8.0 | | | | ug/L | 21 | Standard |
| | Ce | 140 | 28.3 | 27.0 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 513373.2 | 2.1 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 15.0 | 33.3 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 10.3 | 14.8 | | | | ug/L | 14 | Standard |
| | Tl | 205 | 21.7 | 35.3 | | | | ug/L | 23 | Standard |
| | Pb | 206 | 306.3 | 3.0 | | | | ug/L | 290 | Standard |
| | Pb | 207 | 260.3 | 9.3 | | | | ug/L | 269 | Standard |
| | Pb | 208 | 453.3 | 5.6 | | | | ug/L | 471 | Standard |
| | U | 238 | 6.7 | 17.3 | | | | ug/L | 7 | Standard |
| > | Bi | 209 | 419396.7 | 1.5 | | | | ug/L | 414444 | Standard |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Na** | 23 | 3.3 | 173.2 | mg/L | 2 | Standard |
| **Mg** | 24 | 21.7 | 35.3 | mg/L | 30 | Standard |
| **K** | 39 | 6.7 | 43.3 | mg/L | 12 | Standard |
| **Ca** | 43 | 55.0 | 27.3 | mg/L | 43 | Standard |
| **Fe** | 54 | 24.4 | 20.2 | mg/L | 33 | Standard |
| **Fe** | 57 | 640.0 | 8.1 | mg/L | 628 | Standard |
| **Sc-1** | 45 | 19924.8 | 2.1 | mg/L | 20033 | Standard |
| **Cl** | 35 | 0.7 | 173.2 | ug/L | 1 | Standard |
| **Kr** | 83 | 7.3 | 61.5 | ug/L | 4 | Standard |
| **Br** | 81 | 933.4 | 18.5 | ug/L | 1077 | Standard |
| **P** | 31 | 40.0 | 25.0 | ug/L | 35 | Standard |
| **S** | 34 | 18.3 | 87.7 | ug/L | 35 | Standard |
| **Sr** | 88 | 356.7 | 14.6 | ug/L | 347 | Standard |
| **C** | 12 | 13.3 | 114.6 | mg/L | 13 | Standard |
| **N** | 14 | 0.0 | | mg/L | 0 | Standard |
| **Hg** | 202 | 3.3 | 173.2 | mg/L | 3 | Standard |
| **Dy** | 164 | 12.4 | 50.0 | mg/L | 16 | Standard |
| **Ho-1** | 165 | 15.0 | 33.3 | mg/L | 8 | Standard |
| **Er** | 166 | 20.0 | 50.0 | mg/L | 13 | Standard |
| **I** | 127 | 8278.9 | 6.6 | mg/L | 8119 | 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 |
|---|---|---|---|

**Sample ID: Standard 1**
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# Method 6020 - Summary Report

**Sample ID: Standard 2**
Sample Date/Time: Friday, September 01, 2017 11:57:58
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 | 121933.7 | 1.0 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 73.3 | 7.9 | | | | ug/L | 15 | Standard |
| | Al | 27 | 10086.7 | 4.3 | | | | ug/L | 4144 | Standard |
| | Sc | 45 | 19791.3 | 2.2 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 49.0 | 23.5 | | | | ug/L | 38 | Standard |
| | V | 51 | 1918.5 | 6.1 | | | | ug/L | 1783 | Standard |
| | Cr | 52 | 7902.4 | 1.1 | | | | ug/L | 7920 | Standard |
| | Cr | 53 | 751.7 | 3.7 | | | | ug/L | 745 | Standard |
| | Mn | 55 | 1797.1 | 1.7 | | | | ug/L | 1605 | Standard |
| | Co | 59 | 725.0 | 4.9 | | | | ug/L | 431 | Standard |
| | Ni | 60 | 619.3 | 3.2 | | | | ug/L | 588 | Standard |
| | Cu | 65 | 208.7 | 2.6 | | | | ug/L | 167 | Standard |
| | Zn | 66 | 406.3 | 4.4 | | | | ug/L | 973 | Standard |
| > | Ge | 72 | 267463.8 | 1.6 | | | | ug/L | 269739 | Standard |
| | As | 75 | -69.6 | 8.8 | | | | ug/L | -49 | Standard |
| | Se | 82 | 22.6 | 23.5 | | | | ug/L | 20 | Standard |
| | Se-1 | 77 | 131.0 | 0.0 | | | | ug/L | 125 | Standard |
| > | Ga | 71 | 33.3 | 17.3 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 36.7 | 56.8 | | | | ug/L | 47 | Standard |
| | Y | 89 | 246569.4 | 2.7 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 35.0 | 49.5 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 308.2 | 13.5 | | | | ug/L | 196 | Standard |
| | Ag | 107 | 305.3 | 10.9 | | | | ug/L | 131 | Standard |
| | Cd | 111 | 64.0 | 14.0 | | | | mg/L | 6 | Standard |
| | Cd | 114 | 135.4 | 20.5 | | | | ug/L | 15 | Standard |
| > | In | 115 | 316954.5 | 0.9 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 110.3 | 13.5 | | | | ug/L | 108 | Standard |
| | Sb | 123 | 265.8 | 3.3 | | | | ug/L | 410 | Standard |
| | Ba | 135 | 80.7 | 12.4 | | | | ug/L | 21 | Standard |
| | Ce | 140 | 23.3 | 24.7 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 516943.0 | 2.1 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 5.0 | 0.0 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 396.3 | 3.5 | | | | ug/L | 14 | Standard |
| | Tl | 205 | 843.4 | 10.1 | | | | ug/L | 23 | Standard |
| | Pb | 206 | 588.7 | 4.1 | | | | ug/L | 290 | Standard |
| | Pb | 207 | 527.0 | 3.7 | | | | ug/L | 269 | Standard |
| | Pb | 208 | 895.7 | 5.0 | | | | ug/L | 471 | Standard |
| | U | 238 | 388.0 | 1.0 | | | | ug/L | 7 | Standard |
| > | Bi | 209 | 414293.6 | 2.1 | | | | ug/L | 414444 | Standard |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Na** | 23 | 1.7 | 173.2 | mg/L | 2 | Standard |
| **Mg** | 24 | 46.7 | 16.4 | mg/L | 30 | Standard |
| **K** | 39 | 13.3 | 21.7 | mg/L | 12 | Standard |
| **Ca** | 43 | 36.7 | 7.9 | mg/L | 43 | Standard |
| **Fe** | 54 | 14.4 | 1.1 | mg/L | 33 | Standard |
| **Fe** | 57 | 686.7 | 14.1 | mg/L | 628 | Standard |
| **Sc-1** | 45 | 19791.3 | 2.2 | mg/L | 20033 | Standard |
| **Cl** | 35 | 4.0 | 100.0 | ug/L | 1 | Standard |
| **Kr** | 83 | 8.3 | 27.7 | ug/L | 4 | Standard |
| **Br** | 81 | 980.0 | 14.3 | ug/L | 1077 | Standard |
| **P** | 31 | 65.0 | 35.3 | ug/L | 35 | Standard |
| **S** | 34 | 30.0 | 16.7 | ug/L | 35 | Standard |
| **Sr** | 88 | 396.7 | 13.5 | ug/L | 347 | Standard |
| **C** | 12 | 26.7 | 78.1 | mg/L | 13 | Standard |
| **N** | 14 | 3.3 | 173.2 | mg/L | 0 | Standard |
| **Hg** | 202 | 6.7 | 86.6 | mg/L | 3 | Standard |
| **Dy** | 164 | 22.9 | 50.5 | mg/L | 16 | Standard |
| **Ho-1** | 165 | 5.0 | 0.0 | mg/L | 8 | Standard |
| **Er** | 166 | 10.0 | | mg/L | 13 | Standard |
| **I** | 127 | 7802.0 | 7.1 | mg/L | 8119 | 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 |
|---|---|---|---|

**Sample ID: Standard 2**
Report Date/Time: Friday, September 01, 2017 12:00:09
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# Method 6020 - Summary Report

**Sample ID: Standard 3**
Sample Date/Time: Friday, September 01, 2017 12:01:03
Number of Replicates: 3
Autosampler Position: 3
Sample Description:
Method File: C:\NexION\Data\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 | 119539.8 | 1.3 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 65978.4 | 2.2 | 50.0000 | 1.360 | 2.7 | ug/L | 15 | Standard |
| | Al | 27 | 5411990.0 | 3.0 | 50.0000 | 2.030 | 4.1 | ug/L | 4144 | Standard |
| | Sc | 45 | 19460.8 | 3.7 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 16436.9 | 0.9 | 100.0000 | 2.515 | 2.5 | ug/L | 38 | Standard |
| | V | 51 | 273639.1 | 1.2 | 50.0000 | 1.148 | 2.3 | ug/L | 1783 | Standard |
| | Cr | 52 | 261021.6 | 0.9 | 50.0000 | 0.517 | 1.0 | ug/L | 7920 | Standard |
| | Cr | 53 | 32924.1 | 1.1 | 50.0000 | 0.646 | 1.3 | ug/L | 745 | Standard |
| | Mn | 55 | 400990.2 | 1.0 | 50.0000 | 1.005 | 2.0 | ug/L | 1605 | Standard |
| | Co | 59 | 315389.2 | 0.7 | 50.0000 | 0.764 | 1.5 | ug/L | 431 | Standard |
| | Ni | 60 | 67073.1 | 1.3 | 50.0000 | 0.993 | 2.0 | ug/L | 588 | Standard |
| | Cu | 65 | 61003.6 | 0.6 | 50.0000 | 1.000 | 2.0 | ug/L | 167 | Standard |
| | Zn | 66 | 31745.6 | 0.5 | 50.0000 | 0.932 | 1.9 | ug/L | 973 | Standard |
| > | Ge | 72 | 262761.9 | 1.7 | | | | ug/L | 269739 | Standard |
| | As | 75 | 33635.9 | 0.4 | 50.0000 | 0.960 | 1.9 | ug/L | -49 | Standard |
| | Se | 82 | 2832.1 | 1.9 | 50.0000 | 0.801 | 1.6 | ug/L | 20 | Standard |
| | Se-1 | 77 | 2176.2 | 1.8 | 50.0000 | 1.811 | 3.6 | ug/L | 125 | Standard |
| > | Ga | 71 | 40.0 | 21.7 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 480.0 | 10.8 | | | | ug/L | 47 | Standard |
| | Y | 89 | 242184.0 | 2.0 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 51.7 | 20.1 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 244210.9 | 0.2 | 100.0000 | 1.011 | 1.0 | ug/L | 196 | Standard |
| | Ag | 107 | 196972.2 | 1.4 | 50.0000 | 1.151 | 2.3 | ug/L | 131 | Standard |
| | Cd | 111 | 44758.2 | 1.9 | 50.0000 | 0.867 | 1.7 | mg/L | 6 | Standard |
| | Cd | 114 | 130727.1 | 1.5 | 50.0000 | 0.473 | 0.9 | ug/L | 15 | Standard |
| > | In | 115 | 313930.7 | 1.0 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 34887.1 | 2.6 | 50.0000 | 1.424 | 2.8 | ug/L | 108 | Standard |
| | Sb | 123 | 157703.8 | 2.4 | 50.0000 | 1.099 | 2.2 | ug/L | 410 | Standard |
| | Ba | 135 | 63305.4 | 2.4 | 50.0000 | 1.029 | 2.1 | ug/L | 21 | Standard |
| | Ce | 140 | 66.7 | 17.3 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 512001.2 | 1.2 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 15.0 | 66.7 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 370491.4 | 0.6 | 50.0000 | 1.153 | 2.3 | ug/L | 14 | Standard |
| | Tl | 205 | 852958.6 | 1.2 | 50.0000 | 1.459 | 2.9 | ug/L | 23 | Standard |
| | Pb | 206 | 285190.4 | 0.6 | 50.0000 | 1.194 | 2.4 | ug/L | 290 | Standard |
| | Pb | 207 | 251438.2 | 0.9 | 50.0000 | 1.345 | 2.7 | ug/L | 269 | Standard |
| | Pb | 208 | 439635.6 | 2.8 | 50.0000 | 2.268 | 4.5 | ug/L | 471 | Standard |
| | U | 238 | 386848.0 | 1.2 | 50.0000 | 1.498 | 3.0 | ug/L | 7 | Standard |
| > | Bi | 209 | 407195.3 | 1.8 | | | | ug/L | 414444 | Standard |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 11.7 | 24.7 | **5.0000** | 1.528 | 30.6 | mg/L | 2 | Standard |
| | **Mg** | 24 | 263.3 | 5.8 | **5.0000** | 0.509 | 10.2 | mg/L | 30 | Standard |
| | **K** | 39 | 345.0 | 7.7 | **5.0000** | 0.422 | 8.4 | mg/L | 12 | Standard |
| | **Ca** | 43 | 41.7 | 13.9 | **5.0000** | 4.921 | 98.4 | mg/L | 43 | Standard |
| | **Fe** | 54 | 209.9 | 16.1 | **5.0000** | 0.765 | 15.3 | mg/L | 33 | Standard |
| | **Fe** | 57 | 776.7 | 3.7 | **5.0000** | 1.484 | 29.7 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 19460.8 | 3.7 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 0.7 | 173.2 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 4.7 | 44.6 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 920.0 | 7.5 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 46.7 | 48.3 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 45.0 | 11.1 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 396.7 | 5.8 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 13.3 | 86.6 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 6.7 | 86.6 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 5.9 | 94.0 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 15.0 | 66.7 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 16.7 | 69.3 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 2158.5 | 3.8 | | | | mg/L | 8119 | 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: Friday, September 01, 2017 12:04:09
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 | 115448.2 | 0.9 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 129412.2 | 2.2 | 100.7678 | 2.652 | 2.6 | ug/L | 15 | Standard |
| | Al | 27 | 10920378.3 | 2.4 | 102.1941 | 2.727 | 2.7 | ug/L | 4144 | Standard |
| | Sc | 45 | 19180.5 | 3.5 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 33182.3 | 0.7 | 203.0105 | 3.609 | 1.8 | ug/L | 38 | Standard |
| | V | 51 | 539515.1 | 0.4 | 100.4247 | 1.243 | 1.2 | ug/L | 1783 | Standard |
| | Cr | 52 | 506730.5 | 0.8 | 100.2360 | 1.538 | 1.5 | ug/L | 7920 | Standard |
| | Cr | 53 | 65064.4 | 2.1 | 100.9383 | 0.988 | 1.0 | ug/L | 745 | Standard |
| | Mn | 55 | 797032.1 | 0.2 | 100.7677 | 1.074 | 1.1 | ug/L | 1605 | Standard |
| | Co | 59 | 617128.3 | 0.8 | 99.9314 | 1.458 | 1.5 | ug/L | 431 | Standard |
| | Ni | 60 | 131591.3 | 0.9 | 100.2317 | 0.726 | 0.7 | ug/L | 588 | Standard |
| | Cu | 65 | 118750.6 | 0.6 | 99.6967 | 1.314 | 1.3 | ug/L | 167 | Standard |
| | Zn | 66 | 63623.0 | 1.1 | 101.3943 | 1.864 | 1.8 | ug/L | 973 | Standard |
| > | Ge | 72 | 257574.8 | 1.1 | | | | ug/L | 269739 | Standard |
| | As | 75 | 67737.7 | 0.6 | 101.2576 | 1.384 | 1.4 | ug/L | -49 | Standard |
| | Se | 82 | 5747.3 | 1.5 | 101.8991 | 0.961 | 0.9 | ug/L | 20 | Standard |
| | Se-1 | 77 | 4255.3 | 1.5 | 101.3746 | 2.517 | 2.5 | ug/L | 125 | Standard |
| > | Ga | 71 | 83.3 | 15.1 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 391.7 | 4.8 | | | | ug/L | 47 | Standard |
| | Y | 89 | 239707.6 | 3.3 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 83.3 | 15.1 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 485568.2 | 0.5 | 199.0537 | 1.374 | 0.7 | ug/L | 196 | Standard |
| | Ag | 107 | 384985.0 | 1.0 | 98.6734 | 1.158 | 1.2 | ug/L | 131 | Standard |
| | Cd | 111 | 88997.3 | 1.9 | 99.5356 | 1.913 | 1.9 | mg/L | 6 | Standard |
| | Cd | 114 | 263761.9 | 1.5 | 100.2572 | 1.589 | 1.6 | ug/L | 15 | Standard |
| > | In | 115 | 315087.2 | 0.3 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 70278.3 | 2.4 | 100.2260 | 2.405 | 2.4 | ug/L | 108 | Standard |
| | Sb | 123 | 308743.8 | 2.8 | 98.7658 | 2.778 | 2.8 | ug/L | 410 | Standard |
| | Ba | 135 | 127494.0 | 2.2 | 100.1710 | 2.085 | 2.1 | ug/L | 21 | Standard |
| | Ce | 140 | 436.7 | 15.1 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 509496.3 | 1.7 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 16.7 | 34.6 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 734210.0 | 1.1 | 100.0305 | 1.651 | 1.7 | ug/L | 14 | Standard |
| | Tl | 205 | 1716533.9 | 1.7 | 100.7922 | 1.857 | 1.8 | ug/L | 23 | Standard |
| | Pb | 206 | 584640.8 | 0.3 | 101.7532 | 2.233 | 2.2 | ug/L | 290 | Standard |
| | Pb | 207 | 486112.3 | 0.3 | 98.8242 | 2.392 | 2.4 | ug/L | 269 | Standard |
| | Pb | 208 | 857958.2 | 2.6 | 99.2928 | 4.406 | 4.4 | ug/L | 471 | Standard |
| | U | 238 | 778641.2 | 1.8 | 100.8144 | 3.494 | 3.5 | ug/L | 7 | Standard |
| > | Bi | 209 | 403214.1 | 2.2 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 20.0 | 25.0 | **9.6507** | 2.886 | 29.9 | mg/L | 2 | Standard |
| | **Mg** | 24 | 450.0 | 5.8 | **9.6980** | 0.344 | 3.5 | mg/L | 30 | Standard |
| | **K** | 39 | 618.3 | 3.4 | **9.6153** | 0.661 | 6.9 | mg/L | 12 | Standard |
| | **Ca** | 43 | 48.3 | 15.8 | **10.6893** | 5.635 | 52.7 | mg/L | 43 | Standard |
| | **Fe** | 54 | 490.1 | 6.0 | **11.0496** | 0.338 | 3.1 | mg/L | 33 | Standard |
| | **Fe** | 57 | 813.4 | 12.7 | **8.5481** | 7.031 | 82.3 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 19180.5 | 3.5 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 0.0 | | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.0 | 34.6 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 1020.0 | 6.1 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 46.7 | 16.4 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 38.3 | 7.5 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 363.3 | 16.0 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 23.3 | 24.7 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 6.7 | 86.6 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 35.9 | 84.6 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 16.7 | 34.6 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 16.7 | 34.6 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 27102.6 | 4.8 | | | | mg/L | 8119 | 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. | Ca | 43 | Correlation coefficient < 0.998 |
| Corr. Coef. | Fe | 54 | Correlation coefficient < 0.998 |
| Corr. Coef. | Fe | 57 | Correlation coefficient < 0.998 |

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# Method 6020 - Summary Report

**Sample ID: QC Std 1**
Sample Date/Time: Friday, September 01, 2017 12:07:17
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 | 117628.2 | 0.9 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 64754.8 | 1.3 | **49.4856** | 1.029 | 2.1 | ug/L | 15 | Standard |
| | Al | 27 | 5436464.6 | 2.0 | **49.9103** | 1.030 | 2.1 | ug/L | 4144 | Standard |
| | Sc | 45 | 18790.0 | 6.3 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 16349.1 | 0.7 | **99.5356** | 1.166 | 1.2 | ug/L | 38 | Standard |
| | V | 51 | 271239.6 | 0.3 | **50.1489** | 0.929 | 1.9 | ug/L | 1783 | Standard |
| | Cr | 52 | 257684.2 | 0.8 | **50.0515** | 1.200 | 2.4 | ug/L | 7920 | Standard |
| | Cr | 53 | 32172.5 | 2.0 | **49.1874** | 1.776 | 3.6 | ug/L | 745 | Standard |
| | Mn | 55 | 395440.9 | 0.5 | **49.7206** | 1.002 | 2.0 | ug/L | 1605 | Standard |
| | Co | 59 | 310981.0 | 0.5 | **50.1335** | 0.921 | 1.8 | ug/L | 431 | Standard |
| | Ni | 60 | 66229.8 | 0.8 | **50.0492** | 0.400 | 0.8 | ug/L | 588 | Standard |
| | Cu | 65 | 60162.2 | 1.0 | **50.2553** | 0.839 | 1.7 | ug/L | 167 | Standard |
| | Zn | 66 | 31859.1 | 0.5 | **50.2882** | 0.896 | 1.8 | ug/L | 973 | Standard |
| > | Ge | 72 | 258586.6 | 1.6 | | | | ug/L | 269739 | Standard |
| | As | 75 | 33058.9 | 0.3 | **49.3040** | 0.625 | 1.3 | ug/L | -49 | Standard |
| | Se | 82 | 2844.4 | 2.1 | **50.0742** | 1.442 | 2.9 | ug/L | 20 | Standard |
| | Se-1 | 77 | 2122.1 | 0.1 | **48.8262** | 0.798 | 1.6 | ug/L | 125 | Standard |
| > | Ga | 71 | 38.3 | 27.2 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 563.3 | 9.1 | | | | ug/L | 47 | Standard |
| | Y | 89 | 241735.4 | 2.3 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 58.3 | 38.7 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 244759.0 | 0.8 | **99.6471** | 1.632 | 1.6 | ug/L | 196 | Standard |
| | Ag | 107 | 196473.4 | 0.7 | **50.0028** | 0.738 | 1.5 | ug/L | 131 | Standard |
| | Cd | 111 | 45168.9 | 0.7 | **50.1670** | 0.866 | 1.7 | mg/L | 6 | Standard |
| | Cd | 114 | 133890.1 | 2.2 | **50.5549** | 1.665 | 3.3 | ug/L | 15 | Standard |
| > | In | 115 | 317257.5 | 1.1 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 35315.4 | 0.5 | **49.9714** | 0.745 | 1.5 | ug/L | 108 | Standard |
| | Sb | 123 | 164269.3 | 1.4 | **52.1810** | 1.204 | 2.3 | ug/L | 410 | Standard |
| | Ba | 135 | 65433.7 | 0.9 | **51.0597** | 0.966 | 1.9 | ug/L | 21 | Standard |
| | Ce | 140 | 86.7 | 18.5 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 508457.4 | 0.3 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 20.0 | 25.0 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 377631.0 | 1.0 | **50.0044** | 0.838 | 1.7 | ug/L | 14 | Standard |
| | Tl | 205 | 876094.8 | 0.8 | **50.0040** | 0.945 | 1.9 | ug/L | 23 | Standard |
| | Pb | 206 | 291929.8 | 1.3 | **49.3492** | 0.624 | 1.3 | ug/L | 290 | Standard |
| | Pb | 207 | 256811.9 | 0.8 | **50.7145** | 1.150 | 2.3 | ug/L | 269 | Standard |
| | Pb | 208 | 432663.1 | 2.8 | **48.6499** | 2.500 | 5.1 | ug/L | 471 | Standard |
| | U | 238 | 391293.9 | 1.7 | **49.2463** | 1.909 | 3.9 | ug/L | 7 | Standard |
| > | Bi | 209 | 414876.6 | 2.5 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 10.0 | | **4.4962** | 0.340 | 7.6 | mg/L | 2 | Standard |
| | **Mg** | 24 | 263.3 | 6.1 | **5.3846** | 0.663 | 12.3 | mg/L | 30 | Standard |
| | **K** | 39 | 316.7 | 10.3 | **4.9280** | 0.489 | 9.9 | mg/L | 12 | Standard |
| | **Ca** | 43 | 45.0 | 19.2 | **8.9031** | 8.252 | 92.7 | mg/L | 43 | Standard |
| | **Fe** | 54 | 223.4 | 15.8 | **4.9761** | 0.762 | 15.3 | mg/L | 33 | Standard |
| | **Fe** | 57 | 785.0 | 4.0 | **7.8426** | 3.310 | 42.2 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 18790.0 | 6.3 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 2.7 | 86.6 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.7 | 27.0 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 923.4 | 4.9 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 46.7 | 59.0 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 43.3 | 29.0 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 351.7 | 19.7 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 20.0 | 50.0 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 3.3 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 2.7 | 204.0 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 20.0 | 25.0 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 13.3 | 43.3 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 2206.8 | 6.4 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | | |
| | Be | 9 | 98.971 | | |
| | Al | 27 | 99.821 | | |
| | Sc | 45 | | | |
| | Ti | 47 | 99.536 | | |
| | V | 51 | 100.298 | | |
| | Cr | 52 | 100.103 | | |
| | Cr | 53 | | | |
| | Mn | 55 | 99.441 | | |
| | Co | 59 | 100.267 | | |
| | Ni | 60 | 100.098 | | |
| | Cu | 65 | 100.511 | | |
| | Zn | 66 | 100.576 | | |
| > | Ge | 72 | | 95.865 | |
| | As | 75 | 98.608 | | |
| | Se | 82 | 100.148 | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |

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| | | | | |
|---|---|---|---|---|
| Rb | 85 | | | |
| Y | 89 | | | |
| Rh | 103 | | | |
| Mo | 98 | 99.647 | | |
| Ag | 107 | 100.006 | | |
| Cd | 111 | 100.334 | | |
| Cd | 114 | | | |
| In | 115 | | | 102.150 |
| Sn | 118 | 99.943 | | |
| Sb | 123 | 104.362 | | |
| Ba | 135 | 102.119 | | |
| Ce | 140 | | | |
| Tb | 159 | | | |
| Ho | 165 | | | |
| Tl | 203 | 100.009 | | |
| Tl | 205 | | | |
| Pb | 206 | 98.698 | | |
| Pb | 207 | 101.429 | | |
| Pb | 208 | 97.300 | | |
| U | 238 | 98.493 | | |
| Bi | 209 | | | 100.104 |
| Na | 23 | 89.923 | | |
| Mg | 24 | 107.692 | | |
| K | 39 | 98.561 | | |
| Ca | 43 | 178.061 | | |
| Fe | 54 | 99.521 | | |
| Fe | 57 | 156.853 | | |
| 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 | Ca | 43 | |
| QC Std 1 | Fe | 57 | |

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# Method 6020 - Summary Report

**Sample ID: QC Std 2**
Sample Date/Time: Friday, September 01, 2017 12:10:25
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 | 112412.2 | 1.2 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 45.0 | 11.1 | **0.0319** | 0.004 | 13.2 | ug/L | 15 | Standard |
| | **Al** | 27 | 3635.4 | 3.5 | **-0.0045** | 0.001 | 18.8 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 17852.2 | 3.6 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 31.7 | 7.3 | **0.0154** | 0.014 | 88.1 | ug/L | 38 | Standard |
| | **V** | 51 | 1036.2 | 2.6 | **-0.0907** | 0.005 | 5.3 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 4554.4 | 0.7 | **-0.5133** | 0.015 | 2.8 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 615.0 | 13.0 | **-0.0673** | 0.140 | 208.7 | ug/L | 745 | Standard |
| | **Mn** | 55 | 901.0 | 8.6 | **-0.0488** | 0.011 | 23.2 | ug/L | 1605 | Standard |
| | **Co** | 59 | 338.7 | 4.8 | **-0.0053** | 0.003 | 59.6 | ug/L | 431 | Standard |
| | **Ni** | 60 | 538.0 | 1.9 | **0.0276** | 0.006 | 20.1 | ug/L | 588 | Standard |
| | **Cu** | 65 | 148.0 | 9.4 | **0.0123** | 0.013 | 107.4 | ug/L | 167 | Standard |
| | **Zn** | 66 | 124.0 | 13.8 | **-0.3676** | 0.031 | 8.3 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 244205.3 | 0.8 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | -60.8 | 40.4 | **0.0541** | 0.039 | 72.7 | ug/L | -49 | Standard |
| | **Se** | 82 | 20.4 | 37.2 | **0.0455** | 0.140 | 306.5 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 127.3 | 6.7 | **0.2484** | 0.195 | 78.5 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 33.3 | 70.9 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 23.3 | 65.5 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 224917.2 | 0.9 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 33.3 | 48.2 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 255.3 | 37.7 | **0.0824** | 0.042 | 50.8 | ug/L | 196 | Standard |
| | **Ag** | 107 | 134.7 | 8.2 | **0.0077** | 0.003 | 37.8 | ug/L | 131 | Standard |
| | **Cd** | 111 | 8.7 | 33.4 | **-0.0111** | 0.003 | 31.3 | mg/L | 6 | Standard |
| | **Cd** | 114 | 32.4 | 31.3 | **0.0114** | 0.004 | 34.0 | ug/L | 15 | Standard |
| > | **In** | 115 | 306230.7 | 1.1 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 159.3 | 20.5 | **0.1272** | 0.046 | 35.8 | ug/L | 108 | Standard |
| | **Sb** | 123 | 294.4 | 24.8 | **0.0625** | 0.025 | 39.9 | ug/L | 410 | Standard |
| | **Ba** | 135 | 22.3 | 32.4 | **0.0051** | 0.006 | 117.0 | ug/L | 21 | Standard |
| | **Ce** | 140 | 23.3 | 53.9 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 491102.4 | 2.0 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 8.3 | 69.3 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 52.0 | 53.4 | **0.0045** | 0.004 | 83.5 | ug/L | 14 | Standard |
| | **Tl** | 205 | 115.0 | 69.6 | **0.0086** | 0.005 | 54.5 | ug/L | 23 | Standard |
| | **Pb** | 206 | 332.7 | 5.8 | **0.0085** | 0.004 | 44.3 | ug/L | 290 | Standard |
| | **Pb** | 207 | 277.3 | 7.9 | **0.0024** | 0.004 | 179.9 | ug/L | 269 | Standard |
| | **Pb** | 208 | 481.0 | 12.8 | **0.0050** | 0.007 | 138.7 | ug/L | 471 | Standard |
| | **U** | 238 | 25.0 | 90.2 | **0.0044** | 0.003 | 66.9 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 401041.4 | 0.8 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 1.7 | 173.2 | **0.0631** | 1.602 | 2540.8 | mg/L | 2 | Standard |
| | **Mg** | 24 | 33.3 | 52.7 | **-0.2074** | 0.483 | 233.0 | mg/L | 30 | Standard |
| | **K** | 39 | 11.7 | 49.5 | **-0.0036** | 0.093 | 2625.6 | mg/L | 12 | Standard |
| | **Ca** | 43 | 36.7 | 51.6 | **2.8906** | 16.290 | 563.6 | mg/L | 43 | Standard |
| | **Fe** | 54 | 20.7 | 27.5 | **0.1994** | 0.147 | 74.0 | mg/L | 33 | Standard |
| | **Fe** | 57 | 655.0 | 3.8 | **2.2467** | 1.889 | 84.1 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 17852.2 | 3.6 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 2.0 | 100.0 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 7.3 | 31.5 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 736.7 | 11.1 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 25.0 | 52.9 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 35.0 | 14.3 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 400.0 | 20.0 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 3.3 | 173.2 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 9.7 | 98.4 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 8.3 | 69.3 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 6.7 | 173.2 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 2116.8 | 24.2 | | | | mg/L | 8119 | 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 | | 90.534 | |
| | 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 | 98.599 |
| | 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 | 96.766 |
| | 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 | Mg | 24 | |
| QC Std 2 | Ca | 43 | |
| QC Std 2 | Fe | 54 | |



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| | | |
|---|---|---|
| QC Std 2 | Fe | 57 |

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# Method 6020 - Summary Report

**Sample ID: QC Std 3**
Sample Date/Time: Friday, September 01, 2017 12:13:32
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
Method File: C:\NexION\Data\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 | 117483.8 | 1.1 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 291.7 | 12.9 | **0.2192** | 0.030 | 13.7 | ug/L | 15 | Standard |
| | Al | 27 | 3693.8 | 5.2 | **-0.0055** | 0.001 | 25.7 | ug/L | 4144 | Standard |
| | Sc | 45 | 19148.8 | 1.9 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 32.0 | 21.9 | **0.0052** | 0.040 | 765.9 | ug/L | 38 | Standard |
| | V | 51 | 3356.9 | 3.9 | **0.3279** | 0.030 | 9.3 | ug/L | 1783 | Standard |
| | Cr | 52 | 9018.0 | 2.0 | **0.3212** | 0.069 | 21.6 | ug/L | 7920 | Standard |
| | Cr | 53 | 1145.0 | 5.3 | **0.6983** | 0.089 | 12.8 | ug/L | 745 | Standard |
| | Mn | 55 | 5034.5 | 0.7 | **0.4642** | 0.015 | 3.1 | ug/L | 1605 | Standard |
| | Co | 59 | 2695.2 | 4.0 | **0.3709** | 0.024 | 6.5 | ug/L | 431 | Standard |
| | Ni | 60 | 2468.9 | 2.7 | **1.4699** | 0.079 | 5.4 | ug/L | 588 | Standard |
| | Cu | 65 | 1071.7 | 2.7 | **0.7759** | 0.028 | 3.6 | ug/L | 167 | Standard |
| | Zn | 66 | 4054.2 | 2.7 | **5.8797** | 0.290 | 4.9 | ug/L | 973 | Standard |
| > | Ge | 72 | 259316.1 | 1.9 | | | | ug/L | 269739 | Standard |
| | As | 75 | 195.0 | 13.4 | **0.4395** | 0.044 | 10.0 | ug/L | -49 | Standard |
| | Se | 82 | 37.4 | 3.5 | **0.3231** | 0.025 | 7.7 | ug/L | 20 | Standard |
| | Se-1 | 77 | 142.3 | 8.1 | **0.4268** | 0.338 | 79.3 | ug/L | 125 | Standard |
| > | Ga | 71 | 45.0 | 57.7 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 60.0 | 66.1 | | | | ug/L | 47 | Standard |
| | Y | 89 | 239192.0 | 1.8 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 46.7 | 22.3 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 162.0 | 5.9 | **0.0404** | 0.003 | 8.6 | ug/L | 196 | Standard |
| | Ag | 107 | 1589.8 | 0.8 | **0.3770** | 0.002 | 0.6 | ug/L | 131 | Standard |
| | Cd | 111 | 211.2 | 9.0 | **0.2135** | 0.022 | 10.1 | mg/L | 6 | Standard |
| | Cd | 114 | 616.1 | 8.6 | **0.2313** | 0.018 | 7.9 | ug/L | 15 | Standard |
| > | In | 115 | 317219.3 | 0.8 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 83.3 | 9.1 | **0.0115** | 0.010 | 84.6 | ug/L | 108 | Standard |
| | Sb | 123 | 1637.7 | 4.3 | **0.4859** | 0.020 | 4.2 | ug/L | 410 | Standard |
| | Ba | 135 | 920.0 | 6.7 | **0.7050** | 0.045 | 6.3 | ug/L | 21 | Standard |
| | Ce | 140 | 13.3 | 94.4 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 497015.3 | 1.8 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 8.3 | 34.6 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 624.7 | 2.6 | **0.0788** | 0.003 | 3.5 | ug/L | 14 | Standard |
| | Tl | 205 | 1391.7 | 4.3 | **0.0800** | 0.005 | 5.8 | ug/L | 23 | Standard |
| | Pb | 206 | 1465.7 | 2.5 | **0.1942** | 0.004 | 2.0 | ug/L | 290 | Standard |
| | Pb | 207 | 1189.4 | 3.9 | **0.1769** | 0.006 | 3.3 | ug/L | 269 | Standard |
| | Pb | 208 | 2053.7 | 0.5 | **0.1763** | 0.005 | 3.0 | ug/L | 471 | Standard |
| | U | 238 | 2969.6 | 3.7 | **0.3688** | 0.020 | 5.5 | ug/L | 7 | Standard |
| > | Bi | 209 | 421708.2 | 1.9 | | | | ug/L | 414444 | Standard |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 1.7 | 173.2 | **0.0295** | 1.544 | 5232.7 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 40.0 | 33.1 | **-0.1175** | 0.313 | 266.6 | mg/L | 30 | Standard |
| \| | **K** | 39 | 10.0 | 86.6 | **-0.0398** | 0.139 | 348.2 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 23.3 | 68.9 | **-10.1361** | 13.650 | 134.7 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 31.2 | 26.3 | **0.4073** | 0.193 | 47.5 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 695.0 | 4.5 | **1.7851** | 1.399 | 78.4 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 19148.8 | 1.9 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 2.0 | 100.0 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.0 | 20.0 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 1013.4 | 14.8 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 38.3 | 15.1 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 33.3 | 31.2 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 368.3 | 15.7 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 20.0 | 132.3 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | -0.5 | 0.0 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 8.3 | 34.6 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 10.0 | | | | | mg/L | 13 | Standard |
| | **I** | 127 | 1843.4 | 7.3 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| ⌈> | Li | 6 | | | |
| \| | Be | 9 | 109.594 | | |
| ⌊ | Al | 27 | -0.546 | | |
| ⌈ | Sc | 45 | | | |
| \| | Ti | 47 | | | |
| \| | V | 51 | 81.986 | | |
| \| | Cr | 52 | 40.147 | | |
| \| | Cr | 53 | | | |
| \| | Mn | 55 | 92.846 | | |
| \| | Co | 59 | 92.715 | | |
| \| | Ni | 60 | 91.870 | | |
| \| | Cu | 65 | 96.993 | | |
| \| | Zn | 66 | 94.075 | | |
| \|> | Ge | 72 | | 96.136 | |
| \| | As | 75 | 109.887 | | |
| \| | Se | 82 | 80.787 | | |
| ⌊ | Se-1 | 77 | | | |
| ⌈> | Ga | 71 | | | |



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| | | | | |
|---|---|---|---|---|
| Rb | 85 | | | |
| Y | 89 | | | |
| Rh | 103 | | | |
| Mo | 98 | | | |
| Ag | 107 | 94.248 | | |
| Cd | 111 | 88.946 | | |
| Cd | 114 | | | |
| In | 115 | | | 102.137 |
| Sn | 118 | | | |
| Sb | 123 | 121.485 | | |
| Ba | 135 | 93.999 | | |
| Ce | 140 | | | |
| Tb | 159 | | | |
| Ho | 165 | | | |
| Tl | 203 | 98.505 | | |
| Tl | 205 | | | |
| Pb | 206 | | | |
| Pb | 207 | | | |
| Pb | 208 | 88.165 | | |
| U | 238 | 92.207 | | |
| Bi | 209 | | | 101.753 |
| 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 | |

**Sample ID: QC Std 3**
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# Method 6020 - Summary Report

**Sample ID: QC Std 3**
Sample Date/Time: Friday, September 01, 2017 12:19:05
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 | 117885.2 | 1.4 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 250.0 | 8.0 | **0.1866** | 0.016 | 8.8 | ug/L | 15 | Standard |
| | **Al** | 27 | 3612.1 | 5.1 | **-0.0063** | 0.001 | 20.0 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 18476.3 | 1.4 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 27.7 | 14.6 | **-0.0243** | 0.024 | 96.8 | ug/L | 38 | Standard |
| | **V** | 51 | 3331.7 | 3.7 | **0.3101** | 0.014 | 4.5 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 9382.9 | 3.1 | **0.3544** | 0.053 | 14.9 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 1131.7 | 8.9 | **0.6407** | 0.148 | 23.0 | ug/L | 745 | Standard |
| | **Mn** | 55 | 5067.2 | 2.0 | **0.4549** | 0.003 | 0.7 | ug/L | 1605 | Standard |
| | **Co** | 59 | 2780.9 | 2.5 | **0.3752** | 0.012 | 3.3 | ug/L | 431 | Standard |
| | **Ni** | 60 | 2537.9 | 0.4 | **1.4818** | 0.027 | 1.8 | ug/L | 588 | Standard |
| | **Cu** | 65 | 1056.4 | 3.9 | **0.7446** | 0.026 | 3.5 | ug/L | 167 | Standard |
| | **Zn** | 66 | 4007.5 | 2.2 | **5.6712** | 0.199 | 3.5 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 264804.0 | 1.6 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | 194.6 | 9.9 | **0.4328** | 0.032 | 7.4 | ug/L | -49 | Standard |
| | **Se** | 82 | 35.3 | 23.9 | **0.2721** | 0.138 | 50.7 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 123.3 | 11.1 | **-0.1012** | 0.339 | 335.3 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 16.7 | 17.3 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 38.3 | 19.9 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 248059.4 | 1.5 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 38.3 | 32.8 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 107.6 | 19.6 | **0.0185** | 0.008 | 42.7 | ug/L | 196 | Standard |
| | **Ag** | 107 | 1528.7 | 1.9 | **0.3640** | 0.011 | 3.1 | ug/L | 131 | Standard |
| | **Cd** | 111 | 217.9 | 3.5 | **0.2224** | 0.006 | 2.7 | mg/L | 6 | Standard |
| | **Cd** | 114 | 684.5 | 5.5 | **0.2590** | 0.016 | 6.3 | ug/L | 15 | Standard |
| > | **In** | 115 | 315218.8 | 1.9 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 81.3 | 8.9 | **0.0094** | 0.009 | 90.6 | ug/L | 108 | Standard |
| | **Sb** | 123 | 1497.0 | 3.9 | **0.4442** | 0.010 | 2.4 | ug/L | 410 | Standard |
| | **Ba** | 135 | 907.7 | 3.3 | **0.6999** | 0.010 | 1.5 | ug/L | 21 | Standard |
| | **Ce** | 140 | 25.0 | 72.1 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 490157.7 | 3.3 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 10.0 | 50.0 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 601.7 | 1.0 | **0.0753** | 0.002 | 2.2 | ug/L | 14 | Standard |
| | **Tl** | 205 | 1431.7 | 3.4 | **0.0818** | 0.003 | 3.6 | ug/L | 23 | Standard |
| | **Pb** | 206 | 1458.4 | 3.9 | **0.1916** | 0.009 | 4.4 | ug/L | 290 | Standard |
| | **Pb** | 207 | 1183.4 | 1.4 | **0.1744** | 0.005 | 2.7 | ug/L | 269 | Standard |
| | **Pb** | 208 | 2050.1 | 2.3 | **0.1746** | 0.008 | 4.4 | ug/L | 471 | Standard |
| | **U** | 238 | 2973.6 | 3.2 | **0.3670** | 0.015 | 4.1 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 424160.7 | 1.2 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 0.0 | | **-0.8620** | 0.000 | 0.0 | mg/L | 2 | Standard |
| | **Mg** | 24 | 36.7 | 68.6 | **-0.1587** | 0.636 | 400.4 | mg/L | 30 | Standard |
| | **K** | 39 | 20.0 | 86.6 | **0.1298** | 0.287 | 221.0 | mg/L | 12 | Standard |
| | **Ca** | 43 | 40.0 | 25.0 | **4.9940** | 8.328 | 166.8 | mg/L | 43 | Standard |
| | **Fe** | 54 | 22.8 | 33.3 | **0.2313** | 0.188 | 81.3 | mg/L | 33 | Standard |
| | **Fe** | 57 | 696.7 | 6.5 | **3.3389** | 3.031 | 90.8 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 18476.3 | 1.4 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 0.7 | 173.2 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.0 | 20.0 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 950.0 | 7.9 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 40.0 | 25.0 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 31.7 | 65.7 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 396.7 | 6.0 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 13.3 | 43.3 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 3.3 | 173.2 | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 10.0 | 100.0 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 3.0 | 173.2 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 10.0 | 50.0 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 6.7 | 173.2 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 1785.1 | 2.2 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | | |
| | Be | 9 | 93.311 | | |
| | Al | 27 | -0.632 | | |
| | Sc | 45 | | | |
| | Ti | 47 | | | |
| | V | 51 | 77.530 | | |
| | Cr | 52 | 44.300 | | |
| | Cr | 53 | | | |
| | Mn | 55 | 90.988 | | |
| | Co | 59 | 93.791 | | |
| | Ni | 60 | 92.612 | | |
| | Cu | 65 | 93.071 | | |
| | Zn | 66 | 90.740 | | |
| > | Ge | 72 | | 98.170 | |
| | As | 75 | 108.206 | | |
| | Se | 82 | 68.032 | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |

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| | | | | |
|---|---|---|---|---|
| Rb | 85 | | | |
| Y | 89 | | | |
| > Rh | 103 | | | |
| Mo | 98 | | | |
| Ag | 107 | 91.007 | | |
| Cd | 111 | 92.680 | | |
| Cd | 114 | | | |
| > In | 115 | | 101.493 | |
| Sn | 118 | | | |
| Sb | 123 | 111.045 | | |
| Ba | 135 | 93.316 | | |
| Ce | 140 | | | |
| > Tb | 159 | | | |
| Ho | 165 | | | |
| Tl | 203 | 94.181 | | |
| Tl | 205 | | | |
| Pb | 206 | | | |
| Pb | 207 | | | |
| Pb | 208 | 87.303 | | |
| U | 238 | 91.762 | | |
| > Bi | 209 | | 102.345 | |
| 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 | Se | 82 | |

**Sample ID: QC Std 3**
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# Method 6020 - Summary Report

**Sample ID: QC Std 4**
Sample Date/Time: Friday, September 01, 2017 12:22:23
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 | 110132.3 | 2.5 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 23.3 | 32.7 | **0.0151** | 0.007 | 44.1 | ug/L | 15 | Standard |
| | Al | 27 | 5062524.8 | 1.8 | **49.6602** | 1.615 | 3.3 | ug/L | 4144 | Standard |
| | Sc | 45 | 17391.6 | 2.3 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 15951.4 | 3.0 | **103.7105** | 3.590 | 3.5 | ug/L | 38 | Standard |
| | V | 51 | 874.3 | 17.4 | **-0.1211** | 0.030 | 25.0 | ug/L | 1783 | Standard |
| | Cr | 52 | 5012.2 | 1.0 | **-0.4074** | 0.017 | 4.3 | ug/L | 7920 | Standard |
| | Cr | 53 | 1823.4 | 1.9 | **1.9561** | 0.042 | 2.2 | ug/L | 745 | Standard |
| | Mn | 55 | 1217.7 | 10.7 | **-0.0052** | 0.017 | 330.0 | ug/L | 1605 | Standard |
| | Co | 59 | 444.0 | 2.4 | **0.0134** | 0.002 | 15.0 | ug/L | 431 | Standard |
| | Ni | 60 | 863.0 | 5.9 | **0.2958** | 0.045 | 15.4 | ug/L | 588 | Standard |
| | Cu | 65 | 330.0 | 5.3 | **0.1761** | 0.015 | 8.4 | ug/L | 167 | Standard |
| | Zn | 66 | 610.7 | 4.4 | **0.4638** | 0.052 | 11.1 | ug/L | 973 | Standard |
| > | Ge | 72 | 242155.1 | 0.6 | | | | ug/L | 269739 | Standard |
| | As | 75 | -22.2 | 153.3 | **0.1148** | 0.054 | 46.9 | ug/L | -49 | Standard |
| | Se | 82 | 16.4 | 16.8 | **-0.0262** | 0.052 | 198.8 | ug/L | 20 | Standard |
| | Se-1 | 77 | 304.0 | 7.2 | **4.8903** | 0.620 | 12.7 | ug/L | 125 | Standard |
| > | Ga | 71 | 113.3 | 12.7 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 426.7 | 13.6 | | | | ug/L | 47 | Standard |
| | Y | 89 | 220839.5 | 0.8 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 48.3 | 29.9 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 215384.7 | 1.8 | **92.7119** | 1.063 | 1.1 | ug/L | 196 | Standard |
| | Ag | 107 | 128.0 | 16.2 | **0.0066** | 0.006 | 86.6 | ug/L | 131 | Standard |
| | Cd | 111 | -95.7 | 10.3 | **-0.1337** | 0.012 | 9.1 | mg/L | 6 | Standard |
| | Cd | 114 | 236.5 | 8.5 | **0.0932** | 0.008 | 9.1 | ug/L | 15 | Standard |
| > | In | 115 | 300014.3 | 0.6 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 67.7 | 12.7 | **-0.0051** | 0.013 | 254.8 | ug/L | 108 | Standard |
| | Sb | 123 | 94.4 | 21.0 | **-0.0028** | 0.007 | 231.3 | ug/L | 410 | Standard |
| | Ba | 135 | 66.3 | 3.5 | **0.0418** | 0.002 | 4.5 | ug/L | 21 | Standard |
| | Ce | 140 | 36.7 | 28.4 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 496064.2 | 1.4 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 20.0 | 25.0 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 121.3 | 9.0 | **0.0143** | 0.002 | 10.7 | ug/L | 14 | Standard |
| | Tl | 205 | 263.3 | 14.4 | **0.0177** | 0.002 | 12.4 | ug/L | 23 | Standard |
| | Pb | 206 | 418.3 | 7.8 | **0.0248** | 0.006 | 23.8 | ug/L | 290 | Standard |
| | Pb | 207 | 336.0 | 3.9 | **0.0156** | 0.002 | 15.6 | ug/L | 269 | Standard |
| | Pb | 208 | 611.0 | 9.5 | **0.0214** | 0.007 | 32.2 | ug/L | 471 | Standard |
| | U | 238 | 9.7 | 39.2 | **0.0024** | 0.000 | 20.8 | ug/L | 7 | Standard |
| > | Bi | 209 | 393897.9 | 0.6 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 38.3 | 32.8 | **21.2021** | 6.891 | 32.5 | mg/L | 2 | Standard |
| | **Mg** | 24 | 483.3 | 7.3 | **11.6866** | 0.778 | 6.7 | mg/L | 30 | Standard |
| | **K** | 39 | 311.7 | 6.7 | **5.2541** | 0.471 | 9.0 | mg/L | 12 | Standard |
| | **Ca** | 43 | 46.7 | 16.4 | **13.4072** | 7.227 | 53.9 | mg/L | 43 | Standard |
| | **Fe** | 54 | 447.3 | 18.7 | **11.1000** | 1.850 | 16.7 | mg/L | 33 | Standard |
| | **Fe** | 57 | 885.0 | 3.5 | **17.5974** | 1.639 | 9.3 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 17391.6 | 2.3 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 2.7 | 86.6 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 6.3 | 9.1 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 920.0 | 15.1 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 45.0 | 38.5 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 36.7 | 34.3 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 406.7 | 12.4 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 33.3 | 75.5 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 6.0 | 194.2 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 20.0 | 25.0 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 13.3 | 114.6 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 20869.4 | 7.7 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | | |
| | Be | 9 | | | |
| | Al | 27 | 0.993 | | |
| | Sc | 45 | | | |
| | Ti | 47 | 103.711 | | |
| | V | 51 | | | |
| | Cr | 52 | | | |
| | Cr | 53 | | | |
| | Mn | 55 | | | |
| | Co | 59 | | | |
| | Ni | 60 | | | |
| | Cu | 65 | | | |
| | Zn | 66 | | | |
| > | Ge | 72 | | 89.774 | |
| | As | 75 | | | |
| | Se | 82 | | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |

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| | | | | | |
|---|---|---|---|---|---|
| ⌊ | Rb | 85 | | | |
| ⌈ | Y | 89 | | | |
| ⌊> | Rh | 103 | | | |
| ⌈ | Mo | 98 | 92.712 | | |
| \| | Ag | 107 | | | |
| \| | Cd | 111 | | | |
| \| | Cd | 114 | | | |
| \| > | In | 115 | | | 96.598 |
| \| | 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 | | | 95.043 |
| ⌈ | Na | 23 | 169.617 | | |
| \| | Mg | 24 | 233.732 | | |
| \| | K | 39 | 105.082 | | |
| \| | Ca | 43 | 89.381 | | |
| \| | Fe | 54 | 88.800 | | |
| \| | Fe | 57 | 140.779 | | |
| ⌊> | 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 | Cd | 111 | |
| QC Std 4 | Na | 23 | |

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| | | |
|---|---|---|
| QC Std 4 | Mg | 24 |
| QC Std 4 | Fe | 57 |

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# Method 6020 - Summary Report

**Sample ID: QC Std 5**
Sample Date/Time: Friday, September 01, 2017 12:25:29
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 | 113177.9 | 1.4 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 129657.4 | 0.7 | **102.9871** | 1.618 | 1.6 | ug/L | 15 | Standard |
| | Al | 27 | 5109010.7 | 1.5 | **48.7570** | 1.336 | 2.7 | ug/L | 4144 | Standard |
| | Sc | 45 | 17883.9 | 3.3 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 16152.9 | 0.2 | **101.9598** | 0.715 | 0.7 | ug/L | 38 | Standard |
| | V | 51 | 519029.8 | 0.5 | **99.7700** | 0.575 | 0.6 | ug/L | 1783 | Standard |
| | Cr | 52 | 488022.7 | 0.4 | **99.6857** | 0.839 | 0.8 | ug/L | 7920 | Standard |
| | Cr | 53 | 62093.7 | 2.0 | **99.4861** | 2.411 | 2.4 | ug/L | 745 | Standard |
| | Mn | 55 | 757458.8 | 1.2 | **98.8996** | 1.677 | 1.7 | ug/L | 1605 | Standard |
| | Co | 59 | 594368.8 | 1.2 | **99.3971** | 1.576 | 1.6 | ug/L | 431 | Standard |
| | Ni | 60 | 126872.4 | 1.3 | **99.8055** | 1.624 | 1.6 | ug/L | 588 | Standard |
| | Cu | 65 | 117419.9 | 1.2 | **101.8117** | 1.753 | 1.7 | ug/L | 167 | Standard |
| | Zn | 66 | 65357.0 | 1.2 | **107.6009** | 1.734 | 1.6 | ug/L | 973 | Standard |
| > | Ge | 72 | 249397.2 | 0.5 | | | | ug/L | 269739 | Standard |
| | As | 75 | 68602.1 | 0.4 | **105.8984** | 0.822 | 0.8 | ug/L | -49 | Standard |
| | Se | 82 | 5913.2 | 0.5 | **108.3004** | 0.049 | 0.0 | ug/L | 20 | Standard |
| | Se-1 | 77 | 4558.7 | 0.9 | **112.4716** | 1.210 | 1.1 | ug/L | 125 | Standard |
| > | Ga | 71 | 95.0 | 19.0 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 478.3 | 10.3 | | | | ug/L | 47 | Standard |
| | Y | 89 | 230131.7 | 2.0 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 55.0 | 9.1 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 222526.2 | 0.5 | **93.6317** | 0.192 | 0.2 | ug/L | 196 | Standard |
| | Ag | 107 | 344795.5 | 0.8 | **90.7159** | 0.354 | 0.4 | ug/L | 131 | Standard |
| | Cd | 111 | 89502.0 | 0.8 | **102.7592** | 0.602 | 0.6 | mg/L | 6 | Standard |
| | Cd | 114 | 256990.9 | 1.8 | **100.2756** | 1.568 | 1.6 | ug/L | 15 | Standard |
| > | In | 115 | 306934.9 | 0.7 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 89.7 | 11.4 | **0.0248** | 0.014 | 57.1 | ug/L | 108 | Standard |
| | Sb | 123 | 315472.2 | 2.9 | **103.5969** | 2.708 | 2.6 | ug/L | 410 | Standard |
| | Ba | 135 | 128645.7 | 2.1 | **103.7624** | 2.125 | 2.0 | ug/L | 21 | Standard |
| | Ce | 140 | 40.0 | 12.5 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 503017.4 | 2.0 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 16.7 | 69.3 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 736084.9 | 0.4 | **100.0076** | 0.777 | 0.8 | ug/L | 14 | Standard |
| | Tl | 205 | 1707209.6 | 0.2 | **99.9694** | 0.577 | 0.6 | ug/L | 23 | Standard |
| | Pb | 206 | 584437.9 | 1.3 | **101.4251** | 1.485 | 1.5 | ug/L | 290 | Standard |
| | Pb | 207 | 485573.1 | 0.3 | **98.4263** | 0.697 | 0.7 | ug/L | 269 | Standard |
| | Pb | 208 | 847579.3 | 2.3 | **97.7888** | 2.796 | 2.9 | ug/L | 471 | Standard |
| | U | 238 | 772020.8 | 1.5 | **99.6604** | 2.116 | 2.1 | ug/L | 7 | Standard |
| > | Bi | 209 | 404258.1 | 0.6 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 33.3 | 43.3 | **17.7216** | 7.483 | 42.2 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 510.0 | 7.7 | **12.0544** | 1.423 | 11.8 | mg/L | 30 | Standard |
| \| | **K** | 39 | 295.0 | 11.9 | **4.8054** | 0.447 | 9.3 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 56.7 | 36.7 | **21.0988** | 18.354 | 87.0 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 494.1 | 8.6 | **12.0070** | 1.431 | 11.9 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 866.7 | 7.7 | **15.0282** | 4.854 | 32.3 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 17883.9 | 3.3 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 3.3 | 69.3 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 6.7 | 96.4 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 880.0 | 6.0 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 45.0 | 72.9 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 36.7 | 56.8 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 361.7 | 24.9 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 30.0 | 120.2 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 10.0 | 100.0 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 3.0 | 187.1 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 16.7 | 69.3 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 6.7 | 86.6 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 20083.3 | 5.0 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| ⌈> | Li | 6 | | | |
| \| | Be | 9 | 102.987 | | |
| ⌊ | Al | 27 | 0.975 | | |
| ⌈ | Sc | 45 | | | |
| \| | Ti | 47 | 101.960 | | |
| \| | V | 51 | 99.770 | | |
| \| | Cr | 52 | 99.686 | | |
| \| | Cr | 53 | | | |
| \| | Mn | 55 | 98.900 | | |
| \| | Co | 59 | 99.397 | | |
| \| | Ni | 60 | 99.806 | | |
| \| | Cu | 65 | 101.812 | | |
| \| | Zn | 66 | 107.601 | | |
| \|> | Ge | 72 | | 92.459 | |
| \| | As | 75 | 105.898 | | |
| \| | Se | 82 | 108.300 | | |
| ⌊ | Se-1 | 77 | | | |
| ⌈> | Ga | 71 | | | |

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| | | | | |
|---|---|---|---|---|
| Rb | 85 | | | |
| Y | 89 | | | |
| Rh | 103 | | | |
| Mo | 98 | 93.632 | | |
| Ag | 107 | 90.716 | | |
| Cd | 111 | 102.759 | | |
| Cd | 114 | | | |
| In | 115 | | | 98.826 |
| Sn | 118 | | | |
| Sb | 123 | 103.597 | | |
| Ba | 135 | 103.762 | | |
| Ce | 140 | | | |
| Tb | 159 | | | |
| Ho | 165 | | | |
| Tl | 203 | 100.008 | | |
| Tl | 205 | | | |
| Pb | 206 | | | |
| Pb | 207 | | | |
| Pb | 208 | 97.789 | | |
| U | 238 | 99.660 | | |
| Bi | 209 | | | 97.542 |
| Na | 23 | 141.773 | | |
| Mg | 24 | 241.087 | | |
| K | 39 | 96.108 | | |
| Ca | 43 | 140.658 | | |
| Fe | 54 | 96.056 | | |
| Fe | 57 | 120.225 | | |
| 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 | |

**Sample ID: QC Std 5**
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| | | |
|---|---|---|
| QC Std 5 | Ca | 43 |
| QC Std 5 | Fe | 57 |

**Sample ID: QC Std 5**
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# Method 6020 - Summary Report

**Sample ID: QC Std 6**
Sample Date/Time: Friday, September 01, 2017 12:28:35
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexION\Data\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 | 115836.8 | 4.9 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 65760.8 | 1.5 | **51.0835** | 1.773 | 3.5 | ug/L | 15 | Standard |
| | Al | 27 | 5514830.6 | 1.5 | **51.4713** | 1.850 | 3.6 | ug/L | 4144 | Standard |
| | Sc | 45 | 18069.1 | 6.9 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 16420.6 | 1.1 | **101.7946** | 5.487 | 5.4 | ug/L | 38 | Standard |
| | V | 51 | 269354.9 | 0.9 | **50.7094** | 2.808 | 5.5 | ug/L | 1783 | Standard |
| | Cr | 52 | 255848.7 | 1.4 | **50.5998** | 2.572 | 5.1 | ug/L | 7920 | Standard |
| | Cr | 53 | 32760.4 | 0.1 | **51.0482** | 3.367 | 6.6 | ug/L | 745 | Standard |
| | Mn | 55 | 395547.1 | 1.7 | **50.6242** | 2.410 | 4.8 | ug/L | 1605 | Standard |
| | Co | 59 | 311016.4 | 0.6 | **51.0590** | 2.973 | 5.8 | ug/L | 431 | Standard |
| | Ni | 60 | 66296.7 | 1.0 | **51.0225** | 2.790 | 5.5 | ug/L | 588 | Standard |
| | Cu | 65 | 60225.1 | 1.6 | **51.2231** | 2.768 | 5.4 | ug/L | 167 | Standard |
| | Zn | 66 | 31867.1 | 1.6 | **51.2108** | 2.461 | 4.8 | ug/L | 973 | Standard |
| > | Ge | 72 | 254498.6 | 6.2 | | | | ug/L | 269739 | Standard |
| | As | 75 | 33635.5 | 0.4 | **51.0885** | 3.171 | 6.2 | ug/L | -49 | Standard |
| | Se | 82 | 2948.2 | 2.3 | **52.8848** | 3.684 | 7.0 | ug/L | 20 | Standard |
| | Se-1 | 77 | 2237.8 | 0.9 | **52.6725** | 3.626 | 6.9 | ug/L | 125 | Standard |
| > | Ga | 71 | 33.3 | 22.9 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 526.7 | 6.1 | | | | ug/L | 47 | Standard |
| | Y | 89 | 242255.3 | 5.6 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 51.7 | 5.6 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 245975.3 | 0.8 | **102.1510** | 6.253 | 6.1 | ug/L | 196 | Standard |
| | Ag | 107 | 198600.6 | 1.2 | **51.5772** | 3.616 | 7.0 | ug/L | 131 | Standard |
| | Cd | 111 | 45749.1 | 1.6 | **51.8370** | 3.420 | 6.6 | mg/L | 6 | Standard |
| | Cd | 114 | 135032.1 | 2.2 | **52.0196** | 3.772 | 7.3 | ug/L | 15 | Standard |
| > | In | 115 | 311695.0 | 5.6 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 36062.2 | 3.2 | **52.0712** | 3.925 | 7.5 | ug/L | 108 | Standard |
| | Sb | 123 | 167573.5 | 1.6 | **54.3093** | 3.709 | 6.8 | ug/L | 410 | Standard |
| | Ba | 135 | 66436.7 | 1.9 | **52.8918** | 3.627 | 6.9 | ug/L | 21 | Standard |
| | Ce | 140 | 71.7 | 22.4 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 489568.1 | 4.7 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 8.3 | 124.9 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 387103.8 | 1.9 | **52.2639** | 3.983 | 7.6 | ug/L | 14 | Standard |
| | Tl | 205 | 890627.6 | 2.3 | **51.8366** | 4.186 | 8.1 | ug/L | 23 | Standard |
| | Pb | 206 | 296133.2 | 2.2 | **51.0505** | 4.034 | 7.9 | ug/L | 290 | Standard |
| | Pb | 207 | 262614.4 | 1.6 | **52.8635** | 3.757 | 7.1 | ug/L | 269 | Standard |
| | Pb | 208 | 427961.7 | 3.6 | **49.0437** | 4.094 | 8.3 | ug/L | 471 | Standard |
| | U | 238 | 394073.0 | 1.5 | **50.5417** | 3.607 | 7.1 | ug/L | 7 | Standard |
| > | Bi | 209 | 407934.0 | 5.5 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 20.0 | 25.0 | **10.2664** | 2.662 | 25.9 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 230.0 | 18.8 | **4.8092** | 1.309 | 27.2 | mg/L | 30 | Standard |
| \| | **K** | 39 | 348.3 | 21.0 | **5.6297** | 0.940 | 16.7 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 51.7 | 39.1 | **17.2299** | 22.069 | 128.1 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 238.2 | 5.4 | **5.5743** | 0.621 | 11.1 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 761.7 | 13.9 | **8.1583** | 5.559 | 68.1 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 18069.1 | 6.9 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 0.7 | 173.2 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 4.3 | 96.1 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 1020.0 | 1.7 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 38.3 | 19.9 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 30.0 | 16.7 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 410.0 | 4.4 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 26.7 | 94.4 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 3.3 | 173.2 | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 5.9 | 100.8 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 8.3 | 124.9 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 16.7 | 34.6 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 2251.8 | 5.8 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| ⌈> | Li | 6 | | | |
| \| | Be | 9 | 102.167 | | |
| ⌊ | Al | 27 | 102.943 | | |
| ⌈ | Sc | 45 | | | |
| \| | Ti | 47 | 101.795 | | |
| \| | V | 51 | 101.419 | | |
| \| | Cr | 52 | 101.200 | | |
| \| | Cr | 53 | | | |
| \| | Mn | 55 | 101.248 | | |
| \| | Co | 59 | 102.118 | | |
| \| | Ni | 60 | 102.045 | | |
| \| | Cu | 65 | 102.446 | | |
| \| | Zn | 66 | 102.422 | | |
| \|> | Ge | 72 | | 94.350 | |
| \| | As | 75 | 102.177 | | |
| \| | Se | 82 | 105.770 | | |
| ⌊ | Se-1 | 77 | | | |
| ⌈> | Ga | 71 | | | |

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| | | | | |
|---|---|---|---|---|
| Rb | 85 | | | |
| Y | 89 | | | |
| > Rh | 103 | | | |
| Mo | 98 | 102.151 | | |
| Ag | 107 | 103.154 | | |
| Cd | 111 | 103.674 | | |
| Cd | 114 | | | |
| > In | 115 | | | 100.359 |
| Sn | 118 | 104.142 | | |
| Sb | 123 | 108.619 | | |
| Ba | 135 | 105.784 | | |
| Ce | 140 | | | |
| > Tb | 159 | | | |
| Ho | 165 | | | |
| Tl | 203 | 104.528 | | |
| Tl | 205 | | | |
| Pb | 206 | | | |
| Pb | 207 | | | |
| Pb | 208 | 98.087 | | |
| U | 238 | 101.083 | | |
| > Bi | 209 | | | 98.429 |
| 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 |
|---|---|---|---|

**Sample ID: QC Std 6**
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# Method 6020 - Summary Report

**Sample ID: QC Std 7**
Sample Date/Time: Friday, September 01, 2017 12:31:41
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexION\Data\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 | 114444.0 | 1.2 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 41.7 | 38.6 | **0.0285** | 0.012 | 42.6 | ug/L | 15 | Standard |
| | Al | 27 | 3758.8 | 1.3 | **-0.0039** | 0.001 | 21.0 | ug/L | 4144 | Standard |
| | Sc | 45 | 17508.4 | 2.3 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 24.7 | 14.2 | **-0.0311** | 0.021 | 68.0 | ug/L | 38 | Standard |
| | V | 51 | 1133.0 | 7.6 | **-0.0735** | 0.015 | 20.4 | ug/L | 1783 | Standard |
| | Cr | 52 | 4703.4 | 2.5 | **-0.4899** | 0.016 | 3.3 | ug/L | 7920 | Standard |
| | Cr | 53 | 683.3 | 3.0 | **0.0361** | 0.043 | 119.2 | ug/L | 745 | Standard |
| | Mn | 55 | 994.7 | 5.5 | **-0.0374** | 0.008 | 20.4 | ug/L | 1605 | Standard |
| | Co | 59 | 379.3 | 5.9 | **0.0012** | 0.004 | 371.0 | ug/L | 431 | Standard |
| | Ni | 60 | 517.7 | 7.6 | **0.0080** | 0.034 | 428.4 | ug/L | 588 | Standard |
| | Cu | 65 | 110.7 | 18.5 | **-0.0215** | 0.019 | 87.4 | ug/L | 167 | Standard |
| | Zn | 66 | 120.3 | 35.9 | **-0.3752** | 0.075 | 19.9 | ug/L | 973 | Standard |
| > | Ge | 72 | 246192.5 | 0.9 | | | | ug/L | 269739 | Standard |
| | As | 75 | -69.4 | 35.2 | **0.0418** | 0.037 | 89.1 | ug/L | -49 | Standard |
| | Se | 82 | 16.0 | 41.0 | **-0.0390** | 0.124 | 318.9 | ug/L | 20 | Standard |
| | Se-1 | 77 | 135.0 | 7.8 | **0.4184** | 0.245 | 58.7 | ug/L | 125 | Standard |
| > | Ga | 71 | 31.7 | 39.7 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 30.0 | 0.0 | | | | ug/L | 47 | Standard |
| | Y | 89 | 228133.1 | 1.1 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 51.7 | 14.8 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 291.9 | 33.6 | **0.0952** | 0.042 | 44.0 | ug/L | 196 | Standard |
| | Ag | 107 | 147.0 | 9.2 | **0.0101** | 0.004 | 38.9 | ug/L | 131 | Standard |
| | Cd | 111 | 10.0 | 42.3 | **-0.0099** | 0.005 | 47.7 | mg/L | 6 | Standard |
| | Cd | 114 | 28.0 | 37.2 | **0.0095** | 0.004 | 41.2 | ug/L | 15 | Standard |
| > | In | 115 | 312929.9 | 1.2 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 137.7 | 0.4 | **0.0913** | 0.003 | 2.9 | ug/L | 108 | Standard |
| | Sb | 123 | 412.1 | 25.0 | **0.0985** | 0.035 | 35.4 | ug/L | 410 | Standard |
| | Ba | 135 | 21.7 | 21.8 | **0.0042** | 0.004 | 86.9 | ug/L | 21 | Standard |
| | Ce | 140 | 20.0 | 50.0 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 496016.0 | 2.3 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 13.3 | 43.3 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 72.3 | 24.8 | **0.0072** | 0.002 | 33.7 | ug/L | 14 | Standard |
| | Tl | 205 | 175.0 | 24.7 | **0.0120** | 0.003 | 21.1 | ug/L | 23 | Standard |
| | Pb | 206 | 335.7 | 3.3 | **0.0081** | 0.002 | 24.1 | ug/L | 290 | Standard |
| | Pb | 207 | 282.0 | 6.4 | **0.0024** | 0.004 | 147.1 | ug/L | 269 | Standard |
| | Pb | 208 | 471.0 | 8.3 | **0.0029** | 0.004 | 152.7 | ug/L | 471 | Standard |
| | U | 238 | 29.7 | 28.1 | **0.0049** | 0.001 | 21.7 | ug/L | 7 | Standard |
| > | Bi | 209 | 407681.6 | 0.3 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 0.0 | | **-0.8620** | 0.000 | 0.0 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 46.7 | 50.6 | **0.1426** | 0.610 | 428.1 | mg/L | 30 | Standard |
| \| | **K** | 39 | 10.0 | 132.3 | **-0.0232** | 0.235 | 1014.2 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 25.0 | 20.0 | **-6.7647** | 4.890 | 72.3 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 30.8 | 46.4 | **0.4703** | 0.377 | 80.1 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 680.0 | 7.0 | **4.5254** | 2.340 | 51.7 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 17508.4 | 2.3 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 3.3 | 34.6 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 4.7 | 24.7 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 950.0 | 7.6 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 46.7 | 16.4 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 45.0 | 33.3 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 415.0 | 12.2 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 13.3 | 43.3 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 3.3 | 173.2 | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 16.3 | 38.7 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 13.3 | 43.3 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 6.7 | 173.2 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 2151.8 | 25.3 | | | | mg/L | 8119 | 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 | | 91.271 | |
| \| | 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 | 100.756 |
| 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 | 98.368 |
| 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: PBW 52 WG627948-02**
Sample Date/Time: Friday, September 01, 2017 12:35:12
Number of Replicates: 3
Autosampler Position: 205
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 | 120404.9 | 1.0 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 26.7 | 43.3 | 0.0158 | 0.008 | 53.7 | ug/L | 15 | Standard |
| | Al | 27 | 5869.5 | 4.5 | 0.0133 | 0.003 | 20.1 | ug/L | 4144 | Standard |
| | Sc | 45 | 19000.2 | 3.0 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 38.7 | 9.8 | 0.0407 | 0.027 | 66.2 | ug/L | 38 | Standard |
| | V | 51 | 1368.0 | 2.9 | -0.0473 | 0.009 | 19.8 | ug/L | 1783 | Standard |
| | Cr | 52 | 6984.3 | 1.8 | -0.1194 | 0.026 | 21.6 | ug/L | 7920 | Standard |
| | Cr | 53 | 916.7 | 8.8 | 0.3059 | 0.092 | 30.1 | ug/L | 745 | Standard |
| | Mn | 55 | 24091.5 | 0.2 | 2.7868 | 0.068 | 2.4 | ug/L | 1605 | Standard |
| | Co | 59 | 401.7 | 1.7 | -0.0001 | 0.002 | 2280.2 | ug/L | 431 | Standard |
| | Ni | 60 | 806.4 | 1.7 | 0.1910 | 0.004 | 2.3 | ug/L | 588 | Standard |
| | Cu | 65 | 192.7 | 8.5 | 0.0381 | 0.016 | 42.7 | ug/L | 167 | Standard |
| | Zn | 66 | 1069.0 | 4.1 | 1.0834 | 0.098 | 9.0 | ug/L | 973 | Standard |
| > | Ge | 72 | 265921.8 | 2.3 | | | | ug/L | 269739 | Standard |
| | As | 75 | -56.9 | 39.8 | 0.0682 | 0.031 | 46.2 | ug/L | -49 | Standard |
| | Se | 82 | 22.1 | 7.4 | 0.0448 | 0.033 | 74.7 | ug/L | 20 | Standard |
| | Se-1 | 77 | 126.3 | 5.6 | -0.0413 | 0.207 | 501.0 | ug/L | 125 | Standard |
| > | Ga | 71 | 38.3 | 37.7 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 50.0 | 43.6 | | | | ug/L | 47 | Standard |
| | Y | 89 | 249718.7 | 2.8 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 51.7 | 14.8 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 236.6 | 6.2 | 0.0696 | 0.006 | 9.2 | ug/L | 196 | Standard |
| | Ag | 107 | 118.0 | 8.8 | 0.0018 | 0.003 | 160.6 | ug/L | 131 | Standard |
| | Cd | 111 | 12.8 | 23.4 | -0.0072 | 0.003 | 45.0 | mg/L | 6 | Standard |
| | Cd | 114 | 38.3 | 8.8 | 0.0131 | 0.001 | 10.8 | ug/L | 15 | Standard |
| > | In | 115 | 321398.2 | 1.1 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 123.7 | 17.1 | 0.0663 | 0.028 | 42.1 | ug/L | 108 | Standard |
| | Sb | 123 | 593.3 | 14.2 | 0.1514 | 0.025 | 16.4 | ug/L | 410 | Standard |
| | Ba | 135 | 54.3 | 24.0 | 0.0288 | 0.010 | 33.6 | ug/L | 21 | Standard |
| | Ce | 140 | 116.7 | 23.6 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 496859.2 | 2.1 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 10.0 | 132.3 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 64.0 | 19.0 | 0.0057 | 0.001 | 25.5 | ug/L | 14 | Standard |
| | Tl | 205 | 190.0 | 17.3 | 0.0125 | 0.002 | 13.4 | ug/L | 23 | Standard |
| | Pb | 206 | 407.0 | 6.3 | 0.0177 | 0.004 | 20.4 | ug/L | 290 | Standard |
| | Pb | 207 | 330.3 | 1.8 | 0.0096 | 0.001 | 10.6 | ug/L | 269 | Standard |
| | Pb | 208 | 531.0 | 6.5 | 0.0076 | 0.005 | 61.5 | ug/L | 471 | Standard |
| | U | 238 | 36.3 | 18.7 | 0.0056 | 0.001 | 13.7 | ug/L | 7 | Standard |
| > | Bi | 209 | 423522.5 | 1.5 | | | | ug/L | 414444 | Standard |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 3.3 | 86.6 | **0.8838** | 1.513 | 171.2 | mg/L | 2 | Standard |
| | **Mg** | 24 | 60.0 | 25.0 | **0.3750** | 0.369 | 98.4 | mg/L | 30 | Standard |
| | **K** | 39 | 16.7 | 91.7 | **0.0715** | 0.249 | 348.3 | mg/L | 12 | Standard |
| | **Ca** | 43 | 41.7 | 78.1 | **5.0157** | 26.372 | 525.8 | mg/L | 43 | Standard |
| | **Fe** | 54 | 38.9 | 33.4 | **0.5960** | 0.321 | 53.9 | mg/L | 33 | Standard |
| | **Fe** | 57 | 665.0 | 4.7 | **0.3751** | 0.673 | 179.3 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 19000.2 | 3.0 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 0.0 | | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.7 | 27.0 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 953.4 | 7.9 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 33.3 | 34.6 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 36.7 | 20.8 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 358.3 | 13.0 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 10.0 | 173.2 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 6.7 | 86.6 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 2.9 | 187.9 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 10.0 | 132.3 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 10.0 | 100.0 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 1161.7 | 12.5 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | 99.524 | |
| | 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 | | 98.585 | |
| | 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 | 103.483 |
| 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 | 102.191 |
| 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: LCSW 52 WG627948-03**
Sample Date/Time: Friday, September 01, 2017 12:38:17
Number of Replicates: 3
Autosampler Position: 206
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 | 121566.0 | 3.0 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 66589.4 | 1.1 | **49.2694** | 1.853 | 3.8 | ug/L | 15 | Standard |
| | Al | 27 | 6789.9 | 6.2 | **0.0209** | 0.003 | 15.3 | ug/L | 4144 | Standard |
| | Sc | 45 | 19057.0 | 1.1 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 42.7 | 25.3 | **0.0619** | 0.059 | 94.7 | ug/L | 38 | Standard |
| | V | 51 | 270807.7 | 1.3 | **48.4039** | 1.482 | 3.1 | ug/L | 1783 | Standard |
| | Cr | 52 | 258719.0 | 1.0 | **48.5437** | 1.359 | 2.8 | ug/L | 7920 | Standard |
| | Cr | 53 | 32655.2 | 2.6 | **48.2440** | 1.791 | 3.7 | ug/L | 745 | Standard |
| | Mn | 55 | 415208.5 | 1.3 | **50.4813** | 1.481 | 2.9 | ug/L | 1605 | Standard |
| | Co | 59 | 309640.0 | 1.4 | **48.2661** | 1.521 | 3.2 | ug/L | 431 | Standard |
| | Ni | 60 | 67199.4 | 1.0 | **49.0917** | 0.810 | 1.7 | ug/L | 588 | Standard |
| | Cu | 65 | 61591.6 | 0.4 | **49.7423** | 0.854 | 1.7 | ug/L | 167 | Standard |
| | Zn | 66 | 32923.7 | 0.3 | **50.2421** | 0.762 | 1.5 | ug/L | 973 | Standard |
| > | Ge | 72 | 267469.3 | 1.8 | | | | ug/L | 269739 | Standard |
| | As | 75 | 32404.2 | 0.6 | **46.7306** | 0.546 | 1.2 | ug/L | -49 | Standard |
| | Se | 82 | 2852.7 | 1.6 | **48.5323** | 0.103 | 0.2 | ug/L | 20 | Standard |
| | Se-1 | 77 | 2174.5 | 0.7 | **48.3415** | 0.884 | 1.8 | ug/L | 125 | Standard |
| > | Ga | 71 | 36.7 | 61.5 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 50.0 | 20.0 | | | | ug/L | 47 | Standard |
| | Y | 89 | 247031.3 | 1.9 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 68.3 | 22.4 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 194.9 | 10.9 | **0.0515** | 0.008 | 16.4 | ug/L | 196 | Standard |
| | Ag | 107 | 199883.8 | 0.3 | **49.3647** | 0.167 | 0.3 | ug/L | 131 | Standard |
| | Cd | 111 | 45337.2 | 1.5 | **48.8616** | 0.738 | 1.5 | mg/L | 6 | Standard |
| | Cd | 114 | 128433.7 | 1.2 | **47.0525** | 0.562 | 1.2 | ug/L | 15 | Standard |
| > | In | 115 | 326903.2 | 0.0 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 127.0 | 10.3 | **0.0682** | 0.018 | 26.4 | ug/L | 108 | Standard |
| | Sb | 123 | 156934.5 | 2.0 | **48.3702** | 0.971 | 2.0 | ug/L | 410 | Standard |
| | Ba | 135 | 65966.0 | 2.5 | **49.9492** | 1.256 | 2.5 | ug/L | 21 | Standard |
| | Ce | 140 | 95.0 | 72.9 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 503739.0 | 2.0 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 25.0 | 34.6 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 394296.2 | 1.3 | **50.5890** | 1.135 | 2.2 | ug/L | 14 | Standard |
| | Tl | 205 | 921080.3 | 1.3 | **50.9295** | 0.464 | 0.9 | ug/L | 23 | Standard |
| | Pb | 206 | 301839.0 | 0.7 | **49.4456** | 1.204 | 2.4 | ug/L | 290 | Standard |
| | Pb | 207 | 253405.1 | 1.3 | **48.4800** | 1.066 | 2.2 | ug/L | 269 | Standard |
| | Pb | 208 | 427830.0 | 2.8 | **46.5938** | 1.960 | 4.2 | ug/L | 471 | Standard |
| | U | 238 | 383587.6 | 1.5 | **46.7638** | 1.288 | 2.8 | ug/L | 7 | Standard |
| > | Bi | 209 | 428153.7 | 1.8 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 1.7 | 173.2 | **0.0127** | 1.515 | 11917.0 | mg/L | 2 | Standard |
| | **Mg** | 24 | 58.3 | 24.7 | **0.3328** | 0.366 | 110.0 | mg/L | 30 | Standard |
| | **K** | 39 | 11.7 | 49.5 | **-0.0146** | 0.091 | 621.4 | mg/L | 12 | Standard |
| | **Ca** | 43 | 33.3 | 34.6 | **-1.6203** | 9.839 | 607.2 | mg/L | 43 | Standard |
| | **Fe** | 54 | 24.2 | 60.5 | **0.2448** | 0.339 | 138.4 | mg/L | 33 | Standard |
| | **Fe** | 57 | 673.3 | 9.4 | **0.7281** | 3.260 | 447.7 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 19057.0 | 1.1 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 4.0 | 50.0 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 4.0 | 25.0 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 996.7 | 4.2 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 38.3 | 39.8 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 31.7 | 50.8 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 381.7 | 4.0 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 13.3 | 43.3 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 3.2 | 186.4 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 25.0 | 34.6 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 3.3 | 173.2 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 1408.4 | 9.6 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | 100.483 | |
| | 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 | | 99.158 | |
| | As | 75 | | | |
| | Se | 82 | | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |

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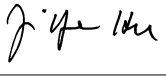
| | | | | |
|---|---|---|---|---|
| | Rb | 85 | | |
| | Y | 89 | | |
| > | Rh | 103 | | |
| | Mo | 98 | | |
| | Ag | 107 | | |
| | Cd | 111 | | |
| | Cd | 114 | | |
| > | In | 115 | 105.255 | |
| | Sn | 118 | | |
| | Sb | 123 | | |
| | Ba | 135 | | |
| | Ce | 140 | | |
| > | Tb | 159 | | |
| | Ho | 165 | | |
| | Tl | 203 | | |
| | Tl | 205 | | |
| | Pb | 206 | | |
| | Pb | 207 | | |
| | Pb | 208 | | |
| | U | 238 | | |
| > | Bi | 209 | 103.308 | |
| | 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: L1708149808 WG627948-01**
Sample Date/Time: Friday, September 01, 2017 12:41:23
Number of Replicates: 3
Autosampler Position: 207
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 | 119857.2 | 0.6 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 23.3 | 68.9 | **0.0134** | 0.012 | 89.9 | ug/L | 15 | Standard |
| | Al | 27 | 16635758.2 | 2.5 | **149.9666** | 4.066 | 2.7 | ug/L | 4144 | Standard |
| | Sc | 45 | 19215.5 | 1.4 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 64.7 | 12.5 | **0.2064** | 0.052 | 25.0 | ug/L | 38 | Standard |
| | V | 51 | 1942.7 | 9.3 | **0.0673** | 0.035 | 52.5 | ug/L | 1783 | Standard |
| | Cr | 52 | 7502.9 | 4.5 | **0.0257** | 0.076 | 296.2 | ug/L | 7920 | Standard |
| | Cr | 53 | 2650.2 | 14.2 | **3.0646** | 0.606 | 19.8 | ug/L | 745 | Standard |
| | Mn | 55 | 407946.8 | 2.5 | **51.3963** | 1.714 | 3.3 | ug/L | 1605 | Standard |
| | Co | 59 | 1170.0 | 3.0 | **0.1261** | 0.007 | 5.2 | ug/L | 431 | Standard |
| | Ni | 60 | 2375.5 | 2.9 | **1.4071** | 0.066 | 4.7 | ug/L | 588 | Standard |
| | Cu | 65 | 734.7 | 1.6 | **0.4974** | 0.014 | 2.8 | ug/L | 167 | Standard |
| | Zn | 66 | 2816.9 | 2.6 | **3.9288** | 0.152 | 3.9 | ug/L | 973 | Standard |
| > | Ge | 72 | 258088.3 | 0.9 | | | | ug/L | 269739 | Standard |
| | As | 75 | 1121.2 | 7.4 | **1.8197** | 0.115 | 6.3 | ug/L | -49 | Standard |
| | Se | 82 | 56.2 | 9.8 | **0.6599** | 0.089 | 13.5 | ug/L | 20 | Standard |
| | Se-1 | 77 | 416.7 | 6.6 | **7.1595** | 0.722 | 10.1 | ug/L | 125 | Standard |
| > | Ga | 71 | 50.0 | 26.5 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 12456.8 | 1.3 | | | | ug/L | 47 | Standard |
| | Y | 89 | 238904.2 | 1.8 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 126.7 | 43.7 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 2050.2 | 2.1 | **0.8293** | 0.015 | 1.8 | ug/L | 196 | Standard |
| | Ag | 107 | 143.3 | 7.1 | **0.0096** | 0.003 | 31.9 | ug/L | 131 | Standard |
| | Cd | 111 | 10.3 | 14.5 | **-0.0095** | 0.002 | 17.6 | mg/L | 6 | Standard |
| | Cd | 114 | 33.5 | 52.6 | **0.0118** | 0.007 | 59.0 | ug/L | 15 | Standard |
| > | In | 115 | 309804.8 | 1.0 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 119.7 | 16.6 | **0.0673** | 0.029 | 43.8 | ug/L | 108 | Standard |
| | Sb | 123 | 1997.7 | 9.3 | **0.6160** | 0.066 | 10.8 | ug/L | 410 | Standard |
| | Ba | 135 | 31352.4 | 1.7 | **25.0428** | 0.211 | 0.8 | ug/L | 21 | Standard |
| | Ce | 140 | 2952.0 | 4.6 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 506448.6 | 1.9 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 85.0 | 36.7 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 235.3 | 17.4 | **0.0301** | 0.005 | 17.3 | ug/L | 14 | Standard |
| | Tl | 205 | 598.3 | 14.2 | **0.0377** | 0.005 | 12.3 | ug/L | 23 | Standard |
| | Pb | 206 | 416.3 | 6.8 | **0.0243** | 0.004 | 15.4 | ug/L | 290 | Standard |
| | Pb | 207 | 359.0 | 5.9 | **0.0202** | 0.003 | 15.9 | ug/L | 269 | Standard |
| | Pb | 208 | 648.7 | 3.6 | **0.0257** | 0.002 | 6.7 | ug/L | 471 | Standard |
| | U | 238 | 15307.4 | 2.2 | **2.0255** | 0.075 | 3.7 | ug/L | 7 | Standard |
| > | Bi | 209 | 394725.8 | 1.7 | | | | ug/L | 414444 | Standard |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 88.3 | 16.3 | **45.3573** | 8.085 | 17.8 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 3547.1 | 3.3 | **83.7461** | 3.331 | 4.0 | mg/L | 30 | Standard |
| \| | **K** | 39 | 111.7 | 23.0 | **1.5688** | 0.423 | 27.0 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 45.0 | 44.4 | **8.0003** | 16.995 | 212.4 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 69.2 | 7.0 | **1.2840** | 0.127 | 9.9 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 861.7 | 11.5 | **11.0294** | 5.322 | 48.3 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 19215.5 | 1.4 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 2.7 | 43.3 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 7.0 | 14.3 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 5797.8 | 3.9 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 45.0 | 22.2 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 35.0 | 37.8 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 363.3 | 2.9 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 53.3 | 10.8 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 124.3 | 24.9 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 85.0 | 36.7 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 120.0 | 22.0 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 34790.1 | 7.9 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| ⌈> | Li | 6 | | 99.071 | |
| \| | 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 | | 95.681 | |
| \| | As | 75 | | | |
| \| | Se | 82 | | | |
| ⌊ | Se-1 | 77 | | | |
| ⌈> | Ga | 71 | | | |

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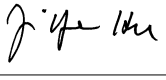
| | | | |
|---|---|---|---|
| Rb | 85 | | |
| Y | 89 | | |
| Rh | 103 | | |
| Mo | 98 | | |
| Ag | 107 | | |
| Cd | 111 | | |
| Cd | 114 | | |
| In | 115 | 99.750 | |
| Sn | 118 | | |
| Sb | 123 | | |
| Ba | 135 | | |
| Ce | 140 | | |
| Tb | 159 | | |
| Ho | 165 | | |
| Tl | 203 | | |
| Tl | 205 | | |
| Pb | 206 | | |
| Pb | 207 | | |
| Pb | 208 | | |
| U | 238 | | |
| Bi | 209 | 95.242 | |
| 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 | |

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Report Date/Time: Friday, September 01, 2017 12:43:34
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# Method 6020 - Summary Report

**Sample ID: L1708149808S WG627948-04**
Sample Date/Time: Friday, September 01, 2017 12:44:29
Number of Replicates: 3
Autosampler Position: 208
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 | 122242.9 | 1.2 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 65723.9 | 1.9 | **48.3361** | 1.492 | 3.1 | ug/L | 15 | Standard |
| | Al | 27 | 16370390.7 | 2.4 | **144.7150** | 4.730 | 3.3 | ug/L | 4144 | Standard |
| | Sc | 45 | 19651.1 | 3.8 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 67.7 | 17.6 | **0.2244** | 0.075 | 33.6 | ug/L | 38 | Standard |
| | V | 51 | 268648.7 | 1.5 | **49.7289** | 1.840 | 3.7 | ug/L | 1783 | Standard |
| | Cr | 52 | 293203.8 | 0.4 | **57.2148** | 1.535 | 2.7 | ug/L | 7920 | Standard |
| | Cr | 53 | 39503.1 | 1.8 | **60.7134** | 2.558 | 4.2 | ug/L | 745 | Standard |
| | Mn | 55 | 786037.0 | 0.5 | **99.1099** | 2.875 | 2.9 | ug/L | 1605 | Standard |
| | Co | 59 | 296838.1 | 1.1 | **47.9061** | 1.505 | 3.1 | ug/L | 431 | Standard |
| | Ni | 60 | 65086.2 | 0.3 | **49.2379** | 1.322 | 2.7 | ug/L | 588 | Standard |
| | Cu | 65 | 57698.3 | 0.8 | **48.2495** | 1.425 | 3.0 | ug/L | 167 | Standard |
| | Zn | 66 | 33299.2 | 1.4 | **52.6400** | 1.231 | 2.3 | ug/L | 973 | Standard |
| > | Ge | 72 | 258363.3 | 2.4 | | | | ug/L | 269739 | Standard |
| | As | 75 | 34633.6 | 0.9 | **51.7003** | 1.170 | 2.3 | ug/L | -49 | Standard |
| | Se | 82 | 2803.5 | 2.0 | **49.3927** | 1.194 | 2.4 | ug/L | 20 | Standard |
| | Se-1 | 77 | 2471.5 | 0.7 | **57.4359** | 1.739 | 3.0 | ug/L | 125 | Standard |
| > | Ga | 71 | 41.7 | 13.9 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 12883.8 | 3.1 | | | | ug/L | 47 | Standard |
| | Y | 89 | 239371.2 | 1.3 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 130.0 | 13.9 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 2169.2 | 2.2 | **0.8801** | 0.024 | 2.8 | ug/L | 196 | Standard |
| | Ag | 107 | 183125.4 | 0.9 | **47.7751** | 0.482 | 1.0 | ug/L | 131 | Standard |
| | Cd | 111 | 42994.1 | 1.7 | **48.9469** | 0.613 | 1.3 | mg/L | 6 | Standard |
| | Cd | 114 | 122974.2 | 2.3 | **47.5898** | 0.906 | 1.9 | ug/L | 15 | Standard |
| > | In | 115 | 309457.4 | 0.5 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 114.0 | 13.0 | **0.0591** | 0.021 | 35.3 | ug/L | 108 | Standard |
| | Sb | 123 | 157741.8 | 2.6 | **51.3590** | 1.107 | 2.2 | ug/L | 410 | Standard |
| | Ba | 135 | 93348.8 | 2.3 | **74.6713** | 1.391 | 1.9 | ug/L | 21 | Standard |
| | Ce | 140 | 2938.6 | 8.3 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 509761.8 | 2.5 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 85.0 | 35.3 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 364043.3 | 0.7 | **51.2045** | 1.056 | 2.1 | ug/L | 14 | Standard |
| | Tl | 205 | 839617.9 | 1.5 | **50.9064** | 1.502 | 2.9 | ug/L | 23 | Standard |
| | Pb | 206 | 277815.1 | 1.2 | **49.8917** | 1.324 | 2.7 | ug/L | 290 | Standard |
| | Pb | 207 | 233849.3 | 1.1 | **49.0482** | 1.159 | 2.4 | ug/L | 269 | Standard |
| | Pb | 208 | 408985.1 | 3.0 | **48.8335** | 2.161 | 4.4 | ug/L | 471 | Standard |
| | U | 238 | 390439.5 | 1.9 | **52.1852** | 1.765 | 3.4 | ug/L | 7 | Standard |
| > | Bi | 209 | 390547.8 | 1.5 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 106.7 | 31.2 | **53.4835** | 16.008 | 29.9 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 3595.4 | 0.7 | **83.0717** | 3.704 | 4.5 | mg/L | 30 | Standard |
| \| | **K** | 39 | 108.3 | 42.9 | **1.4594** | 0.646 | 44.3 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 70.0 | 25.8 | **27.7850** | 16.323 | 58.7 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 63.1 | 40.2 | **1.1143** | 0.590 | 52.9 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 865.0 | 13.5 | **10.1933** | 6.657 | 65.3 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 19651.1 | 3.8 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 2.0 | 0.0 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 9.7 | 6.0 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 5451.0 | 5.4 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 35.0 | 24.7 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 30.0 | 16.7 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 378.3 | 8.8 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 33.3 | 34.6 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 6.7 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 125.4 | 8.8 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 85.0 | 35.3 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 96.7 | 23.9 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 35481.6 | 7.0 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| ⌈> | Li | 6 | | 101.043 | |
| \| | 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 | | 95.783 | |
| \| | 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 | 99.638 | |
| 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 | 94.234 | |
| 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 | |

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# Method 6020 - Summary Report

**Sample ID: L1708149808SD WG627948-05**
Sample Date/Time: Friday, September 01, 2017 12:47:34
Number of Replicates: 3
Autosampler Position: 209
Sample Description: 1
Method File: C:\NexION\Data\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 | 122617.5 | 1.1 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 67528.5 | 2.2 | **49.5048** | 1.277 | 2.6 | ug/L | 15 | Standard |
| | Al | 27 | 17134234.1 | 0.5 | **150.9909** | 2.171 | 1.4 | ug/L | 4144 | Standard |
| | Sc | 45 | 19168.8 | 1.6 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 78.7 | 6.5 | **0.2884** | 0.025 | 8.6 | ug/L | 38 | Standard |
| | V | 51 | 268329.2 | 0.4 | **49.3747** | 0.611 | 1.2 | ug/L | 1783 | Standard |
| | Cr | 52 | 252756.5 | 0.6 | **48.8325** | 1.081 | 2.2 | ug/L | 7920 | Standard |
| | Cr | 53 | 35934.3 | 3.1 | **54.8130** | 2.555 | 4.7 | ug/L | 745 | Standard |
| | Mn | 55 | 805179.0 | 0.8 | **100.9496** | 2.317 | 2.3 | ug/L | 1605 | Standard |
| | Co | 59 | 297742.4 | 0.6 | **47.7757** | 0.911 | 1.9 | ug/L | 431 | Standard |
| | Ni | 60 | 65642.2 | 0.2 | **49.3756** | 0.787 | 1.6 | ug/L | 588 | Standard |
| | Cu | 65 | 57946.6 | 0.6 | **48.1799** | 0.959 | 2.0 | ug/L | 167 | Standard |
| | Zn | 66 | 33611.9 | 1.3 | **52.8422** | 1.304 | 2.5 | ug/L | 973 | Standard |
| > | Ge | 72 | 259781.5 | 1.6 | | | | ug/L | 269739 | Standard |
| | As | 75 | 34987.3 | 0.3 | **51.9323** | 0.705 | 1.4 | ug/L | -49 | Standard |
| | Se | 82 | 2855.9 | 0.8 | **50.0458** | 1.203 | 2.4 | ug/L | 20 | Standard |
| | Se-1 | 77 | 2537.9 | 1.4 | **58.7021** | 1.257 | 2.1 | ug/L | 125 | Standard |
| > | Ga | 71 | 43.3 | 6.7 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 12795.4 | 1.7 | | | | ug/L | 47 | Standard |
| | Y | 89 | 245381.4 | 1.7 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 170.0 | 10.6 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 2039.1 | 0.6 | **0.8267** | 0.005 | 0.7 | ug/L | 196 | Standard |
| | Ag | 107 | 184397.3 | 0.6 | **48.1657** | 0.225 | 0.5 | ug/L | 131 | Standard |
| | Cd | 111 | 43544.5 | 0.9 | **49.6360** | 0.301 | 0.6 | mg/L | 6 | Standard |
| | Cd | 114 | 123147.1 | 2.0 | **47.7163** | 0.794 | 1.7 | ug/L | 15 | Standard |
| > | In | 115 | 309077.7 | 0.3 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 117.7 | 6.4 | **0.0647** | 0.011 | 16.8 | ug/L | 108 | Standard |
| | Sb | 123 | 157606.6 | 2.1 | **51.3795** | 0.939 | 1.8 | ug/L | 410 | Standard |
| | Ba | 135 | 93797.9 | 2.4 | **75.1234** | 1.562 | 2.1 | ug/L | 21 | Standard |
| | Ce | 140 | 2962.0 | 2.5 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 509225.1 | 1.3 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 100.0 | 13.2 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 362904.4 | 1.2 | **50.6436** | 0.767 | 1.5 | ug/L | 14 | Standard |
| | Tl | 205 | 846798.5 | 1.2 | **50.9360** | 0.916 | 1.8 | ug/L | 23 | Standard |
| | Pb | 206 | 275902.7 | 1.5 | **49.1564** | 0.906 | 1.8 | ug/L | 290 | Standard |
| | Pb | 207 | 232928.1 | 0.5 | **48.4691** | 0.401 | 0.8 | ug/L | 269 | Standard |
| | Pb | 208 | 409487.9 | 3.2 | **48.5039** | 1.880 | 3.9 | ug/L | 471 | Standard |
| | U | 238 | 392263.9 | 1.8 | **52.0139** | 1.273 | 2.4 | ug/L | 7 | Standard |
| > | Bi | 209 | 393576.1 | 0.7 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 78.3 | 26.6 | **40.1711** | 10.956 | 27.3 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 3747.1 | 5.6 | **88.7970** | 6.418 | 7.2 | mg/L | 30 | Standard |
| \| | **K** | 39 | 141.7 | 21.6 | **2.0426** | 0.450 | 22.0 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 70.0 | 18.9 | **28.8706** | 10.086 | 34.9 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 52.7 | 66.0 | **0.9101** | 0.817 | 89.8 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 920.0 | 2.4 | **14.4767** | 1.745 | 12.1 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 19168.8 | 1.6 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 3.3 | 91.7 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 3.3 | 62.4 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 5684.4 | 10.0 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 55.0 | 45.5 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 35.0 | 14.3 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 376.7 | 8.8 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 30.0 | 115.5 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 6.7 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 111.4 | 26.3 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 100.0 | 13.2 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 110.0 | 24.1 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 39098.9 | 7.8 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| ⌈> | Li | 6 | | 101.353 | |
| \| | 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 | | 96.308 | |
| \| | 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 | | 99.516 |
| 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 | | 94.965 |
| 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 | |

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# Method 6020 - Summary Report

**Sample ID: L1708158917**
Sample Date/Time: Friday, September 01, 2017 12:50:40
Number of Replicates: 3
Autosampler Position: 210
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 | 126558.1 | 1.0 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 38.3 | 45.8 | **0.0231** | 0.012 | 53.0 | ug/L | 15 | Standard |
| | **Al** | 27 | 12224.9 | 2.4 | **0.0650** | 0.002 | 2.4 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 19762.9 | 2.5 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 54.7 | 17.8 | **0.1300** | 0.056 | 43.0 | ug/L | 38 | Standard |
| | **V** | 51 | 2461.8 | 4.0 | **0.1433** | 0.015 | 10.3 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 10437.6 | 1.0 | **0.5197** | 0.018 | 3.5 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 1405.1 | 5.8 | **1.0151** | 0.116 | 11.5 | ug/L | 745 | Standard |
| | **Mn** | 55 | 17662.6 | 1.0 | **1.9632** | 0.028 | 1.4 | ug/L | 1605 | Standard |
| | **Co** | 59 | 534.7 | 6.2 | **0.0195** | 0.006 | 29.1 | ug/L | 431 | Standard |
| | **Ni** | 60 | 748.4 | 5.4 | **0.1391** | 0.026 | 18.9 | ug/L | 588 | Standard |
| | **Cu** | 65 | 398.3 | 8.6 | **0.2002** | 0.027 | 13.3 | ug/L | 167 | Standard |
| | **Zn** | 66 | 2200.2 | 2.3 | **2.7842** | 0.088 | 3.2 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 270182.1 | 0.7 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | -47.7 | 31.5 | **0.0822** | 0.021 | 25.7 | ug/L | -49 | Standard |
| | **Se** | 82 | 22.1 | 7.8 | **0.0378** | 0.030 | 79.6 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 153.7 | 9.3 | **0.5479** | 0.324 | 59.2 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 35.0 | 42.9 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 186.7 | 11.2 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 250576.4 | 3.1 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 45.0 | 44.4 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 168.0 | 7.5 | **0.0423** | 0.005 | 12.4 | ug/L | 196 | Standard |
| | **Ag** | 107 | 177.3 | 3.6 | **0.0169** | 0.002 | 9.6 | ug/L | 131 | Standard |
| | **Cd** | 111 | 18.2 | 13.8 | **-0.0012** | 0.003 | 245.2 | mg/L | 6 | Standard |
| | **Cd** | 114 | 43.4 | 29.1 | **0.0151** | 0.005 | 32.7 | ug/L | 15 | Standard |
| > | **In** | 115 | 319923.8 | 1.3 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 185.0 | 9.1 | **0.1535** | 0.023 | 15.2 | ug/L | 108 | Standard |
| | **Sb** | 123 | 261.0 | 6.2 | **0.0477** | 0.005 | 10.5 | ug/L | 410 | Standard |
| | **Ba** | 135 | 707.3 | 7.2 | **0.5347** | 0.043 | 8.1 | ug/L | 21 | Standard |
| | **Ce** | 140 | 263.3 | 13.5 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 506323.2 | 2.1 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 23.3 | 32.7 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 175.7 | 13.7 | **0.0206** | 0.003 | 14.8 | ug/L | 14 | Standard |
| | **Tl** | 205 | 368.3 | 15.9 | **0.0228** | 0.003 | 14.5 | ug/L | 23 | Standard |
| | **Pb** | 206 | 1011.4 | 3.9 | **0.1211** | 0.007 | 5.4 | ug/L | 290 | Standard |
| | **Pb** | 207 | 832.4 | 2.4 | **0.1099** | 0.004 | 3.2 | ug/L | 269 | Standard |
| | **Pb** | 208 | 1424.4 | 1.8 | **0.1090** | 0.002 | 2.0 | ug/L | 471 | Standard |
| | **U** | 238 | 107.3 | 5.3 | **0.0146** | 0.001 | 4.8 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 415506.0 | 0.6 | | | | ug/L | 414444 | Standard |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 0.0 | | **-0.8620** | 0.000 | 0.0 | mg/L | 2 | Standard |
| | **Mg** | 24 | 58.3 | 4.9 | **0.2805** | 0.079 | 28.0 | mg/L | 30 | Standard |
| | **K** | 39 | 13.3 | 78.1 | **0.0078** | 0.167 | 2138.5 | mg/L | 12 | Standard |
| | **Ca** | 43 | 38.3 | 19.9 | **1.4780** | 6.647 | 449.8 | mg/L | 43 | Standard |
| | **Fe** | 54 | 39.2 | 58.2 | **0.5708** | 0.538 | 94.2 | mg/L | 33 | Standard |
| | **Fe** | 57 | 686.7 | 10.3 | **0.0625** | 2.975 | 4756.1 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 19762.9 | 2.5 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 1.3 | 86.6 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 7.3 | 55.1 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 1083.4 | 5.9 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 38.3 | 49.4 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 33.3 | 48.2 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 403.3 | 23.5 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 6.7 | 86.6 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 3.3 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 12.4 | 93.3 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 23.3 | 32.7 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 20.0 | 0.0 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 1920.1 | 30.8 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | 104.610 | |
| | 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 | | 100.164 | |
| | 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 | 103.008 |
| 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 | 100.256 |
| 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: L1708158917**
Report Date/Time: Friday, September 01, 2017 12:52:50
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# Method 6020 - Summary Report

**Sample ID: L1708159218**
Sample Date/Time: Friday, September 01, 2017 12:53:45
Number of Replicates: 3
Autosampler Position: 211
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 | 127698.1 | 3.9 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 38.3 | 32.8 | **0.0229** | 0.009 | 39.3 | ug/L | 15 | Standard |
| | **Al** | 27 | 41653.9 | 2.7 | **0.3132** | 0.004 | 1.3 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 20195.1 | 5.7 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 210.0 | 13.2 | **1.0299** | 0.188 | 18.2 | ug/L | 38 | Standard |
| | **V** | 51 | 3033.2 | 6.2 | **0.2407** | 0.027 | 11.2 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 11241.2 | 4.2 | **0.6562** | 0.047 | 7.2 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 1246.7 | 3.5 | **0.7638** | 0.025 | 3.2 | ug/L | 745 | Standard |
| | **Mn** | 55 | 24325.5 | 0.6 | **2.7454** | 0.048 | 1.7 | ug/L | 1605 | Standard |
| | **Co** | 59 | 584.0 | 2.5 | **0.0264** | 0.001 | 3.8 | ug/L | 431 | Standard |
| | **Ni** | 60 | 1041.7 | 5.6 | **0.3476** | 0.048 | 13.9 | ug/L | 588 | Standard |
| | **Cu** | 65 | 545.0 | 0.8 | **0.3145** | 0.012 | 3.7 | ug/L | 167 | Standard |
| | **Zn** | 66 | 1773.8 | 1.4 | **2.1129** | 0.092 | 4.3 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 272292.1 | 2.3 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | -50.3 | 116.8 | **0.0778** | 0.084 | 107.4 | ug/L | -49 | Standard |
| | **Se** | 82 | 16.9 | 20.9 | **-0.0525** | 0.057 | 108.0 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 127.3 | 6.8 | **-0.0875** | 0.246 | 281.7 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 63.3 | 43.5 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 1190.0 | 4.7 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 254237.7 | 2.3 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 53.3 | 39.0 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 240.1 | 1.4 | **0.0705** | 0.000 | 0.3 | ug/L | 196 | Standard |
| | **Ag** | 107 | 139.3 | 8.3 | **0.0070** | 0.003 | 40.5 | ug/L | 131 | Standard |
| | **Cd** | 111 | 16.1 | 17.9 | **-0.0037** | 0.003 | 80.5 | mg/L | 6 | Standard |
| | **Cd** | 114 | 55.5 | 28.3 | **0.0194** | 0.006 | 31.1 | ug/L | 15 | Standard |
| > | **In** | 115 | 322959.9 | 1.3 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 230.7 | 7.3 | **0.2146** | 0.022 | 10.1 | ug/L | 108 | Standard |
| | **Sb** | 123 | 253.5 | 8.0 | **0.0446** | 0.007 | 16.2 | ug/L | 410 | Standard |
| | **Ba** | 135 | 790.4 | 2.2 | **0.5931** | 0.020 | 3.4 | ug/L | 21 | Standard |
| | **Ce** | 140 | 1581.8 | 12.5 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 511908.8 | 1.6 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 58.3 | 30.1 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 99.0 | 22.6 | **0.0102** | 0.003 | 26.8 | ug/L | 14 | Standard |
| | **Tl** | 205 | 201.7 | 18.3 | **0.0131** | 0.002 | 14.3 | ug/L | 23 | Standard |
| | **Pb** | 206 | 4217.3 | 0.9 | **0.6474** | 0.019 | 3.0 | ug/L | 290 | Standard |
| | **Pb** | 207 | 3422.1 | 1.6 | **0.6062** | 0.002 | 0.3 | ug/L | 269 | Standard |
| | **Pb** | 208 | 5851.8 | 3.0 | **0.5921** | 0.027 | 4.6 | ug/L | 471 | Standard |
| | **U** | 238 | 132.7 | 15.2 | **0.0174** | 0.002 | 12.9 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 424771.5 | 1.8 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 0.0 | | **-0.8620** | 0.000 | 0.0 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 43.3 | 29.0 | **-0.0885** | 0.300 | 339.4 | mg/L | 30 | Standard |
| \| | **K** | 39 | 11.7 | 99.0 | **-0.0203** | 0.183 | 903.3 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 48.3 | 15.8 | **9.0084** | 7.913 | 87.8 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 32.5 | 9.3 | **0.4012** | 0.104 | 25.9 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 696.7 | 3.4 | **-0.0342** | 3.262 | 9548.0 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 20195.1 | 5.7 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 1.3 | 86.6 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 6.0 | 60.1 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 1046.7 | 2.4 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 35.0 | 24.7 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 40.0 | 12.5 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 348.3 | 10.8 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 10.0 | | | | | mg/L | 13 | Standard |
| | **N** | 14 | 6.7 | 173.2 | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 64.8 | 82.1 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 58.3 | 30.1 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 40.0 | 100.0 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 1150.0 | 9.8 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| ⌈> | Li | 6 | | 105.552 | |
| \| | 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 | | 100.946 | |
| \| | 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 | 103.986 |
| 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 | 102.492 |
| 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: L1708159218**
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# Method 6020 - Summary Report

**Sample ID: L1708159218PS WG628140-01**
Sample Date/Time: Friday, September 01, 2017 12:56:51
Number of Replicates: 3
Autosampler Position: 212
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 | 124506.5 | 3.2 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 69845.6 | 1.4 | **50.4669** | 2.194 | 4.3 | ug/L | 15 | Standard |
| | **Al** | 27 | 39046.9 | 2.6 | **0.2998** | 0.015 | 5.0 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 20617.4 | 1.6 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 281.3 | 13.0 | **1.4397** | 0.185 | 12.8 | ug/L | 38 | Standard |
| | **V** | 51 | 286930.9 | 1.0 | **50.4269** | 1.648 | 3.3 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 279059.2 | 0.9 | **51.5607** | 1.631 | 3.2 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 34856.7 | 1.4 | **50.6724** | 1.510 | 3.0 | ug/L | 745 | Standard |
| | **Mn** | 55 | 442161.9 | 2.0 | **52.8578** | 2.080 | 3.9 | ug/L | 1605 | Standard |
| | **Co** | 59 | 333205.0 | 1.3 | **51.0604** | 1.716 | 3.4 | ug/L | 431 | Standard |
| | **Ni** | 60 | 71223.0 | 0.7 | **51.1717** | 1.506 | 2.9 | ug/L | 588 | Standard |
| | **Cu** | 65 | 66943.2 | 0.5 | **53.1511** | 0.964 | 1.8 | ug/L | 167 | Standard |
| | **Zn** | 66 | 35613.8 | 0.3 | **53.4601** | 1.069 | 2.0 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 272125.1 | 2.2 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | 35662.3 | 0.6 | **50.5424** | 0.848 | 1.7 | ug/L | -49 | Standard |
| | **Se** | 82 | 2978.3 | 1.7 | **49.8142** | 0.386 | 0.8 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 2313.5 | 0.4 | **50.6999** | 1.260 | 2.5 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 90.0 | 25.5 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 1266.7 | 6.8 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 253743.7 | 3.4 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 58.3 | 34.6 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 260.3 | 7.2 | **0.0799** | 0.008 | 9.8 | ug/L | 196 | Standard |
| | **Ag** | 107 | 201646.6 | 0.1 | **51.0662** | 0.138 | 0.3 | ug/L | 131 | Standard |
| | **Cd** | 111 | 47003.5 | 0.8 | **51.9458** | 0.377 | 0.7 | mg/L | 6 | Standard |
| | **Cd** | 114 | 133017.4 | 1.3 | **49.9703** | 0.657 | 1.3 | ug/L | 15 | Standard |
| > | **In** | 115 | 318805.6 | 0.4 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 211.7 | 2.8 | **0.1921** | 0.009 | 4.8 | ug/L | 108 | Standard |
| | **Sb** | 123 | 159316.3 | 2.6 | **50.3542** | 1.371 | 2.7 | ug/L | 410 | Standard |
| | **Ba** | 135 | 68297.0 | 2.0 | **53.0291** | 1.081 | 2.0 | ug/L | 21 | Standard |
| | **Ce** | 140 | 1555.1 | 5.5 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 506769.9 | 2.2 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 30.0 | 44.1 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 392253.0 | 1.2 | **50.8949** | 0.548 | 1.1 | ug/L | 14 | Standard |
| | **Tl** | 205 | 905048.1 | 2.0 | **50.6114** | 0.662 | 1.3 | ug/L | 23 | Standard |
| | **Pb** | 206 | 312597.8 | 1.3 | **51.7839** | 0.529 | 1.0 | ug/L | 290 | Standard |
| | **Pb** | 207 | 261585.2 | 2.2 | **50.6110** | 0.994 | 2.0 | ug/L | 269 | Standard |
| | **Pb** | 208 | 445678.8 | 3.5 | **49.0822** | 1.885 | 3.8 | ug/L | 471 | Standard |
| | **U** | 238 | 400493.1 | 2.3 | **49.3743** | 1.247 | 2.5 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 423297.2 | 1.0 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 1.7 | 173.2 | **-0.0444** | 1.416 | 3188.6 | mg/L | 2 | Standard |
| | **Mg** | 24 | 51.7 | 14.8 | **0.0735** | 0.151 | 205.5 | mg/L | 30 | Standard |
| | **K** | 39 | 20.0 | 25.0 | **0.0950** | 0.075 | 79.1 | mg/L | 12 | Standard |
| | **Ca** | 43 | 35.0 | 24.7 | **-2.5420** | 6.265 | 246.5 | mg/L | 43 | Standard |
| | **Fe** | 54 | 31.7 | 37.8 | **0.3682** | 0.268 | 72.7 | mg/L | 33 | Standard |
| | **Fe** | 57 | 645.0 | 5.6 | **-3.6110** | 2.420 | 67.0 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 20617.4 | 1.6 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 0.0 | | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 3.3 | 34.6 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 993.4 | 2.1 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 55.0 | 47.2 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 41.7 | 25.0 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 383.3 | 11.7 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 23.3 | 49.5 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 3.3 | 173.2 | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 6.7 | 86.6 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 67.8 | 38.1 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 30.0 | 44.1 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 46.7 | 32.7 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 1261.7 | 3.7 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | 102.914 | |
| | 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 | | 100.884 | |
| | 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 | | 102.648 |
| \| | 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 | | 102.136 |
| ⌈ | 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: L1708159218PS WG628140-01**
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# Method 6020 - Summary Report

**Sample ID: L1708159218SDL WG628140-02**
Sample Date/Time: Friday, September 01, 2017 12:59:56
Number of Replicates: 3
Autosampler Position: 213
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 | 118437.8 | 0.3 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 26.7 | 10.8 | **0.0162** | 0.002 | 13.8 | ug/L | 15 | Standard |
| | **Al** | 27 | 10246.8 | 2.3 | **0.0541** | 0.002 | 4.4 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 18267.7 | 3.0 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 60.0 | 7.6 | **0.1902** | 0.028 | 14.6 | ug/L | 38 | Standard |
| | **V** | 51 | 1908.2 | 8.2 | **0.0731** | 0.032 | 43.3 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 7387.1 | 0.8 | **0.0532** | 0.015 | 29.1 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 791.7 | 9.2 | **0.1958** | 0.106 | 54.3 | ug/L | 745 | Standard |
| | **Mn** | 55 | 4430.6 | 2.5 | **0.4100** | 0.009 | 2.1 | ug/L | 1605 | Standard |
| | **Co** | 59 | 386.3 | 1.7 | **0.0015** | 0.000 | 34.2 | ug/L | 431 | Standard |
| | **Ni** | 60 | 632.7 | 1.5 | **0.0931** | 0.006 | 6.0 | ug/L | 588 | Standard |
| | **Cu** | 65 | 214.3 | 7.5 | **0.0670** | 0.014 | 20.7 | ug/L | 167 | Standard |
| | **Zn** | 66 | 725.4 | 3.1 | **0.6225** | 0.026 | 4.2 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 249509.1 | 1.0 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | -55.1 | 58.0 | **0.0651** | 0.049 | 75.9 | ug/L | -49 | Standard |
| | **Se** | 82 | 17.9 | 19.8 | **-0.0081** | 0.063 | 776.1 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 118.3 | 2.7 | **-0.0485** | 0.080 | 165.2 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 45.0 | 57.7 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 273.3 | 14.2 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 225433.0 | 0.4 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 58.3 | 26.2 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 54.4 | 7.5 | **-0.0025** | 0.002 | 63.0 | ug/L | 196 | Standard |
| | **Ag** | 107 | 137.0 | 3.9 | **0.0084** | 0.001 | 14.4 | ug/L | 131 | Standard |
| | **Cd** | 111 | 9.3 | 53.2 | **-0.0105** | 0.006 | 55.1 | mg/L | 6 | Standard |
| | **Cd** | 114 | 22.5 | 81.5 | **0.0076** | 0.007 | 94.9 | ug/L | 15 | Standard |
| > | **In** | 115 | 305596.6 | 0.8 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 91.3 | 14.5 | **0.0278** | 0.019 | 69.8 | ug/L | 108 | Standard |
| | **Sb** | 123 | 844.0 | 4.8 | **0.2439** | 0.014 | 5.6 | ug/L | 410 | Standard |
| | **Ba** | 135 | 163.0 | 6.4 | **0.1191** | 0.007 | 6.2 | ug/L | 21 | Standard |
| | **Ce** | 140 | 311.7 | 19.1 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 497154.0 | 1.4 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 21.7 | 26.6 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 94.0 | 25.2 | **0.0103** | 0.003 | 31.6 | ug/L | 14 | Standard |
| | **Tl** | 205 | 240.0 | 11.0 | **0.0160** | 0.002 | 9.9 | ug/L | 23 | Standard |
| | **Pb** | 206 | 990.7 | 0.6 | **0.1232** | 0.000 | 0.1 | ug/L | 290 | Standard |
| | **Pb** | 207 | 824.4 | 1.3 | **0.1137** | 0.002 | 1.5 | ug/L | 269 | Standard |
| | **Pb** | 208 | 1518.4 | 2.6 | **0.1252** | 0.005 | 4.1 | ug/L | 471 | Standard |
| | **U** | 238 | 41.0 | 38.3 | **0.0064** | 0.002 | 31.6 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 402128.6 | 0.6 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 1.7 | 173.2 | **0.0628** | 1.602 | 2550.5 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 46.7 | 37.6 | **0.0915** | 0.410 | 448.3 | mg/L | 30 | Standard |
| \| | **K** | 39 | 15.0 | 33.3 | **0.0502** | 0.087 | 173.1 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 28.3 | 83.4 | **-4.4735** | 21.580 | 482.4 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 35.7 | 17.0 | **0.5551** | 0.170 | 30.7 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 698.3 | 5.8 | **3.8798** | 1.932 | 49.8 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 18267.7 | 3.0 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 2.0 | 100.0 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 4.0 | 86.6 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 903.4 | 6.7 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 40.0 | 50.0 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 38.3 | 27.2 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 393.3 | 7.2 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 10.0 | | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 3.3 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 39.7 | 76.2 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 21.7 | 26.6 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 6.7 | 86.6 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 1460.1 | 4.5 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| ⌈> | Li | 6 | | 97.898 | |
| \| | 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 | | 92.500 | |
| \| | 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 | | 98.395 |
| 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 | | 97.029 |
| 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: L1708159218SDL WG628140-02**
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# Method 6020 - Summary Report

**Sample ID: L1708159218SDL WG628140-02**
Sample Date/Time: Friday, September 01, 2017 13:03:02
Number of Replicates: 3
Autosampler Position: 214
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 | 114632.0 | 0.7 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 61.7 | 30.7 | **0.0443** | 0.015 | 33.8 | ug/L | 15 | Standard |
| | **Al** | 27 | 6823.3 | 27.0 | **0.0249** | 0.017 | 69.1 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 18200.9 | 4.1 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 43.7 | 52.3 | **0.0913** | 0.150 | 163.8 | ug/L | 38 | Standard |
| | **V** | 51 | 1905.3 | 7.4 | **0.0770** | 0.028 | 35.8 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 6909.6 | 1.5 | **-0.0281** | 0.021 | 74.8 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 746.7 | 6.1 | **0.1390** | 0.085 | 61.1 | ug/L | 745 | Standard |
| | **Mn** | 55 | 1563.1 | 5.8 | **0.0377** | 0.013 | 34.3 | ug/L | 1605 | Standard |
| | **Co** | 59 | 379.3 | 18.3 | **0.0011** | 0.012 | 1079.0 | ug/L | 431 | Standard |
| | **Ni** | 60 | 544.3 | 2.6 | **0.0287** | 0.011 | 38.7 | ug/L | 588 | Standard |
| | **Cu** | 65 | 157.7 | 1.6 | **0.0196** | 0.003 | 14.3 | ug/L | 167 | Standard |
| | **Zn** | 66 | 508.7 | 1.0 | **0.2747** | 0.014 | 4.9 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 246453.7 | 0.9 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | -36.7 | 67.6 | **0.0930** | 0.038 | 41.1 | ug/L | -49 | Standard |
| | **Se** | 82 | 17.9 | 24.4 | **-0.0051** | 0.079 | 1566.5 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 121.3 | 5.0 | **0.0656** | 0.156 | 237.7 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 28.3 | 50.9 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 93.3 | 22.3 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 226333.2 | 1.5 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 40.0 | 33.1 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 54.6 | 13.6 | **-0.0017** | 0.004 | 209.9 | ug/L | 196 | Standard |
| | **Ag** | 107 | 148.0 | 30.4 | **0.0127** | 0.013 | 101.5 | ug/L | 131 | Standard |
| | **Cd** | 111 | 13.3 | 102.2 | **-0.0052** | 0.016 | 314.8 | mg/L | 6 | Standard |
| | **Cd** | 114 | 41.8 | 79.8 | **0.0158** | 0.014 | 87.2 | ug/L | 15 | Standard |
| > | **In** | 115 | 295968.6 | 1.3 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 57.3 | 6.1 | **-0.0195** | 0.005 | 23.5 | ug/L | 108 | Standard |
| | **Sb** | 123 | 238.5 | 5.5 | **0.0467** | 0.006 | 11.8 | ug/L | 410 | Standard |
| | **Ba** | 135 | 60.0 | 20.2 | **0.0373** | 0.011 | 28.2 | ug/L | 21 | Standard |
| | **Ce** | 140 | 75.0 | 23.1 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 483228.3 | 1.9 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 8.3 | 69.3 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 84.3 | 75.7 | **0.0093** | 0.009 | 97.8 | ug/L | 14 | Standard |
| | **Tl** | 205 | 253.3 | 82.7 | **0.0172** | 0.013 | 74.4 | ug/L | 23 | Standard |
| | **Pb** | 206 | 477.0 | 8.5 | **0.0357** | 0.008 | 22.6 | ug/L | 290 | Standard |
| | **Pb** | 207 | 374.7 | 14.0 | **0.0240** | 0.012 | 48.2 | ug/L | 269 | Standard |
| | **Pb** | 208 | 710.7 | 10.4 | **0.0336** | 0.010 | 28.4 | ug/L | 471 | Standard |
| | **U** | 238 | 69.3 | 96.8 | **0.0104** | 0.009 | 86.9 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 392445.1 | 1.0 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 0.0 | | **-0.8620** | 0.000 | 0.0 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 38.3 | 52.7 | **-0.0990** | 0.548 | 553.4 | mg/L | 30 | Standard |
| \| | **K** | 39 | 13.3 | 57.3 | **0.0241** | 0.133 | 552.7 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 31.7 | 50.8 | **-1.4640** | 15.457 | 1055.8 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 32.4 | 38.3 | **0.4704** | 0.292 | 62.0 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 740.0 | 7.7 | **6.6484** | 5.136 | 77.2 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 18200.9 | 4.1 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 0.7 | 173.2 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 8.3 | 18.3 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 940.0 | 15.1 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 38.3 | 49.4 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 45.0 | 33.3 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 381.7 | 8.7 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 16.7 | 34.6 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 3.3 | 173.2 | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 3.3 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 26.2 | 86.6 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 8.3 | 69.3 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 10.0 | 100.0 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 1461.7 | 8.1 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| ⌈> | Li | 6 | | 94.752 | |
| \| | 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 | | 91.367 | |
| \| | 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 | 95.295 |
| 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 | 94.692 |
| 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 6**
Sample Date/Time: Friday, September 01, 2017 13:06:08
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexION\Data\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 | 120484.0 | 2.5 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 66321.5 | 0.8 | **49.4934** | 1.064 | 2.1 | ug/L | 15 | Standard |
| | Al | 27 | 5512256.8 | 0.1 | **49.4258** | 1.292 | 2.6 | ug/L | 4144 | Standard |
| | Sc | 45 | 19794.6 | 2.0 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 17118.3 | 2.4 | **101.6728** | 4.578 | 4.5 | ug/L | 38 | Standard |
| | V | 51 | 273463.4 | 1.8 | **49.3102** | 1.943 | 3.9 | ug/L | 1783 | Standard |
| | Cr | 52 | 262885.5 | 1.0 | **49.7836** | 1.356 | 2.7 | ug/L | 7920 | Standard |
| | Cr | 53 | 33101.1 | 1.7 | **49.3404** | 1.230 | 2.5 | ug/L | 745 | Standard |
| | Mn | 55 | 407808.3 | 0.9 | **50.0076** | 1.569 | 3.1 | ug/L | 1605 | Standard |
| | Co | 59 | 315988.7 | 0.5 | **49.6712** | 0.928 | 1.9 | ug/L | 431 | Standard |
| | Ni | 60 | 68069.6 | 0.5 | **50.1644** | 0.952 | 1.9 | ug/L | 588 | Standard |
| | Cu | 65 | 61729.5 | 0.2 | **50.2861** | 1.180 | 2.3 | ug/L | 167 | Standard |
| | Zn | 66 | 32520.9 | 1.3 | **50.0467** | 0.688 | 1.4 | ug/L | 973 | Standard |
| > | Ge | 72 | 265216.5 | 2.3 | | | | ug/L | 269739 | Standard |
| | As | 75 | 34128.8 | 2.0 | **49.6234** | 0.564 | 1.1 | ug/L | -49 | Standard |
| | Se | 82 | 2996.9 | 1.4 | **51.4476** | 0.807 | 1.6 | ug/L | 20 | Standard |
| | Se-1 | 77 | 2247.8 | 2.3 | **50.5309** | 1.572 | 3.1 | ug/L | 125 | Standard |
| > | Ga | 71 | 40.0 | 65.0 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 520.0 | 10.0 | | | | ug/L | 47 | Standard |
| | Y | 89 | 246859.9 | 3.7 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 56.7 | 20.4 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 245521.0 | 1.1 | **101.7029** | 0.970 | 1.0 | ug/L | 196 | Standard |
| | Ag | 107 | 199935.5 | 0.3 | **51.7743** | 0.206 | 0.4 | ug/L | 131 | Standard |
| | Cd | 111 | 45215.2 | 0.5 | **51.0950** | 0.159 | 0.3 | mg/L | 6 | Standard |
| | Cd | 114 | 132241.6 | 1.1 | **50.7974** | 0.454 | 0.9 | ug/L | 15 | Standard |
| > | In | 115 | 311779.1 | 0.3 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 34710.4 | 1.5 | **49.9721** | 0.617 | 1.2 | ug/L | 108 | Standard |
| | Sb | 123 | 158050.9 | 2.1 | **51.0782** | 0.960 | 1.9 | ug/L | 410 | Standard |
| | Ba | 135 | 63895.8 | 2.5 | **50.7272** | 1.113 | 2.2 | ug/L | 21 | Standard |
| | Ce | 140 | 65.0 | 13.3 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 498737.3 | 1.9 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 11.7 | 65.5 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 376967.2 | 0.1 | **50.2655** | 0.316 | 0.6 | ug/L | 14 | Standard |
| | Tl | 205 | 878647.8 | 0.6 | **50.4975** | 0.234 | 0.5 | ug/L | 23 | Standard |
| | Pb | 206 | 289220.2 | 1.1 | **49.2365** | 0.708 | 1.4 | ug/L | 290 | Standard |
| | Pb | 207 | 257653.3 | 0.8 | **51.2331** | 0.589 | 1.1 | ug/L | 269 | Standard |
| | Pb | 208 | 419577.4 | 3.9 | **47.4858** | 2.069 | 4.4 | ug/L | 471 | Standard |
| | U | 238 | 386464.7 | 2.4 | **48.9648** | 1.370 | 2.8 | ug/L | 7 | Standard |
| > | Bi | 209 | 411892.3 | 0.5 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 20.0 | 50.0 | **9.2879** | 5.025 | 54.1 | mg/L | 2 | Standard |
| | **Mg** | 24 | 208.3 | 2.8 | **3.7620** | 0.231 | 6.1 | mg/L | 30 | Standard |
| | **K** | 39 | 340.0 | 10.6 | **5.0159** | 0.462 | 9.2 | mg/L | 12 | Standard |
| | **Ca** | 43 | 45.0 | 22.2 | **6.7989** | 8.055 | 118.5 | mg/L | 43 | Standard |
| | **Fe** | 54 | 257.7 | 14.5 | **5.4803** | 0.859 | 15.7 | mg/L | 33 | Standard |
| | **Fe** | 57 | 821.7 | 14.7 | **7.4561** | 6.649 | 89.2 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 19794.6 | 2.0 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 1.3 | 173.2 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.7 | 50.9 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 930.0 | 6.7 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 55.0 | 39.6 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 51.7 | 24.4 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 375.0 | 17.5 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 20.0 | 86.6 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 13.3 | 43.3 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 13.0 | 120.6 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 11.7 | 65.5 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 6.7 | 173.2 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 1646.8 | 2.5 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | | |
| | Be | 9 | 98.987 | | |
| | Al | 27 | 98.852 | | |
| | Sc | 45 | | | |
| | Ti | 47 | 101.673 | | |
| | V | 51 | 98.620 | | |
| | Cr | 52 | 99.567 | | |
| | Cr | 53 | | | |
| | Mn | 55 | 100.015 | | |
| | Co | 59 | 99.342 | | |
| | Ni | 60 | 100.329 | | |
| | Cu | 65 | 100.572 | | |
| | Zn | 66 | 100.093 | | |
| > | Ge | 72 | | 98.323 | |
| | As | 75 | 99.247 | | |
| | Se | 82 | 102.895 | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |

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| | | | | | |
|---|---|---|---|---|---|
| ⌊ | Rb | 85 | | | |
| ⌈ | Y | 89 | | | |
| ⌊> | Rh | 103 | | | |
| ⌈ | Mo | 98 | 101.703 | | |
| \| | Ag | 107 | 103.549 | | |
| \| | Cd | 111 | 102.190 | | |
| \| | Cd | 114 | | | |
| \| > | In | 115 | | 100.386 | |
| \| | Sn | 118 | 99.944 | | |
| \| | Sb | 123 | 102.156 | | |
| ⌊ | Ba | 135 | 101.454 | | |
| ⌈ | Ce | 140 | | | |
| ⌊> | Tb | 159 | | | |
| ⌈ | Ho | 165 | | | |
| \| | Tl | 203 | 100.531 | | |
| \| | Tl | 205 | | | |
| \| | Pb | 206 | | | |
| \| | Pb | 207 | | | |
| \| | Pb | 208 | 94.972 | | |
| \| | U | 238 | 97.930 | | |
| ⌊> | Bi | 209 | | 99.384 | |
| ⌈ | 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: Friday, September 01, 2017 13:08:19


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# Method 6020 - Summary Report

**Sample ID: QC Std 7**
Sample Date/Time: Friday, September 01, 2017 13:09:14
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexION\Data\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 | 113310.5 | 1.2 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 43.3 | 13.3 | **0.0303** | 0.004 | 13.6 | ug/L | 15 | Standard |
| | Al | 27 | 3730.5 | 3.0 | **-0.0039** | 0.001 | 18.3 | ug/L | 4144 | Standard |
| | Sc | 45 | 18326.1 | 1.4 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 27.7 | 8.3 | **-0.0133** | 0.016 | 117.3 | ug/L | 38 | Standard |
| | V | 51 | 1328.4 | 8.9 | **-0.0376** | 0.022 | 58.5 | ug/L | 1783 | Standard |
| | Cr | 52 | 5360.9 | 1.4 | **-0.3615** | 0.016 | 4.4 | ug/L | 7920 | Standard |
| | Cr | 53 | 671.7 | 11.5 | **0.0073** | 0.127 | 1750.9 | ug/L | 745 | Standard |
| | Mn | 55 | 913.0 | 5.2 | **-0.0493** | 0.007 | 13.9 | ug/L | 1605 | Standard |
| | Co | 59 | 354.7 | 2.2 | **-0.0036** | 0.001 | 28.6 | ug/L | 431 | Standard |
| | Ni | 60 | 496.0 | 3.7 | **-0.0129** | 0.016 | 126.8 | ug/L | 588 | Standard |
| | Cu | 65 | 120.7 | 14.5 | **-0.0137** | 0.016 | 115.1 | ug/L | 167 | Standard |
| | Zn | 66 | 128.3 | 24.1 | **-0.3639** | 0.052 | 14.4 | ug/L | 973 | Standard |
| > | Ge | 72 | 248349.9 | 0.5 | | | | ug/L | 269739 | Standard |
| | As | 75 | -20.7 | 183.6 | **0.1180** | 0.059 | 50.0 | ug/L | -49 | Standard |
| | Se | 82 | 19.2 | 38.9 | **0.0179** | 0.138 | 771.4 | ug/L | 20 | Standard |
| | Se-1 | 77 | 117.7 | 2.7 | **-0.0512** | 0.097 | 188.8 | ug/L | 125 | Standard |
| > | Ga | 71 | 21.7 | 35.3 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 43.3 | 17.6 | | | | ug/L | 47 | Standard |
| | Y | 89 | 225274.3 | 1.6 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 48.3 | 26.0 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 185.8 | 37.0 | **0.0551** | 0.032 | 57.4 | ug/L | 196 | Standard |
| | Ag | 107 | 133.3 | 9.6 | **0.0082** | 0.004 | 51.1 | ug/L | 131 | Standard |
| | Cd | 111 | 12.8 | 34.5 | **-0.0062** | 0.005 | 80.6 | mg/L | 6 | Standard |
| | Cd | 114 | 36.2 | 1.1 | **0.0133** | 0.000 | 3.5 | ug/L | 15 | Standard |
| > | In | 115 | 299031.6 | 2.1 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 143.3 | 9.9 | **0.1088** | 0.017 | 15.8 | ug/L | 108 | Standard |
| | Sb | 123 | 179.5 | 33.3 | **0.0263** | 0.022 | 82.4 | ug/L | 410 | Standard |
| | Ba | 135 | 20.3 | 7.5 | **0.0039** | 0.001 | 24.2 | ug/L | 21 | Standard |
| | Ce | 140 | 23.3 | 44.6 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 492236.4 | 1.9 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 13.3 | 108.3 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 43.0 | 50.3 | **0.0033** | 0.003 | 90.6 | ug/L | 14 | Standard |
| | Tl | 205 | 88.3 | 11.8 | **0.0071** | 0.001 | 9.2 | ug/L | 23 | Standard |
| | Pb | 206 | 310.7 | 6.7 | **0.0047** | 0.004 | 83.3 | ug/L | 290 | Standard |
| | Pb | 207 | 268.7 | 10.6 | **0.0006** | 0.006 | 1017.4 | ug/L | 269 | Standard |
| | Pb | 208 | 461.7 | 8.1 | **0.0027** | 0.005 | 165.6 | ug/L | 471 | Standard |
| | U | 238 | 23.0 | 23.0 | **0.0041** | 0.001 | 17.2 | ug/L | 7 | Standard |
| > | Bi | 209 | 401184.1 | 0.7 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 0.0 | | **-0.8620** | 0.000 | 0.0 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 46.7 | 27.0 | **0.0939** | 0.313 | 334.0 | mg/L | 30 | Standard |
| \| | **K** | 39 | 18.3 | 31.5 | **0.1036** | 0.093 | 89.6 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 46.7 | 44.6 | **11.0906** | 17.954 | 161.9 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 24.2 | 18.4 | **0.2682** | 0.101 | 37.6 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 703.3 | 13.9 | **4.1060** | 6.386 | 155.5 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 18326.1 | 1.4 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 3.3 | 34.6 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.3 | 39.0 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 860.0 | 3.1 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 40.0 | 12.5 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 36.7 | 15.7 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 391.7 | 8.1 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 20.0 | 132.3 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 6.2 | 100.1 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 13.3 | 108.3 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 10.0 | 100.0 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 2016.8 | 18.3 | | | | mg/L | 8119 | 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 | | 92.070 | |
| \| | 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 | 96.281 |
| 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 | 96.801 |
| 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**
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# Method 6020 - Summary Report

**Sample ID: L1708164401**
Sample Date/Time: Friday, September 01, 2017 13:12:20
Number of Replicates: 3
Autosampler Position: 215
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 | 126872.4 | 1.3 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 30.0 | 100.0 | **0.0170** | 0.021 | 124.1 | ug/L | 15 | Standard |
| | **Al** | 27 | 91244755.8 | 2.2 | **777.1289** | 6.964 | 0.9 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 16937.8 | 0.8 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 191.0 | 14.4 | **1.2059** | 0.177 | 14.7 | ug/L | 38 | Standard |
| | **V** | 51 | -1503.6 | 51.9 | **-0.6280** | 0.167 | 26.6 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 12216.9 | 8.9 | **1.4544** | 0.305 | 21.0 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 19265.7 | 13.9 | **35.0460** | 5.451 | 15.6 | ug/L | 745 | Standard |
| | **Mn** | 55 | 78982.7 | 1.8 | **11.7818** | 0.440 | 3.7 | ug/L | 1605 | Standard |
| | **Co** | 59 | 1519.4 | 3.4 | **0.2310** | 0.014 | 5.9 | ug/L | 431 | Standard |
| | **Ni** | 60 | 11121.1 | 0.9 | **9.7547** | 0.267 | 2.7 | ug/L | 588 | Standard |
| | **Cu** | 65 | 5142.6 | 21.1 | **5.0569** | 1.169 | 23.1 | ug/L | 167 | Standard |
| | **Zn** | 66 | 5353.0 | 37.6 | **9.7141** | 3.993 | 41.1 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 215662.3 | 1.9 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | 307.3 | 254.8 | **0.7122** | 1.394 | 195.7 | ug/L | -49 | Standard |
| | **Se** | 82 | 460.1 | 72.6 | **9.5094** | 7.187 | 75.6 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 2698.2 | 12.3 | **76.1403** | 10.888 | 14.3 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 103.3 | 10.1 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 29238.2 | 0.5 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 202236.1 | 2.0 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 2423.5 | 8.7 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 586.5 | 4.2 | **0.2365** | 0.012 | 5.3 | ug/L | 196 | Standard |
| | **Ag** | 107 | 173.3 | 8.0 | **0.0206** | 0.004 | 21.4 | ug/L | 131 | Standard |
| | **Cd** | 111 | 22.7 | 44.4 | **0.0065** | 0.012 | 190.7 | mg/L | 6 | Standard |
| | **Cd** | 114 | 73.8 | 42.2 | **0.0293** | 0.013 | 43.8 | ug/L | 15 | Standard |
| > | **In** | 115 | 289221.4 | 1.2 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 108.7 | 22.8 | **0.0624** | 0.039 | 62.3 | ug/L | 108 | Standard |
| | **Sb** | 123 | 504.9 | 3.2 | **0.1415** | 0.007 | 4.7 | ug/L | 410 | Standard |
| | **Ba** | 135 | 3179.7 | 3.3 | **2.7086** | 0.059 | 2.2 | ug/L | 21 | Standard |
| | **Ce** | 140 | 120.0 | 21.7 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 485851.1 | 2.3 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 70.0 | 25.8 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 126.7 | 29.7 | **0.0198** | 0.006 | 30.8 | ug/L | 14 | Standard |
| | **Tl** | 205 | 281.7 | 44.1 | **0.0233** | 0.009 | 38.5 | ug/L | 23 | Standard |
| | **Pb** | 206 | 296.0 | 6.1 | **0.0174** | 0.002 | 14.3 | ug/L | 290 | Standard |
| | **Pb** | 207 | 239.7 | 7.9 | **0.0091** | 0.004 | 40.7 | ug/L | 269 | Standard |
| | **Pb** | 208 | 506.7 | 4.9 | **0.0254** | 0.003 | 11.7 | ug/L | 471 | Standard |
| | **U** | 238 | 431.7 | 1.0 | **0.0740** | 0.002 | 3.1 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 309436.6 | 2.4 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 143.3 | 17.6 | **84.0637** | 14.426 | 17.2 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 49223.2 | 1.7 | **1333.9529** | 15.461 | 1.2 | mg/L | 30 | Standard |
| \| | **K** | 39 | 281.7 | 5.7 | **4.8554** | 0.290 | 6.0 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 65.0 | 53.8 | **32.1154** | 33.518 | 104.4 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 49.6 | 11.3 | **0.9841** | 0.139 | 14.1 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 1355.1 | 3.5 | **49.1441** | 3.639 | 7.4 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 16937.8 | 0.8 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 4.0 | 50.0 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 6.0 | 76.4 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 325567.5 | 1.0 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 35.0 | 24.7 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 33.3 | 31.2 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 436.7 | 15.2 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 16.7 | 34.6 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 10.0 | 100.0 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 58.7 | 45.9 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 70.0 | 25.8 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 96.7 | 43.1 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 892454.3 | 15.1 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| ⌈> | Li | 6 | | 104.869 | |
| \| | 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 | | 79.952 | |
| \| | 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 | 93.123 |
| | 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 | 74.663 |
| | 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 | |
| V 51 Lower | V | 51 | |

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# Method 6020 - Summary Report

**Sample ID: L1708164402**
Sample Date/Time: Friday, September 01, 2017 13:15:25
Number of Replicates: 3
Autosampler Position: 216
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 | 133435.1 | 1.6 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 35.0 | 37.8 | **0.0194** | 0.009 | 44.4 | ug/L | 15 | Standard |
| | **Al** | 27 | 92460194.4 | 0.5 | **748.9753** | 15.601 | 2.1 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 17328.2 | 4.3 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 128.7 | 20.4 | **0.7451** | 0.208 | 28.0 | ug/L | 38 | Standard |
| | **V** | 51 | -2451.1 | 39.5 | **-0.8367** | 0.219 | 26.2 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 18693.9 | 2.2 | **2.9586** | 0.171 | 5.8 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 29462.0 | 5.2 | **53.5537** | 3.643 | 6.8 | ug/L | 745 | Standard |
| | **Mn** | 55 | 21234.5 | 1.2 | **3.0101** | 0.108 | 3.6 | ug/L | 1605 | Standard |
| | **Co** | 59 | 1641.8 | 2.5 | **0.2514** | 0.015 | 6.0 | ug/L | 431 | Standard |
| | **Ni** | 60 | 12247.9 | 2.2 | **10.6692** | 0.457 | 4.3 | ug/L | 588 | Standard |
| | **Cu** | 65 | 5244.2 | 10.3 | **5.0996** | 0.647 | 12.7 | ug/L | 167 | Standard |
| | **Zn** | 66 | 5845.8 | 17.0 | **10.5254** | 2.109 | 20.0 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 217963.1 | 2.4 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | 1588.9 | 42.4 | **2.9350** | 1.107 | 37.7 | ug/L | -49 | Standard |
| | **Se** | 82 | 997.1 | 14.8 | **20.5834** | 2.587 | 12.6 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 3950.8 | 5.2 | **111.6319** | 8.423 | 7.5 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 123.3 | 13.0 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 29239.9 | 3.3 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 202808.7 | 2.0 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 1715.1 | 29.0 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 796.3 | 0.8 | **0.3260** | 0.002 | 0.7 | ug/L | 196 | Standard |
| | **Ag** | 107 | 128.7 | 10.3 | **0.0077** | 0.004 | 49.6 | ug/L | 131 | Standard |
| | **Cd** | 111 | 28.5 | 17.3 | **0.0132** | 0.006 | 45.9 | mg/L | 6 | Standard |
| | **Cd** | 114 | 103.3 | 7.3 | **0.0411** | 0.003 | 7.8 | ug/L | 15 | Standard |
| > | **In** | 115 | 292637.0 | 0.6 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 125.7 | 11.2 | **0.0865** | 0.021 | 23.8 | ug/L | 108 | Standard |
| | **Sb** | 123 | 283.3 | 8.4 | **0.0631** | 0.009 | 13.5 | ug/L | 410 | Standard |
| | **Ba** | 135 | 3666.8 | 2.6 | **3.0898** | 0.097 | 3.1 | ug/L | 21 | Standard |
| | **Ce** | 140 | 61.7 | 16.9 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 510946.8 | 2.2 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 63.3 | 16.4 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 81.7 | 13.4 | **0.0121** | 0.002 | 14.5 | ug/L | 14 | Standard |
| | **Tl** | 205 | 200.0 | 6.6 | **0.0174** | 0.001 | 5.1 | ug/L | 23 | Standard |
| | **Pb** | 206 | 291.3 | 5.1 | **0.0176** | 0.005 | 29.4 | ug/L | 290 | Standard |
| | **Pb** | 207 | 243.3 | 5.8 | **0.0112** | 0.003 | 23.6 | ug/L | 269 | Standard |
| | **Pb** | 208 | 484.3 | 2.3 | **0.0233** | 0.002 | 9.4 | ug/L | 471 | Standard |
| | **U** | 238 | 453.7 | 4.0 | **0.0789** | 0.003 | 3.6 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 304268.2 | 2.7 | | | | ug/L | 414444 | Standard |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 123.3 | 6.2 | **70.6610** | 4.631 | 6.6 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 50967.3 | 2.8 | **1352.7856** | 92.329 | 6.8 | mg/L | 30 | Standard |
| \| | **K** | 39 | 271.7 | 3.8 | **4.5734** | 0.317 | 6.9 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 80.0 | 18.8 | **45.0077** | 17.202 | 38.2 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 47.8 | 9.9 | **0.9134** | 0.158 | 17.3 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 1313.4 | 5.4 | **44.8009** | 8.032 | 17.9 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 17328.2 | 4.3 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 10.0 | 52.9 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 6.7 | 22.9 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 320109.5 | 0.2 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 43.3 | 26.6 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 23.3 | 12.4 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 433.3 | 10.4 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 16.7 | 34.6 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 16.7 | 69.3 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 90.1 | 14.3 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 63.3 | 16.4 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 66.7 | 43.3 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 1017270.1 | 11.0 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| ⌈> | Li | 6 | | 110.294 | |
| \| | 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 | | 80.805 | |
| \| | As | 75 | | | |
| \| | Se | 82 | | | |
| ⌊ | Se-1 | 77 | | | |
| ⌈> | Ga | 71 | | | |

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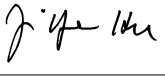
| | | | |
|---|---|---|---|
| ⌊ | Rb | 85 | |
| ⌈ | Y | 89 | |
| ⌊> | Rh | 103 | |
| ⌈ | Mo | 98 | |
| \| | Ag | 107 | |
| \| | Cd | 111 | |
| \| | Cd | 114 | |
| \| > | In | 115 | 94.222 |
| \| | Sn | 118 | |
| \| | Sb | 123 | |
| ⌊ | Ba | 135 | |
| ⌈ | Ce | 140 | |
| ⌊> | Tb | 159 | |
| ⌈ | Ho | 165 | |
| \| | Tl | 203 | |
| \| | Tl | 205 | |
| \| | Pb | 206 | |
| \| | Pb | 207 | |
| \| | Pb | 208 | |
| \| | U | 238 | |
| ⌊> | Bi | 209 | 73.416 |
| ⌈ | 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 | |
| V 51 Lower | V | 51 | |
| Se-1 77 Upper, S, EEE | Se-1 | 77 | |



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# Method 6020 - Summary Report

**Sample ID: L1708149801**
Sample Date/Time: Friday, September 01, 2017 13:18:31
Number of Replicates: 3
Autosampler Position: 217
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 | 128738.0 | 0.7 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 45.0 | 19.2 | **0.0273** | 0.006 | 22.0 | ug/L | 15 | Standard |
| | Al | 27 | 6770075.9 | 1.3 | **56.7978** | 1.120 | 2.0 | ug/L | 4144 | Standard |
| | Sc | 45 | 19813.0 | 3.8 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 395.3 | 30.6 | **2.2268** | 0.761 | 34.2 | ug/L | 38 | Standard |
| | V | 51 | 39076.7 | 2.1 | **6.9709** | 0.146 | 2.1 | ug/L | 1783 | Standard |
| | Cr | 52 | 10914.3 | 5.0 | **0.7037** | 0.083 | 11.7 | ug/L | 7920 | Standard |
| | Cr | 53 | 13137.4 | 7.3 | **19.4485** | 1.741 | 9.0 | ug/L | 745 | Standard |
| | Mn | 55 | 809489.4 | 1.9 | **101.9561** | 3.212 | 3.2 | ug/L | 1605 | Standard |
| | Co | 59 | 1551.1 | 2.4 | **0.1872** | 0.008 | 4.3 | ug/L | 431 | Standard |
| | Ni | 60 | 4373.0 | 2.2 | **2.9252** | 0.099 | 3.4 | ug/L | 588 | Standard |
| | Cu | 65 | 3105.7 | 9.3 | **2.4792** | 0.209 | 8.4 | ug/L | 167 | Standard |
| | Zn | 66 | 6496.7 | 5.7 | **9.7893** | 0.484 | 4.9 | ug/L | 973 | Standard |
| > | Ge | 72 | 258603.4 | 1.2 | | | | ug/L | 269739 | Standard |
| | As | 75 | 539.9 | 11.8 | **0.9521** | 0.087 | 9.1 | ug/L | -49 | Standard |
| | Se | 82 | 127.3 | 21.8 | **1.9149** | 0.464 | 24.2 | ug/L | 20 | Standard |
| | Se-1 | 77 | 1138.0 | 1.9 | **24.7638** | 0.187 | 0.8 | ug/L | 125 | Standard |
| > | Ga | 71 | 110.0 | 47.2 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 9392.9 | 2.8 | | | | ug/L | 47 | Standard |
| | Y | 89 | 236352.0 | 3.0 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 238.3 | 12.8 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 3618.7 | 1.3 | **1.4215** | 0.024 | 1.7 | ug/L | 196 | Standard |
| | Ag | 107 | 122.3 | 3.1 | **0.0027** | 0.001 | 30.9 | ug/L | 131 | Standard |
| | Cd | 111 | 558.7 | 3.7 | **0.5885** | 0.025 | 4.3 | mg/L | 6 | Standard |
| | Cd | 114 | 1643.6 | 3.9 | **0.6082** | 0.027 | 4.4 | ug/L | 15 | Standard |
| > | In | 115 | 323067.9 | 0.6 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 180.3 | 8.2 | **0.1446** | 0.021 | 14.8 | ug/L | 108 | Standard |
| | Sb | 123 | 802.8 | 8.2 | **0.2160** | 0.020 | 9.1 | ug/L | 410 | Standard |
| | Ba | 135 | 52499.2 | 2.5 | **40.2205** | 0.886 | 2.2 | ug/L | 21 | Standard |
| | Ce | 140 | 2886.9 | 5.2 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 536971.3 | 1.7 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 76.7 | 13.6 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 626.3 | 1.9 | **0.0864** | 0.001 | 0.9 | ug/L | 14 | Standard |
| | Tl | 205 | 1430.1 | 2.5 | **0.0895** | 0.002 | 2.7 | ug/L | 23 | Standard |
| | Pb | 206 | 5403.0 | 3.3 | **0.9318** | 0.042 | 4.6 | ug/L | 290 | Standard |
| | Pb | 207 | 4414.0 | 0.7 | **0.8821** | 0.017 | 1.9 | ug/L | 269 | Standard |
| | Pb | 208 | 7879.8 | 2.6 | **0.9005** | 0.033 | 3.7 | ug/L | 471 | Standard |
| | U | 238 | 2358.5 | 0.9 | **0.3196** | 0.006 | 2.0 | ug/L | 7 | Standard |
| > | Bi | 209 | 386507.5 | 1.2 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 103.3 | 27.5 | **51.6212** | 14.675 | 28.4 | mg/L | 2 | Standard |
| | **Mg** | 24 | 4218.9 | 1.3 | **96.8541** | 4.338 | 4.5 | mg/L | 30 | Standard |
| | **K** | 39 | 115.0 | 11.5 | **1.5703** | 0.265 | 16.9 | mg/L | 12 | Standard |
| | **Ca** | 43 | 83.3 | 22.7 | **37.8761** | 15.023 | 39.7 | mg/L | 43 | Standard |
| | **Fe** | 54 | 24.1 | 19.3 | **0.2217** | 0.095 | 42.8 | mg/L | 33 | Standard |
| | **Fe** | 57 | 883.4 | 10.0 | **10.9340** | 6.624 | 60.6 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 19813.0 | 3.8 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 1.3 | 173.2 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 6.0 | 33.3 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 9716.5 | 3.3 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 41.7 | 38.6 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 31.7 | 59.8 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 441.7 | 8.3 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 6.7 | 86.6 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 3.3 | 173.2 | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 3.3 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 90.0 | 17.5 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 76.7 | 13.6 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 70.0 | 14.3 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 70442.4 | 26.1 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | 106.412 | |
| | 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 | | 95.872 | |
| | As | 75 | | | |
| | Se | 82 | | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |



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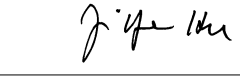
| | | | |
|---|---|---|---|
| Rb | 85 | | |
| Y | 89 | | |
| Rh | 103 | | |
| Mo | 98 | | |
| Ag | 107 | | |
| Cd | 111 | | |
| Cd | 114 | | |
| In | 115 | 104.020 | |
| Sn | 118 | | |
| Sb | 123 | | |
| Ba | 135 | | |
| Ce | 140 | | |
| Tb | 159 | | |
| Ho | 165 | | |
| Tl | 203 | | |
| Tl | 205 | | |
| Pb | 206 | | |
| Pb | 207 | | |
| Pb | 208 | | |
| U | 238 | | |
| Bi | 209 | 93.259 | |
| 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: L1708149802**
Sample Date/Time: Friday, September 01, 2017 13:21:36
Number of Replicates: 3
Autosampler Position: 218
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 | 127235.7 | 3.1 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 33.3 | 43.3 | **0.0196** | 0.011 | 54.5 | ug/L | 15 | Standard |
| | **Al** | 27 | 7364950.0 | 0.7 | **62.5623** | 2.232 | 3.6 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 18898.4 | 1.8 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 65.7 | 13.0 | **0.2139** | 0.050 | 23.3 | ug/L | 38 | Standard |
| | **V** | 51 | 40780.0 | 2.4 | **7.3416** | 0.352 | 4.8 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 9721.1 | 3.1 | **0.4781** | 0.016 | 3.2 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 17238.1 | 4.1 | **26.0388** | 1.702 | 6.5 | ug/L | 745 | Standard |
| | **Mn** | 55 | 943408.1 | 0.7 | **119.6433** | 3.626 | 3.0 | ug/L | 1605 | Standard |
| | **Co** | 59 | 1272.1 | 2.3 | **0.1435** | 0.003 | 2.4 | ug/L | 431 | Standard |
| | **Ni** | 60 | 4553.0 | 0.7 | **3.0855** | 0.094 | 3.1 | ug/L | 588 | Standard |
| | **Cu** | 65 | 1975.8 | 3.4 | **1.5458** | 0.046 | 3.0 | ug/L | 167 | Standard |
| | **Zn** | 66 | 6017.5 | 0.2 | **9.0933** | 0.238 | 2.6 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 256949.2 | 2.3 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | 410.6 | 28.7 | **0.7628** | 0.169 | 22.2 | ug/L | -49 | Standard |
| | **Se** | 82 | 107.9 | 10.7 | **1.5867** | 0.204 | 12.9 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 1357.7 | 1.4 | **30.3552** | 0.634 | 2.1 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 68.3 | 8.4 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 9341.2 | 2.6 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 232724.6 | 4.7 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 193.3 | 7.9 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 4294.4 | 1.4 | **1.7098** | 0.029 | 1.7 | ug/L | 196 | Standard |
| | **Ag** | 107 | 97.7 | 10.0 | **-0.0032** | 0.003 | 79.6 | ug/L | 131 | Standard |
| | **Cd** | 111 | 664.4 | 4.2 | **0.7115** | 0.037 | 5.1 | mg/L | 6 | Standard |
| | **Cd** | 114 | 1902.7 | 6.3 | **0.7119** | 0.051 | 7.2 | ug/L | 15 | Standard |
| > | **In** | 115 | 319692.9 | 1.0 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 154.0 | 6.4 | **0.1100** | 0.012 | 11.1 | ug/L | 108 | Standard |
| | **Sb** | 123 | 682.3 | 10.5 | **0.1808** | 0.024 | 13.3 | ug/L | 410 | Standard |
| | **Ba** | 135 | 61373.7 | 1.1 | **47.5256** | 0.943 | 2.0 | ug/L | 21 | Standard |
| | **Ce** | 140 | 400.0 | 7.0 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 529098.3 | 0.7 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 50.0 | 0.0 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 667.3 | 5.5 | **0.0936** | 0.006 | 6.3 | ug/L | 14 | Standard |
| | **Tl** | 205 | 1595.1 | 5.7 | **0.1009** | 0.007 | 6.8 | ug/L | 23 | Standard |
| | **Pb** | 206 | 10854.6 | 1.0 | **1.9487** | 0.068 | 3.5 | ug/L | 290 | Standard |
| | **Pb** | 207 | 8832.2 | 0.6 | **1.8453** | 0.072 | 3.9 | ug/L | 269 | Standard |
| | **Pb** | 208 | 16124.1 | 2.8 | **1.9238** | 0.120 | 6.2 | ug/L | 471 | Standard |
| | **U** | 238 | 3296.7 | 3.4 | **0.4526** | 0.029 | 6.3 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 381521.1 | 3.5 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 95.0 | 18.2 | **49.5419** | 8.459 | 17.1 | mg/L | 2 | Standard |
| | **Mg** | 24 | 5606.0 | 2.1 | **135.2418** | 4.361 | 3.2 | mg/L | 30 | Standard |
| | **K** | 39 | 131.7 | 12.2 | **1.9157** | 0.225 | 11.8 | mg/L | 12 | Standard |
| | **Ca** | 43 | 76.7 | 22.9 | **35.4370** | 14.361 | 40.5 | mg/L | 43 | Standard |
| | **Fe** | 54 | 35.6 | 37.2 | **0.5171** | 0.298 | 57.6 | mg/L | 33 | Standard |
| | **Fe** | 57 | 1005.0 | 5.7 | **20.0781** | 3.097 | 15.4 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 18898.4 | 1.8 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 2.7 | 86.6 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 8.3 | 25.0 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 10753.8 | 4.6 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 50.0 | 52.0 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 36.7 | 20.8 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 456.7 | 10.8 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 36.7 | 56.8 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 10.0 | 100.0 | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 20.0 | 100.0 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 39.8 | 59.4 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 50.0 | 0.0 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 73.3 | 15.7 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 36256.7 | 3.3 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | 105.170 | |
| | 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 | | 95.258 | |
| | 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 | 102.934 | |
| 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 | 92.056 | |
| 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: L1708149803**
Sample Date/Time: Friday, September 01, 2017 13:24:42
Number of Replicates: 3
Autosampler Position: 219
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 | 127500.9 | 0.7 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 50.0 | 20.0 | **0.0311** | 0.007 | 22.3 | ug/L | 15 | Standard |
| | Al | 27 | 12327744.9 | 2.7 | **104.4607** | 3.181 | 3.0 | ug/L | 4144 | Standard |
| | Sc | 45 | 19572.6 | 2.0 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 122.3 | 10.2 | **0.5430** | 0.081 | 14.9 | ug/L | 38 | Standard |
| | V | 51 | 2825.1 | 7.1 | **0.2204** | 0.040 | 18.3 | ug/L | 1783 | Standard |
| | Cr | 52 | 9429.6 | 1.7 | **0.3705** | 0.012 | 3.2 | ug/L | 7920 | Standard |
| | Cr | 53 | 3848.8 | 8.8 | **4.8051** | 0.459 | 9.6 | ug/L | 745 | Standard |
| | Mn | 55 | 248835.7 | 0.3 | **30.6038** | 0.431 | 1.4 | ug/L | 1605 | Standard |
| | Co | 59 | 1131.7 | 1.1 | **0.1159** | 0.001 | 1.0 | ug/L | 431 | Standard |
| | Ni | 60 | 2543.5 | 2.7 | **1.4929** | 0.030 | 2.0 | ug/L | 588 | Standard |
| | Cu | 65 | 1968.5 | 2.1 | **1.4966** | 0.027 | 1.8 | ug/L | 167 | Standard |
| | Zn | 66 | 1992.5 | 2.8 | **2.5403** | 0.052 | 2.1 | ug/L | 973 | Standard |
| > | Ge | 72 | 263774.8 | 1.1 | | | | ug/L | 269739 | Standard |
| | As | 75 | 152.5 | 51.7 | **0.3715** | 0.114 | 30.6 | ug/L | -49 | Standard |
| | Se | 82 | 66.5 | 8.3 | **0.8184** | 0.093 | 11.3 | ug/L | 20 | Standard |
| | Se-1 | 77 | 325.0 | 3.8 | **4.7397** | 0.238 | 5.0 | ug/L | 125 | Standard |
| > | Ga | 71 | 43.3 | 67.6 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 2243.5 | 1.0 | | | | ug/L | 47 | Standard |
| | Y | 89 | 244160.5 | 2.3 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 126.7 | 30.1 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 562.6 | 3.5 | **0.1966** | 0.006 | 2.8 | ug/L | 196 | Standard |
| | Ag | 107 | 113.0 | 9.9 | **0.0001** | 0.003 | 4512.3 | ug/L | 131 | Standard |
| | Cd | 111 | 27.1 | 5.7 | **0.0080** | 0.002 | 24.1 | mg/L | 6 | Standard |
| | Cd | 114 | 56.5 | 9.7 | **0.0195** | 0.002 | 11.4 | ug/L | 15 | Standard |
| > | In | 115 | 327203.8 | 1.1 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 130.3 | 15.5 | **0.0724** | 0.026 | 36.0 | ug/L | 108 | Standard |
| | Sb | 123 | 162.7 | 8.1 | **0.0156** | 0.004 | 25.0 | ug/L | 410 | Standard |
| | Ba | 135 | 37560.2 | 0.9 | **28.4092** | 0.077 | 0.3 | ug/L | 21 | Standard |
| | Ce | 140 | 2165.2 | 6.3 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 531650.0 | 1.7 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 43.3 | 17.6 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 154.3 | 12.4 | **0.0184** | 0.002 | 13.4 | ug/L | 14 | Standard |
| | Tl | 205 | 335.0 | 9.3 | **0.0215** | 0.002 | 7.9 | ug/L | 23 | Standard |
| | Pb | 206 | 833.7 | 4.3 | **0.0950** | 0.006 | 6.5 | ug/L | 290 | Standard |
| | Pb | 207 | 688.0 | 2.5 | **0.0852** | 0.004 | 4.2 | ug/L | 269 | Standard |
| | Pb | 208 | 1204.0 | 2.7 | **0.0880** | 0.005 | 5.8 | ug/L | 471 | Standard |
| | U | 238 | 3393.7 | 1.6 | **0.4390** | 0.007 | 1.5 | ug/L | 7 | Standard |
| > | Bi | 209 | 404427.7 | 0.9 | | | | ug/L | 414444 | Standard |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 96.7 | 29.4 | **48.9362** | 15.468 | 31.6 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 771.7 | 4.3 | **17.0517** | 1.136 | 6.7 | mg/L | 30 | Standard |
| \| | **K** | 39 | 66.7 | 35.4 | **0.8405** | 0.384 | 45.7 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 110.0 | 15.7 | **60.5366** | 13.025 | 21.5 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 35.8 | 35.4 | **0.4924** | 0.274 | 55.6 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 965.0 | 7.5 | **15.9467** | 5.021 | 31.5 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 19572.6 | 2.0 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 2.7 | 114.6 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 2.7 | 57.3 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 7638.6 | 7.9 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 46.7 | 34.4 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 28.3 | 20.4 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 410.0 | 13.7 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 26.7 | 114.6 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 3.3 | 173.2 | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 51.3 | 33.3 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 43.3 | 17.6 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 43.3 | 87.4 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 40148.4 | 9.5 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| ⌈> | Li | 6 | | 105.389 | |
| \| | 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 | | 97.789 | |
| \| | As | 75 | | | |
| \| | Se | 82 | | | |
| ⌊ | Se-1 | 77 | | | |
| ⌈> | Ga | 71 | | | |



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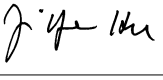
| | | | |
|---|---|---|---|
| Rb | 85 | | |
| Y | 89 | | |
| > Rh | 103 | | |
| Mo | 98 | | |
| Ag | 107 | | |
| Cd | 111 | | |
| Cd | 114 | | |
| > In | 115 | 105.352 | |
| Sn | 118 | | |
| Sb | 123 | | |
| Ba | 135 | | |
| Ce | 140 | | |
| > Tb | 159 | | |
| Ho | 165 | | |
| Tl | 203 | | |
| Tl | 205 | | |
| Pb | 206 | | |
| Pb | 207 | | |
| Pb | 208 | | |
| U | 238 | | |
| > Bi | 209 | 97.583 | |
| 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 | |

**Sample ID: L1708149803**
Report Date/Time: Friday, September 01, 2017 13:26:52
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# Method 6020 - Summary Report

**Sample ID: L1708149804**
Sample Date/Time: Friday, September 01, 2017 13:27:47
Number of Replicates: 3
Autosampler Position: 220
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 | 127444.0 | 2.8 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 41.7 | 50.0 | **0.0252** | 0.014 | 56.0 | ug/L | 15 | Standard |
| | Al | 27 | 11836848.2 | 1.4 | **100.4096** | 4.095 | 4.1 | ug/L | 4144 | Standard |
| | Sc | 45 | 19818.0 | 3.2 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 184.3 | 19.0 | **0.8980** | 0.224 | 24.9 | ug/L | 38 | Standard |
| | V | 51 | 2993.3 | 9.5 | **0.2423** | 0.049 | 20.4 | ug/L | 1783 | Standard |
| | Cr | 52 | 9599.7 | 3.4 | **0.3740** | 0.021 | 5.7 | ug/L | 7920 | Standard |
| | Cr | 53 | 3400.4 | 1.0 | **4.0412** | 0.103 | 2.6 | ug/L | 745 | Standard |
| | Mn | 55 | 108099.2 | 0.1 | **12.9934** | 0.371 | 2.9 | ug/L | 1605 | Standard |
| | Co | 59 | 1263.7 | 7.1 | **0.1335** | 0.008 | 6.4 | ug/L | 431 | Standard |
| | Ni | 60 | 2572.2 | 1.7 | **1.4857** | 0.082 | 5.5 | ug/L | 588 | Standard |
| | Cu | 65 | 599.7 | 1.6 | **0.3656** | 0.005 | 1.5 | ug/L | 167 | Standard |
| | Zn | 66 | 1800.1 | 1.9 | **2.1974** | 0.125 | 5.7 | ug/L | 973 | Standard |
| > | Ge | 72 | 268008.7 | 2.7 | | | | ug/L | 269739 | Standard |
| | As | 75 | 170.5 | 29.0 | **0.3939** | 0.067 | 17.0 | ug/L | -49 | Standard |
| | Se | 82 | 52.1 | 9.8 | **0.5522** | 0.065 | 11.8 | ug/L | 20 | Standard |
| | Se-1 | 77 | 300.3 | 5.6 | **4.0371** | 0.378 | 9.4 | ug/L | 125 | Standard |
| > | Ga | 71 | 63.3 | 19.9 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 2056.8 | 3.1 | | | | ug/L | 47 | Standard |
| | Y | 89 | 243166.9 | 3.1 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 135.0 | 48.1 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 608.2 | 4.0 | **0.2137** | 0.009 | 4.2 | ug/L | 196 | Standard |
| | Ag | 107 | 164.7 | 18.8 | **0.0126** | 0.007 | 57.8 | ug/L | 131 | Standard |
| | Cd | 111 | 44.1 | 36.3 | **0.0260** | 0.017 | 64.2 | mg/L | 6 | Standard |
| | Cd | 114 | 107.5 | 31.0 | **0.0379** | 0.012 | 31.1 | ug/L | 15 | Standard |
| > | In | 115 | 328398.0 | 1.3 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 156.7 | 29.5 | **0.1085** | 0.066 | 60.8 | ug/L | 108 | Standard |
| | Sb | 123 | 221.2 | 21.3 | **0.0333** | 0.014 | 40.8 | ug/L | 410 | Standard |
| | Ba | 135 | 39816.9 | 2.1 | **30.0146** | 0.956 | 3.2 | ug/L | 21 | Standard |
| | Ce | 140 | 4295.6 | 6.4 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 530974.1 | 1.0 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 53.3 | 37.9 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 206.3 | 49.6 | **0.0246** | 0.013 | 51.6 | ug/L | 14 | Standard |
| | Tl | 205 | 533.3 | 42.2 | **0.0323** | 0.012 | 37.6 | ug/L | 23 | Standard |
| | Pb | 206 | 756.0 | 5.8 | **0.0787** | 0.004 | 5.0 | ug/L | 290 | Standard |
| | Pb | 207 | 614.0 | 13.6 | **0.0674** | 0.014 | 20.3 | ug/L | 269 | Standard |
| | Pb | 208 | 1088.7 | 9.4 | **0.0719** | 0.008 | 11.5 | ug/L | 471 | Standard |
| | U | 238 | 3488.7 | 1.1 | **0.4422** | 0.007 | 1.7 | ug/L | 7 | Standard |
| > | Bi | 209 | 412892.4 | 2.7 | | | | ug/L | 414444 | Standard |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Na** | 23 | 108.3 | 37.0 | **53.9568** | 20.281 | 37.6 | mg/L | 2 | Standard |
| **Mg** | 24 | 778.4 | 13.3 | **17.0278** | 2.959 | 17.4 | mg/L | 30 | Standard |
| **K** | 39 | 31.7 | 9.1 | **0.2868** | 0.057 | 20.0 | mg/L | 12 | Standard |
| **Ca** | 43 | 98.3 | 22.9 | **50.2229** | 19.476 | 38.8 | mg/L | 43 | Standard |
| **Fe** | 54 | 35.7 | 20.8 | **0.4876** | 0.192 | 39.3 | mg/L | 33 | Standard |
| **Fe** | 57 | 950.0 | 7.1 | **14.3699** | 2.420 | 16.8 | mg/L | 628 | Standard |
| **Sc-1** | 45 | 19818.0 | 3.2 | | | | mg/L | 20033 | Standard |
| **Cl** | 35 | 0.7 | 173.2 | | | | ug/L | 1 | Standard |
| **Kr** | 83 | 5.7 | 27.0 | | | | ug/L | 4 | Standard |
| **Br** | 81 | 6361.3 | 9.5 | | | | ug/L | 1077 | Standard |
| **P** | 31 | 56.7 | 35.7 | | | | ug/L | 35 | Standard |
| **S** | 34 | 21.7 | 26.6 | | | | ug/L | 35 | Standard |
| **Sr** | 88 | 385.0 | 6.0 | | | | ug/L | 347 | Standard |
| **C** | 12 | 36.7 | 103.3 | | | | mg/L | 13 | Standard |
| **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| **Dy** | 164 | 33.6 | 105.8 | | | | mg/L | 16 | Standard |
| **Ho-1** | 165 | 53.3 | 37.9 | | | | mg/L | 8 | Standard |
| **Er** | 166 | 63.3 | 18.2 | | | | mg/L | 13 | Standard |
| **I** | 127 | 31803.4 | 4.2 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|
| Li | 6 | | 105.342 | |
| 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 | | 99.358 | |
| As | 75 | | | |
| Se | 82 | | | |
| Se-1 | 77 | | | |
| Ga | 71 | | | |

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Report Date/Time: Friday, September 01, 2017 13:29:58
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| | | | |
|---|---|---|---|
| ⌊ | Rb | 85 | |
| ⌈ | Y | 89 | |
| ⌊> | Rh | 103 | |
| ⌈ | Mo | 98 | |
| \| | Ag | 107 | |
| \| | Cd | 111 | |
| \| | Cd | 114 | |
| \| > | In | 115 | 105.737 |
| \| | 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 | 99.626 |
| ⌈ | 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 | |



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# Method 6020 - Summary Report

**Sample ID: L1708149807**
Sample Date/Time: Friday, September 01, 2017 13:30:53
Number of Replicates: 3
Autosampler Position: 221
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 | 125025.5 | 2.1 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 43.3 | 52.0 | **0.0269** | 0.016 | 58.0 | ug/L | 15 | Standard |
| | **Al** | 27 | 9108549.7 | 1.5 | **78.7312** | 2.726 | 3.5 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 19529.3 | 4.1 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 130.7 | 8.8 | **0.6003** | 0.077 | 12.8 | ug/L | 38 | Standard |
| | **V** | 51 | 3214.9 | 11.6 | **0.2965** | 0.062 | 20.9 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 9606.0 | 2.0 | **0.4233** | 0.014 | 3.3 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 7485.2 | 7.5 | **10.4962** | 1.012 | 9.6 | ug/L | 745 | Standard |
| | **Mn** | 55 | 697419.3 | 0.6 | **86.9185** | 1.547 | 1.8 | ug/L | 1605 | Standard |
| | **Co** | 59 | 1657.8 | 2.5 | **0.2017** | 0.009 | 4.3 | ug/L | 431 | Standard |
| | **Ni** | 60 | 2389.9 | 3.9 | **1.3952** | 0.049 | 3.5 | ug/L | 588 | Standard |
| | **Cu** | 65 | 945.0 | 3.8 | **0.6645** | 0.039 | 5.9 | ug/L | 167 | Standard |
| | **Zn** | 66 | 3640.1 | 1.0 | **5.1754** | 0.136 | 2.6 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 261245.6 | 1.4 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | 1168.8 | 2.7 | **1.8705** | 0.069 | 3.7 | ug/L | -49 | Standard |
| | **Se** | 82 | 120.9 | 8.4 | **1.7839** | 0.193 | 10.8 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 599.3 | 2.7 | **11.4578** | 0.578 | 5.0 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 80.0 | 16.5 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 9041.0 | 1.8 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 241090.2 | 2.1 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 130.0 | 26.9 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 1601.1 | 0.2 | **0.6175** | 0.004 | 0.6 | ug/L | 196 | Standard |
| | **Ag** | 107 | 118.7 | 7.3 | **0.0020** | 0.002 | 109.4 | ug/L | 131 | Standard |
| | **Cd** | 111 | 29.7 | 11.8 | **0.0114** | 0.004 | 32.8 | mg/L | 6 | Standard |
| | **Cd** | 114 | 70.3 | 49.9 | **0.0250** | 0.013 | 52.8 | ug/L | 15 | Standard |
| > | **In** | 115 | 321652.5 | 0.4 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 113.0 | 6.9 | **0.0515** | 0.011 | 21.8 | ug/L | 108 | Standard |
| | **Sb** | 123 | 398.4 | 0.3 | **0.0903** | 0.000 | 0.4 | ug/L | 410 | Standard |
| | **Ba** | 135 | 31055.1 | 1.8 | **23.8926** | 0.469 | 2.0 | ug/L | 21 | Standard |
| | **Ce** | 140 | 1970.1 | 6.8 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 525450.4 | 1.4 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 61.7 | 28.5 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 129.0 | 14.4 | **0.0151** | 0.003 | 16.9 | ug/L | 14 | Standard |
| | **Tl** | 205 | 278.3 | 22.9 | **0.0183** | 0.004 | 19.4 | ug/L | 23 | Standard |
| | **Pb** | 206 | 691.7 | 3.9 | **0.0717** | 0.005 | 7.1 | ug/L | 290 | Standard |
| | **Pb** | 207 | 558.3 | 5.6 | **0.0601** | 0.006 | 9.5 | ug/L | 269 | Standard |
| | **Pb** | 208 | 1013.7 | 3.7 | **0.0674** | 0.006 | 9.5 | ug/L | 471 | Standard |
| | **U** | 238 | 7282.4 | 3.1 | **0.9521** | 0.049 | 5.2 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 399865.6 | 2.1 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 88.3 | 40.2 | **44.2675** | 16.947 | 38.3 | mg/L | 2 | Standard |
| | **Mg** | 24 | 2676.9 | 7.2 | **62.0630** | 6.740 | 10.9 | mg/L | 30 | Standard |
| | **K** | 39 | 71.7 | 21.3 | **0.9115** | 0.203 | 22.3 | mg/L | 12 | Standard |
| | **Ca** | 43 | 60.0 | 22.0 | **19.6448** | 10.883 | 55.4 | mg/L | 43 | Standard |
| | **Fe** | 54 | 29.5 | 33.6 | **0.3607** | 0.250 | 69.2 | mg/L | 33 | Standard |
| | **Fe** | 57 | 840.0 | 3.1 | **9.1562** | 3.286 | 35.9 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 19529.3 | 4.1 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 1.3 | 86.6 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 7.3 | 7.9 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 4394.0 | 3.0 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 45.0 | 11.1 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 30.0 | 33.3 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 438.3 | 17.5 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 30.0 | 66.7 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 3.3 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 82.2 | 58.1 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 61.7 | 28.5 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 93.3 | 71.3 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 31840.2 | 5.8 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | 103.343 | |
| | 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 | | 96.851 | |
| | 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 | 103.565 | |
| 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 | 96.482 | |
| 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: L1708149809**
Sample Date/Time: Friday, September 01, 2017 13:33:58
Number of Replicates: 3
Autosampler Position: 222
Sample Description: 1
Method File: C:\NexION\Data\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 | 127215.4 | 2.7 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 55.0 | 18.2 | **0.0349** | 0.008 | 22.2 | ug/L | 15 | Standard |
| | Al | 27 | 13039591.6 | 0.6 | **110.7977** | 3.554 | 3.2 | ug/L | 4144 | Standard |
| | Sc | 45 | 20065.0 | 3.3 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 124.3 | 10.9 | **0.5363** | 0.070 | 13.0 | ug/L | 38 | Standard |
| | V | 51 | 3174.9 | 2.7 | **0.2708** | 0.027 | 10.0 | ug/L | 1783 | Standard |
| | Cr | 52 | 9803.8 | 1.7 | **0.3989** | 0.017 | 4.3 | ug/L | 7920 | Standard |
| | Cr | 53 | 1893.5 | 8.1 | **1.7440** | 0.174 | 10.0 | ug/L | 745 | Standard |
| | Mn | 55 | 120007.1 | 0.8 | **14.3269** | 0.393 | 2.7 | ug/L | 1605 | Standard |
| | Co | 59 | 1134.7 | 3.4 | **0.1123** | 0.009 | 8.1 | ug/L | 431 | Standard |
| | Ni | 60 | 2531.2 | 1.8 | **1.4397** | 0.025 | 1.7 | ug/L | 588 | Standard |
| | Cu | 65 | 585.0 | 3.1 | **0.3503** | 0.025 | 7.1 | ug/L | 167 | Standard |
| | Zn | 66 | 1479.4 | 2.1 | **1.6848** | 0.097 | 5.7 | ug/L | 973 | Standard |
| > | Ge | 72 | 270128.2 | 2.2 | | | | ug/L | 269739 | Standard |
| | As | 75 | 124.9 | 21.3 | **0.3283** | 0.041 | 12.5 | ug/L | -49 | Standard |
| | Se | 82 | 86.9 | 6.9 | **1.1370** | 0.114 | 10.0 | ug/L | 20 | Standard |
| | Se-1 | 77 | 201.7 | 6.9 | **1.6692** | 0.224 | 13.4 | ug/L | 125 | Standard |
| > | Ga | 71 | 46.7 | 40.6 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 1438.4 | 3.7 | | | | ug/L | 47 | Standard |
| | Y | 89 | 248684.9 | 4.1 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 141.7 | 2.0 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 1014.7 | 1.9 | **0.3762** | 0.008 | 2.1 | ug/L | 196 | Standard |
| | Ag | 107 | 113.0 | 17.0 | **0.0001** | 0.005 | 3834.2 | ug/L | 131 | Standard |
| | Cd | 111 | 31.7 | 21.5 | **0.0130** | 0.007 | 56.8 | mg/L | 6 | Standard |
| | Cd | 114 | 102.9 | 11.3 | **0.0365** | 0.004 | 11.5 | ug/L | 15 | Standard |
| > | In | 115 | 326262.5 | 0.5 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 141.7 | 12.4 | **0.0887** | 0.023 | 26.3 | ug/L | 108 | Standard |
| | Sb | 123 | 193.7 | 9.6 | **0.0253** | 0.006 | 22.6 | ug/L | 410 | Standard |
| | Ba | 135 | 34538.0 | 2.4 | **26.1994** | 0.722 | 2.8 | ug/L | 21 | Standard |
| | Ce | 140 | 1978.5 | 3.7 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 529878.3 | 0.9 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 46.7 | 37.6 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 199.0 | 4.6 | **0.0236** | 0.001 | 4.8 | ug/L | 14 | Standard |
| | Tl | 205 | 503.3 | 9.4 | **0.0304** | 0.003 | 8.9 | ug/L | 23 | Standard |
| | Pb | 206 | 676.0 | 5.7 | **0.0640** | 0.009 | 13.5 | ug/L | 290 | Standard |
| | Pb | 207 | 562.3 | 2.2 | **0.0560** | 0.002 | 3.9 | ug/L | 269 | Standard |
| | Pb | 208 | 994.7 | 3.4 | **0.0602** | 0.007 | 11.0 | ug/L | 471 | Standard |
| | U | 238 | 3910.5 | 1.9 | **0.4898** | 0.021 | 4.3 | ug/L | 7 | Standard |
| > | Bi | 209 | 417911.0 | 2.9 | | | | ug/L | 414444 | Standard |

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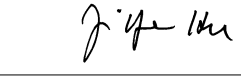
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 100.0 | 20.0 | **49.3878** | 11.211 | 22.7 | mg/L | 2 | Standard |
| | **Mg** | 24 | 436.7 | 10.8 | **8.9070** | 0.770 | 8.6 | mg/L | 30 | Standard |
| | **K** | 39 | 68.3 | 29.6 | **0.8425** | 0.334 | 39.6 | mg/L | 12 | Standard |
| | **Ca** | 43 | 83.3 | 3.5 | **37.0660** | 2.031 | 5.5 | mg/L | 43 | Standard |
| | **Fe** | 54 | 37.2 | 20.4 | **0.5041** | 0.147 | 29.1 | mg/L | 33 | Standard |
| | **Fe** | 57 | 933.4 | 5.2 | **12.9504** | 4.182 | 32.3 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 20065.0 | 3.3 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 0.7 | 173.2 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.7 | 27.0 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 3193.7 | 3.1 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 46.7 | 16.4 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 33.3 | 31.2 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 371.7 | 5.4 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 63.3 | 18.2 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 3.3 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 90.6 | 23.7 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 46.7 | 37.6 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 56.7 | 27.0 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 24017.4 | 8.1 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | 105.153 | |
| | 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 | | 100.144 | |
| | 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 | | 105.049 |
| \| | 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 | | 100.837 |
| ⌈ | 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 | |

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# Method 6020 - Summary Report

**Sample ID: L1708149810**
Sample Date/Time: Friday, September 01, 2017 13:37:04
Number of Replicates: 3
Autosampler Position: 223
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 | 126921.1 | 1.1 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 98.3 | 32.3 | **0.0654** | 0.022 | 33.1 | ug/L | 15 | Standard |
| | **Al** | 27 | 14272320.3 | 0.4 | **121.4986** | 1.728 | 1.4 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 19761.2 | 1.7 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 73.0 | 4.9 | **0.2419** | 0.023 | 9.3 | ug/L | 38 | Standard |
| | **V** | 51 | 3157.3 | 3.3 | **0.2734** | 0.020 | 7.3 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 9676.4 | 3.1 | **0.3940** | 0.025 | 6.5 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 1633.4 | 3.3 | **1.3832** | 0.047 | 3.4 | ug/L | 745 | Standard |
| | **Mn** | 55 | 411944.4 | 0.5 | **50.1181** | 0.925 | 1.8 | ug/L | 1605 | Standard |
| | **Co** | 59 | 1803.4 | 4.4 | **0.2184** | 0.008 | 3.7 | ug/L | 431 | Standard |
| | **Ni** | 60 | 2552.5 | 2.7 | **1.4748** | 0.019 | 1.3 | ug/L | 588 | Standard |
| | **Cu** | 65 | 632.7 | 0.8 | **0.3936** | 0.007 | 1.8 | ug/L | 167 | Standard |
| | **Zn** | 66 | 1501.7 | 2.8 | **1.7425** | 0.068 | 3.9 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 267247.8 | 1.8 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | 82.7 | 4.8 | **0.2689** | 0.004 | 1.4 | ug/L | -49 | Standard |
| | **Se** | 82 | 77.8 | 12.3 | **0.9959** | 0.148 | 14.8 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 203.7 | 5.8 | **1.7745** | 0.360 | 20.3 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 35.0 | 42.9 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 1496.7 | 4.9 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 243812.4 | 4.9 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 126.7 | 20.3 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 1875.4 | 3.4 | **0.7264** | 0.029 | 3.9 | ug/L | 196 | Standard |
| | **Ag** | 107 | 142.0 | 2.5 | **0.0078** | 0.001 | 10.6 | ug/L | 131 | Standard |
| | **Cd** | 111 | 58.8 | 5.6 | **0.0431** | 0.003 | 7.7 | mg/L | 6 | Standard |
| | **Cd** | 114 | 150.4 | 17.4 | **0.0547** | 0.010 | 17.9 | ug/L | 15 | Standard |
| > | **In** | 115 | 322204.7 | 0.4 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 110.7 | 18.5 | **0.0479** | 0.029 | 59.9 | ug/L | 108 | Standard |
| | **Sb** | 123 | 220.5 | 10.3 | **0.0345** | 0.007 | 20.8 | ug/L | 410 | Standard |
| | **Ba** | 135 | 41293.5 | 1.8 | **31.7205** | 0.701 | 2.2 | ug/L | 21 | Standard |
| | **Ce** | 140 | 388.3 | 14.9 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 519552.9 | 1.8 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 46.7 | 6.2 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 333.7 | 3.0 | **0.0420** | 0.001 | 2.4 | ug/L | 14 | Standard |
| | **Tl** | 205 | 746.7 | 3.8 | **0.0449** | 0.002 | 3.4 | ug/L | 23 | Standard |
| | **Pb** | 206 | 601.3 | 5.6 | **0.0529** | 0.005 | 9.0 | ug/L | 290 | Standard |
| | **Pb** | 207 | 471.3 | 3.9 | **0.0397** | 0.005 | 12.0 | ug/L | 269 | Standard |
| | **Pb** | 208 | 874.0 | 0.4 | **0.0482** | 0.002 | 3.2 | ug/L | 471 | Standard |
| | **U** | 238 | 5148.5 | 1.3 | **0.6547** | 0.015 | 2.3 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 411128.0 | 1.1 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 110.0 | 4.5 | **55.0265** | 2.095 | 3.8 | mg/L | 2 | Standard |
| | **Mg** | 24 | 356.7 | 18.7 | **7.2162** | 1.552 | 21.5 | mg/L | 30 | Standard |
| | **K** | 39 | 85.0 | 32.8 | **1.1031** | 0.405 | 36.7 | mg/L | 12 | Standard |
| | **Ca** | 43 | 93.3 | 29.5 | **46.2463** | 22.577 | 48.8 | mg/L | 43 | Standard |
| | **Fe** | 54 | 32.7 | 18.3 | **0.4161** | 0.123 | 29.4 | mg/L | 33 | Standard |
| | **Fe** | 57 | 910.0 | 6.1 | **12.3973** | 3.855 | 31.1 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 19761.2 | 1.7 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 4.7 | 89.2 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 7.0 | 24.7 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 2927.0 | 8.0 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 40.0 | 12.5 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 38.3 | 39.8 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 405.0 | 3.7 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 40.0 | 25.0 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 27.1 | 100.2 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 46.7 | 6.2 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 60.0 | 33.3 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 26967.5 | 10.9 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | 104.910 | |
| | 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 | | 99.076 | |
| | 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 | 103.742 |
| \| | 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 | 99.200 |
| ⌈ | 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 | |

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# Method 6020 - Summary Report

**Sample ID: QC Std 6**
Sample Date/Time: Friday, September 01, 2017 13:40:11
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexION\Data\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 | 121764.3 | 3.0 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 67411.3 | 1.2 | **49.7797** | 1.018 | 2.0 | ug/L | 15 | Standard |
| | Al | 27 | 5522867.7 | 0.4 | **49.0109** | 1.638 | 3.3 | ug/L | 4144 | Standard |
| | Sc | 45 | 19400.7 | 1.3 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 16910.1 | 0.9 | **100.4727** | 1.968 | 2.0 | ug/L | 38 | Standard |
| | V | 51 | 273460.9 | 1.3 | **49.3465** | 1.765 | 3.6 | ug/L | 1783 | Standard |
| | Cr | 52 | 262389.0 | 1.2 | **49.7312** | 1.625 | 3.3 | ug/L | 7920 | Standard |
| | Cr | 53 | 33550.4 | 1.8 | **50.0786** | 1.946 | 3.9 | ug/L | 745 | Standard |
| | Mn | 55 | 401904.3 | 1.4 | **49.3230** | 1.764 | 3.6 | ug/L | 1605 | Standard |
| | Co | 59 | 315754.3 | 0.6 | **49.6825** | 1.515 | 3.1 | ug/L | 431 | Standard |
| | Ni | 60 | 67443.1 | 1.1 | **49.7507** | 1.725 | 3.5 | ug/L | 588 | Standard |
| | Cu | 65 | 61547.4 | 1.2 | **50.1830** | 1.642 | 3.3 | ug/L | 167 | Standard |
| | Zn | 66 | 32385.6 | 0.6 | **49.8896** | 1.510 | 3.0 | ug/L | 973 | Standard |
| > | Ge | 72 | 265036.9 | 2.9 | | | | ug/L | 269739 | Standard |
| | As | 75 | 33306.5 | 0.8 | **48.4935** | 1.741 | 3.6 | ug/L | -49 | Standard |
| | Se | 82 | 2839.3 | 1.0 | **48.7727** | 1.406 | 2.9 | ug/L | 20 | Standard |
| | Se-1 | 77 | 2218.2 | 0.8 | **49.8670** | 1.184 | 2.4 | ug/L | 125 | Standard |
| > | Ga | 71 | 45.0 | 48.4 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 511.7 | 9.1 | | | | ug/L | 47 | Standard |
| | Y | 89 | 248288.1 | 1.5 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 103.3 | 41.2 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 243081.0 | 1.2 | **96.5628** | 1.071 | 1.1 | ug/L | 196 | Standard |
| | Ag | 107 | 198401.9 | 0.5 | **49.2694** | 0.226 | 0.5 | ug/L | 131 | Standard |
| | Cd | 111 | 46083.6 | 1.5 | **49.9419** | 0.836 | 1.7 | mg/L | 6 | Standard |
| | Cd | 114 | 135174.3 | 2.7 | **49.7948** | 1.267 | 2.5 | ug/L | 15 | Standard |
| > | In | 115 | 325107.1 | 0.3 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 35841.0 | 2.8 | **49.4830** | 1.286 | 2.6 | ug/L | 108 | Standard |
| | Sb | 123 | 163101.3 | 2.5 | **50.5496** | 1.230 | 2.4 | ug/L | 410 | Standard |
| | Ba | 135 | 66593.1 | 2.6 | **50.7031** | 1.308 | 2.6 | ug/L | 21 | Standard |
| | Ce | 140 | 80.0 | 49.6 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 524030.8 | 1.4 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 11.7 | 24.7 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 377340.6 | 0.2 | **50.3068** | 1.351 | 2.7 | ug/L | 14 | Standard |
| | Tl | 205 | 878087.1 | 2.2 | **50.4649** | 2.035 | 4.0 | ug/L | 23 | Standard |
| | Pb | 206 | 287676.0 | 0.3 | **48.9648** | 1.343 | 2.7 | ug/L | 290 | Standard |
| | Pb | 207 | 253221.9 | 0.6 | **50.3435** | 1.470 | 2.9 | ug/L | 269 | Standard |
| | Pb | 208 | 428857.6 | 2.9 | **48.5447** | 2.570 | 5.3 | ug/L | 471 | Standard |
| | U | 238 | 392923.4 | 2.1 | **49.7856** | 2.222 | 4.5 | ug/L | 7 | Standard |
| > | Bi | 209 | 412138.7 | 2.5 | | | | ug/L | 414444 | Standard |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 5.0 | 100.0 | **1.7107** | 2.551 | 149.1 | mg/L | 2 | Standard |
| | **Mg** | 24 | 236.7 | 3.2 | **4.5271** | 0.107 | 2.4 | mg/L | 30 | Standard |
| | **K** | 39 | 323.3 | 3.9 | **4.8672** | 0.220 | 4.5 | mg/L | 12 | Standard |
| | **Ca** | 43 | 31.7 | 32.9 | **-3.4488** | 8.933 | 259.0 | mg/L | 43 | Standard |
| | **Fe** | 54 | 233.0 | 7.8 | **5.0302** | 0.476 | 9.5 | mg/L | 33 | Standard |
| | **Fe** | 57 | 793.4 | 3.1 | **6.7703** | 1.314 | 19.4 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 19400.7 | 1.3 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 0.7 | 173.2 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.7 | 10.2 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 1086.7 | 14.9 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 61.7 | 30.7 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 35.0 | 51.5 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 403.3 | 11.8 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 16.7 | 91.7 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 3.3 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 5.7 | 195.1 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 11.7 | 24.7 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 20.0 | 50.0 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 6644.8 | 8.5 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | | |
| | Be | 9 | 99.559 | | |
| | Al | 27 | 98.022 | | |
| | Sc | 45 | | | |
| | Ti | 47 | 100.473 | | |
| | V | 51 | 98.693 | | |
| | Cr | 52 | 99.462 | | |
| | Cr | 53 | | | |
| | Mn | 55 | 98.646 | | |
| | Co | 59 | 99.365 | | |
| | Ni | 60 | 99.501 | | |
| | Cu | 65 | 100.366 | | |
| | Zn | 66 | 99.779 | | |
| > | Ge | 72 | | 98.257 | |
| | As | 75 | 96.987 | | |
| | Se | 82 | 97.545 | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |

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Report Date/Time: Friday, September 01, 2017 13:42:22
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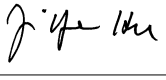
| | | | | | |
|---|---|---|---|---|---|
| ⌊ | Rb | 85 | | | |
| ⌈ | Y | 89 | | | |
| ⌊> | Rh | 103 | | | |
| ⌈ | Mo | 98 | 96.563 | | |
| \| | Ag | 107 | 98.539 | | |
| \| | Cd | 111 | 99.884 | | |
| \| | Cd | 114 | | | |
| \| > | In | 115 | | 104.677 | |
| \| | Sn | 118 | 98.966 | | |
| \| | Sb | 123 | 101.099 | | |
| ⌊ | Ba | 135 | 101.406 | | |
| ⌈ | Ce | 140 | | | |
| ⌊> | Tb | 159 | | | |
| ⌈ | Ho | 165 | | | |
| \| | Tl | 203 | 100.614 | | |
| \| | Tl | 205 | | | |
| \| | Pb | 206 | | | |
| \| | Pb | 207 | | | |
| \| | Pb | 208 | 97.089 | | |
| \| | U | 238 | 99.571 | | |
| ⌊> | Bi | 209 | | 99.444 | |
| ⌈ | 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: Friday, September 01, 2017 13:42:22
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# Method 6020 - Summary Report

**Sample ID: QC Std 7**
Sample Date/Time: Friday, September 01, 2017 13:43:17
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexION\Data\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 | 113953.7 | 1.6 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 31.7 | 24.1 | **0.0208** | 0.006 | 27.3 | ug/L | 15 | Standard |
| | **Al** | 27 | 3762.1 | 2.8 | **-0.0038** | 0.001 | 19.6 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 17962.3 | 1.3 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 26.0 | 16.8 | **-0.0212** | 0.029 | 138.3 | ug/L | 38 | Standard |
| | **V** | 51 | 1238.6 | 6.4 | **-0.0513** | 0.015 | 28.5 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 5105.9 | 1.8 | **-0.3983** | 0.027 | 6.8 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 876.7 | 9.0 | **0.3623** | 0.130 | 35.9 | ug/L | 745 | Standard |
| | **Mn** | 55 | 979.0 | 4.8 | **-0.0387** | 0.005 | 13.3 | ug/L | 1605 | Standard |
| | **Co** | 59 | 342.7 | 12.2 | **-0.0047** | 0.007 | 157.6 | ug/L | 431 | Standard |
| | **Ni** | 60 | 751.7 | 5.0 | **0.1990** | 0.033 | 16.7 | ug/L | 588 | Standard |
| | **Cu** | 65 | 166.0 | 7.3 | **0.0279** | 0.010 | 36.9 | ug/L | 167 | Standard |
| | **Zn** | 66 | 148.0 | 33.5 | **-0.3274** | 0.085 | 26.0 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 244628.8 | 1.1 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | -63.9 | 6.9 | **0.0496** | 0.006 | 12.0 | ug/L | -49 | Standard |
| | **Se** | 82 | 14.4 | 70.8 | **-0.0667** | 0.193 | 289.5 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 137.3 | 7.0 | **0.5040** | 0.282 | 56.1 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 26.7 | 57.3 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 43.3 | 13.3 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 221886.5 | 1.5 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 76.7 | 32.2 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 189.6 | 48.3 | **0.0550** | 0.041 | 74.2 | ug/L | 196 | Standard |
| | **Ag** | 107 | 125.3 | 12.3 | **0.0053** | 0.005 | 91.3 | ug/L | 131 | Standard |
| | **Cd** | 111 | 8.8 | 29.1 | **-0.0110** | 0.003 | 29.1 | mg/L | 6 | Standard |
| | **Cd** | 114 | 29.2 | 50.8 | **0.0103** | 0.006 | 59.5 | ug/L | 15 | Standard |
| > | **In** | 115 | 306223.7 | 2.2 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 152.3 | 10.8 | **0.1169** | 0.020 | 17.0 | ug/L | 108 | Standard |
| | **Sb** | 123 | 112.9 | 42.9 | **0.0029** | 0.017 | 593.1 | ug/L | 410 | Standard |
| | **Ba** | 135 | 19.0 | 9.1 | **0.0024** | 0.002 | 66.6 | ug/L | 21 | Standard |
| | **Ce** | 140 | 16.7 | 17.3 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 505017.7 | 1.3 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 6.7 | 86.6 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 47.0 | 21.0 | **0.0039** | 0.001 | 35.2 | ug/L | 14 | Standard |
| | **Tl** | 205 | 121.7 | 13.2 | **0.0091** | 0.001 | 10.7 | ug/L | 23 | Standard |
| | **Pb** | 206 | 314.0 | 6.9 | **0.0056** | 0.004 | 70.6 | ug/L | 290 | Standard |
| | **Pb** | 207 | 262.7 | 3.4 | **-0.0003** | 0.002 | 653.5 | ug/L | 269 | Standard |
| | **Pb** | 208 | 469.3 | 3.6 | **0.0040** | 0.002 | 53.2 | ug/L | 471 | Standard |
| | **U** | 238 | 19.0 | 82.2 | **0.0036** | 0.002 | 56.8 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 398356.1 | 0.3 | | | | ug/L | 414444 | Standard |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 0.0 | | **-0.8620** | 0.000 | 0.0 | mg/L | 2 | Standard |
| | **Mg** | 24 | 48.3 | 21.5 | **0.1615** | 0.276 | 170.7 | mg/L | 30 | Standard |
| | **K** | 39 | 13.3 | 21.7 | **0.0255** | 0.048 | 188.2 | mg/L | 12 | Standard |
| | **Ca** | 43 | 40.0 | 33.1 | **6.1039** | 12.111 | 198.4 | mg/L | 43 | Standard |
| | **Fe** | 54 | 27.2 | 43.7 | **0.3569** | 0.301 | 84.3 | mg/L | 33 | Standard |
| | **Fe** | 57 | 695.0 | 6.9 | **4.4097** | 3.333 | 75.6 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 17962.3 | 1.3 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 0.7 | 173.2 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 4.3 | 35.3 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 860.0 | 12.3 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 41.7 | 76.2 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 30.0 | 44.1 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 375.0 | 9.6 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 3.3 | 173.2 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 3.3 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 12.7 | 93.1 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 6.7 | 86.6 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 13.3 | 43.3 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 5426.0 | 10.3 | | | | mg/L | 8119 | 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 | | 90.691 | |
| | As | 75 | | | |
| | Se | 82 | | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |

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Report Date/Time: Friday, September 01, 2017 13:45:28
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| | | | |
|---|---|---|---|
| Rb | 85 | | |
| Y | 89 | | |
| > Rh | 103 | | |
| Mo | 98 | | |
| Ag | 107 | | |
| Cd | 111 | | |
| Cd | 114 | | |
| > In | 115 | | 98.597 |
| 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 | | 96.118 |
| 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: Friday, September 01, 2017 13:45:28


Approved: September 01, 2017

# Method 6020 - Summary Report

**Sample ID: QC Std 3**
Sample Date/Time: Friday, September 01, 2017 13:46:58
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 | 119526.4 | 1.9 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 296.7 | 3.5 | **0.2190** | 0.008 | 3.6 | ug/L | 15 | Standard |
| | Al | 27 | 3640.4 | 1.9 | **-0.0065** | 0.001 | 8.9 | ug/L | 4144 | Standard |
| | Sc | 45 | 18960.2 | 2.3 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 27.3 | 14.8 | **-0.0267** | 0.022 | 84.1 | ug/L | 38 | Standard |
| | V | 51 | 3422.9 | 2.4 | **0.3258** | 0.023 | 6.9 | ug/L | 1783 | Standard |
| | Cr | 52 | 9935.6 | 0.9 | **0.4587** | 0.037 | 8.1 | ug/L | 7920 | Standard |
| | Cr | 53 | 1398.4 | 4.2 | **1.0448** | 0.120 | 11.5 | ug/L | 745 | Standard |
| | Mn | 55 | 5189.2 | 1.5 | **0.4688** | 0.008 | 1.8 | ug/L | 1605 | Standard |
| | Co | 59 | 2810.6 | 0.9 | **0.3790** | 0.009 | 2.4 | ug/L | 431 | Standard |
| | Ni | 60 | 2702.2 | 0.8 | **1.6003** | 0.045 | 2.8 | ug/L | 588 | Standard |
| | Cu | 65 | 1147.4 | 2.3 | **0.8172** | 0.013 | 1.6 | ug/L | 167 | Standard |
| | Zn | 66 | 4181.2 | 0.4 | **5.9287** | 0.112 | 1.9 | ug/L | 973 | Standard |
| > | Ge | 72 | 265322.6 | 1.4 | | | | ug/L | 269739 | Standard |
| | As | 75 | 207.3 | 17.1 | **0.4502** | 0.050 | 11.1 | ug/L | -49 | Standard |
| | Se | 82 | 35.2 | 20.6 | **0.2707** | 0.118 | 43.5 | ug/L | 20 | Standard |
| | Se-1 | 77 | 150.7 | 3.4 | **0.5427** | 0.099 | 18.2 | ug/L | 125 | Standard |
| > | Ga | 71 | 21.7 | 48.0 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 50.0 | 17.3 | | | | ug/L | 47 | Standard |
| | Y | 89 | 245371.3 | 1.9 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 68.3 | 11.2 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 99.3 | 4.8 | **0.0149** | 0.002 | 11.7 | ug/L | 196 | Standard |
| | Ag | 107 | 1543.4 | 1.0 | **0.3655** | 0.006 | 1.6 | ug/L | 131 | Standard |
| | Cd | 111 | 202.9 | 8.7 | **0.2045** | 0.020 | 9.7 | mg/L | 6 | Standard |
| | Cd | 114 | 622.7 | 11.2 | **0.2340** | 0.025 | 10.9 | ug/L | 15 | Standard |
| > | In | 115 | 316944.5 | 0.5 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 86.3 | 12.1 | **0.0159** | 0.014 | 90.4 | ug/L | 108 | Standard |
| | Sb | 123 | 1318.6 | 1.2 | **0.3849** | 0.003 | 0.8 | ug/L | 410 | Standard |
| | Ba | 135 | 938.0 | 4.8 | **0.7198** | 0.034 | 4.7 | ug/L | 21 | Standard |
| | Ce | 140 | 20.0 | 25.0 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 507034.3 | 1.8 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 11.7 | 65.5 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 610.3 | 4.4 | **0.0773** | 0.004 | 5.1 | ug/L | 14 | Standard |
| | Tl | 205 | 1336.7 | 3.4 | **0.0772** | 0.003 | 4.0 | ug/L | 23 | Standard |
| | Pb | 206 | 1463.7 | 2.3 | **0.1952** | 0.012 | 6.2 | ug/L | 290 | Standard |
| | Pb | 207 | 1191.0 | 3.6 | **0.1783** | 0.011 | 6.2 | ug/L | 269 | Standard |
| | Pb | 208 | 2018.1 | 4.5 | **0.1735** | 0.016 | 9.1 | ug/L | 471 | Standard |
| | U | 238 | 2908.6 | 3.2 | **0.3629** | 0.021 | 5.8 | ug/L | 7 | Standard |
| > | Bi | 209 | 419941.8 | 2.7 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 1.7 | 173.2 | **0.0435** | 1.568 | 3604.2 | mg/L | 2 | Standard |
| | **Mg** | 24 | 50.0 | 45.8 | **0.1321** | 0.537 | 406.3 | mg/L | 30 | Standard |
| | **K** | 39 | 18.3 | 63.0 | **0.0948** | 0.187 | 196.8 | mg/L | 12 | Standard |
| | **Ca** | 43 | 28.3 | 53.9 | **-5.8233** | 12.573 | 215.9 | mg/L | 43 | Standard |
| | **Fe** | 54 | 27.6 | 27.5 | **0.3313** | 0.183 | 55.3 | mg/L | 33 | Standard |
| | **Fe** | 57 | 708.4 | 12.0 | **2.8838** | 3.988 | 138.3 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 18960.2 | 2.3 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 1.3 | 173.2 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.0 | 60.0 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 1033.4 | 1.5 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 20.0 | 25.0 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 41.7 | 18.3 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 383.3 | 10.6 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 23.3 | 24.7 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 12.5 | 127.7 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 11.7 | 65.5 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 16.7 | 91.7 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 5225.9 | 1.7 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | | |
| | Be | 9 | 109.522 | | |
| | Al | 27 | -0.651 | | |
| | Sc | 45 | | | |
| | Ti | 47 | | | |
| | V | 51 | 81.441 | | |
| | Cr | 52 | 57.343 | | |
| | Cr | 53 | | | |
| | Mn | 55 | 93.755 | | |
| | Co | 59 | 94.748 | | |
| | Ni | 60 | 100.017 | | |
| | Cu | 65 | 102.150 | | |
| | Zn | 66 | 94.860 | | |
| > | Ge | 72 | | 98.363 | |
| | As | 75 | 112.557 | | |
| | Se | 82 | 67.679 | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |

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| | | | | |
|---|---|---|---|---|
| Rb | 85 | | | |
| Y | 89 | | | |
| > Rh | 103 | | | |
| Mo | 98 | | | |
| Ag | 107 | 91.386 | | |
| Cd | 111 | 85.196 | | |
| Cd | 114 | | | |
| > In | 115 | | | 102.049 |
| Sn | 118 | | | |
| Sb | 123 | 96.235 | | |
| Ba | 135 | 95.969 | | |
| Ce | 140 | | | |
| > Tb | 159 | | | |
| Ho | 165 | | | |
| Tl | 203 | 96.598 | | |
| Tl | 205 | | | |
| Pb | 206 | | | |
| Pb | 207 | | | |
| Pb | 208 | 86.768 | | |
| U | 238 | 90.730 | | |
| > Bi | 209 | | | 101.327 |
| 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 | Se | 82 | |

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# Method 6020 - Summary Report

**Sample ID: QC Std 4**
Sample Date/Time: Friday, September 01, 2017 13:50:04
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 | 110679.5 | 1.7 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 31.7 | 65.7 | **0.0218** | 0.017 | 79.9 | ug/L | 15 | Standard |
| | Al | 27 | 4993553.9 | 1.7 | **48.7346** | 1.525 | 3.1 | ug/L | 4144 | Standard |
| | Sc | 45 | 17381.6 | 0.6 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 16475.0 | 1.0 | **108.1657** | 1.284 | 1.2 | ug/L | 38 | Standard |
| | V | 51 | 33.7 | 487.5 | **-0.2880** | 0.033 | 11.4 | ug/L | 1783 | Standard |
| | Cr | 52 | 5298.6 | 2.4 | **-0.3351** | 0.032 | 9.5 | ug/L | 7920 | Standard |
| | Cr | 53 | 6954.9 | 6.9 | **10.6308** | 0.835 | 7.9 | ug/L | 745 | Standard |
| | Mn | 55 | 1188.0 | 9.3 | **-0.0075** | 0.016 | 207.4 | ug/L | 1605 | Standard |
| | Co | 59 | 440.7 | 10.2 | **0.0135** | 0.008 | 58.4 | ug/L | 431 | Standard |
| | Ni | 60 | 1049.0 | 2.6 | **0.4554** | 0.025 | 5.5 | ug/L | 588 | Standard |
| | Cu | 65 | 387.0 | 1.3 | **0.2304** | 0.003 | 1.4 | ug/L | 167 | Standard |
| | Zn | 66 | 618.3 | 2.3 | **0.4870** | 0.018 | 3.7 | ug/L | 973 | Standard |
| > | Ge | 72 | 239801.1 | 0.6 | | | | ug/L | 269739 | Standard |
| | As | 75 | -101.6 | 57.2 | **-0.0128** | 0.093 | 722.4 | ug/L | -49 | Standard |
| | Se | 82 | 15.9 | 41.8 | **-0.0334** | 0.126 | 376.1 | ug/L | 20 | Standard |
| | Se-1 | 77 | 537.3 | 4.4 | **11.1142** | 0.589 | 5.3 | ug/L | 125 | Standard |
| > | Ga | 71 | 96.7 | 6.0 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 530.0 | 11.8 | | | | ug/L | 47 | Standard |
| | Y | 89 | 215985.6 | 2.0 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 85.0 | 38.6 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 211383.2 | 1.4 | **91.0758** | 0.466 | 0.5 | ug/L | 196 | Standard |
| | Ag | 107 | 117.7 | 5.7 | **0.0039** | 0.002 | 54.0 | ug/L | 131 | Standard |
| | Cd | 111 | -57.1 | 1.6 | **-0.0883** | 0.002 | 1.8 | mg/L | 6 | Standard |
| | Cd | 114 | 281.7 | 5.4 | **0.1114** | 0.006 | 5.2 | ug/L | 15 | Standard |
| > | In | 115 | 299734.4 | 0.9 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 60.3 | 10.5 | **-0.0161** | 0.009 | 54.3 | ug/L | 108 | Standard |
| | Sb | 123 | 68.3 | 15.3 | **-0.0116** | 0.003 | 28.7 | ug/L | 410 | Standard |
| | Ba | 135 | 69.0 | 8.1 | **0.0440** | 0.004 | 9.4 | ug/L | 21 | Standard |
| | Ce | 140 | 53.3 | 14.3 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 511060.6 | 1.5 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 6.7 | 114.6 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 67.7 | 22.6 | **0.0071** | 0.002 | 30.6 | ug/L | 14 | Standard |
| | Tl | 205 | 130.0 | 35.3 | **0.0099** | 0.003 | 29.1 | ug/L | 23 | Standard |
| | Pb | 206 | 410.3 | 5.3 | **0.0254** | 0.004 | 15.5 | ug/L | 290 | Standard |
| | Pb | 207 | 323.0 | 2.7 | **0.0147** | 0.002 | 15.9 | ug/L | 269 | Standard |
| | Pb | 208 | 573.3 | 2.4 | **0.0188** | 0.002 | 11.9 | ug/L | 471 | Standard |
| | U | 238 | 6.7 | 52.7 | **0.0020** | 0.000 | 23.3 | ug/L | 7 | Standard |
| > | Bi | 209 | 383480.1 | 0.9 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 40.0 | 33.1 | **22.2161** | 7.532 | 33.9 | mg/L | 2 | Standard |
| | **Mg** | 24 | 535.0 | 14.1 | **13.0562** | 1.915 | 14.7 | mg/L | 30 | Standard |
| | **K** | 39 | 271.7 | 9.1 | **4.5500** | 0.409 | 9.0 | mg/L | 12 | Standard |
| | **Ca** | 43 | 43.3 | 59.2 | **10.2388** | 23.612 | 230.6 | mg/L | 43 | Standard |
| | **Fe** | 54 | 477.3 | 10.2 | **11.8997** | 1.192 | 10.0 | mg/L | 33 | Standard |
| | **Fe** | 57 | 936.7 | 5.8 | **20.8503** | 3.451 | 16.6 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 17381.6 | 0.6 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 0.0 | | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.0 | 72.1 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 936.7 | 6.3 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 50.0 | 26.5 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 38.3 | 19.9 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 446.7 | 8.1 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 30.0 | 33.3 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 3.3 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 22.5 | 101.9 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 6.7 | 114.6 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 16.7 | 34.6 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 22331.5 | 7.7 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | | |
| | Be | 9 | | | |
| | Al | 27 | 0.975 | | |
| | Sc | 45 | | | |
| | Ti | 47 | 108.166 | | |
| | V | 51 | | | |
| | Cr | 52 | | | |
| | Cr | 53 | | | |
| | Mn | 55 | | | |
| | Co | 59 | | | |
| | Ni | 60 | | | |
| | Cu | 65 | | | |
| | Zn | 66 | | | |
| > | Ge | 72 | | 88.901 | |
| | As | 75 | | | |
| | Se | 82 | | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |

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| | | | | | |
|---|---|---|---|---|---|
| ⌊ | Rb | 85 | | | |
| ⌈ | Y | 89 | | | |
| ⌊> | Rh | 103 | | | |
| ⌈ | Mo | 98 | 91.076 | | |
| \| | Ag | 107 | | | |
| \| | Cd | 111 | | | |
| \| | Cd | 114 | | | |
| \| > | In | 115 | | | 96.508 |
| \| | 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 | | | 92.529 |
| ⌈ | Na | 23 | 177.729 | | |
| \| | Mg | 24 | 261.123 | | |
| \| | K | 39 | 91.001 | | |
| \| | Ca | 43 | 68.259 | | |
| \| | Fe | 54 | 95.198 | | |
| \| | Fe | 57 | 166.803 | | |
| ⌊> | 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 | Na | 23 | |
| QC Std 4 | Mg | 24 | |

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| | | |
|---|---|---|
| QC Std 4 | Ca | 43 |
| QC Std 4 | Fe | 57 |

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# Method 6020 - Summary Report

**Sample ID: QC Std 5**
Sample Date/Time: Friday, September 01, 2017 13:53:09
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 | 115050.2 | 1.3 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 132027.9 | 2.0 | **103.1436** | 0.695 | 0.7 | ug/L | 15 | Standard |
| | Al | 27 | 5081283.4 | 1.4 | **47.6906** | 0.157 | 0.3 | ug/L | 4144 | Standard |
| | Sc | 45 | 18367.8 | 2.1 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 16422.2 | 1.3 | **102.3499** | 1.441 | 1.4 | ug/L | 38 | Standard |
| | V | 51 | 512238.9 | 1.6 | **97.2141** | 1.707 | 1.8 | ug/L | 1783 | Standard |
| | Cr | 52 | 482309.3 | 0.8 | **97.2369** | 0.910 | 0.9 | ug/L | 7920 | Standard |
| | Cr | 53 | 67354.4 | 2.7 | **106.6252** | 3.062 | 2.9 | ug/L | 745 | Standard |
| | Mn | 55 | 758772.1 | 1.0 | **97.8138** | 1.156 | 1.2 | ug/L | 1605 | Standard |
| | Co | 59 | 599474.4 | 1.9 | **98.9809** | 1.877 | 1.9 | ug/L | 431 | Standard |
| | Ni | 60 | 128574.9 | 1.1 | **99.8645** | 1.118 | 1.1 | ug/L | 588 | Standard |
| | Cu | 65 | 119282.4 | 0.9 | **102.1154** | 0.938 | 0.9 | ug/L | 167 | Standard |
| | Zn | 66 | 66288.7 | 1.7 | **107.7536** | 1.880 | 1.7 | ug/L | 973 | Standard |
| > | Ge | 72 | 252586.3 | 0.2 | | | | ug/L | 269739 | Standard |
| | As | 75 | 68599.4 | 0.4 | **104.5568** | 0.450 | 0.4 | ug/L | -49 | Standard |
| | Se | 82 | 5829.1 | 1.0 | **105.4020** | 0.896 | 0.8 | ug/L | 20 | Standard |
| | Se-1 | 77 | 4698.7 | 2.1 | **114.5147** | 2.380 | 2.1 | ug/L | 125 | Standard |
| > | Ga | 71 | 121.7 | 20.3 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 501.7 | 4.9 | | | | ug/L | 47 | Standard |
| | Y | 89 | 231908.8 | 2.7 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 101.7 | 15.8 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 220811.1 | 1.3 | **91.9365** | 1.264 | 1.4 | ug/L | 196 | Standard |
| | Ag | 107 | 331880.0 | 2.0 | **86.3966** | 1.213 | 1.4 | ug/L | 131 | Standard |
| | Cd | 111 | 90498.4 | 1.7 | **102.8094** | 1.268 | 1.2 | mg/L | 6 | Standard |
| | Cd | 114 | 261207.5 | 2.1 | **100.8493** | 1.651 | 1.6 | ug/L | 15 | Standard |
| > | In | 115 | 310188.3 | 0.7 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 79.7 | 6.3 | **0.0089** | 0.006 | 72.7 | ug/L | 108 | Standard |
| | Sb | 123 | 313909.9 | 2.8 | **101.9964** | 2.279 | 2.2 | ug/L | 410 | Standard |
| | Ba | 135 | 129873.7 | 2.0 | **103.6477** | 1.344 | 1.3 | ug/L | 21 | Standard |
| | Ce | 140 | 55.0 | 24.1 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 515398.5 | 1.2 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 6.7 | 86.6 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 726761.4 | 0.8 | **100.2002** | 0.973 | 1.0 | ug/L | 14 | Standard |
| | Tl | 205 | 1697985.9 | 1.4 | **100.8985** | 1.436 | 1.4 | ug/L | 23 | Standard |
| | Pb | 206 | 575985.3 | 1.1 | **101.4355** | 1.310 | 1.3 | ug/L | 290 | Standard |
| | Pb | 207 | 479769.2 | 1.5 | **98.6884** | 1.657 | 1.7 | ug/L | 269 | Standard |
| | Pb | 208 | 836969.4 | 2.4 | **97.9850** | 2.522 | 2.6 | ug/L | 471 | Standard |
| | U | 238 | 765716.2 | 2.0 | **100.3027** | 2.162 | 2.2 | ug/L | 7 | Standard |
| > | Bi | 209 | 398365.3 | 0.2 | | | | ug/L | 414444 | Standard |

**Sample ID: QC Std 5**
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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 31.7 | 48.2 | **16.4388** | 8.406 | 51.1 | mg/L | 2 | Standard |
| | **Mg** | 24 | 503.3 | 13.4 | **11.5372** | 1.908 | 16.5 | mg/L | 30 | Standard |
| | **K** | 39 | 275.0 | 1.8 | **4.3537** | 0.171 | 3.9 | mg/L | 12 | Standard |
| | **Ca** | 43 | 46.7 | 50.6 | **10.9226** | 20.198 | 184.9 | mg/L | 43 | Standard |
| | **Fe** | 54 | 483.3 | 20.3 | **11.4120** | 2.521 | 22.1 | mg/L | 33 | Standard |
| | **Fe** | 57 | 936.7 | 5.9 | **17.7737** | 4.356 | 24.5 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 18367.8 | 2.1 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 1.3 | 86.6 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 6.3 | 48.2 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 993.4 | 13.0 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 43.3 | 13.3 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 38.3 | 15.1 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 388.3 | 2.0 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 40.0 | 50.0 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 6.7 | 86.6 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 12.7 | 46.6 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 6.7 | 86.6 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 13.3 | 43.3 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 19140.4 | 3.5 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | | |
| | Be | 9 | 103.144 | | |
| | Al | 27 | 0.954 | | |
| | Sc | 45 | | | |
| | Ti | 47 | 102.350 | | |
| | V | 51 | 97.214 | | |
| | Cr | 52 | 97.237 | | |
| | Cr | 53 | | | |
| | Mn | 55 | 97.814 | | |
| | Co | 59 | 98.981 | | |
| | Ni | 60 | 99.865 | | |
| | Cu | 65 | 102.115 | | |
| | Zn | 66 | 107.754 | | |
| > | Ge | 72 | | 93.641 | |
| | As | 75 | 104.557 | | |
| | Se | 82 | 105.402 | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |

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| | | | | |
|---|---|---|---|---|
| ⌊ | Rb | 85 | | |
| ⌈ | Y | 89 | | |
| ⌊> | Rh | 103 | | |
| ⌈ | Mo | 98 | 91.937 | |
| \| | Ag | 107 | 86.397 | |
| \| | Cd | 111 | 102.809 | |
| \| | Cd | 114 | | |
| \| > | In | 115 | | 99.873 |
| \| | Sn | 118 | | |
| \| | Sb | 123 | 101.996 | |
| ⌊ | Ba | 135 | 103.648 | |
| ⌈ | Ce | 140 | | |
| ⌊> | Tb | 159 | | |
| ⌈ | Ho | 165 | | |
| \| | Tl | 203 | 100.200 | |
| \| | Tl | 205 | | |
| \| | Pb | 206 | | |
| \| | Pb | 207 | | |
| \| | Pb | 208 | 97.985 | |
| \| | U | 238 | 100.303 | |
| ⌊> | Bi | 209 | | 96.120 |
| ⌈ | Na | 23 | 131.511 | |
| \| | Mg | 24 | 230.743 | |
| \| | K | 39 | 87.074 | |
| \| | Ca | 43 | 72.818 | |
| \| | Fe | 54 | 91.296 | |
| \| | Fe | 57 | 142.190 | |
| ⌊> | 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 | |

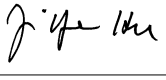
**Sample ID: QC Std 5**
Report Date/Time: Friday, September 01, 2017 13:55:20
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| | | |
|---|---|---|
| QC Std 5 | Ca | 43 |
| QC Std 5 | Fe | 54 |
| QC Std 5 | Fe | 57 |

**Sample ID: QC Std 5**
Report Date/Time: Friday, September 01, 2017 13:55:20
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# Method 6020 - Summary Report

**Sample ID: QC Std 6**
Sample Date/Time: Friday, September 01, 2017 13:56:16
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexION\Data\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 | 117141.1 | 0.7 | | | | ug/L | 120981 | Standard |
| | **Be** | 9 | 66231.2 | 2.6 | **50.8168** | 1.149 | 2.3 | ug/L | 15 | Standard |
| | **Al** | 27 | 5445022.8 | 0.6 | **50.1965** | 0.493 | 1.0 | ug/L | 4144 | Standard |
| | **Sc** | 45 | 18820.0 | 1.5 | | | | ug/L | 20033 | Standard |
| | **Ti** | 47 | 16707.2 | 1.3 | **99.2874** | 2.028 | 2.0 | ug/L | 38 | Standard |
| | **V** | 51 | 270554.7 | 1.4 | **48.8165** | 1.006 | 2.1 | ug/L | 1783 | Standard |
| | **Cr** | 52 | 258381.5 | 1.5 | **48.9515** | 1.117 | 2.3 | ug/L | 7920 | Standard |
| | **Cr** | 53 | 32666.9 | 1.7 | **48.7290** | 1.193 | 2.4 | ug/L | 745 | Standard |
| | **Mn** | 55 | 399326.3 | 1.2 | **49.0017** | 0.824 | 1.7 | ug/L | 1605 | Standard |
| | **Co** | 59 | 312697.6 | 0.8 | **49.1999** | 0.649 | 1.3 | ug/L | 431 | Standard |
| | **Ni** | 60 | 67846.6 | 0.9 | **50.0456** | 0.578 | 1.2 | ug/L | 588 | Standard |
| | **Cu** | 65 | 61418.9 | 0.4 | **50.0763** | 0.540 | 1.1 | ug/L | 167 | Standard |
| | **Zn** | 66 | 32546.9 | 1.3 | **50.1427** | 1.034 | 2.1 | ug/L | 973 | Standard |
| > | **Ge** | 72 | 264905.8 | 0.8 | | | | ug/L | 269739 | Standard |
| | **As** | 75 | 33745.0 | 1.2 | **49.1210** | 0.523 | 1.1 | ug/L | -49 | Standard |
| | **Se** | 82 | 2906.1 | 3.5 | **49.9211** | 1.366 | 2.7 | ug/L | 20 | Standard |
| | **Se-1** | 77 | 2245.5 | 1.3 | **50.5272** | 0.967 | 1.9 | ug/L | 125 | Standard |
| > | **Ga** | 71 | 33.3 | 87.9 | | | | mg/L | 30 | Standard |
| | **Rb** | 85 | 523.3 | 3.6 | | | | ug/L | 47 | Standard |
| | **Y** | 89 | 243138.3 | 3.2 | | | | ug/L | 248303 | Standard |
| > | **Rh** | 103 | 86.7 | 17.6 | | | | ug/L | 45 | Standard |
| | **Mo** | 98 | 245055.1 | 0.1 | **98.9715** | 0.589 | 0.6 | ug/L | 196 | Standard |
| | **Ag** | 107 | 197696.1 | 0.9 | **49.9118** | 0.319 | 0.6 | ug/L | 131 | Standard |
| | **Cd** | 111 | 46066.0 | 1.9 | **50.7505** | 0.615 | 1.2 | mg/L | 6 | Standard |
| | **Cd** | 114 | 133688.4 | 1.4 | **50.0666** | 0.349 | 0.7 | ug/L | 15 | Standard |
| > | **In** | 115 | 319783.7 | 0.7 | | | | ug/L | 310581 | Standard |
| | **Sn** | 118 | 35560.4 | 2.2 | **49.9116** | 0.767 | 1.5 | ug/L | 108 | Standard |
| | **Sb** | 123 | 165493.9 | 1.7 | **52.1443** | 0.543 | 1.0 | ug/L | 410 | Standard |
| | **Ba** | 135 | 66693.2 | 2.5 | **51.6210** | 0.960 | 1.9 | ug/L | 21 | Standard |
| | **Ce** | 140 | 68.3 | 23.5 | | | | ug/L | 23 | Standard |
| > | **Tb** | 159 | 512359.7 | 2.1 | | | | ug/L | 504234 | Standard |
| | **Ho** | 165 | 10.0 | 86.6 | | | | ug/L | 8 | Standard |
| | **Tl** | 203 | 378658.0 | 0.5 | **50.0303** | 0.548 | 1.1 | ug/L | 14 | Standard |
| | **Tl** | 205 | 882956.2 | 0.7 | **50.2820** | 0.444 | 0.9 | ug/L | 23 | Standard |
| | **Pb** | 206 | 290419.0 | 0.7 | **48.9884** | 0.562 | 1.1 | ug/L | 290 | Standard |
| | **Pb** | 207 | 255392.5 | 0.8 | **50.3205** | 0.832 | 1.7 | ug/L | 269 | Standard |
| | **Pb** | 208 | 417480.4 | 3.2 | **46.8204** | 1.911 | 4.1 | ug/L | 471 | Standard |
| | **U** | 238 | 389766.6 | 2.2 | **48.9358** | 1.531 | 3.1 | ug/L | 7 | Standard |
| > | **Bi** | 209 | 415700.8 | 0.9 | | | | ug/L | 414444 | Standard |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 13.3 | 57.3 | **6.2120** | 3.988 | 64.2 | mg/L | 2 | Standard |
| | **Mg** | 24 | 243.3 | 29.2 | **4.8675** | 1.736 | 35.7 | mg/L | 30 | Standard |
| | **K** | 39 | 278.3 | 8.1 | **4.2939** | 0.322 | 7.5 | mg/L | 12 | Standard |
| | **Ca** | 43 | 53.3 | 30.1 | **15.9094** | 14.091 | 88.6 | mg/L | 43 | Standard |
| | **Fe** | 54 | 213.7 | 10.1 | **4.7392** | 0.559 | 11.8 | mg/L | 33 | Standard |
| | **Fe** | 57 | 780.0 | 11.3 | **7.4200** | 5.708 | 76.9 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 18820.0 | 1.5 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 0.7 | 173.2 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 6.0 | 16.7 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 950.0 | 17.3 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 41.7 | 48.5 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 26.7 | 78.1 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 380.0 | 12.6 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 36.7 | 56.8 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 3.3 | 173.2 | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 9.4 | 177.7 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 10.0 | 86.6 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 13.3 | 114.6 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 4524.0 | 3.6 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | | |
| | Be | 9 | 101.634 | | |
| | Al | 27 | 100.393 | | |
| | Sc | 45 | | | |
| | Ti | 47 | 99.287 | | |
| | V | 51 | 97.633 | | |
| | Cr | 52 | 97.903 | | |
| | Cr | 53 | | | |
| | Mn | 55 | 98.003 | | |
| | Co | 59 | 98.400 | | |
| | Ni | 60 | 100.091 | | |
| | Cu | 65 | 100.153 | | |
| | Zn | 66 | 100.285 | | |
| > | Ge | 72 | | 98.208 | |
| | As | 75 | 98.242 | | |
| | Se | 82 | 99.842 | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |

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| | | | | | |
|---|---|---|---|---|---|
| ⌊ | Rb | 85 | | | |
| ⌈ | Y | 89 | | | |
| ⌊> | Rh | 103 | | | |
| ⌈ | Mo | 98 | 98.971 | | |
| \| | Ag | 107 | 99.824 | | |
| \| | Cd | 111 | 101.501 | | |
| \| | Cd | 114 | | | |
| \| > | In | 115 | | 102.963 | |
| \| | Sn | 118 | 99.823 | | |
| \| | Sb | 123 | 104.289 | | |
| ⌊ | Ba | 135 | 103.242 | | |
| ⌈ | Ce | 140 | | | |
| ⌊> | Tb | 159 | | | |
| ⌈ | Ho | 165 | | | |
| \| | Tl | 203 | 100.061 | | |
| \| | Tl | 205 | | | |
| \| | Pb | 206 | | | |
| \| | Pb | 207 | | | |
| \| | Pb | 208 | 93.641 | | |
| \| | U | 238 | 97.872 | | |
| ⌊> | Bi | 209 | | 100.303 | |
| ⌈ | 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: Friday, September 01, 2017 13:58:27
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# Method 6020 - Summary Report

**Sample ID: QC Std 7**
Sample Date/Time: Friday, September 01, 2017 13:59:22
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexION\Data\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 | 108918.1 | 7.2 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 65.0 | 33.5 | **0.0506** | 0.023 | 45.0 | ug/L | 15 | Standard |
| | Al | 27 | 5876.3 | 39.9 | **0.0183** | 0.020 | 109.7 | ug/L | 4144 | Standard |
| | Sc | 45 | 17128.0 | 6.7 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 27.3 | 11.2 | **-0.0045** | 0.028 | 637.7 | ug/L | 38 | Standard |
| | V | 51 | 983.3 | 6.6 | **-0.0932** | 0.012 | 12.6 | ug/L | 1783 | Standard |
| | Cr | 52 | 4481.7 | 5.8 | **-0.4897** | 0.055 | 11.3 | ug/L | 7920 | Standard |
| | Cr | 53 | 861.7 | 6.8 | **0.4017** | 0.151 | 37.7 | ug/L | 745 | Standard |
| | Mn | 55 | 1069.0 | 3.0 | **-0.0200** | 0.016 | 78.6 | ug/L | 1605 | Standard |
| | Co | 59 | 409.0 | 9.7 | **0.0097** | 0.007 | 77.1 | ug/L | 431 | Standard |
| | Ni | 60 | 702.7 | 9.7 | **0.1887** | 0.113 | 59.6 | ug/L | 588 | Standard |
| | Cu | 65 | 171.3 | 13.0 | **0.0395** | 0.023 | 57.1 | ug/L | 167 | Standard |
| | Zn | 66 | 146.0 | 27.9 | **-0.3152** | 0.100 | 31.6 | ug/L | 973 | Standard |
| > | Ge | 72 | 235172.0 | 8.8 | | | | ug/L | 269739 | Standard |
| | As | 75 | -35.8 | 143.4 | **0.0912** | 0.080 | 87.7 | ug/L | -49 | Standard |
| | Se | 82 | 14.7 | 10.8 | **-0.0491** | 0.038 | 77.8 | ug/L | 20 | Standard |
| | Se-1 | 77 | 123.7 | 8.3 | **0.2830** | 0.201 | 70.9 | ug/L | 125 | Standard |
| > | Ga | 71 | 26.7 | 39.0 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 41.7 | 13.9 | | | | ug/L | 47 | Standard |
| | Y | 89 | 213477.3 | 6.3 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 46.7 | 69.7 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 258.4 | 30.5 | **0.0919** | 0.049 | 53.0 | ug/L | 196 | Standard |
| | Ag | 107 | 156.3 | 18.4 | **0.0159** | 0.010 | 64.2 | ug/L | 131 | Standard |
| | Cd | 111 | 19.4 | 38.4 | **0.0027** | 0.010 | 382.5 | mg/L | 6 | Standard |
| | Cd | 114 | 51.4 | 21.0 | **0.0203** | 0.007 | 33.1 | ug/L | 15 | Standard |
| > | In | 115 | 292269.9 | 10.1 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 136.0 | 21.5 | **0.1013** | 0.027 | 27.1 | ug/L | 108 | Standard |
| | Sb | 123 | 395.2 | 25.1 | **0.1053** | 0.051 | 48.7 | ug/L | 410 | Standard |
| | Ba | 135 | 31.7 | 35.5 | **0.0139** | 0.009 | 63.8 | ug/L | 21 | Standard |
| | Ce | 140 | 23.3 | 53.9 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 481250.5 | 10.5 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 1.7 | 173.2 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 125.3 | 36.4 | **0.0157** | 0.007 | 45.2 | ug/L | 14 | Standard |
| | Tl | 205 | 318.3 | 47.1 | **0.0218** | 0.009 | 43.1 | ug/L | 23 | Standard |
| | Pb | 206 | 325.3 | 8.8 | **0.0106** | 0.008 | 78.3 | ug/L | 290 | Standard |
| | Pb | 207 | 280.7 | 18.1 | **0.0060** | 0.009 | 152.4 | ug/L | 269 | Standard |
| | Pb | 208 | 522.0 | 7.9 | **0.0132** | 0.007 | 49.5 | ug/L | 471 | Standard |
| | U | 238 | 88.3 | 54.7 | **0.0133** | 0.007 | 48.8 | ug/L | 7 | Standard |
| > | Bi | 209 | 381726.8 | 10.3 | | | | ug/L | 414444 | Standard |



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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ⌈ | **Na** | 23 | 0.0 | | **-0.8620** | 0.000 | 0.0 | mg/L | 2 | Standard |
| \| | **Mg** | 24 | 38.3 | 39.8 | **-0.0572** | 0.371 | 649.2 | mg/L | 30 | Standard |
| \| | **K** | 39 | 10.0 | 50.0 | **-0.0213** | 0.088 | 412.8 | mg/L | 12 | Standard |
| \| | **Ca** | 43 | 21.7 | 13.3 | **-9.4533** | 2.039 | 21.6 | mg/L | 43 | Standard |
| \| | **Fe** | 54 | 25.5 | 64.1 | **0.3657** | 0.488 | 133.5 | mg/L | 33 | Standard |
| \| | **Fe** | 57 | 711.7 | 4.3 | **7.5649** | 2.327 | 30.8 | mg/L | 628 | Standard |
| ⌊> | **Sc-1** | 45 | 17128.0 | 6.7 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 2.0 | 0.0 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.7 | 53.9 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 960.0 | 23.5 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 46.7 | 34.4 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 33.3 | 56.8 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 390.0 | 5.1 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 13.3 | 114.6 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 15.7 | 76.3 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 1.7 | 173.2 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 20.0 | 86.6 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 4675.7 | 17.2 | | | | mg/L | 8119 | 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 | | 87.185 | |
| \| | As | 75 | | | |
| \| | Se | 82 | | | |
| ⌊ | Se-1 | 77 | | | |
| ⌈> | Ga | 71 | | | |

**Sample ID: QC Std 7**
Report Date/Time: Friday, September 01, 2017 14:01:33
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| | | | |
|---|---|---|---|
| Rb | 85 | | |
| Y | 89 | | |
| > Rh | 103 | | |
| Mo | 98 | | |
| Ag | 107 | | |
| Cd | 111 | | |
| Cd | 114 | | |
| > In | 115 | 94.104 | |
| 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 | 92.106 | |
| 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: Friday, September 01, 2017 14:01:33


Approved: September 01, 2017

# Method 6020 - Summary Report

**Sample ID: QC Std 8**
Sample Date/Time: Friday, September 01, 2017 14:02:28
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
Method File: C:\NexION\Data\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 | 118108.6 | 1.2 | | | | ug/L | 120981 | Standard |
| | Be | 9 | 293.3 | 8.1 | **0.2190** | 0.015 | 7.0 | ug/L | 15 | Standard |
| | Al | 27 | 5085.9 | 35.0 | **0.0071** | 0.016 | 230.2 | ug/L | 4144 | Standard |
| | Sc | 45 | 19120.4 | 2.6 | | | | ug/L | 20033 | Standard |
| | Ti | 47 | 29.7 | 13.6 | **-0.0158** | 0.025 | 159.9 | ug/L | 38 | Standard |
| | V | 51 | 3246.1 | 2.0 | **0.2824** | 0.004 | 1.6 | ug/L | 1783 | Standard |
| | Cr | 52 | 10552.0 | 0.9 | **0.5402** | 0.043 | 7.9 | ug/L | 7920 | Standard |
| | Cr | 53 | 1588.4 | 1.5 | **1.2874** | 0.011 | 0.8 | ug/L | 745 | Standard |
| | Mn | 55 | 5745.1 | 1.1 | **0.5239** | 0.012 | 2.2 | ug/L | 1605 | Standard |
| | Co | 59 | 2751.6 | 0.9 | **0.3616** | 0.010 | 2.6 | ug/L | 431 | Standard |
| | Ni | 60 | 2626.9 | 0.9 | **1.5074** | 0.025 | 1.7 | ug/L | 588 | Standard |
| | Cu | 65 | 1139.4 | 1.8 | **0.7935** | 0.027 | 3.4 | ug/L | 167 | Standard |
| | Zn | 66 | 4176.2 | 1.7 | **5.7982** | 0.119 | 2.1 | ug/L | 973 | Standard |
| > | Ge | 72 | 270409.0 | 1.4 | | | | ug/L | 269739 | Standard |
| | As | 75 | 202.8 | 28.1 | **0.4391** | 0.084 | 19.2 | ug/L | -49 | Standard |
| | Se | 82 | 36.1 | 9.7 | **0.2753** | 0.067 | 24.5 | ug/L | 20 | Standard |
| | Se-1 | 77 | 148.0 | 2.4 | **0.4130** | 0.065 | 15.7 | ug/L | 125 | Standard |
| > | Ga | 71 | 31.7 | 50.8 | | | | mg/L | 30 | Standard |
| | Rb | 85 | 56.7 | 22.2 | | | | ug/L | 47 | Standard |
| | Y | 89 | 248653.8 | 0.4 | | | | ug/L | 248303 | Standard |
| > | Rh | 103 | 58.3 | 39.6 | | | | ug/L | 45 | Standard |
| | Mo | 98 | 212.2 | 12.5 | **0.0602** | 0.011 | 18.3 | ug/L | 196 | Standard |
| | Ag | 107 | 1607.8 | 1.4 | **0.3784** | 0.008 | 2.2 | ug/L | 131 | Standard |
| | Cd | 111 | 204.1 | 5.5 | **0.2039** | 0.014 | 6.8 | mg/L | 6 | Standard |
| | Cd | 114 | 597.2 | 11.1 | **0.2224** | 0.024 | 10.7 | ug/L | 15 | Standard |
| > | In | 115 | 319710.2 | 0.7 | | | | ug/L | 310581 | Standard |
| | Sn | 118 | 104.7 | 7.2 | **0.0407** | 0.011 | 27.8 | ug/L | 108 | Standard |
| | Sb | 123 | 1796.1 | 2.3 | **0.5319** | 0.010 | 1.8 | ug/L | 410 | Standard |
| | Ba | 135 | 969.4 | 3.7 | **0.7377** | 0.023 | 3.2 | ug/L | 21 | Standard |
| | Ce | 140 | 26.7 | 92.5 | | | | ug/L | 23 | Standard |
| > | Tb | 159 | 506792.6 | 2.4 | | | | ug/L | 504234 | Standard |
| | Ho | 165 | 15.0 | 33.3 | | | | ug/L | 8 | Standard |
| | Tl | 203 | 640.3 | 6.5 | **0.0812** | 0.007 | 8.0 | ug/L | 14 | Standard |
| | Tl | 205 | 1408.4 | 4.8 | **0.0812** | 0.005 | 6.1 | ug/L | 23 | Standard |
| | Pb | 206 | 1484.4 | 0.5 | **0.1983** | 0.007 | 3.6 | ug/L | 290 | Standard |
| | Pb | 207 | 1250.1 | 0.8 | **0.1896** | 0.007 | 3.7 | ug/L | 269 | Standard |
| | Pb | 208 | 2016.4 | 7.1 | **0.1732** | 0.021 | 12.1 | ug/L | 471 | Standard |
| | U | 238 | 2993.6 | 2.6 | **0.3731** | 0.019 | 5.0 | ug/L | 7 | Standard |
| > | Bi | 209 | 420317.4 | 2.4 | | | | ug/L | 414444 | Standard |

**Sample ID: QC Std 8**
Report Date/Time: Friday, September 01, 2017 14:04:39
Page 1

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Na** | 23 | 1.7 | 173.2 | **0.0162** | 1.521 | 9412.2 | mg/L | 2 | Standard |
| | **Mg** | 24 | 60.0 | 36.3 | **0.3642** | 0.517 | 141.9 | mg/L | 30 | Standard |
| | **K** | 39 | 15.0 | 33.3 | **0.0394** | 0.082 | 208.9 | mg/L | 12 | Standard |
| | **Ca** | 43 | 36.7 | 15.7 | **1.0132** | 4.305 | 424.9 | mg/L | 43 | Standard |
| | **Fe** | 54 | 34.2 | 72.4 | **0.4807** | 0.592 | 123.2 | mg/L | 33 | Standard |
| | **Fe** | 57 | 700.0 | 7.9 | **2.1270** | 2.885 | 135.6 | mg/L | 628 | Standard |
| > | **Sc-1** | 45 | 19120.4 | 2.6 | | | | mg/L | 20033 | Standard |
| | **Cl** | 35 | 2.7 | 114.6 | | | | ug/L | 1 | Standard |
| | **Kr** | 83 | 5.3 | 65.8 | | | | ug/L | 4 | Standard |
| | **Br** | 81 | 1073.4 | 12.5 | | | | ug/L | 1077 | Standard |
| | **P** | 31 | 41.7 | 25.0 | | | | ug/L | 35 | Standard |
| | **S** | 34 | 40.0 | 43.3 | | | | ug/L | 35 | Standard |
| | **Sr** | 88 | 343.3 | 21.1 | | | | ug/L | 347 | Standard |
| | **C** | 12 | 13.3 | 114.6 | | | | mg/L | 13 | Standard |
| | **N** | 14 | 0.0 | | | | | mg/L | 0 | Standard |
| | **Hg** | 202 | 0.0 | | | | | mg/L | 3 | Standard |
| | **Dy** | 164 | 5.7 | 94.0 | | | | mg/L | 16 | Standard |
| | **Ho-1** | 165 | 15.0 | 33.3 | | | | mg/L | 8 | Standard |
| | **Er** | 166 | 20.0 | 50.0 | | | | mg/L | 13 | Standard |
| | **I** | 127 | 4205.6 | 3.8 | | | | mg/L | 8119 | Standard |

## QC Calculated Values

| | Analyte | Mass | QC Std % Recovery | Int Std % Recovery | Spike % Recovery |
|---|---|---|---|---|---|
| > | Li | 6 | | | |
| | Be | 9 | 109.523 | | |
| | Al | 27 | | | |
| | Sc | 45 | | | |
| | Ti | 47 | | | |
| | V | 51 | 70.606 | | |
| | Cr | 52 | 67.528 | | |
| | Cr | 53 | | | |
| | Mn | 55 | 104.774 | | |
| | Co | 59 | 90.394 | | |
| | Ni | 60 | 94.212 | | |
| | Cu | 65 | 99.182 | | |
| | Zn | 66 | 92.771 | | |
| > | Ge | 72 | | 100.248 | |
| | As | 75 | 109.772 | | |
| | Se | 82 | 68.833 | | |
| | Se-1 | 77 | | | |
| > | Ga | 71 | | | |

**Sample ID: QC Std 8**
Report Date/Time: Friday, September 01, 2017 14:04:39
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Approved: September 01, 2017

| | | | | |
|---|---|---|---|---|
| Rb | 85 | | | |
| Y | 89 | | | |
| Rh | 103 | | | |
| Mo | 98 | | | |
| Ag | 107 | 94.604 | | |
| Cd | 111 | 84.962 | | |
| Cd | 114 | | | |
| In | 115 | | 102.939 | |
| Sn | 118 | | | |
| Sb | 123 | 132.971 | | |
| Ba | 135 | 98.355 | | |
| Ce | 140 | | | |
| Tb | 159 | | | |
| Ho | 165 | | | |
| Tl | 203 | 101.453 | | |
| Tl | 205 | | | |
| Pb | 206 | | | |
| Pb | 207 | | | |
| Pb | 208 | 86.595 | | |
| U | 238 | 93.267 | | |
| Bi | 209 | | 101.417 | |
| 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 | Se | 82 | |
| QC Std 8 | Sb | 123 | |

**Sample ID: QC Std 8**
Report Date/Time: Friday, September 01, 2017 14:04:39


Approved: September 01, 2017

# 3.0 Attachments

**Microbac Laboratories Inc.**
**Ohio Valley Division Analyst List**
**September 18, 2017**

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| | |
|---|---|
| 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 |
| CTB – CHRIS T. BUCINA | 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 |

Microbac Laboratories Inc.
List of Valid Qualifiers
September 18, 2017

Qualkey: WATERLOO

| 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 reque |
| 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. |

Microbac Laboratories Inc.
List of Valid Qualifiers
September 18, 2017

Qualkey: WATERLOO

| | |
|---|---|
| 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 |

L17081498 / Revision: 0 / 1392 total pages



# Chain of Custody Record

ch2m:

**CH2M COC** (YYYYMMDD-##):

**LABORATORY:** Microbac, 158 Starlite Dr., Marietta, OH 45750, 740.373.4071

**LABORATORY CONTACT:** Michelle Taylor

**PROJECT:** Former Hampshire Chemical Corp., Waterloo, NY
**PROJECT NUMBER:** 691615.04.SA
**EVENT:** 2017 Annual Groundwater Sampling

**PROJECT MANAGER & REPORT TO #1:**
David Newman
119 Cherry Hill Rd., #300, Parsippany, NJ 07054
973.316.3538, david.newman@ch2m.com

**PROJECT CONTACT & REPORT TO #2:**
Shane Lowe
300 Hunter Ave, #305, St. Louis, MO 63154
314.335.3024, shane.lowe@ch2m.com

**PURCHASE ORDER #** B31159
**TURNAROUND TIME:** Standard
**DATA PACKAGE:** Level IV
**PROGRAM:** RCRA
**SAMPLER(s):** TAYLOR SALSBURG, AUDREY STAPLETON
**SIGNATURE:**

**ANALYSES REQUESTED**

PRESERVATIVE CODES ( H=HCl, N=$HNO_3$, S=$H_2SO_4$, Zn=zinc acetate, B=NaOH, --=none)

| SAMPLE IDENTIFICATION | GRAB/COMPOSITE | DATE | TIME | MATRIX | # CONTAINERS | VOCs + TICs (8260C) | Total Metals (6010C)(Al, As, Ca, Cr, Fe, K, Mg, Mn, Na) | Dissolved Metals (6010C)(Al, As, Cr, Fe, Mn) Field Filtered | Total Metals (6010C)(Al, As, Ca, Fe, K, Mg, Mn, Na) | Dissolved Metalsb (6010C) (Al, As, Fe, Mn) Field Filtered | Anions (300.0) ($Cl^{1-}$, $SO4^{2-}$) | Nitrate (353.2) | Alkalinity (310.2) | Total Phosphorous (365.4) | TOC (SM5310) | Ammonia (350.1) | TKN (351.2) | Orthophosphate(SM4500PE) Field Filtered | TDS (SM2540) | Total Sulfide (SM 4500) | Silica (200.7) | SVOCs + TICs (8270C) | PAHs (8270D SIM) | Additional Requirements |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | H | N | N | N | N | -- | -- | | S | | | | -- | -- | Z,B | N | -- | -- | |
| MW07-082517 | G | 8/25/17 | 1034 | GW | 9 | ✓ | | | ✓ | ✓ | | | | | | | | | | | | ✓ | ✓ | |
| MW06-082517 | G | | 1354 | GW | 9 | ✓ | | | ✓ | ✓ | | | | | | | | | | | | ✓ | ✓ | |
| MW06-082517-175 | G | | 1354 | GW | 2 | | | | | | | | | | | | | | | | | ✓ | | |
| MW06-082517-175D | G | | 1354 | GW | 2 | | | | | | | | | | | | | | | | | ✓ | | |
| MW10-082517 | G | | 1020 | GW | 9 | ✓ | | | ✓ | ✓ | | | | | | | | | | | | ✓ | ✓ | |
| MW20-082517 | G | | 1410 | GW | 9 | ✓ | | | ✓ | ✓ | | | | | | | | | | | | ✓ | ✓ | |
| TB-082517 | G | | 800 | DI | 2 | ✓ | | | | | | | | | | | | | | | | | | |
| FB-082517 | G | | 1240 | DI | 3 | ✓ | | | | | | | | | | | | | | | | | | |
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| 1. RELINQUISHED BY (Signature) | DATE | TIME | 1. RECEIVED BY (Signature) | DATE | TIME |
|---|---|---|---|---|---|
| | 8/25/17 | 1800 | FEDEX | 8/25/17 | 1800 |
| 2. RELINQUISHED BY (Signature) | DATE | TIME | 2. RECEIVED BY (Signature) | DATE | TIME |
| | | | | | |
| 3. RELINQUISHED BY (Signature) | DATE | TIME | 3. RECEIVED BY (Signature) | DATE | TIME |
| | | | | | |

**ADDITIONAL REMARKS/INSTRUCTIONS:**

PAGE 1 of 1

Microbac OVD
Received: 08/29/2017 10:51
By: BRENDA GREGORY
221000105211

Brenda Gregory

Generated: 09/18/2017 10:19

MICROBAC®

COOLER TEMP >6° C LOG

Cooler ID 5211

| SAMPLE ID | Bottle 1 °C | Bottle 2 °C | Bottle 3 °C | Bottle 4 °C | Bottle 5 °C | Bottle 6 °C |
|---|---|---|---|---|---|---|
| | | | | | | |
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CHD 8/29/17

pH Exceptions

pH Lot # HC6001354

| SAMPLE ID | Bottle 1 | Bottle 2 | Bottle 3 | Bottle 4 | Bottle 5 | Bottle 6 |
|---|---|---|---|---|---|---|
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CHD 8/29/17

PRESERVATIVE EXCEPTIONS

✓ NONE

___ AS NOTED

CHD 8/29/17

Document Control # 1957
Last 10-07-2016

Issued to: Document Master File

Internal Chain of Custody Report

**Login:** L17081498
**Account:** 2736
**Project:** 2736.061
**Samples:** 12
**Due Date:** 12-SEP-2017

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-01** | 956234 | PCT-S 8260C |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

Bottle: 3

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-01** | 956235 | PCT-S 827-SPE-DIOX |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | EXT | 29-AUG-2017 14:36 | BRG | | |
| 2 | 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 | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | EXT | 06-SEP-2017 14:09 | JDH | CLS | |
| 3 | ANALYZ* | EXT | SEMI | 07-SEP-2017 13:33 | SCB | JDH | |

***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

Microbac Laboratories Inc.

Internal Chain of Custody Report

**Login:** L17081498
**Account:** 2736
**Project:** 2736.061
**Samples:** 12
**Due Date:** 12-SEP-2017

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-01** | 956236 | PCT-S 827-PAHL |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | EXT | 31-AUG-2017 16:43 | JDH | CLS | |
| 3 | ANALYZ* | EXT | SEMI | 01-SEP-2017 10:37 | SCB | JDH | |
| 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 | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | STORE | W1 | A1 | 14-SEP-2017 13:44 | BJO | BJO | |

***Sample extract/digestate/leachate**

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-01** | 956237 | 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 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | DIG | 29-AUG-2017 14:57 | ERP | BRG | |
| 3 | STORE | DIG | A2 | 31-AUG-2017 12:41 | BRG | ERP | |
| 4 | ANALYZ* | DIG | METALS | 01-SEP-2017 09:36 | JYH | ERP | |

***Sample extract/digestate/leachate**

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-02** | 956238 | 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 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | DIG | 29-AUG-2017 14:57 | ERP | BRG | |
| 3 | STORE | DIG | A2 | 31-AUG-2017 12:41 | BRG | ERP | |
| 4 | ANALYZ* | DIG | METALS | 01-SEP-2017 09:36 | JYH | ERP | |

***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:** L17081498
**Account:** 2736
**Project:** 2736.061
**Samples:** 12
**Due Date:** 12-SEP-2017

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-03** | 956239 | PCT-S 8260C |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

Bottle: 3

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-03** | 956240 | PCT-S 827-SPE-DIOX |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | EXT | 29-AUG-2017 14:36 | BRG | | |
| 2 | 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 | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | EXT | 06-SEP-2017 14:09 | JDH | CLS | |
| 3 | ANALYZ* | EXT | SEMI | 07-SEP-2017 13:33 | SCB | JDH | |

***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

Microbac Laboratories Inc.

Internal Chain of Custody Report

**Login:** L17081498
**Account:** 2736
**Project:** 2736.061
**Samples:** 12
**Due Date:** 12-SEP-2017

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-03** | 956241 | PCT-S 827-PAHL |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | EXT | 29-AUG-2017 14:36 | BRG | | |
| 2 | DISP | EXT | DISP | 08-SEP-2017 14:05 | JDH | ZTB | |

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | STORE | W1 | A1 | 14-SEP-2017 13:44 | BJO | BJO | |

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-03** | 956242 | 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 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | DIG | 29-AUG-2017 14:57 | ERP | BRG | |
| 3 | STORE | DIG | A2 | 31-AUG-2017 12:41 | BRG | ERP | |
| 4 | ANALYZ* | DIG | METALS | 01-SEP-2017 09:36 | JYH | ERP | |

***Sample extract/digestate/leachate***

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-04** | 956243 | 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 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | DIG | 29-AUG-2017 14:57 | ERP | BRG | |
| 3 | STORE | DIG | A2 | 31-AUG-2017 12:41 | BRG | ERP | |
| 4 | ANALYZ* | DIG | METALS | 01-SEP-2017 09:36 | JYH | ERP | |

***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:** L17081498
**Account:** 2736
**Project:** 2736.061
**Samples:** 12
**Due Date:** 12-SEP-2017

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-05** | 956244 | PCT-S 827-SPE-DIOX |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | EXT | 29-AUG-2017 14:36 | BRG | | |
| 2 | 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 | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | EXT | 06-SEP-2017 14:09 | JDH | CLS | |
| 3 | ANALYZ* | EXT | SEMI | 07-SEP-2017 13:33 | SCB | JDH | |

***Sample extract/digestate/leachate**

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-06** | 956245 | PCT-S 827-SPE-DIOX |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | EXT | 29-AUG-2017 14:36 | BRG | | |
| 2 | 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 | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | EXT | 06-SEP-2017 14:09 | JDH | CLS | |
| 3 | ANALYZ* | EXT | SEMI | 07-SEP-2017 13:33 | SCB | JDH | |

***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

Microbac Laboratories Inc.

Internal Chain of Custody Report

**Login:** L17081498
**Account:** 2736
**Project:** 2736.061
**Samples:** 12
**Due Date:** 12-SEP-2017

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-07** | 956246 | PCT-S 8260C |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

Bottle: 3

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-07** | 956247 | PCT-S 827-SPE-DIOX |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | EXT | 29-AUG-2017 14:36 | BRG | | |
| 2 | 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 | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | EXT | 06-SEP-2017 14:09 | JDH | CLS | |
| 3 | ANALYZ* | EXT | SEMI | 07-SEP-2017 13:33 | SCB | JDH | |
| 4 | DISP | EXT | DISP | 14-SEP-2017 15:21 | BRG | BRG | |

***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

Microbac Laboratories Inc.

Internal Chain of Custody Report

**Login:** L17081498
**Account:** 2736
**Project:** 2736.061
**Samples:** 12
**Due Date:** 12-SEP-2017

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-07** | 956248 | PCT-S 827-PAHL |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | EXT | 31-AUG-2017 16:43 | JDH | CLS | |
| 3 | ANALYZ* | EXT | SEMI | 01-SEP-2017 10:37 | SCB | JDH | |
| 4 | DISP | EXT | DISP | 14-SEP-2017 15:21 | BRG | BRG | |

***Sample extract/digestate/leachate**

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | STORE | W1 | A1 | 14-SEP-2017 13:44 | BJO | BJO | |

***Sample extract/digestate/leachate**

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-07** | 956249 | 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 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | DIG | 29-AUG-2017 14:57 | ERP | BRG | |
| 3 | STORE | DIG | A2 | 31-AUG-2017 12:41 | BRG | ERP | |
| 4 | ANALYZ* | DIG | METALS | 01-SEP-2017 09:36 | JYH | ERP | |

***Sample extract/digestate/leachate**

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-08** | 956250 | 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 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | DIG | 29-AUG-2017 14:57 | ERP | BRG | |
| 3 | STORE | DIG | A2 | 31-AUG-2017 12:41 | BRG | ERP | |
| 4 | ANALYZ* | DIG | METALS | 01-SEP-2017 09:36 | JYH | ERP | |

***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:** L17081498
**Account:** 2736
**Project:** 2736.061
**Samples:** 12
**Due Date:** 12-SEP-2017

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-09** | 956251 | PCT-S 8260C |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

Bottle: 3

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | | 29-AUG-2017 14:36 | BRG | | |

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-09** | 956252 | PCT-S 827-SPE-DIOX |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | EXT | 29-AUG-2017 14:36 | BRG | | |
| 2 | 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 | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | EXT | 06-SEP-2017 14:09 | JDH | CLS | |
| 3 | ANALYZ* | EXT | SEMI | 07-SEP-2017 13:33 | SCB | JDH | |
| 4 | DISP | EXT | DISP | 14-SEP-2017 15:21 | BRG | BRG | |

***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:** L17081498
**Account:** 2736
**Project:** 2736.061
**Samples:** 12
**Due Date:** 12-SEP-2017

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-09** | 956253 | PCT-S 827-PAHL |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | EXT | 31-AUG-2017 16:43 | JDH | CLS | |
| 3 | ANALYZ* | EXT | SEMI | 01-SEP-2017 10:37 | SCB | JDH | |
| 4 | DISP | EXT | DISP | 14-SEP-2017 15:21 | BRG | BRG | |

***Sample extract/digestate/leachate**

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | STORE | W1 | A1 | 14-SEP-2017 13:44 | BJO | BJO | |

***Sample extract/digestate/leachate**

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-09** | 956254 | 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 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | DIG | 29-AUG-2017 14:57 | ERP | BRG | |
| 3 | STORE | DIG | A2 | 31-AUG-2017 12:41 | BRG | ERP | |
| 4 | ANALYZ* | DIG | METALS | 01-SEP-2017 09:36 | JYH | ERP | |

***Sample extract/digestate/leachate**

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-10** | 956255 | 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 | 29-AUG-2017 14:36 | BRG | | |
| 2 | PREP | W1 | DIG | 29-AUG-2017 14:57 | ERP | BRG | |
| 3 | STORE | DIG | A2 | 31-AUG-2017 12:41 | BRG | ERP | |
| 4 | ANALYZ* | DIG | METALS | 01-SEP-2017 09:36 | JYH | ERP | |

***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

Microbac Laboratories Inc.

Internal Chain of Custody Report

**Login:** L17081498
**Account:** 2736
**Project:** 2736.061
**Samples:** 12
**Due Date:** 12-SEP-2017

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-11** | 956256 | PCT-S 8260C |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

| Samplenum | Container ID | Products |
|---|---|---|
| **L17081498-12** | 956257 | PCT-S 8260C |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | CLS | AWE | |

Bottle: 3

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 29-AUG-2017 14:36 | BRG | | |
| 2 | ANALYZ | V1 | ORG4 | 30-AUG-2017 07:15 | AWE | CLS | |
| 3 | STORE | ORG4 | A2 | 11-SEP-2017 07:17 | 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

## 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 MSS0I/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

## NELAP Accreditation by Laboratory SOP

### SOLID AND HAZARDOUS CHEMICALS

OVD MSV0I/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)