LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 21

2018

Bate Stamp Numbers
00866547 - 00868396

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976 – 2018

LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS
ADMINISTRATIVE RECORD – CHRONOLOGICAL INDEX

VOLUME 21

2018

A. Title: Report (cont'd) - Draft Final 3rd Annual Remedial Action Operation Report (March to October 2016) LHAAP-35A (58), Shops Area, Longhorn Army Ammunition Plant, Karnack, Texas, Revised March 2018
Author(s): Bhate Environmental Associates, Inc.
Recipient: All Stakeholders
Date: March 8, 2018
Bate Stamp: 00866547 – 00868396

2.2.1.4 Standards Data

1,1 STD74825 (Level-6)

```
======================================================================
Injection Date  : 6/22/2016 1:19:08 PM          Seq. Line :   1
Sample Name     : WG573731-01 STD                Location : Vial 1
Acq. Operator   : JWR                               Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 2:12:10 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
======================================================================
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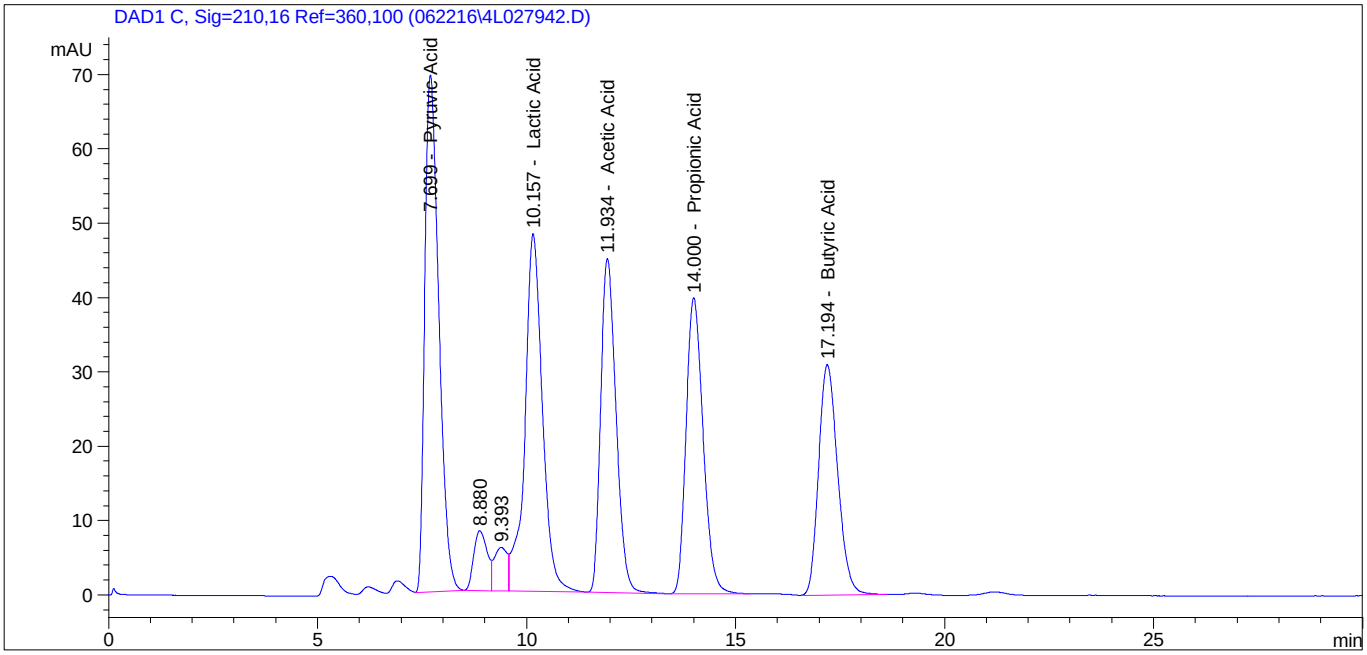


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                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Thursday, June 23, 2016 2:11:52 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.699 BV     1618.64111 6.22622e-3   10.07801    Pyruvic Acid
 10.157 VV     1401.77185 7.16478e-2  100.43380    Lactic Acid
 11.934 VBA    1145.84753 8.66214e-2   99.25490    Acetic Acid
 14.000 BBA    1129.17480 8.91561e-2  100.67277    Propionic Acid
 17.194 BBA     984.85156 1.02624e-1  101.06964    Butyric Acid

Totals :                              411.50911

 Results obtained with enhanced integrator!
======================================================================
                          *** End of Report ***
```

1,1 STD74825 (@Level-5)

```
======================================================================
Injection Date  : 6/22/2016 2:40:58 PM          Seq. Line :   2
Sample Name     : WG573731-02 STD                Location : Vial 2
Acq. Operator   : JWR                               Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 2:19:16 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
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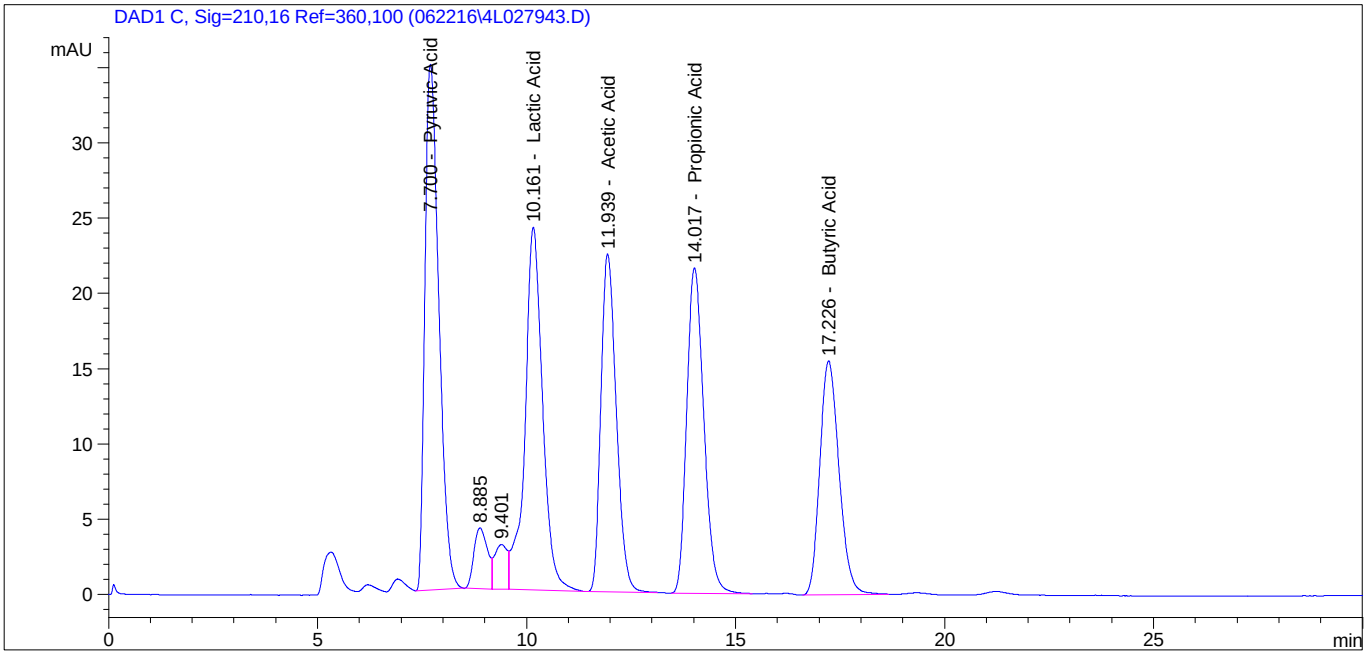


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======================================================================
                    External Standard Report
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Sorted By             :      Signal
Calib. Data Modified  :      Thursday, June 23, 2016 2:18:58 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.700 BV      811.44867 6.20251e-3    5.03301    Pyruvic Acid
 10.161 VV      704.69446 7.14476e-2   50.34875    Lactic Acid
 11.939 VBA     572.96741 8.69907e-2   49.84282    Acetic Acid
 14.017 BBA     614.13599 8.19238e-2   50.31238    Propionic Acid
 17.226 BBA     496.63232 1.01850e-1   50.58203    Butyric Acid

Totals :                              206.11899

 Results obtained with enhanced integrator!
======================================================================
                          *** End of Report ***
```

1,1 STD74825 (@Level-4)

```
==========================================================================
Injection Date  : 6/22/2016 4:02:49 PM          Seq. Line :   3
Sample Name     : WG573731-03 STD                Location : Vial 3
Acq. Operator   : JWR                               Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 2:23:18 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
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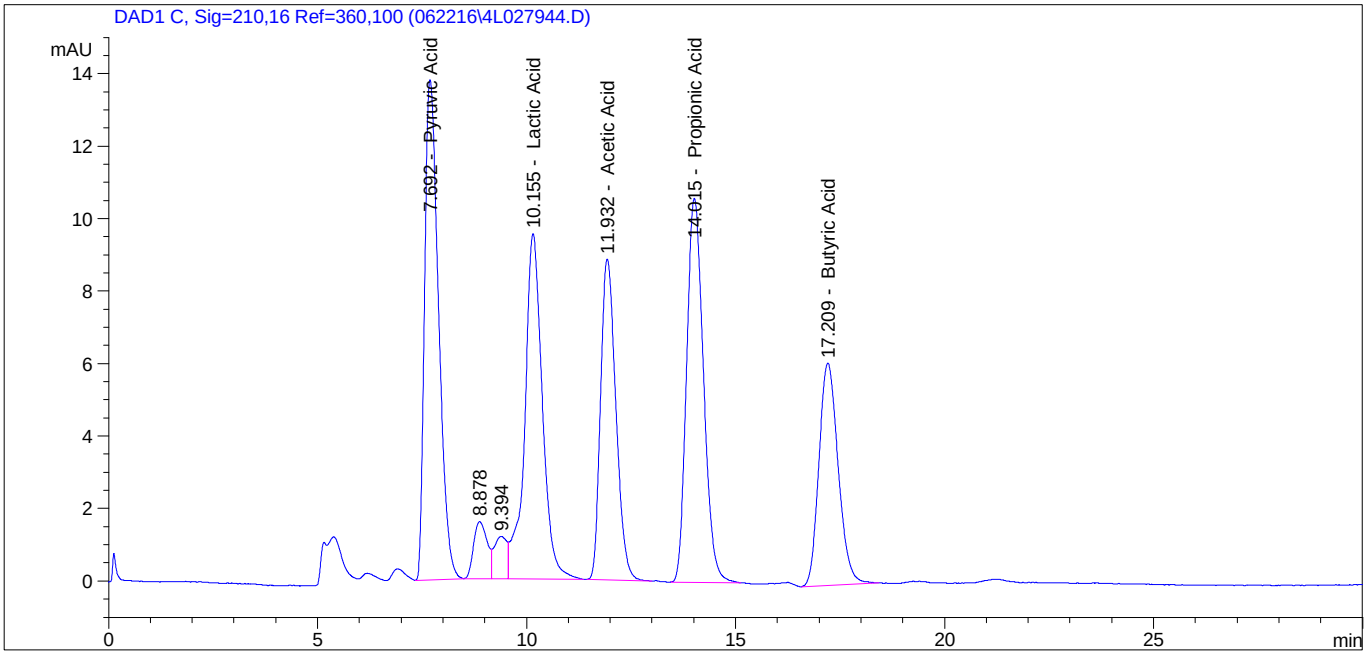


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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Thursday, June 23, 2016 2:23:07 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.692 BV      319.98312 6.23295e-3    1.99444    Pyruvic Acid
 10.155 VBA     279.49280 7.16471e-2   20.02484    Lactic Acid
 11.932 PBA     225.48456 8.71081e-2   19.64154    Acetic Acid
 14.015 BBA     298.06375 6.59924e-2   19.66994    Propionic Acid
 17.209 BBA     196.23415 1.01931e-1   20.00239    Butyric Acid

Totals :                               81.33315

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

1,1 STD74825 (@Level-3)

```
==========================================================================
Injection Date  : 6/22/2016 5:24:41 PM          Seq. Line :   4
Sample Name     : WG573731-04 STD                Location : Vial 4
Acq. Operator   : JWR                               Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 2:29:24 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
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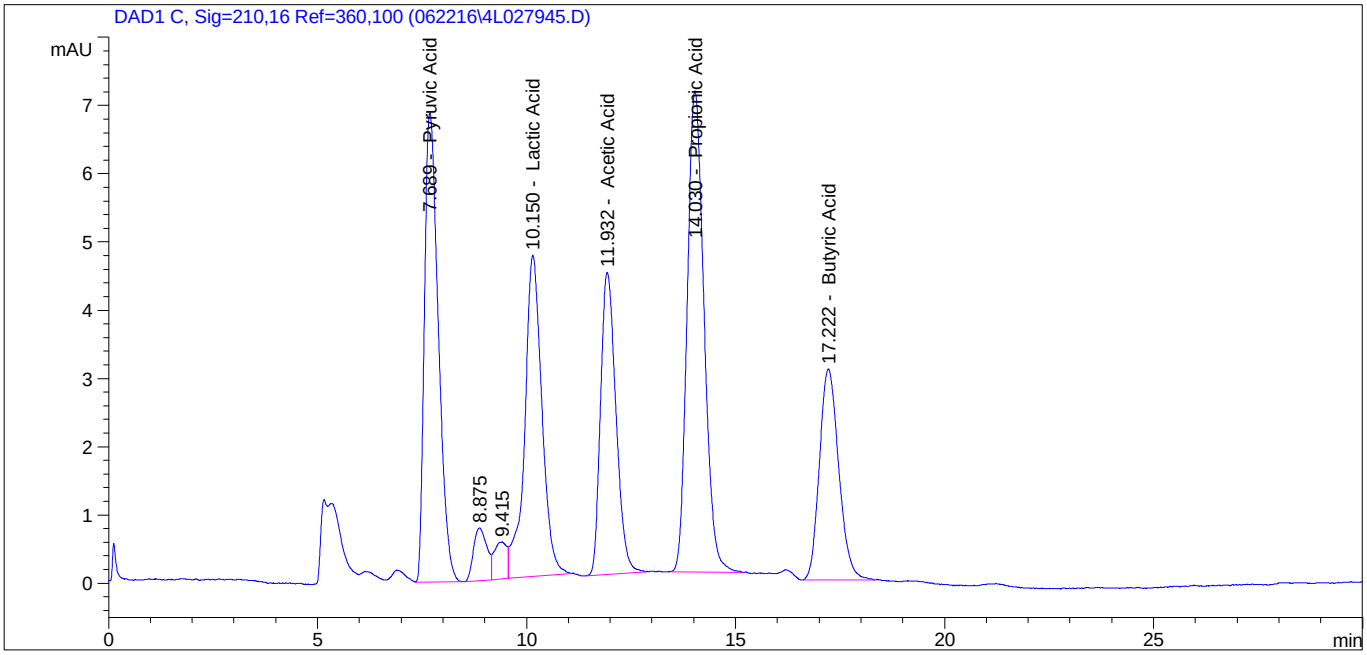


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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Thursday, June 23, 2016 2:29:09 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.689 BBA     159.04761 6.26598e-3 9.96589e-1    Pyruvic Acid
 10.150 VV      135.03194 7.23595e-2    9.77084    Lactic Acid
 11.932 BBA     113.20127 8.76942e-2    9.92709    Acetic Acid
 14.030 BBA     197.19083 5.02615e-2    9.91110    Propionic Acid
 17.222 BBA      99.47591 1.01237e-1   10.07062    Butyric Acid

Totals :                               40.67624

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

1,1 STD74825 (@Level-2)

```
==========================================================================
Injection Date  : 6/22/2016 6:46:34 PM          Seq. Line :   5
Sample Name     : WG573731-05 STD                Location : Vial 5
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 2:38:05 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
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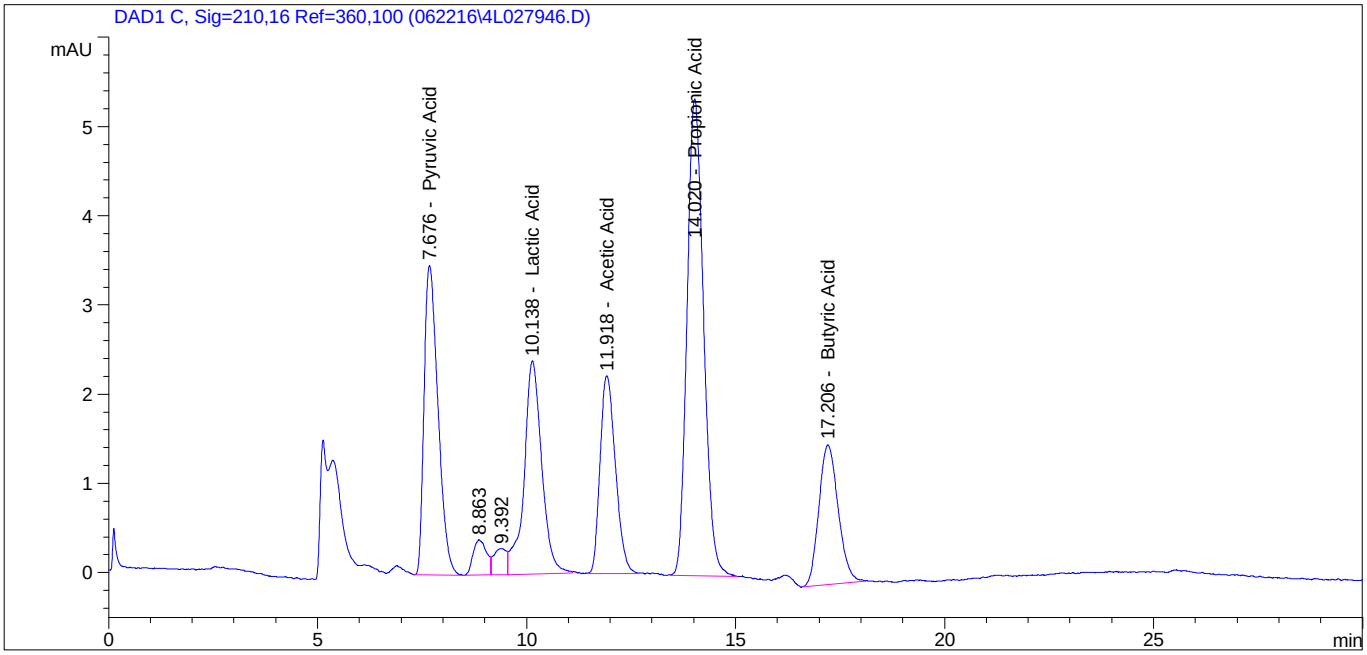


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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Thursday, June 23, 2016 2:37:52 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.676 BV       80.43373 6.30559e-3 5.07182e-1    Pyruvic Acid
 10.138 VF       70.12683 7.27751e-2    5.10349    Lactic Acid
 11.918 BF       56.75938 8.91473e-2    5.05994    Acetic Acid
 14.020 BBA     146.79945 3.49074e-2    5.12438    Propionic Acid
 17.206 BBA      50.13863 9.97288e-2    5.00027    Butyric Acid

Totals :                                20.79526

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  : 6/22/2016 8:08:25 PM          Seq. Line :   6
Sample Name     : WG573731-06 STD                Location : Vial 6
Acq. Operator   : JWR                               Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 3:04:40 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
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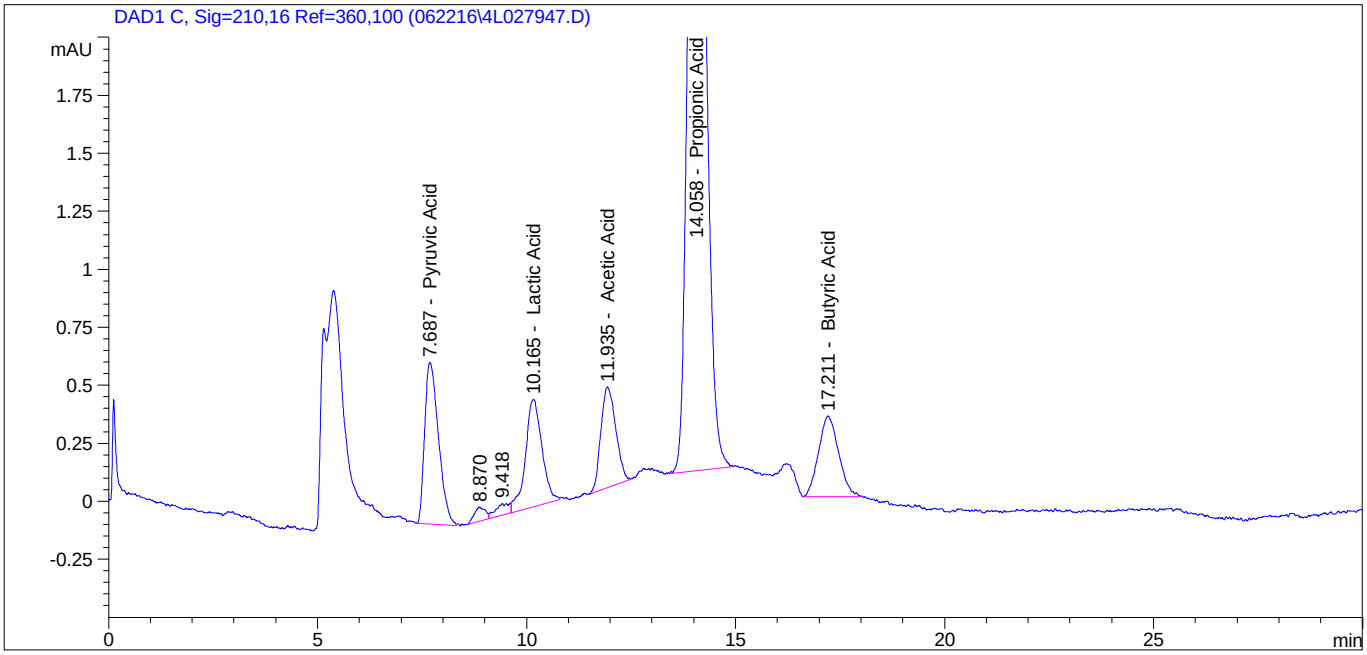



```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Thursday, June 23, 2016 3:04:34 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.687 BF       16.02379 6.75739e-3 1.08279e-1    Pyruvic Acid
 10.165 VF       12.74460 7.97908e-2    1.01690    Lactic Acid
 11.935 BV       10.74922 9.92851e-2    1.06724    Acetic Acid
 14.058 BBA     117.22426 1.93646e-2    2.27000    Propionic Acid
 17.211 BF       11.70168 9.06927e-2    1.06126    Butyric Acid

Totals :                                5.52367

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Calibration Table

OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016

Calib. Data Modified : 6/23/2016 3:11:00 PM

Calculate : External Standard
Based on : Peak Area

Rel. Reference Window : 3.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 3.000 %
Abs. Non-ref. Window : 0.000 min
Do not use Multiplier & Dilution Factor with ISTDs
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: Yes, even for non-identified peaks

Curve Type : Linear
Origin : Ignored
Weight : Equal

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime [min]	Sig	Lvl	Amount [mg/L]	Area	Amt/Area	Ref	Grp	Name
7.687	1	1	1.00000e-1	16.02379	6.24072e-3			Pyruvic Acid
		2	5.00000e-1	80.43373	6.21630e-3			
		3	1.00000	159.04761	6.28743e-3			
		4	2.00000	319.98312	6.25033e-3			
		5	5.00000	811.44867	6.16182e-3			
		6	10.00000	1618.64111	6.17802e-3			
10.149	1	1	1.00000	12.74460	7.84646e-2			Lactic Acid
		2	5.00000	70.12683	7.12994e-2			
		3	10.00000	135.03194	7.40566e-2			
		4	20.00000	279.49280	7.15582e-2			
		5	50.00000	704.69446	7.09527e-2			
		6	100.00000	1401.77185	7.13383e-2			
11.929	1	1	1.00000	10.74922	9.30300e-2			Acetic Acid
		2	5.00000	56.75938	8.80912e-2			
		3	10.00000	113.20127	8.83382e-2			
		4	20.00000	225.48456	8.86979e-2			
		5	50.00000	572.96741	8.72650e-2			
		6	100.00000	1145.84753	8.72716e-2			
14.013	1	2	5.00000	146.79945	3.40601e-2			Propionic Acid
		3	10.00000	197.19083	5.07123e-2			
		4	20.00000	298.06375	6.70997e-2			
		5	50.00000	614.13599	8.14152e-2			
		6	100.00000	1129.17480	8.85602e-2			
17.205	1	1	1.00000	11.70168	8.54578e-2			Butyric Acid
		2	5.00000	50.13863	9.97235e-2			
		3	10.00000	99.47591	1.00527e-1			
		4	20.00000	196.23415	1.01919e-1			

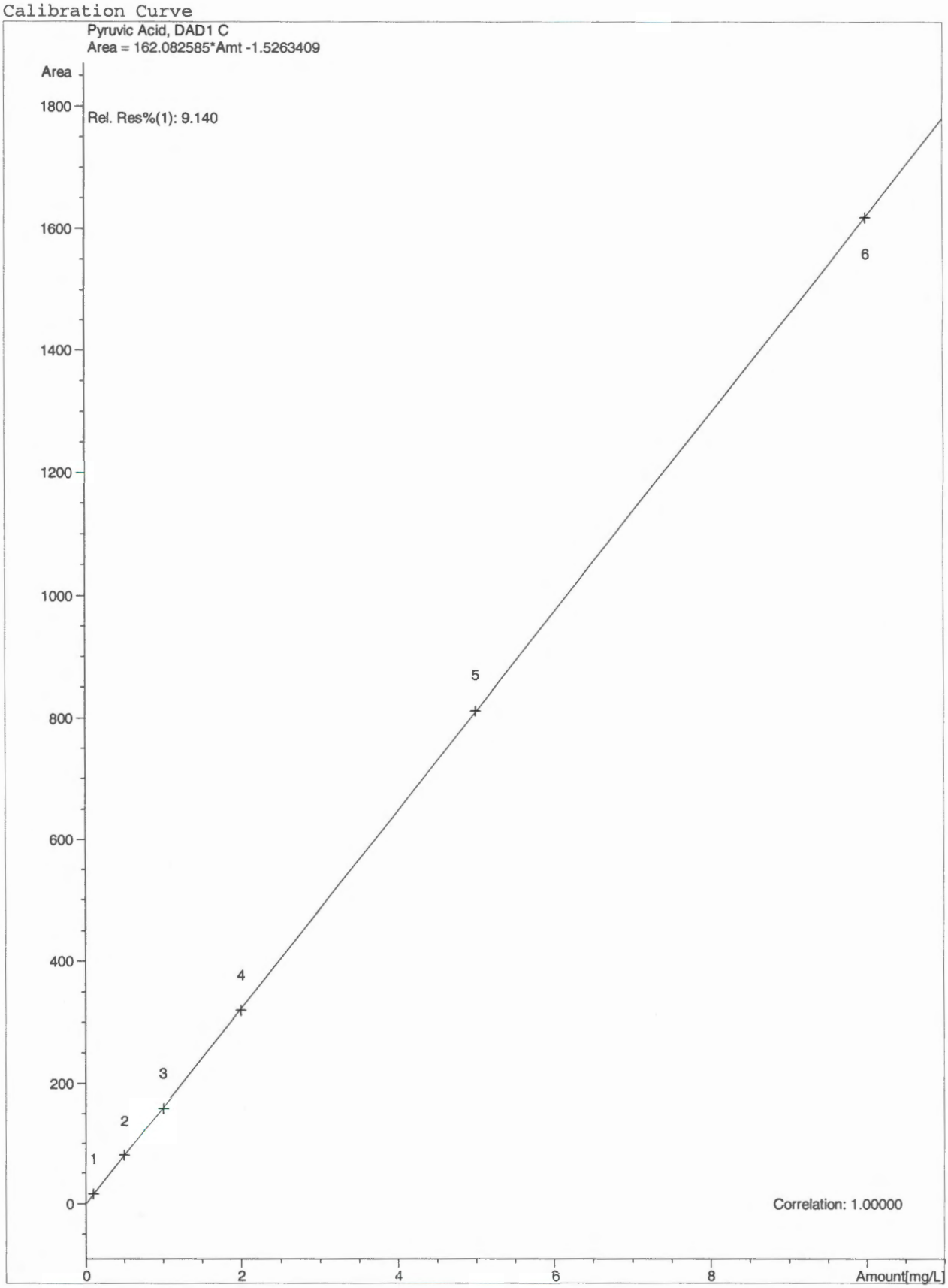
Method C:\HPCHEM\1\METHODS\830-MBDA.M

RetTime [min]	Sig	Lvl	Amount [mg/L]	Area	Amt/Area	Ref	Grp	Name
		5	50.00000	496.63232	1.00678e-1			
		6	100.00000	984.85156	1.01538e-1			

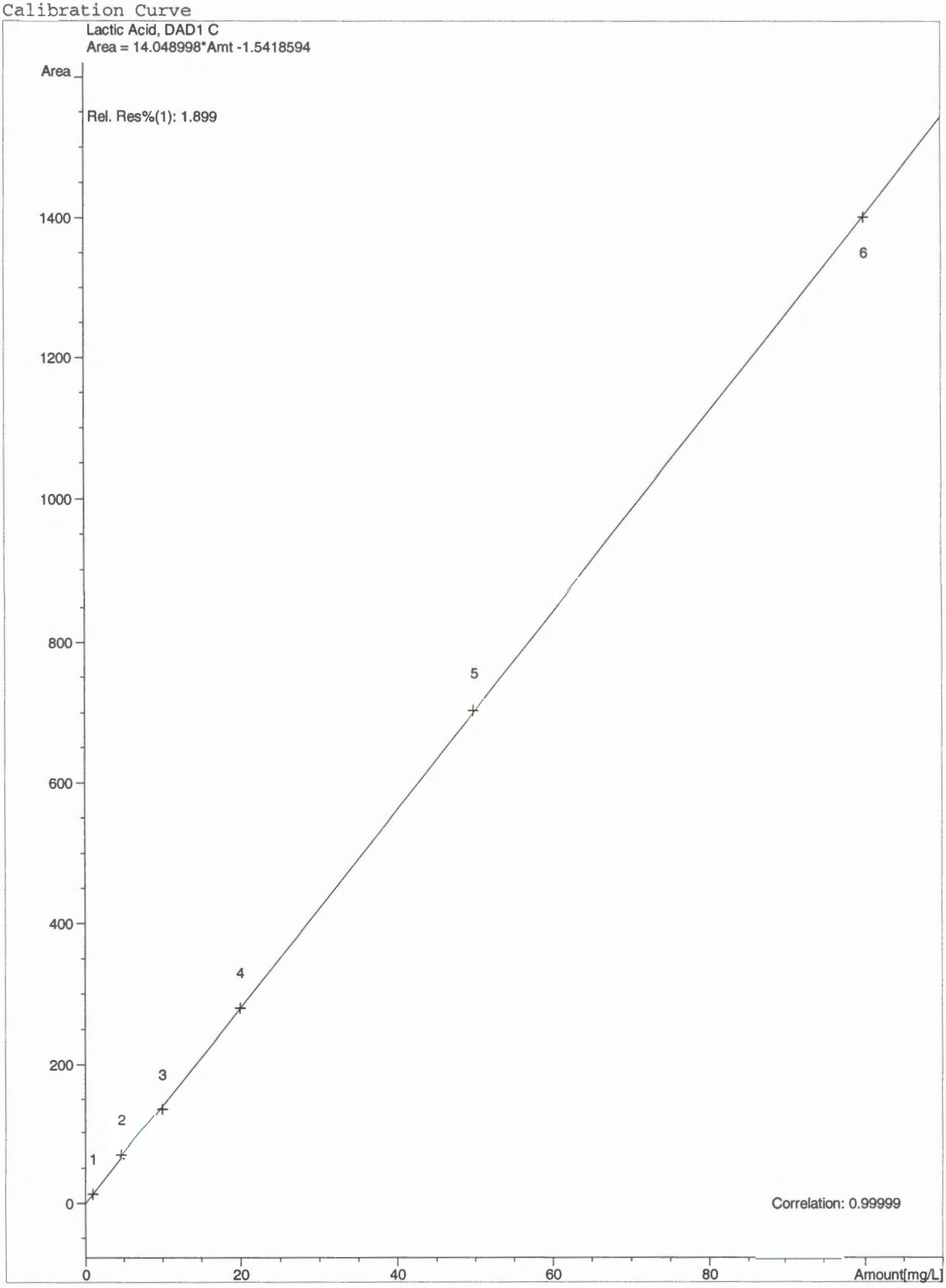
Peak Sum Table

No Entries in table

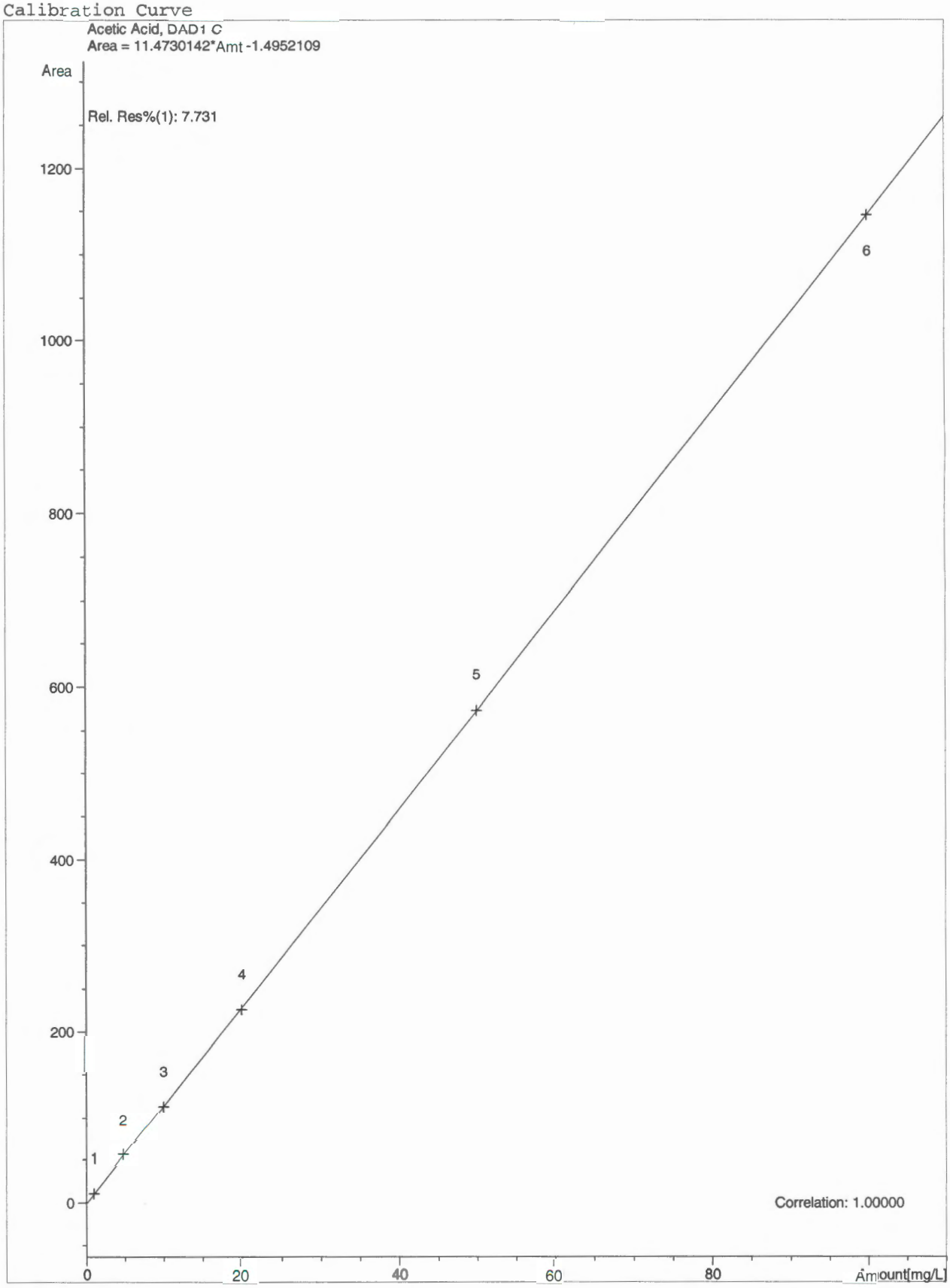
Calibration Curve



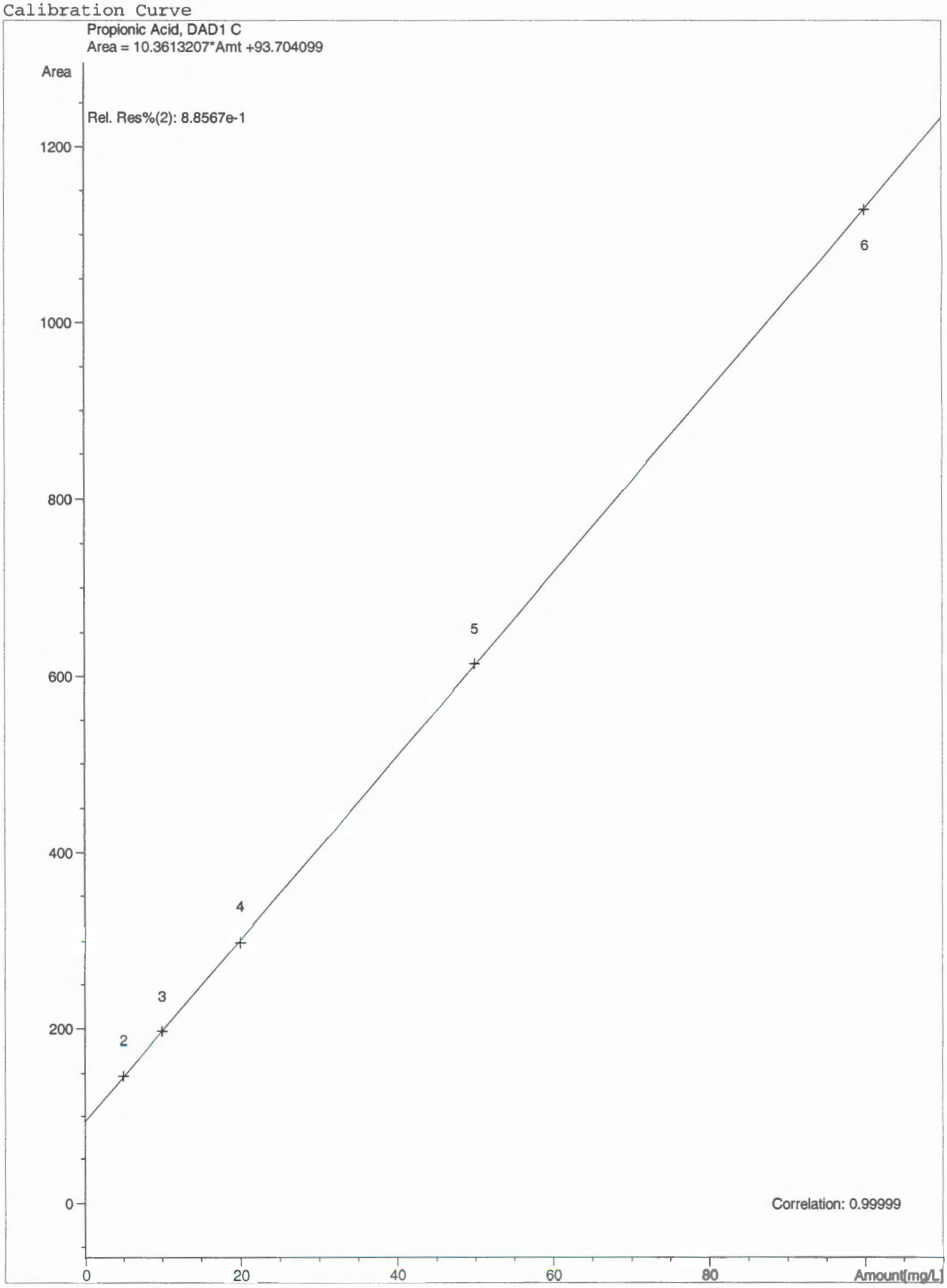
Calibration Curve



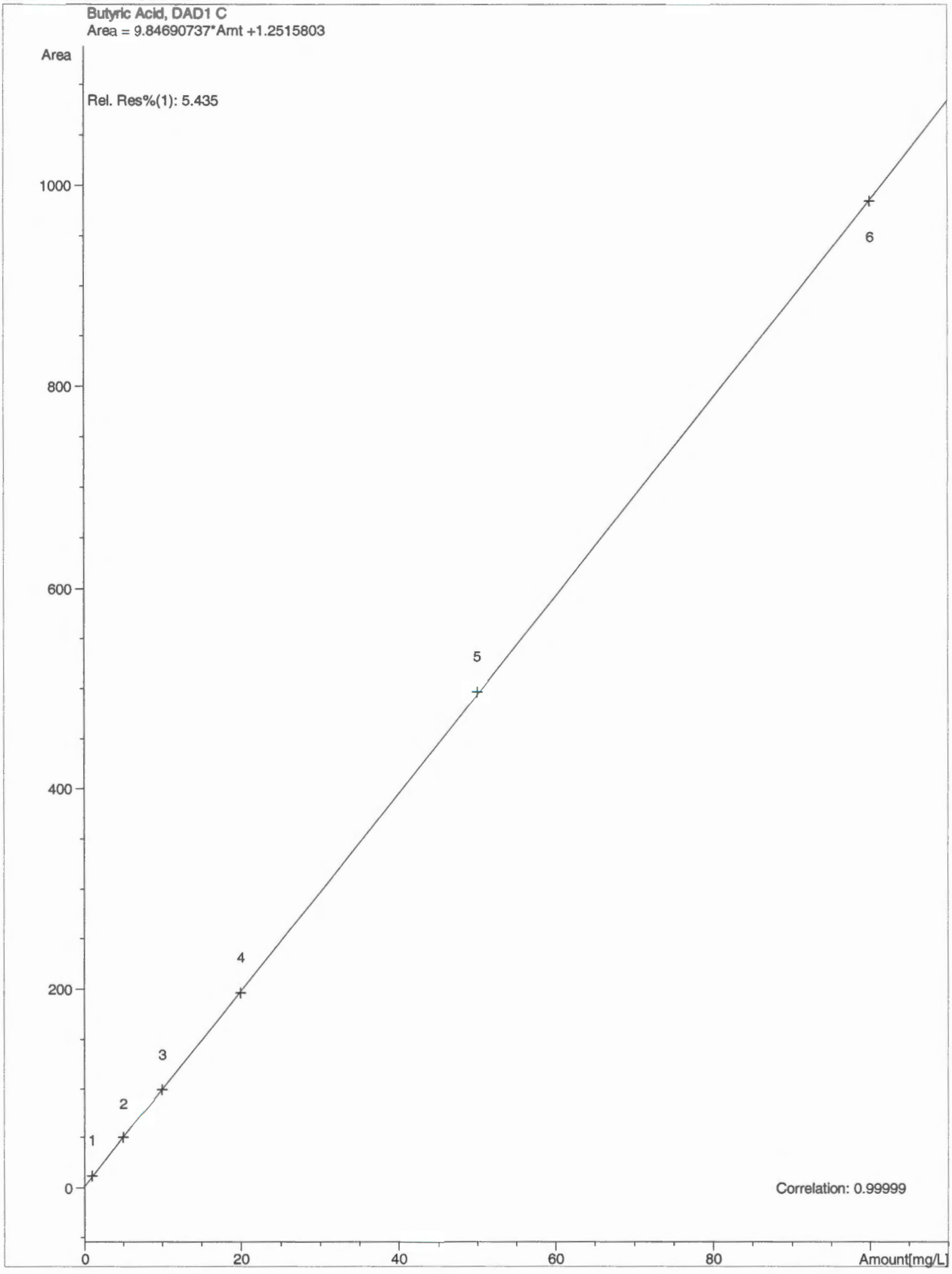
Calibration Curve



Calibration Curve



Calibration Curve



1,1 STD74828 (@Level-4)

```
======================================================================
Injection Date  : 6/22/2016 9:30:18 PM          Seq. Line :   7
Sample Name     : WG573731-07 SSCV               Location : Vial 7
Acq. Operator   : JWR                               Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 3:14:11 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
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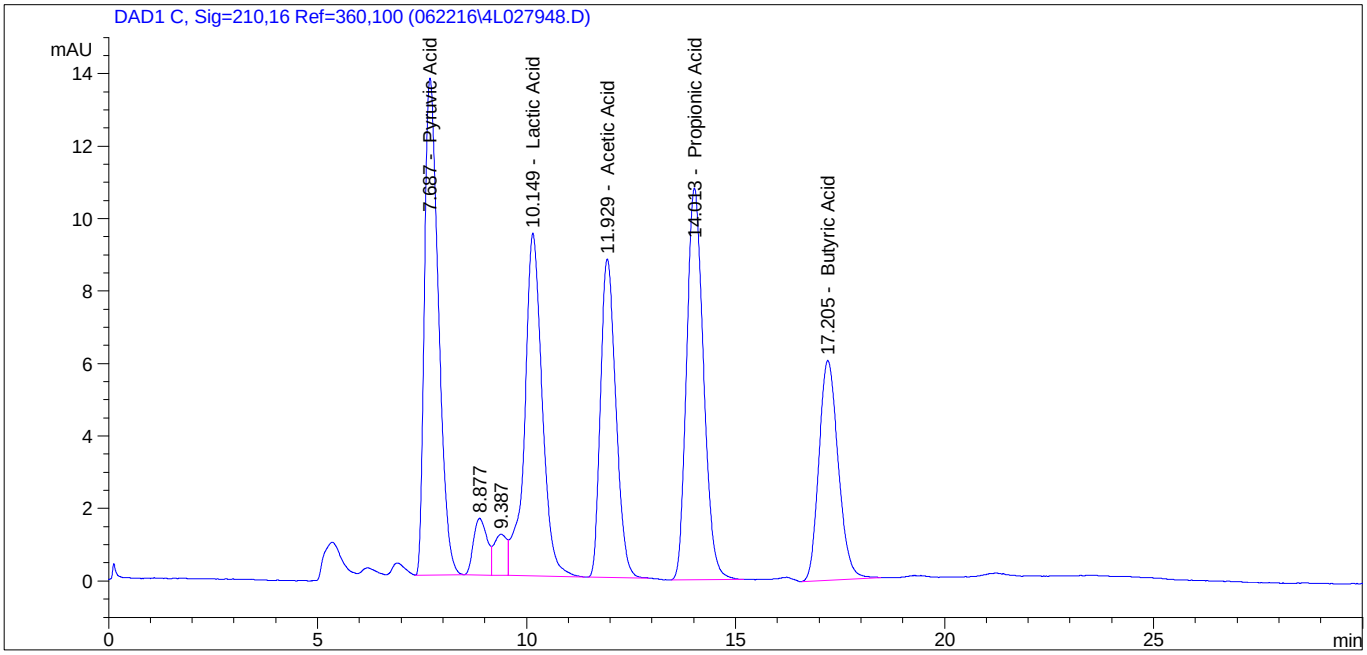


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======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/23/2016 3:11:00 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.687 BV      318.71957 6.19924e-3    1.97582    Pyruvic Acid
 10.149 VBA     276.82471 7.15759e-2   19.81398    Lactic Acid
 11.929 BBA     224.61801 8.77413e-2   19.70827    Acetic Acid
 14.013 BBA     304.25815 6.67892e-2   20.32116    Propionic Acid
 17.205 BBA     194.24446 1.00900e-1   19.59934    Butyric Acid

Totals :                               81.41856

 Results obtained with enhanced integrator!
======================================================================
                          *** End of Report ***
```

1,1 STD74825 (@Level-4)

```
==========================================================================
Injection Date  : 10/14/2016 3:36:44 PM          Seq. Line :   1
Sample Name     : WG587724-01 CCV                 Location : Vial 1
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                        Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 11:14:04 AM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/14/2016 4:29:56 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
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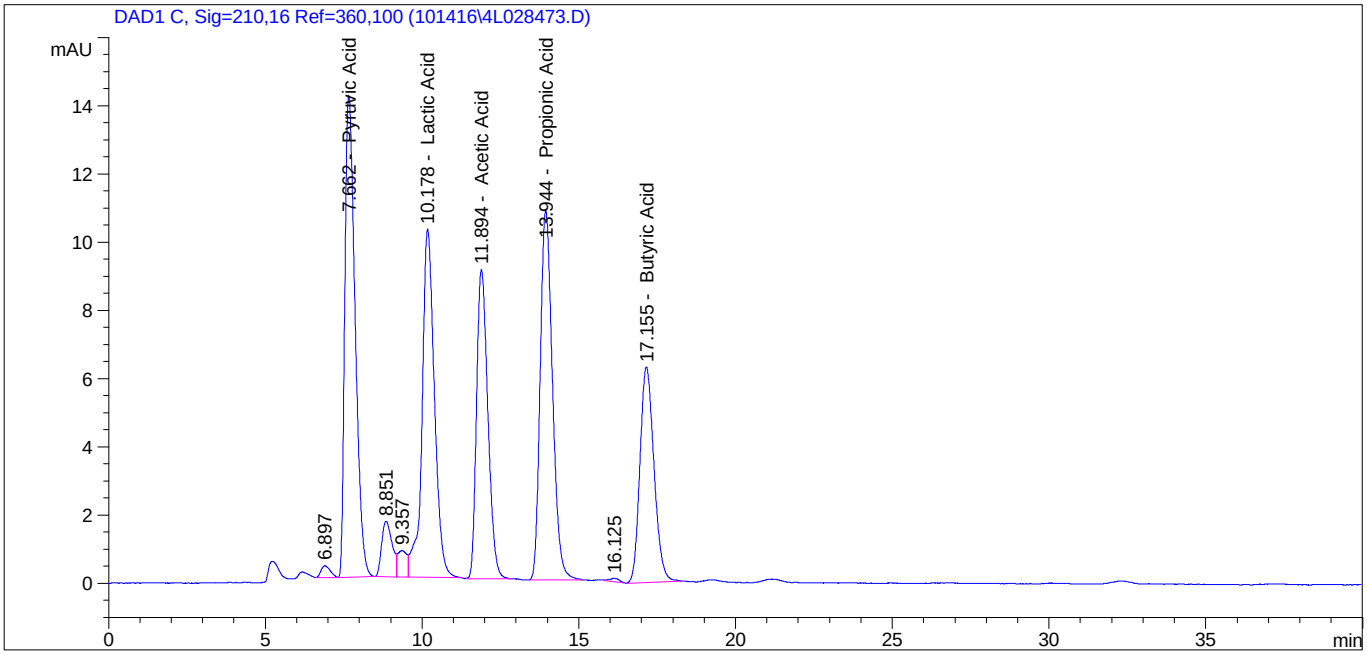


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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.662 VV      322.46021 6.19890e-3    1.99890    Pyruvic Acid
 10.178 VBA     279.82068 7.15717e-2   20.02723    Lactic Acid
 11.894 BBA     226.99648 8.77352e-2   19.91558    Acetic Acid
 13.944 BBA     294.45123 6.57992e-2   19.37467    Propionic Acid
 17.155 VBA     196.23947 1.00907e-1   19.80194    Butyric Acid

Totals :                               81.11831

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  : 10/15/2016 3:31:00 AM          Seq. Line :  10
Sample Name     : WG587724-02 CCV                 Location : Vial 1
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                        Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/15/2016 2:21:18 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
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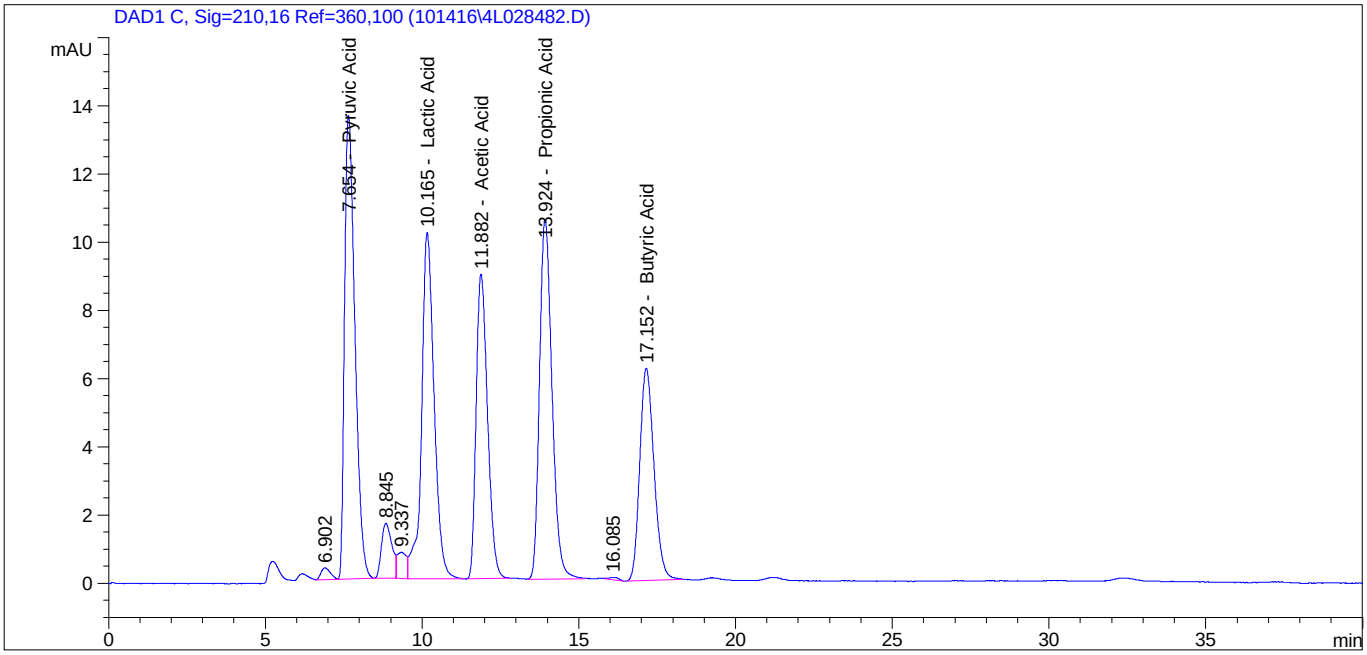



```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.654 VV      312.34561 6.19984e-3    1.93649    Pyruvic Acid
 10.165 VBA     281.05948 7.15699e-2   20.11541    Lactic Acid
 11.882 BF      225.66994 8.77386e-2   19.79995    Acetic Acid
 13.924 BF      291.35336 6.54727e-2   19.07568    Propionic Acid
 17.152 BBA     196.34312 1.00907e-1   19.81247    Butyric Acid

Totals :                               80.74001

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

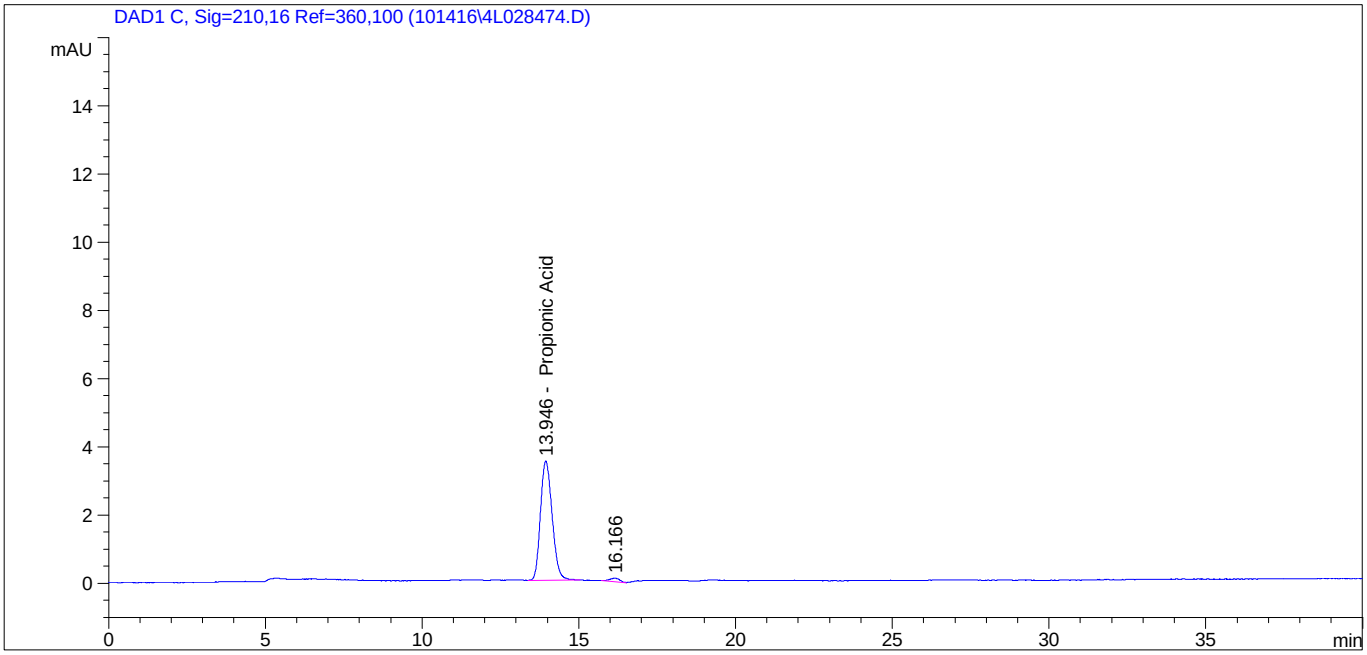
	RETENTION TIME WINDOWS			
Lab Name: Microbac Laboratories, Inc.				
Instrument ID:	HPLC4			
Column:	Rezex ROA (8%)			
	STANDARD #1	STANDARD #2	STANDARD #3	
Date Run	6/23/16	6/25/16	6/28/16	
File #	4L027950	4L027990	4L028035	
	WG572899-02	WG573577-02	WG573744-02	RT WIN
COMPOUND	RT	RT	RT	
Pyruvic Acid	7.673	7.677	7.681	0.012
Lactic Acid	10.134	10.155	10.175	0.062
Acetic Acid	11.91	11.919	11.918	0.015
Propionic Acid	13.993	13.998	13.978	0.031
Butyric Acid	17.178	17.197	17.19	0.029

HPLC4_830-MBA_2016-06-22.xls

2.2.1.5 QC Data

1,1 (0.1% H3PO4)

```
========================================================================
Injection Date  : 10/14/2016 4:36:08 PM          Seq. Line :   2
Sample Name     : WG587720-01 BLK                 Location : Vial 2
Acq. Operator   : JWR                                 Inj :   1
Acq. Instrument : HPLC4                        Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/14/2016 6:09:10 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
========================================================================
```




```
========================================================================
                      External Standard Report
========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [mg/L]	Grp	Name
7.662		-	-	-		Pyruvic Acid
10.178		-	-	-		Lactic Acid
11.894		-	-	-		Acetic Acid
13.946	BP	90.88940	0.00000	0.00000		Propionic Acid
17.155		-	-	-		Butyric Acid

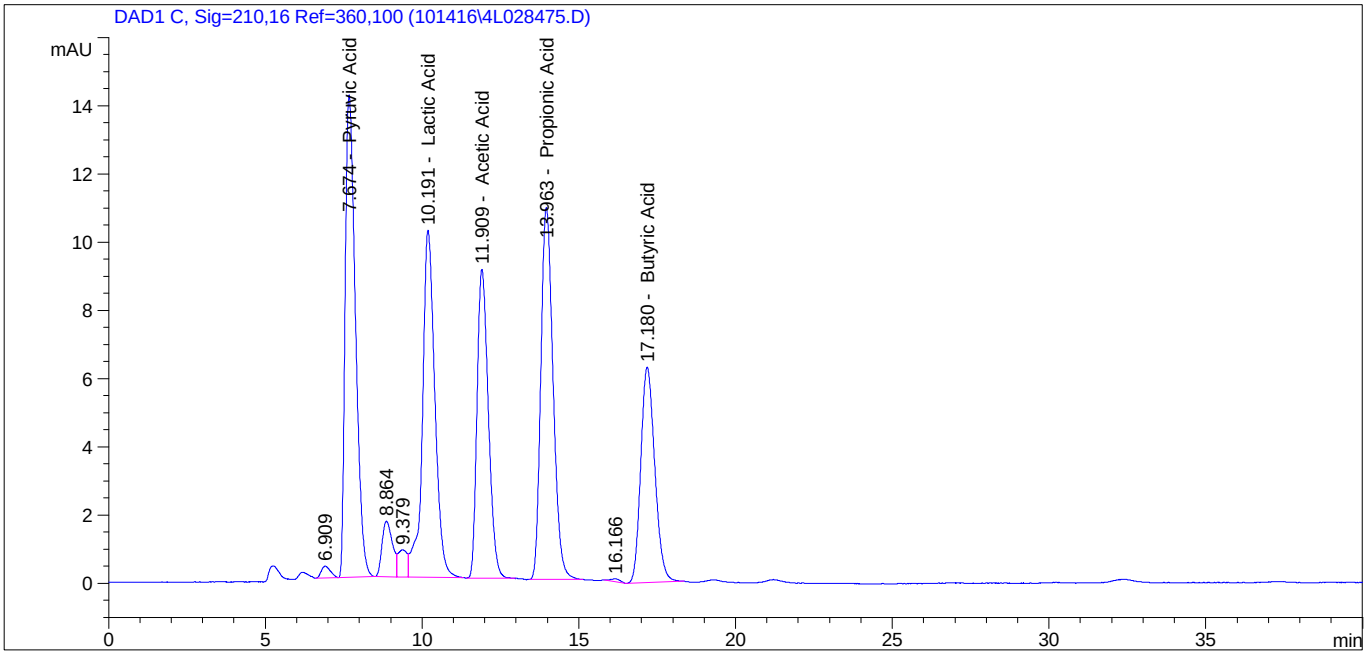
```
Totals :                                  0.00000

 Results obtained with enhanced integrator!
2 Warnings or Errors :

Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (Propionic Acid)
```

00866567

```
=====================================================================
Injection Date  : 10/14/2016 4:36:08 PM          Seq. Line :   2
Sample Name     : WG587720-01 BLK                 Location : Vial 2
Acq. Operator   : JWR                                  Inj :   1
Acq. Instrument : HPLC4                         Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/14/2016 6:09:10 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
=====================================================================

=====================================================================
                         *** End of Report ***
```

1,1 STD74828 (@Level-4)

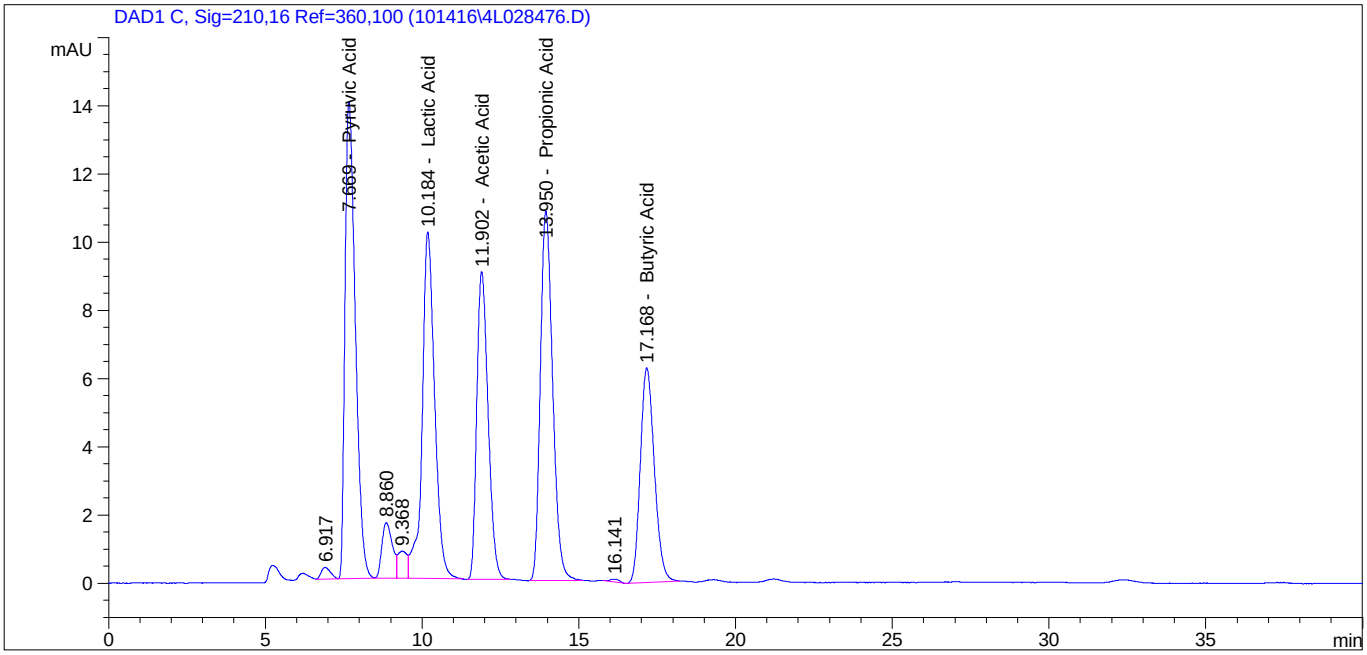
```
==========================================================================
Injection Date  : 10/14/2016 5:57:57 PM          Seq. Line :   3
Sample Name     : WG587720-02 LCS                 Location : Vial 3
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                        Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/15/2016 2:10:05 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.674 VV      323.11285 6.19884e-3    2.00292    Pyruvic Acid
 10.191 VBA     280.94583 7.15701e-2   20.10732    Lactic Acid
 11.909 BBA     227.10962 8.77349e-2   19.92544    Acetic Acid
 13.963 BBA     296.52420 6.60140e-2   19.57473    Propionic Acid
 17.180 VBA     196.61876 1.00908e-1   19.84046    Butyric Acid

Totals :                               81.45088

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

1,1 STD74828 (@Level-4)

```
========================================================================
Injection Date  : 10/14/2016 7:19:49 PM          Seq. Line :   4
Sample Name     : WG587720-03 LCS2                Location : Vial 4
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                        Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/15/2016 2:11:27 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
========================================================================
```




```
========================================================================
                      External Standard Report
========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.669 VV      319.89273 6.19913e-3    1.98306    Pyruvic Acid
 10.184 VBA     280.80362 7.15703e-2   20.09720    Lactic Acid
 11.902 BF      226.56099 8.77363e-2   19.87762    Acetic Acid
 13.950 BBA     295.10934 6.58677e-2   19.43818    Propionic Acid
 17.168 VBA     195.67484 1.00905e-1   19.74460    Butyric Acid

Totals :                               81.14066

 Results obtained with enhanced integrator!
========================================================================
                          *** End of Report ***
```

2.3 Metals Data

2.3.1 Metals I C P Data

2.3.1.1 Summary Data

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	35AWW09F-100316	**Prep Method:**	3015	**Prep Date:**	10/05/2016 12:30
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	10/06/2016 11:45
Workgroup #:	WG586422	**Analyst:**	KKB	**Run Date:**	10/06/2016 13:43
Collect Date:	10/03/2016 08:25	**Dilution:**	1	**File ID:**	T4.100616.134341
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	0.913		0.100	0.100	0.0500

Certificate of Analysis

Sample #:	L16100123-04	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	35AWW10F-100316	**Prep Method:**	3015	**Prep Date:**	10/05/2016 12:30
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	10/06/2016 11:45
Workgroup #:	WG586422	**Analyst:**	KKB	**Run Date:**	10/06/2016 13:47
Collect Date:	10/03/2016 09:40	**Dilution:**	1	**File ID:**	T4.100616.134733
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	0.100	U	0.100	0.100	0.0500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-06	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	35AWW11F-100316	**Prep Method:**	3015	**Prep Date:**	10/05/2016 12:30
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	10/06/2016 11:45
Workgroup #:	WG586422	**Analyst:**	KKB	**Run Date:**	10/06/2016 13:51
Collect Date:	10/03/2016 10:50	**Dilution:**	1	**File ID:**	T4.100616.135116
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	0.188		0.100	0.100	0.0500

Certificate of Analysis

Sample #:	L16100123-07	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	35AWW06-100316	**Prep Method:**	3015	**Prep Date:**	10/05/2016 12:30
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	10/06/2016 11:45
Workgroup #:	WG586422	**Analyst:**	KKB	**Run Date:**	10/06/2016 13:55
Collect Date:	10/03/2016 13:30	**Dilution:**	1	**File ID:**	T4.100616.135516
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	0.182		0.100	0.100	0.0500

2.3.1.2 QC Summary Data

Example 6010 Calculations
Thermo Scientific IRIS Advantage

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 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: WG586390
Analyst: VC
Spike Analyst: VC
Run Date: 10/05/2016 12:30
Method: 3015
Balance: BAL016
Instrument: MW-3
Instrument Start: 10/05/2016 12:35

SOP: ME407 Revison 19
Spike Solution: STD78303
Spike Witness: ERP
40 & 50 ML. DIGESTION TU: COA18987
HCL Lot #: COA19181
HNO3 Lot #: COA19196
ICP FILTERS LOT#R6BA1587: RGT37256

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG586390-02	BLANK	1	40 mL	50 mL	205.371 g	205.373 g		
2	WG586390-03	LCS	1	40 mL	50 mL	208.936 g	208.925 g	5 mL	
3	L16100075-01	SAMP	1	40 mL	50 mL	206.115 g	206.112 g		10/11/16
4	L16100075-02	SAMP	1	40 mL	50 mL	207.707 g	207.669 g		10/11/16
5	L16100075-03	SAMP	1	40 mL	50 mL	207.416 g	207.389 g		10/11/16
6	L16100075-04	SAMP	1	40 mL	50 mL	205.224 g	205.206 g		10/11/16
7	L16100075-05	SAMP	1	40 mL	50 mL	203.514 g	203.47 g		10/11/16
8	L16100075-06	SAMP	1	40 mL	50 mL	202.417 g	202.419 g		10/11/16
9	L16100075-07	SAMP	1	40 mL	50 mL	204.136 g	204.116 g		10/11/16
10	L16100095-01	SAMP	1	40 mL	50 mL	203.504 g	203.394 g		10/14/16
11	L16100095-02	SAMP	1	40 mL	50 mL	204.349 g	204.336 g		10/14/16
12	L16100111-01	SAMP	1	40 mL	50 mL	202.7 g	202.67 g		10/11/16
13	L16100113-01	SAMP	1	40 mL	50 mL	204.369 g	204.354 g		10/11/16
14	L16100114-01	SAMP	1	40 mL	50 mL	203.897 g	203.89 g		10/11/16
15	L16100123-02	SAMP	1	40 mL	50 mL	204.278 g	204.241 g		10/14/16
16	L16100123-04	SAMP	1	40 mL	50 mL	203.834 g	203.801 g		10/14/16
17	L16100123-06	SAMP	1	40 mL	50 mL	204.338 g	204.289 g		10/14/16
18	L16100123-07	SAMP	1	40 mL	50 mL	205.451 g	205.384 g		10/14/16
19	L16100133-01	SAMP	1	40 mL	50 mL	203.672 g	203.614 g		10/13/16
20	L16100145-03	SAMP	1	40 mL	50 mL	206.276 g	206.247 g		10/11/16
21	L16100148-02	SAMP	1	40 mL	50 mL	203.916 g	203.826 g		10/14/16
22	WG586390-01	REF	1	40 mL	50 mL	203.167 g	203.151 g		
23	L16100148-03	SAMP	1	40 mL	50 mL	203.167 g	203.151 g		10/14/16
24	WG586390-04	MS	1	40 mL	50 mL	210.042 g	210.014 g	5 mL	
25	WG586390-05	MSD	1	40 mL	50 mL	209.789 g	209.767 g	5 mL	

L16100075-01	FILTERED DIGESTATE
L16100123-02	FILTERED DIGESTATE

Analyst: Vicki Collins

Reviewer: Erin Potter

MW_DIG - Modified 09/30/2009
PDF ID: 4962877
Report generated: 10/05/2016 13:41

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 100616T4.1
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD78116 ICV Std: STD78115 Post Spike: STD77492
ICSA: STD78233 ICSAB: STD78344 Int. Std: RGT37691
CCV: STD78214 LLCCV: COA18880 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 586422,586548,586439

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	T4.100616.113036	WG586638-01	Calibration Point		1		10/06/16 11:30
2	T4.100616.113423	WG586638-02	Calibration Point		1		10/06/16 11:34
3	T4.100616.113811	WG586638-03	Calibration Point		1		10/06/16 11:38
4	T4.100616.114201	WG586638-04	Calibration Point		1		10/06/16 11:42
5	T4.100616.114529	WG586638-05	Calibration Point		1		10/06/16 11:45
6	T4.100616.114858	WG586638-06	Initial Calibration Verification		1		10/06/16 11:48
7	T4.100616.115227	WG586638-07	Initial Calib Blank		1		10/06/16 11:52
8	T4.100616.115614	WG586638-08	Low Level Initial Calibration V		1		10/06/16 11:56
9	T4.100616.120545	WG586638-09	Low Level Initial Calibration V		1		10/06/16 12:05
10	T4.100616.121147	WG586638-10	Interference Check		1		10/06/16 12:11
11	T4.100616.121539	WG586638-11	Interference Check		1		10/06/16 12:15
12	T4.100616.121926	WG586638-12	CCV		1		10/06/16 12:19
13	T4.100616.122254	WG586638-13	CCB		1		10/06/16 12:22
14	T4.100616.123703	WG586390-02	Method/Prep Blank	40/50	1		10/06/16 12:37
15	T4.100616.124050	WG586390-03	Laboratory Control S	40/50	1		10/06/16 12:40
16	T4.100616.124423	L16100075-01	2208-127 W2	40/50	1		10/06/16 12:44
17	T4.100616.124805	L16100075-02	2208-127 W2	40/50	1		10/06/16 12:48
18	T4.100616.125148	L16100075-03	2212-122-A W1	40/50	1		10/06/16 12:51
19	T4.100616.125533	L16100075-04	2208-127 W1	40/50	1		10/06/16 12:55
20	T4.100616.125916	L16100075-05	2212-113 W1	40/50	1		10/06/16 12:59
21	T4.100616.130259	L16100075-06	2212-122-A S1	40/50	1		10/06/16 13:02
22	T4.100616.130645	WG586422-01	Post Digestion Spike		1	L16100075-06	10/06/16 13:06
23	T4.100616.131020	WG586422-02	Serial Dilution		5	L16100075-06	10/06/16 13:10
24	T4.100616.131405	WG586638-14	CCV		1		10/06/16 13:14
25	T4.100616.131734	WG586638-15	CCB		1		10/06/16 13:17
26	T4.100616.132123	L16100075-07	2208-119 W1	40/50	1		10/06/16 13:21
27	T4.100616.132507	L16100095-01	LH18/24-SP650-6398-GRAB	40/50	1		10/06/16 13:25
28	T4.100616.132850	L16100095-02	LH18/24-SP650-6398-COMP	40/50	1		10/06/16 13:28
29	T4.100616.133232	L16100111-01	DP005MW0507-008	40/50	1		10/06/16 13:32
30	T4.100616.133615	L16100113-01	DP005MW0519-008	40/50	1		10/06/16 13:36
31	T4.100616.133958	L16100114-01	DP005MW0506-008	40/50	1		10/06/16 13:39
32	T4.100616.134341	L16100123-02	35AWW09F-100316	40/50	1		10/06/16 13:43
33	T4.100616.134733	L16100123-04	35AWW10F-100316	40/50	1		10/06/16 13:47
34	T4.100616.135116	L16100123-06	35AWW11F-100316	40/50	1		10/06/16 13:51

Page: 1 Approved: October 07, 2016

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 100616T4.1
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

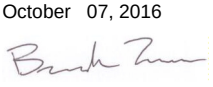
Calibration Std: STD78116 ICV Std: STD78115 Post Spike: STD77492
ICSA: STD78233 ICSAB: STD78344 Int. Std: RGT37691
CCV: STD78214 LLCCV: COA18880 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 586422,586548,586439

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	T4.100616.135516	L16100123-07	35AWW06-100316	40/50	1		10/06/16 13:55
36	T4.100616.135915	WG586638-16	CCV		1		10/06/16 13:59
37	T4.100616.140243	WG586638-17	CCB		1		10/06/16 14:02
38	T4.100616.140631	L16100133-01	19201-B01-WQ-W0004	40/50	1		10/06/16 14:06
39	T4.100616.141018	L16100145-03	OUTFALL 003	40/50	1		10/06/16 14:10
40	T4.100616.141410	L16100148-02	GW7-11-08	40/50	1		10/06/16 14:14
41	T4.100616.141753	WG586390-01	Reference Sample		1	L16100148-03	10/06/16 14:17
42	T4.100616.142137	WG586390-04	Matrix Spike	40/50	1	L16100148-03	10/06/16 14:21
43	T4.100616.142506	WG586390-05	Matrix Spike Duplica	40/50	1	L16100148-03	10/06/16 14:25
44	T4.100616.142835	WG586638-18	CCV		1		10/06/16 14:28
45	T4.100616.143159	WG586638-19	CCB		1		10/06/16 14:31
46	T4.100616.143543	WG586638-20	Low Level Continuing Calibra		1		10/06/16 14:35
47	T4.100616.143926	WG586638-21	Low Level Continuing Calibra		1		10/06/16 14:39
48	T4.100616.144306	WG586502-02	Method/Prep Blank	40/50	1		10/06/16 14:43
49	T4.100616.144649	WG586502-03	Laboratory Control S	40/50	1		10/06/16 14:46
50	T4.100616.145019	WG586325-01	Fluid Blank 1		1		10/06/16 14:50
51	T4.100616.145403	WG586325-02	Fluid Blank 2		1		10/06/16 14:54
52	T4.100616.145746	L16100165-01	AWV 13 BAGS	5/50	1		10/06/16 14:57
53	T4.100616.150128	WG586548-01	Post Digestion Spike		1	L16100165-01	10/06/16 15:01
54	T4.100616.150459	WG586548-02	Serial Dilution		5	L16100165-01	10/06/16 15:04
55	T4.100616.150840	L16100182-01	T-1360	40/50	1		10/06/16 15:08
56	T4.100616.151220	L16100182-02	T-1362	40/50	1		10/06/16 15:12
57	T4.100616.151600	L16100182-03	T-1363	40/50	1		10/06/16 15:16
58	T4.100616.151948	WG586638-30	CCV		1		10/06/16 15:19
59	T4.100616.152313	WG586638-31	CCB		1		10/06/16 15:23
60	T4.100616.152658	L16100182-04	T-1365	40/50	1		10/06/16 15:26
61	T4.100616.153045	L16100185-01	59-11-10.03 W1	40/50	1		10/06/16 15:30
62	T4.100616.153426	L16100185-02	59-11-10.03 S1	40/50	1		10/06/16 15:34
63	T4.100616.153807	L16100185-03	59-11-10.03 P1	40/50	1		10/06/16 15:38
64	T4.100616.154148	L16100185-04	59-11-10.03 S3	40/50	1		10/06/16 15:41
65	T4.100616.154529	L16100185-05	59-11-10.03 S4	40/50	1		10/06/16 15:45
66	T4.100616.154911	L16100185-06	59-11-10.03 S6	40/50	1		10/06/16 15:49
67	T4.100616.155252	L16100185-07	59-11-10.03 S2	40/50	1		10/06/16 15:52
68	T4.100616.155630	L16100185-08	59-11-10.03 S5	40/50	1		10/06/16 15:56

 Approved: October 07, 2016



Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 100616T4.1
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD78116 ICV Std: STD78115 Post Spike: STD77492
ICSA: STD78233 ICSAB: STD78344 Int. Std: RGT37691
CCV: STD78214 LLCCV: COA18880 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 586422,586548,586439

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	T4.100616.160011	WG586638-32	CCV		1		10/06/16 16:00
70	T4.100616.160337	WG586638-33	CCB		1		10/06/16 16:03
71	T4.100616.160721	L16100192-01	V6J0100-01		1	WG586502-01	10/06/16 16:07
72	T4.100616.161103	WG586502-04	Matrix Spike	5/50	1	L16100192-01	10/06/16 16:11
73	T4.100616.161432	WG586502-05	Matrix Spike Duplica	5/50	1	L16100192-01	10/06/16 16:14
74	T4.100616.161801	L16100206-02	PERMEATE(T-3100)	1/50	1		10/06/16 16:18
75	T4.100616.162144	L16100206-04	BLEED(T-3100)	1/50	1		10/06/16 16:21
76	T4.100616.162522	L16100206-06	N. DOCK FLUME(BLD. 72)	1/50	1		10/06/16 16:25
77	T4.100616.162906	L16100109-01	WVOG	40/50	100		10/06/16 16:29
78	T4.100616.164022	L16100109-01	WVOG	40/50	200		10/06/16 16:40
79	T4.100616.164422	WG586638-34	CCV		1		10/06/16 16:44
80	T4.100616.164747	WG586638-35	CCB		1		10/06/16 16:47
81	T4.100616.165131	WG586638-36	Low Level Continuing Calibra		1		10/06/16 16:51
82	T4.100616.165512	WG586638-37	Low Level Continuing Calibra		1		10/06/16 16:55

 Approved: October 07, 2016

Microbac

Microbac Laboratories Inc.

Data Checklist

Date: 06-OCT-2016
Analyst: KKB
Analyst: NA
Method: 6010B/6010C
Instrument: ICP-THERMO4
Curve Workgroup: 586638
Runlog ID: 77896
Analytical Workgroups: 586422,586548,586439

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	
Level 4	095,111,113,114,0123,0133,0148
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	BKT
Comments	

Primary Reviewer:
06-OCT-2016

Secondary Reviewer:
07-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-07-2016 12:07:53

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010C AAB#: WG586422

Login Number: L16100123

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
35AWW09F-100316	02	10/03/16					10/05/2016	2.2	180		10/06/16	3.2	180	
35AWW10F-100316	04	10/03/16					10/05/2016	2.1	180		10/06/16	3.2	180	
35AWW11F-100316	06	10/03/16					10/05/2016	2.1	180		10/06/16	3.1	180	
35AWW06-100316	07	10/03/16					10/05/2016	2	180		10/06/16	3	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4964921
Report generated 10/06/2016 15:58

METHOD BLANK SUMMARY

Login Number: L16100123
Work Group: WG586422
Blank File ID: T4.100616.123703
Blank Sample ID: WG586390-02
Prep Date: 10/05/16 12:30
Instrument ID: ICP-THERMO4
Analyzed Date: 10/06/16 12:37
Method: 6010C
Analyst: KKB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586390-03	T4.100616.124050	10/06/16 12:40	01
35AWW09F-100316	L16100123-02	T4.100616.134341	10/06/16 13:43	01
35AWW10F-100316	L16100123-04	T4.100616.134733	10/06/16 13:47	01
35AWW11F-100316	L16100123-06	T4.100616.135116	10/06/16 13:51	01
35AWW06-100316	L16100123-07	T4.100616.135516	10/06/16 13:55	01

Report Name: BLANK_SUMMARY
PDF File ID: 4964922
Report generated 10/06/2016 16:00

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L16100123 Prep Date:10/05/16 12:30 Sample ID:WG586390-02
Instrument ID:ICP-THERMO4 Run Date:10/06/16 12:37 Prep Method:3015
File ID:T4.100616.123703 Analyst:KKB Method:6010C
Workgroup (AAB#):WG586422 Matrix:Water Units:mg/L
Contract #: Cal ID:ICP-TH-06-OCT-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Iron, Total	0.0500	0.100	0.0500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4964923
06-OCT-2016 16:00

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100123 **Run Date:** 10/06/2016 **Sample ID:** WG586390-03
Instrument ID: ICP-THERMO4 **Run Time:** 12:40 **Prep Method:** 3015
File ID: T4.100616.124050 **Analyst:** KKB **Method:** 6010C
Workgroup (AAB#): WG586422 **Matrix:** Water **Units:** mg/L
QC Key: DOD4 **Lot#:** STD78303 **Cal ID:** ICP-TH-06-OCT-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Iron, Total	2.50	2.49	99.7	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 4964924
Report generated: 10/06/2016 16:00

Microbac Laboratories Inc.
MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum:L16100123 Cal ID:ICP-THERMO4- Worknum:WG586422
Instrument ID:ICP-THERMO4 Contract #: Method:6010C
Parent ID:WG586390-01 File ID:T4.100616.141753 Dil:1 Matrix:WATER
Sample ID:WG586390-04 MS File ID:T4.100616.142137 Dil:1 Units:mg/L
Sample ID:WG586390-05 MSD File ID:T4.100616.142506 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Iron, Total	0.183	2.50	2.66	99.2	2.50	2.72	101	2.03	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: 4964925
Report generated 10/06/2016 16:00

Microbac Laboratories Inc.
Serial Dilution Report

Login: L16100123 **Worknum:** WG586422
Instrument: ICP-THERMO4 **Method:** 6010C
Serial Dil: WG586422-02 **File ID:** T4.100616.131020 **Dil:** 5 **Units:** ug/L
Sample: L16100075-06 **File ID:** T4.100616.130259 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Iron	61.8		16.0		74.20	E

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: 4964919
10/06/2016 16:00

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L16100123 **Worknum:** WG586422
Instrument ID: ICP-THERMO4 **Method:** 6010C
Post Spike ID: WG586422-01 **File ID:** T4.100616.130645 **Dil:** 1 **Units:** ug/L
Sample ID: L16100075-06 **File ID:** T4.100616.130259 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
IRON	1960		61.8	F	2000	95.2	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: 4964920
Report generated: 10/06/2016 16:00

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L16100123**	Workgroup (AAB#):	**WG586422**
Analytical Method:	**6010C**	Instrument ID:	**ICP-THERMO4**
ICAL Worknum:	**WG586638**	Initial Calibration Date:	**06-OCT-2016 11:45**

	WG586638-01		WG586638-02		WG586638-03		WG586638-04		WG586638-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
IRON	0	-0.0000100	.04	0.000290	.08	0.000700	4	0.0396	8	0.0799	.999946	

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: 4964928
Report generated: 06-OCT-2016 16:00

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L16100123 Run Date: 10/06/2016 Sample ID: WG586638-07
Instrument ID: ICP-THERMO4 Run Time: 11:52 Method: 6010C
File ID: T4.100616.115227 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG586422 Cal ID: ICP-THERI - 06-OCT-16
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
IRON	.04	.08	.04	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 4964930
Report generated 10/06/2016 16:00

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100123	Run Date:	10/06/2016	Sample ID:	WG586638-13
Instrument ID:	ICP-THERMO4	Run Time:	12:22	Method:	6010C
File ID:	T4.100616.122254	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG586422	Cal ID:	ICP-TH - 06-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.0800	0.0400	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: 4964933
Report generated 10/06/2016 16:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16100123 | Run Date: 10/06/2016 | Sample ID: WG586638-15
Instrument ID: ICP-THERMO4 | Run Time: 13:17 | Method: 6010C
File ID: T4.100616.131734 | Analyst: KKB | Units: mg/L
Workgroup (AAB#): WG586422 | Cal ID: ICP-TH - 06-OCT-16
Matrix: WATER | QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.0800	0.0400	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: 4964933
Report generated 10/06/2016 16:00

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100123	**Run Date:**	10/06/2016	**Sample ID:**	WG586638-17
Instrument ID:	ICP-THERMO4	**Run Time:**	14:02	**Method:**	6010C
File ID:	T4.100616.140243	**Analyst:**	KKB	**Units:**	mg/L
Workgroup (AAB#):	WG586422	**Cal ID:**	ICP-TH - 06-OCT-16		
Matrix:	WATER	**QAPP:**	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.0800	0.0400	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: 4964933
Report generated 10/06/2016 16:00

Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L16100123 Run Date: 10/06/2016 Sample ID: WG586638-06
Instrument ID: ICP-THERMO4 Run Time: 11:48 Method: 6010C
File ID: T4.100616.114858 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG586422 Cal ID: ICP-TH - 06-OCT-16
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Iron	4	4.02	100	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 4964929
Report generated 10/06/2016 16:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/06/2016 Sample ID: WG586638-12

Instrument ID: ICP-THERMO4 Run Time: 12:19 Method: 6010C

File ID: T4.100616.121926 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG586422 Cal ID: ICP-TH - 06-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		4.00	3.89	mg/L	97.3	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4964932

Report generated 10/06/2016 16:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/06/2016 Sample ID: WG586638-14

Instrument ID: ICP-THERMO4 Run Time: 13:14 Method: 6010C

File ID: T4.100616.131405 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG586422 Cal ID: ICP-TH - 06-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		4.00	3.87	mg/L	96.8	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4964932

Report generated 10/06/2016 16:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/06/2016 Sample ID: WG586638-16

Instrument ID: ICP-THERMO4 Run Time: 13:59 Method: 6010C

File ID: T4.100616.135915 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG586422 Cal ID: ICP-TH - 06-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		4.00	3.94	mg/L	98.6	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4964932

Report generated 10/06/2016 16:00

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L16100123 Run Date: 10/06/2016 Sample ID: WG586638-08
Instrument ID: ICP-THERMO4 Run Time: 11:56 Method: 6010C
File ID: T4.100616.115614 Analyst: KKB QC Key: DOD4
Workgroup (AAB#): WG586422 Cal ID: ICP-TH - 06-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		0.0800	0.0700	mg/L	87.5	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 4984929
Report generated 10/20/2016 12:14

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L16100123 Run Date: 10/06/2016 Sample ID: WG586638-20
Instrument ID: ICP-THERMO4 Run Time: 14:35 Method: 6010C
File ID: T4.100616.143543 Analyst: KKB QC Key: DOD4
Workgroup (AAB#): WG586422 Cal ID: ICP-TH - 06-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		0.0800	0.0921	mg/L	115	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 4984929
Report generated 10/20/2016 12:14

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L16100123 **Workgroup (AAB#):** WG586422
Instrument ID: ICP-THERMO4 **Method:** 6010C
Sol. A : WG586638-10 **File ID:** T4.100616.121147 **Units:** mg/L
Sol. AB : WG586638-11 **File ID:** T4.100616.121539 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Iron	100	97.8	97.8	100	98.2	98.2	

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: 4964931
Report generated 10/06/2016 16:00

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100123 **Date:** 07/25/2016
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	0.00000900	0	0	0
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0.00000100	0	0	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0.00200	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	-0.000130	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	-0.000130	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	-0.0000490	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	0.0000180	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	0.0000180	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 4964927
Report generated: 10/06/2016 15:58

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100123 **Date:** 07/25/2016
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	0.0138
ARSENIC	189.00	0	0	0	0	-0.00190
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	-0.00210	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
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	-0.0000920
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	-0.000500	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	0.00300	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	-0.00138
ZINC	206.20	0	0	0	0	-0.000800
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 4964927
Report generated: 10/06/2016 15:58

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100123 **Date:** 07/25/2016
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	0.0000120	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	-0.000619	0	0	0
CADMIUM	228.80	0	0.00000400	0	0	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0.00000500	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0	0.000830	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	0.00000300
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0.0000470	0	0	0
PHOSPHORUS	214.90	-0.323	-0.000530	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	0.0000300	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	-0.0000100	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 4964927
Report generated: 10/06/2016 15:58

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100123 **Date:** 07/25/2016
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	0.000670	0	0	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	-0.000128	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0.000330	0	0	0	0
COBALT	228.60	0	-0.000983	0	0.000175	0
COPPER	224.70	0	0.00200	0	-0.0120	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	-0.00280	0	0.000110	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	-0.00190	-0.0130	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	0.00710	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0.000800	0.000156	0	0	0
SILICON	212.40	0	0.0187	0	0	0
SILVER	328.10	0	-0.0000440	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	-0.000153	0	0	0
VANADIUM	292.40	-0.000110	-0.00778	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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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100123 **Date:** 07/25/2016
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	-0.00840
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	0.00300	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
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Report generated: 10/06/2016 15:58

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100123 **Date:** 07/25/2016
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	SR	TI	TL	V	ZN
ALUMINUM	308.20	0	0	0	0.00300	0
ANTIMONY	206.80	0	-0.00400	0	-0.00138	0
ARSENIC	189.00	0	0	0	0.000107	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	-0.000770	0	0.000800	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	0.00158	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	-0.00620	0	-0.00617	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	-0.000700	0	0.000660	0
TIN	189.90	0	-0.00260	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0.000600	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: 4964927
Report generated: 10/06/2016 15:58

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100123 **Date:** 07/25/2016
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: 4964927
Report generated: 10/06/2016 15:58

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L16100123 **Date:** 06/25/0016
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	27.0
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	9.0
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

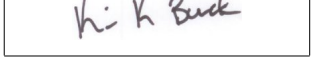
Comments:
All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 4964926
Report generated: 10/06/2016 15:58

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}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.000222	0.057878	0.000000	1.000000
Al 308.215 {109}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.002048	0.011998	0.000000	1.000000
As 189.042 {478}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.000067	0.024652	0.000000	1.000000
B 249.678 {135}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.000269	0.021056	0.000000	1.000000
Ba 455.403 { 74}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.008031	1.173356	0.000000	1.000000
Be 313.107 {108}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.000005	0.869441	0.000000	1.000000
Ca 422.673 { 80}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.000055	0.027838	0.000000	1.000000
Cd 228.802 {447}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.000606	0.383106	0.000000	1.000000
Co 228.616 {447}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.000023	0.297415	0.000000	1.000000
Cr 267.716 {126}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.000056	0.053259	0.000000	1.000000
Cu 224.700 {450}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.000423	0.093202	0.000000	1.000000
Fe 261.187 {129}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.000013	0.009962	0.000000	1.000000
K 766.490 { 44}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.006032	0.017297	0.000000	1.000000
Li 670.784 { 50}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.001612	0.345469	0.000000	1.000000
Mg 279.079 {121}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.000280	0.002793	0.000000	1.000000
Mn 257.610 {131}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.000533	0.116841	0.000000	1.000000
Mo 202.030 {467}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.000149	0.123027	0.000000	1.000000
Na 589.592 { 57}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.002666	0.052020	0.000000	1.000000
Ni 231.604 {446}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.000680	0.082409	0.000000	1.000000
P 214.914 {457}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.000091	0.010908	0.000000	1.000000
Pb 220.353 {453}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.000467	0.053418	0.000000	1.000000
Sb 206.833 {463}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.000255	0.024106	0.000000	1.000000
Se 196.090 {472}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.000302	0.013184	0.000000	1.000000
Si 212.412 {459}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.000368	0.026403	0.000000	1.000000
Sn 189.989 {477}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.000062	0.072523	0.000000	1.000000
Sr 407.771 { 83}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.002659	2.148597	0.000000	1.000000
Ti 337.280 {100}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.001472	0.074474	0.000000	1.000000
Tl 190.856 {477}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.000188	0.019690	0.000000	1.000000
V 292.402 {115}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.000014	0.066984	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}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	0.000333	0.425578	0.000000	1.000000
Zr 339.198 { 99}	10/6/2016 11:48:53	10/6/2016 11:48:53	Linear	1/Conc	-0.004849	0.000806	0.000000	1.000000

Approved: October 06, 2016



	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}	0.999695	0.000004	0.001663	0.005542	OK.	1.000000	0.000000	1	0
	Al 308.215 {109}	0.999705	0.000019	0.005560	0.018534	OK.	1.000000	0.000000	1	0
	As 189.042 {478}	0.999976	0.000001	0.003003	0.010010	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	0.999907	0.000001	0.002293	0.007643	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	0.999941	0.000081	0.000701	0.002337	OK.	1.000000	0.000000	1	0
	Be 313.107 {108}	0.999895	0.000004	0.000068	0.000226	OK.	1.000000	0.000000	1	0
	Ca 422.673 { 80}	0.999922	0.000022	0.023087	0.076958	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	0.999580	0.000004	0.000302	0.001006	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	0.999825	0.000007	0.000452	0.001508	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	0.999832	0.000003	0.001060	0.003532	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	0.999998	0.000001	0.001620	0.005400	OK.	1.000000	0.000000	1	0
	Fe 261.187 {129}	0.999946	0.000003	0.018294	0.060981	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	0.999969	0.000043	0.091931	0.306436	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	0.999989	0.000016	0.004818	0.016061	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	0.999788	0.000006	0.072294	0.240980	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	0.999917	0.000005	0.002033	0.006777	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	0.999971	0.000006	0.000554	0.001846	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	0.999860	0.000276	0.030237	0.100789	OK.	1.000000	0.000000	1	0
	Ni 231.604 {446}	0.999933	0.000003	0.001503	0.005009	OK.	1.000000	0.000000	1	0
	P 214.914 {457}	0.999946	0.000007	0.007678	0.025594	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	0.999803	0.000003	0.003699	0.012332	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	0.999707	0.000004	0.004977	0.016589	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	0.999668	0.000001	0.007366	0.024554	OK.	1.000000	0.000000	1	0
	Si 212.412 {459}	0.999968	0.000007	0.002984	0.009947	OK.	1.000000	0.000000	1	0
	Sn 189.989 {477}	0.999948	0.000005	0.000853	0.002844	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	0.999952	0.000134	0.000308	0.001027	OK.	1.000000	0.000000	1	0
	Ti 337.280 {100}	0.999244	0.000018	0.005087	0.016955	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	0.999869	0.000001	0.003971	0.013238	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	0.999954	0.000004	0.000901	0.003004	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}	0.999927	0.000033	0.000194	0.000646	OK.	1.000000	0.000000	1	0
	Zr 339.198 { 99}	0.186891	0.000027	0.768269	2.560898	OK.	1.000000	0.000000	1	0

Approved: October 06, 2016

Kirk Buck

Sample Name: S0 Acquired: 10/6/2016 11:30:36 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**-.00022**	**.00205**	**.00007**	**.00027**	**.00803**	**-.00001**	**.00006**
Stddev	.00007	.00003	.00003	.00002	.00045	.00004	.00038
%RSD	31.284	1.4803	39.548	6.8463	5.5578	829.91	681.57
#1	-.00014	.00208	.00009	.00026	.00772	.00001	.00013
#2	-.00025	.00203	.00004	.00029	.00783	.00003	-.00035
#3	-.00027	.00203	.00007	.00026	.00854	-.00005	.00039

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	**.00061**	**.00002**	**-.00006**	**-.00042**	**-.00001**	**.00603**	**-.00161**
Stddev	.00007	.00002	.00002	.00006	.00010	.00105	.00070
%RSD	10.886	95.258	28.413	14.454	764.02	17.456	43.466
#1	.00068	.00002	-.00005	-.00037	.00010	.00482	-.00092
#2	.00060	.00004	-.00007	-.00049	-.00007	.00665	-.00160
#3	.00054	.00000	-.00005	-.00041	-.00007	.00663	-.00232

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	**-.00028**	**.00053**	**.00015**	**-.00267**	**-.00068**	**-.00009**	**-.00047**
Stddev	.00004	.00005	.00004	.00116	.00009	.00000	.00004
%RSD	15.638	9.0244	29.782	43.312	13.199	4.5336	9.1620
#1	-.00033	.00051	.00011	-.00336	-.00074	-.00010	-.00046
#2	-.00024	.00059	.00014	-.00134	-.00072	-.00009	-.00051
#3	-.00027	.00050	.00020	-.00333	-.00058	-.00009	-.00043

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00026**	**-.00030**	**.00037**	**.00006**	**.00266**	**-.00147**	**-.00019**
Stddev	.00002	.00005	.00001	.00004	.00036	.00019	.00005
%RSD	8.7899	16.939	4.0639	67.039	13.515	13.080	24.146
#1	.00023	-.00027	.00037	.00006	.00226	-.00132	-.00015
#2	.00027	-.00028	.00038	.00002	.00295	-.00141	-.00024
#3	.00027	-.00036	.00035	.00010	.00277	-.00169	-.00018

Approved: October 06, 2016

Kristi K Buck

Sample Name: S0 Acquired: 10/6/2016 11:30:36 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	**-.00001**	**.00033**	**-.00485**
Stddev	.00006	.00005	.00042
%RSD	420.16	13.590	8.7379
#1	-.00003	.00032	-.00524
#2	.00005	.00029	-.00491
#3	-.00006	.00038	-.00440
Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**10769.**	**93463.**	**11283.**
Stddev	8.	186.	90.
%RSD	.07230	.19904	.80076
#1	10775.	93642.	11179.
#2	10772.	93271.	11329.
#3	10760.	93476.	11341.

Approved: October 06, 2016

Kristi K Buck

Sample Name: S1 Acquired: 10/6/2016 11:34:23 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**-.00011**	**.00316**	**.01726**	**.00036**	**.00220**	**.00068**	**.00042**
Stddev	.00009	.00003	.00086	.00001	.00032	.00002	.00014
%RSD	84.492	1.0698	4.9712	2.3933	14.578	3.4176	32.980
#1	-.00017	.00314	.01660	.00037	.00225	.00071	.00058
#2	-.00000	.00315	.01695	.00035	.00250	.00066	.00037
#3	-.00015	.00320	.01823	.00037	.00186	.00067	.00032

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	**.00018**	**-.00005**	**.00029**	**.01335**	**.00106**	**.00111**	**.02137**
Stddev	.00001	.00011	.00017	.00055	.00021	.00003	.00042
%RSD	5.5208	202.30	56.853	4.1190	19.443	2.8807	1.9752
#1	.00019	-.00016	.00017	.01316	.00125	.00108	.02184
#2	.00017	-.00005	.00022	.01293	.00084	.00109	.02123
#3	.00017	.00005	.00048	.01397	.00110	.00114	.02103

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	**-.00040**	**.00080**	**-.00031**	**.00046**	**.00143**	**.00067**	**.01968**
Stddev	.00007	.00003	.00006	.00007	.00005	.00004	.00020
%RSD	16.382	4.2444	18.113	16.179	3.1992	5.5806	1.0281
#1	-.00036	.00081	-.00029	.00052	.00145	.00071	.01956
#2	-.00048	.00077	-.00026	.00037	.00138	.00064	.01992
#3	-.00037	.00083	-.00037	.00048	.00147	.00068	.01958

Elem	Ti3372	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00045**	**.00050**	**.00392**	**-.00429**
Stddev	.00017	.00001	.00007	.00012
%RSD	38.953	2.4678	1.7499	2.8257
#1	-.00035	.00049	.00398	-.00440
#2	-.00065	.00051	.00393	-.00416
#3	-.00035	.00050	.00385	-.00432

Approved: October 06, 2016

Kristi K Buck

Sample Name: S1 Acquired: 10/6/2016 11:34:23 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	10816.	94268.	11499.
Stddev	11.	605.	31.
%RSD	.10026	.64153	.27310
#1	10825.	93828.	11475.
#2	10818.	94958.	11534.
#3	10804.	94019.	11487.

Approved: October 06, 2016

Kristi K Buck

Sample Name: S2 Acquired: 10/6/2016 11:38:11 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00023**	**.00455**	**.00022**	**.00046**	**.02948**	**.00081**	**.00527**
Stddev	.00012	.00009	.00001	.00005	.00066	.00002	.00009
%RSD	54.495	1.9590	4.3676	10.431	2.2336	2.1304	1.7650
#1	.00037	.00465	.00021	.00052	.02966	.00082	.00525
#2	.00014	.00449	.00023	.00043	.03003	.00081	.00537
#3	.00017	.00450	.00023	.00044	.02875	.00079	.00518

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	**.00086**	**.00119**	**.00047**	**.00034**	**.00070**	**.02125**	**.00399**
Stddev	.00004	.00003	.00004	.00009	.00007	.00041	.00110
%RSD	4.2679	2.3670	8.4829	27.201	9.3329	1.9127	27.469
#1	.00089	.00119	.00043	.00042	.00073	.02104	.00352
#2	.00088	.00117	.00048	.00036	.00075	.02172	.00321
#3	.00082	.00122	.00051	.00024	.00063	.02100	.00524

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	**.00029**	**.00161**	**.00231**	**.04709**	**.00006**	**.00185**	**.00005**
Stddev	.00009	.00021	.00005	.00093	.00007	.00009	.00007
%RSD	30.884	12.897	2.1270	1.9671	130.40	5.0965	142.56
#1	.00025	.00184	.00226	.04787	.00008	.00180	.00012
#2	.00023	.00153	.00235	.04607	-.00003	.00180	.00003
#3	.00039	.00145	.00233	.04735	.00011	.00196	-.00001

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00086**	**-.00019**	**.00272**	**.00137**	**.04148**	**-.00010**	**-.00002**
Stddev	.00008	.00003	.00004	.00001	.00053	.00014	.00009
%RSD	8.9757	14.254	1.6079	.85651	1.2666	145.71	345.83
#1	.00087	-.00018	.00277	.00137	.04098	-.00025	-.00009
#2	.00077	-.00016	.00268	.00137	.04203	.00003	-.00006
#3	.00092	-.00022	.00270	.00139	.04144	-.00008	.00007

Approved: October 06, 2016
Kristi K Buck

Sample Name: S2 Acquired: 10/6/2016 11:38:11 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00116**	**.00822**	**-.00534**
Stddev	.00005	.00005	.00048
%RSD	4.7395	.56995	8.9687
#1	.00110	.00817	-.00498
#2	.00121	.00824	-.00589
#3	.00115	.00826	-.00517

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**10959.**	**94686.**	**11511.**
Stddev	88.	648.	132.
%RSD	.80076	.68487	1.1480
#1	11059.	94214.	11408.
#2	10892.	94418.	11466.
#3	10928.	95426.	11660.

Approved: October 06, 2016

Sample Name: S3 Acquired: 10/6/2016 11:42:01 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

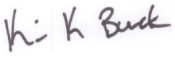
Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.02275**	**.12435**	**.00977**	**.01066**	**1.1754**	**.04366**	**.27810**
Stddev	.00015	.00070	.00005	.00005	.0015	.00015	.00095
%RSD	.65315	.56588	.46359	.46235	.12663	.33422	.34086
#1	.02276	.12400	.00972	.01065	1.1737	.04382	.27715
#2	.02259	.12388	.00981	.01071	1.1762	.04353	.27905
#3	.02289	.12516	.00979	.01062	1.1763	.04363	.27810

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	**.02159**	**.05946**	**.02641**	**.04637**	**.03956**	**.87081**	**.34608**
Stddev	.00006	.00025	.00016	.00022	.00015	.00322	.00096
%RSD	.26440	.42189	.59551	.47789	.37750	.36924	.27844
#1	.02164	.05972	.02634	.04622	.03955	.86836	.34608
#2	.02153	.05922	.02631	.04627	.03971	.86963	.34704
#3	.02161	.05944	.02659	.04662	.03941	.87445	.34511

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	**.02741**	**.05885**	**.12275**	**2.6070**	**.04057**	**.10820**	**.02658**
Stddev	.00022	.00013	.00025	.0055	.00007	.00020	.00013
%RSD	.80065	.22753	.19965	.21041	.17651	.18412	.50443
#1	.02720	.05872	.12297	2.6096	.04065	.10834	.02664
#2	.02763	.05885	.12249	2.6108	.04053	.10797	.02643
#3	.02741	.05898	.12278	2.6007	.04053	.10830	.02667

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.02868**	**.00497**	**.13267**	**.07246**	**2.1414**	**.07232**	**.00899**
Stddev	.00011	.00008	.00008	.00010	.0046	.00077	.00001
%RSD	.38633	1.6848	.05750	.14431	.21300	1.0625	.14293
#1	.02880	.00506	.13269	.07253	2.1379	.07216	.00897
#2	.02864	.00493	.13259	.07234	2.1397	.07315	.00900
#3	.02859	.00491	.13274	.07251	2.1466	.07163	.00900

Approved: October 06, 2016



Sample Name: S3 Acquired: 10/6/2016 11:42:01 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.06618**	**.42422**	**-.00394**
Stddev	.00038	.00101	.00066
%RSD	.57157	.23911	16.838
#1	.06606	.42483	-.00449
#2	.06587	.42305	-.00412
#3	.06660	.42478	-.00320

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**10736.**	**92904.**	**11877.**
Stddev	40.	1429.	67.
%RSD	.37422	1.5381	.56751
#1	10690.	94156.	11907.
#2	10765.	93208.	11925.
#3	10754.	91348.	11800.

Approved: October 06, 2016

Kristi K Buck

Sample Name: S4 Acquired: 10/6/2016 11:45:29 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.04597**	**.24215**	**.01976**	**.02135**	**2.3582**	**.08920**	**.55646**
Stddev	.00019	.00015	.00011	.00010	.0011	.00032	.00080
%RSD	.41364	.06272	.54948	.44514	.04778	.35945	.14415
#1	.04610	.24221	.01974	.02125	2.3569	.08954	.55683
#2	.04605	.24227	.01966	.02144	2.3589	.08915	.55554
#3	.04575	.24198	.01988	.02135	2.3588	.08890	.55701

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	**.04256**	**.11860**	**.05331**	**.09345**	**.07988**	**1.7340**	**.68703**
Stddev	.00017	.00031	.00027	.00054	.00034	.0050	.00196
%RSD	.40825	.26135	.50871	.57262	.42387	.28543	.28527
#1	.04264	.11859	.05346	.09351	.07969	1.7393	.68828
#2	.04236	.11829	.05347	.09289	.08027	1.7333	.68477
#3	.04268	.11891	.05299	.09395	.07968	1.7295	.68804

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	**.05547**	**.11730**	**.24643**	**5.1793**	**.08166**	**.21950**	**.05310**
Stddev	.00072	.00038	.00056	.0126	.00027	.00068	.00006
%RSD	1.3011	.32683	.22639	.24226	.33011	.31172	.12001
#1	.05615	.11772	.24614	5.1900	.08164	.21957	.05312
#2	.05553	.11696	.24607	5.1655	.08140	.21879	.05303
#3	.05472	.11723	.24707	5.1825	.08194	.22015	.05315

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.05694**	**.01025**	**.26536**	**.14463**	**4.3057**	**.14734**	**.01767**
Stddev	.00029	.00007	.00131	.00034	.0022	.00047	.00005
%RSD	.51293	.64108	.49352	.23358	.05197	.32164	.27038
#1	.05689	.01028	.26489	.14458	4.3071	.14763	.01768
#2	.05667	.01017	.26435	.14432	4.3070	.14759	.01762
#3	.05725	.01029	.26684	.14499	4.3032	.14679	.01771

Approved: October 06, 2016
Kristi K Buck

Sample Name: S4 Acquired: 10/6/2016 11:45:29 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.13419**	**.85118**	**-.00339**
Stddev	.00094	.00320	.00034
%RSD	.69999	.37553	10.058
#1	.13435	.85021	-.00378
#2	.13504	.84857	-.00314
#3	.13318	.85474	-.00325

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**10557.**	**91869.**	**11879.**
Stddev	41.	519.	97.
%RSD	.39150	.56521	.81611
#1	10605.	92177.	11781.
#2	10535.	92160.	11975.
#3	10532.	91270.	11882.

Approved: October 06, 2016

Sample Name: ICV Acquired: 10/6/2016 11:48:58 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.40520**	**10.089**	**.41375**	**.50565**	**1.0016**	**.05063**	**10.112**
Stddev	.00229	.030	.00241	.00487	.0019	.00017	.014
%RSD	.56477	.29395	.58248	.96409	.18742	.34165	.13785
#1	.40625	10.083	.41269	.50978	1.0002	.05082	10.096
#2	.40678	10.063	.41650	.50689	1.0008	.05058	10.122
#3	.40258	10.121	.41204	.50027	1.0037	.05049	10.118
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	**.05128**	**.20335**	**.49956**	**.50667**	**4.0193**	**50.249**	**1.0028**
Stddev	.00018	.00044	.00360	.00185	.0310	.187	.0064
%RSD	.35424	.21734	.72030	.36479	.77027	.37277	.63687
#1	.05149	.20284	.50369	.50871	3.9998	50.231	.99623
#2	.05121	.20366	.49710	.50512	4.0031	50.071	1.0031
#3	.05115	.20354	.49789	.50617	4.0550	50.445	1.0090
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	**10.068**	**.50380**	**.95130**	**50.577**	**.50191**	**10.014**	**.50919**
Stddev	.064	.00392	.00142	.106	.00139	.006	.00255
%RSD	.63841	.77859	.14941	.20886	.27749	.05623	.50137
#1	9.9941	.49927	.95039	50.459	.50071	10.009	.50825
#2	10.108	.50601	.95294	50.662	.50159	10.014	.51207
#3	10.103	.50611	.95058	50.609	.50344	10.020	.50723
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 06, 2016

Ki K Buck

Sample Name: ICV Acquired: 10/6/2016 11:48:58 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**1.2253**	**.40725**	**4.9770**	**1.0388**	**1.0015**	**1.0032**	**.50866**
Stddev	.0070	.00363	.0120	.0016	.0019	.0079	.00272
%RSD	.56976	.89242	.24194	.15486	.18531	.78678	.53496
#1	1.2172	.41094	4.9651	1.0373	.99944	.99409	.50959
#2	1.2291	.40712	4.9892	1.0405	1.0019	1.0085	.50560
#3	1.2295	.40368	4.9767	1.0385	1.0031	1.0068	.51080
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	**.98877**	**1.0084**	F **.78392**
Stddev	.00583	.0027	.36578
%RSD	.58936	.26558	46.661
#1	.99473	1.0060	.92564
#2	.98849	1.0113	.36848
#3	.98309	1.0077	1.0576
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	**10729.**	**93138.**	**12024.**
Stddev	17.	769.	19.
%RSD	.15567	.82543	.15928
#1	10746.	93668.	12045.
#2	10712.	93489.	12020.
#3	10730.	92256.	12008.

Approved: October 06, 2016

Kristi K Buck

Sample Name: ICB Acquired: 10/6/2016 11:52:27 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00127**	**-.00472**	**-.00316**	**.00264**	**.00040**	**-.00001**	**-.00710**
Stddev	.00228	.00231	.00201	.00174	.00031	.00004	.01183
%RSD	179.35	48.988	63.630	65.789	76.153	351.42	166.57
#1	-.00075	-.00448	-.00184	.00425	.00010	-.00003	.00634
#2	.00083	-.00715	-.00217	.00080	.00071	.00003	-.01593
#3	.00373	-.00254	-.00547	.00288	.00039	-.00004	-.01172
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**	**-.00003**	**.00067**	**-.00054**	**-.00524**	**.01147**	**-.00201**
Stddev	.00014	.00029	.00036	.00067	.00961	.01696	.00474
%RSD	63.986	1114.5	53.913	124.47	183.55	147.85	235.64
#1	-.00008	-.00036	.00034	-.00103	-.00242	.03106	.00003
#2	-.00020	.00013	.00105	-.00081	.00265	.00138	.00137
#3	-.00036	.00015	.00061	.00023	-.01595	.00199	-.00744
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	**.04187**	**.00056**	**.00003**	**.03609**	**-.00035**	**.00173**	**-.00056**
Stddev	.02352	.00199	.00024	.00563	.00096	.00210	.00196
%RSD	56.180	353.65	721.65	15.591	270.60	121.64	352.49
#1	.04017	.00229	.00002	.03633	-.00092	.00307	-.00183
#2	.01924	.00101	.00028	.04159	-.00089	-.00069	-.00153
#3	.06619	-.00161	-.00020	.03034	.00075	.00280	.00170
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016

Kristi K Buck

Sample Name: ICB Acquired: 10/6/2016 11:52:27 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00210**	**.00598**	**-.00054**	**.00005**	**.00006**	**.00526**	**.00007**
Stddev	.00271	.00283	.00147	.00095	.00019	.00115	.00380
%RSD	128.82	47.205	274.69	1822.1	333.30	21.862	5234.7
#1	.00199	.00903	.00056	.00054	.00027	.00576	.00298
#2	.00487	.00346	.00005	-.00104	-.00009	.00394	-.00423
#3	-.00055	.00546	-.00221	.00066	-.00001	.00607	.00147
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	**-.00103**	**.00042**	F **.25277**
Stddev	.00060	.00026	.54249
%RSD	58.238	60.858	214.62
#1	-.00058	.00055	.06162
#2	-.00081	.00013	-.16827
#3	-.00171	.00058	.86496
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	**10932.**	**96203.**	**11652.**
Stddev	19.	686.	201.
%RSD	.17011	.71301	1.7239
#1	10935.	96861.	11568.
#2	10949.	96258.	11506.
#3	10913.	95492.	11881.

Approved: October 06, 2016
Kristi K Buck

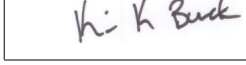
Sample Name: LLICV Acquired: 10/6/2016 11:56:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01043**	**.18299**	**.00697**	**.07919**	**.00825**	**.00158**	**.43562**
Stddev	.00150	.00551	.00173	.00201	.00034	.00002	.01725
%RSD	14.354	3.0093	24.856	2.5365	4.0660	1.3411	3.9608
#1	.01149	.18052	.00568	.07705	.00819	.00156	.43327
#2	.01109	.17915	.00894	.08104	.00795	.00157	.45392
#3	.00872	.18930	.00628	.07947	.00861	.00160	.41966
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00062**	**.00441**	**.00404**	**.00375**	**.07002**	**.85897**	**.08387**
Stddev	.00007	.00029	.00018	.00034	.01035	.09761	.00587
%RSD	11.374	6.6463	4.5284	9.0971	14.784	11.363	7.0022
#1	.00058	.00446	.00382	.00411	.07250	.89185	.09018
#2	.00058	.00410	.00414	.00370	.05866	.74917	.08284
#3	.00070	.00468	.00414	.00344	.07891	.93589	.07857
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	**.43940**	**.00840**	**.00771**	**.51364**	**.01636**	**.79724**	**.00880**
Stddev	.04423	.00115	.00024	.02776	.00085	.00233	.00282
%RSD	10.065	13.704	3.1110	5.4045	5.1962	.29255	32.022
#1	.40807	.00722	.00782	.50626	.01734	.79750	.01200
#2	.48999	.00952	.00743	.49032	.01587	.79479	.00667
#3	.42014	.00847	.00787	.54434	.01586	.79943	.00774
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: LLICV Acquired: 10/6/2016 11:56:14 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.08842**	**.02107**	**.79745**	**.41489**	**.04125**	**.02465**	**.16674**
Stddev	.00115	.00379	.00176	.00155	.00029	.00079	.00376
%RSD	1.3038	17.969	.22038	.37384	.71162	3.2230	2.2527
#1	.08895	.01671	.79790	.41339	.04147	.02396	.16772
#2	.08710	.02354	.79893	.41649	.04136	.02552	.16991
#3	.08922	.02296	.79551	.41481	.04092	.02448	.16259
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	**.00723**	**.02104**	F **93.669**
Stddev	.00125	.00010	.907
%RSD	17.322	.45859	.96778
#1	.00848	.02094	93.221
#2	.00725	.02105	93.072
#3	.00597	.02113	94.712
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	**10977.**	**95626.**	**11959.**
Stddev	29.	616.	101.
%RSD	.26514	.64448	.84716
#1	10982.	96337.	12069.
#2	10946.	95300.	11939.
#3	11003.	95240.	11870.

Approved: October 06, 2016

Ki K Buck

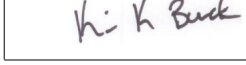
Sample Name: LLICV Acquired: 10/6/2016 12:05:45 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01176**	**.22519**	**.00989**	**.09484**	**.01034**	**.00192**	**.51423**
Stddev	.00011	.00118	.00118	.00091	.00051	.00007	.03375
%RSD	.97284	.52614	11.968	.95539	4.9822	3.7121	6.5627
#1	.01167	.22461	.01118	.09589	.00978	.00191	.54770
#2	.01189	.22655	.00962	.09435	.01080	.00200	.48021
#3	.01173	.22441	.00886	.09430	.01042	.00186	.51477
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	**.00088**	**.00545**	**.00525**	**.00396**	**.10802**	**1.0073**	**.10350**
Stddev	.00022	.00013	.00093	.00087	.01941	.0312	.00172
%RSD	24.651	2.4202	17.624	21.970	17.964	3.0936	1.6624
#1	.00100	.00557	.00419	.00335	.12354	.97172	.10157
#2	.00102	.00546	.00585	.00357	.11427	1.0203	.10486
#3	.00063	.00531	.00572	.00496	.08626	1.0298	.10407
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	**.58912**	**.00983**	**.00921**	**.54878**	**.01930**	**.98847**	**.01168**
Stddev	.03457	.00108	.00036	.02471	.00040	.00234	.00302
%RSD	5.8680	10.931	3.9098	4.5035	2.0863	.23652	25.867
#1	.61261	.01000	.00897	.54612	.01911	.99106	.01126
#2	.54942	.01082	.00903	.57471	.01902	.98651	.00889
#3	.60532	.00869	.00962	.52550	.01976	.98783	.01489
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: LLICV Acquired: 10/6/2016 12:05:45 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.10510**	**.02524**	**.98585**	**.51343**	**.05059**	**.03398**	**.20498**
Stddev	.00093	.00372	.00039	.00063	.00017	.00505	.00210
%RSD	.88583	14.755	.03918	.12178	.32839	14.856	1.0264
#1	.10615	.02270	.98545	.51292	.05075	.02815	.20257
#2	.10438	.02351	.98622	.51413	.05042	.03679	.20645
#3	.10478	.02951	.98587	.51323	.05060	.03699	.20592
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	**.00990**	**.02293**	F **114.38**
Stddev	.00086	.00022	1.69
%RSD	8.7042	.97731	1.4806
#1	.01059	.02319	114.09
#2	.00893	.02281	112.85
#3	.01016	.02279	116.20
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	**11126.**	**96792.**	**12048.**
Stddev	32.	722.	162.
%RSD	.28460	.74544	1.3427
#1	11092.	97590.	12126.
#2	11129.	96187.	12156.
#3	11155.	96598.	11862.

Approved: October 06, 2016

Kristi K Buck

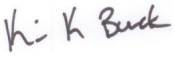
Sample Name: ICSA Acquired: 10/6/2016 12:11:47 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00367	244.31	.00254	-.00838	-.00037	-.00004	222.70
Stddev	.00029	1.30	.00101	.00058	.00040	.00006	2.40
%RSD	7.8792	.53105	39.555	6.9088	107.53	135.21	1.0793
#1	.00375	245.78	.00211	-.00903	-.00075	-.00007	220.63
#2	.00392	243.79	.00369	-.00814	-.00042	-.00007	222.13
#3	.00335	243.35	.00183	-.00795	.00005	.00002	225.34
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	-.00028	-.00060	-.00239	-.00330	97.781	.18043	.00116
Stddev	.00014	.00010	.00015	.00179	.194	.12998	.00495
%RSD	50.672	16.044	6.4927	54.332	.19843	72.043	425.16
#1	-.00032	-.00050	-.00253	-.00125	97.593	.03039	-.00378
#2	-.00012	-.00069	-.00241	-.00459	97.980	.25195	.00612
#3	-.00039	-.00061	-.00222	-.00405	97.768	.25894	.00115
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	247.48	.00101	-.00058	.01824	-.00441	.04274	.00073
Stddev	1.05	.00092	.00041	.02419	.00050	.00547	.00091
%RSD	.42273	91.022	71.315	132.63	11.426	12.805	123.99
#1	246.57	.00044	-.00084	-.00965	-.00492	.04489	.00173
#2	247.26	.00052	-.00079	.03089	-.00438	.04681	-.00005
#3	248.63	.00207	-.00010	.03347	-.00391	.03652	.00051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: ICSA Acquired: 10/6/2016 12:11:47 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00344**	**.00179**	**.10686**	**.00083**	**.00088**	**-.00484**	**.00380**
Stddev	.00488	.00596	.00282	.00019	.00027	.00286	.00048
%RSD	141.87	333.25	2.6378	23.408	30.698	59.194	12.729
#1	.00119	.00391	.10759	.00105	.00093	-.00413	.00430
#2	.00009	.00640	.10925	.00069	.00113	-.00239	.00377
#3	.00903	-.00494	.10375	.00074	.00059	-.00799	.00333
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	**-.00587**	**-.00565**	F **-12.179**
Stddev	.00044	.00023	.849
%RSD	7.5181	4.0138	6.9740
#1	-.00542	-.00585	-11.557
#2	-.00590	-.00540	-13.146
#3	-.00630	-.00569	-11.833
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	**10115.**	**86424.**	**11588.**
Stddev	28.	641.	295.
%RSD	.27960	.74173	2.5450
#1	10103.	85850.	11883.
#2	10096.	86305.	11588.
#3	10148.	87116.	11293.

Approved: October 06, 2016

Kristi K Buck

Sample Name: ICSAB Acquired: 10/6/2016 12:15:39 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	.52440	247.71	.25480	-.01705	.25224	.26040	223.92
Stddev	.00198	1.71	.00124	.00210	.00101	.00115	.45
%RSD	.37698	.69085	.48501	12.287	.39983	.44091	.20123
#1	.52609	249.39	.25355	-.01503	.25114	.26139	223.58
#2	.52490	247.78	.25484	-.01921	.25247	.26067	223.75
#3	.52223	245.97	.25602	-.01692	.25312	.25914	224.43
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	.47190	.24108	.24641	.24370	98.178	5.3818	.00237
Stddev	.00058	.00057	.00177	.00087	.151	.0200	.00250
%RSD	.12224	.23691	.71707	.35685	.15390	.37176	105.22
#1	.47134	.24053	.24844	.24457	98.027	5.3587	.00506
#2	.47187	.24167	.24549	.24283	98.330	5.3917	.00012
#3	.47250	.24105	.24529	.24370	98.176	5.3949	.00195
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	248.64	.25009	-.00095	5.3385	.48155	-.00564	.48214
Stddev	.29	.00176	.00043	.0289	.00235	.00349	.00662
%RSD	.11864	.70293	45.057	.54163	.48894	61.829	1.3730
#1	248.30	.24890	-.00126	5.3079	.48160	-.00174	.47721
#2	248.81	.25211	-.00046	5.3422	.48388	-.00672	.47955
#3	248.80	.24926	-.00112	5.3654	.47917	-.00846	.48967
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016
Kim K Buck

Sample Name: ICSAB Acquired: 10/6/2016 12:15:39 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.49018**	**.24374**	**.00842**	**.00120**	**.00092**	**-.00392**	**.45239**
Stddev	.00345	.01369	.00328	.00078	.00022	.00173	.00106
%RSD	.70292	5.6186	38.948	64.999	24.147	44.220	.23496
#1	.48893	.22827	.01180	.00111	.00118	-.00192	.45304
#2	.48753	.24865	.00525	.00047	.00081	-.00498	.45116
#3	.49408	.25431	.00821	.00202	.00078	-.00486	.45296
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	**.24671**	**.47549**	F **-11.459**
Stddev	.00199	.00098	.993
%RSD	.80554	.20513	8.6673
#1	.24896	.47543	-12.034
#2	.24601	.47650	-12.030
#3	.24517	.47455	-10.312
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	**10113.**	**86668.**	**11654.**
Stddev	17.	555.	27.
%RSD	.16545	.64033	.23497
#1	10096.	87308.	11659.
#2	10113.	86322.	11679.
#3	10130.	86374.	11625.

Approved: October 06, 2016

Kim K Buck

Sample Name: CCV Acquired: 10/6/2016 12:19:26 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.38790**	**9.9584**	**.38900**	**.48753**	**.97825**	**.04821**	**9.8225**
Stddev	.00198	.0244	.00447	.00112	.00210	.00013	.0897
%RSD	.50971	.24492	1.1500	.22966	.21479	.26843	.91329
#1	.38900	9.9698	.38892	.48642	.97734	.04832	9.7939
#2	.38561	9.9304	.38456	.48750	.98066	.04824	9.9231
#3	.38907	9.9750	.39350	.48866	.97677	.04807	9.7506
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	**.04924**	**.19692**	**.48421**	**.49036**	**3.8905**	**49.089**	**.98716**
Stddev	.00016	.00085	.00255	.00039	.0287	.159	.00425
%RSD	.33119	.43338	.52752	.08042	.73751	.32444	.43085
#1	.04905	.19641	.48658	.49044	3.9007	48.958	.98406
#2	.04935	.19644	.48150	.49071	3.9127	49.266	.99201
#3	.04931	.19790	.48455	.48993	3.8581	49.042	.98540
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	**9.7959**	**.49126**	**.97598**	**49.370**	**.49136**	**9.6903**	**.49487**
Stddev	.0127	.00173	.00357	.227	.00192	.0490	.00816
%RSD	.12959	.35185	.36615	.46069	.38984	.50605	1.6488
#1	9.7856	.49317	.97333	49.230	.48953	9.6464	.48953
#2	9.8101	.49082	.97458	49.632	.49121	9.6813	.49083
#3	9.7919	.48980	.98005	49.247	.49335	9.7432	.50426
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 06, 2016

Ki K Buck

Sample Name: CCV Acquired: 10/6/2016 12:19:26 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**1.1680**	**.39787**	**4.9431**	**.97584**	**.97761**	**.96960**	**.50024**
Stddev	.0053	.00977	.0222	.00453	.00307	.00222	.00281
%RSD	.45628	2.4554	.44813	.46433	.31370	.22878	.56268
#1	1.1622	.38780	4.9306	.97376	.97616	.96956	.49705
#2	1.1727	.40731	4.9301	.97273	.98114	.97184	.50130
#3	1.1691	.39851	4.9687	.98104	.97554	.96740	.50238
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	**.96510**	**.97307**	F **.42646**
Stddev	.00665	.00504	.55795
%RSD	.68908	.51844	130.83
#1	.97066	.97013	.83456
#2	.95773	.97018	.65414
#3	.96690	.97889	-.20933
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	**10756.**	**92431.**	**11698.**
Stddev	32.	237.	185.
%RSD	.30139	.25677	1.5805
#1	10754.	92419.	11885.
#2	10790.	92674.	11694.
#3	10725.	92200.	11515.

Approved: October 06, 2016

Kristi K Buck

Sample Name: CCB Acquired: 10/6/2016 12:22:54 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00001**	**.01727**	**-.00134**	**.00291**	**-.00008**	**.00000**	**-.02484**
Stddev	.00136	.02749	.00291	.00371	.00019	.00002	.02513
%RSD	10007.	159.12	217.26	127.43	256.71	1255.2	101.17
#1	-.00064	.00411	-.00050	.00648	-.00027	-.00002	-.00912
#2	.00158	.04887	.00106	-.00092	-.00007	.00002	-.01158
#3	-.00089	-.00116	-.00458	.00316	.00012	-.00000	-.05383
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**	**.00027**	**.00051**	**-.00028**	**.01164**	**.06255**	**-.00150**
Stddev	.00024	.00011	.00086	.00054	.00861	.01776	.00287
%RSD	66.244	40.730	169.94	197.06	73.928	28.391	191.06
#1	-.00063	.00032	.00147	.00035	.00594	.06743	-.00131
#2	-.00028	.00036	-.00020	-.00055	.00744	.04286	-.00447
#3	-.00017	.00015	.00026	-.00063	.02154	.07736	.00126
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	**.05635**	**-.00074**	**-.00031**	**-.00353**	**-.00072**	**.00315**	**.00155**
Stddev	.05078	.00053	.00023	.01178	.00015	.00418	.00087
%RSD	90.120	71.120	73.350	334.10	20.941	132.77	56.301
#1	.02915	-.00135	-.00006	-.00666	-.00089	-.00152	.00054
#2	.11494	-.00047	-.00050	.00951	-.00063	.00441	.00207
#3	.02496	-.00041	-.00039	-.01342	-.00064	.00655	.00205
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016

Kristi K Buck

Sample Name: CCB Acquired: 10/6/2016 12:22:54 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00116**	**.00287**	**-.00044**	**.00045**	**-.00047**	**.00542**	**-.00108**
Stddev	.00360	.00256	.00290	.00061	.00010	.00280	.00189
%RSD	312.01	89.216	660.91	135.42	20.378	51.650	175.23
#1	-.00289	.00133	.00260	.00103	-.00052	.00864	.00022
#2	.00232	.00583	-.00316	-.00019	-.00036	.00354	-.00021
#3	.00403	.00145	-.00075	.00051	-.00053	.00409	-.00325
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**	**-.00004**	F **.75118**
Stddev	.00083	.00014	.42124
%RSD	120.99	324.72	56.077
#1	.00162	.00007	.85226
#2	.00037	-.00019	.28860
#3	.00006	.00000	1.1127
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	**10863.**	**95218.**	**11905.**
Stddev	43.	349.	57.
%RSD	.39468	.36646	.47532
#1	10813.	95563.	11970.
#2	10887.	95226.	11880.
#3	10887.	94865.	11865.

Approved: October 06, 2016

Kristi K Buck

Sample Name: PBW A4 Acquired: 10/6/2016 12:37:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586390-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00191**	**.02992**	**-.00025**	**.00321**	**.00026**	**-.00009**	**.05578**	**-.00038**
Stddev	.00085	.00139	.00129	.00090	.00007	.00003	.03007	.00022
%RSD	44.430	4.6342	515.31	28.145	28.148	37.696	53.903	57.370
#1	.00190	.02867	.00030	.00343	.00020	-.00006	.02163	-.00037
#2	.00107	.02969	.00067	.00222	.00024	-.00008	.06746	-.00061
#3	.00276	.03141	-.00173	.00398	.00035	-.00013	.07827	-.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	**-.00008**	**.00077**	**-.00078**	**.00714**	**-.03066**	**-.00338**	**.02183**	**-.00016**
Stddev	.00005	.00037	.00182	.00307	.11872	.00197	.03599	.00040
%RSD	67.156	47.512	234.94	42.956	387.25	58.131	164.88	247.03
#1	-.00009	.00061	-.00270	.01035	-.14246	-.00557	.04995	-.00063
#2	-.00002	.00119	-.00056	.00424	-.04346	-.00176	-.01873	.00004
#3	-.00013	.00051	.00093	.00683	.09395	-.00281	.03426	.00010
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**	**.02010**	**-.00041**	**-.00352**	**.00152**	**.00042**	**.00107**	**-.00292**
Stddev	.00026	.00659	.00033	.00174	.00097	.00304	.00481	.00138
%RSD	303.67	32.792	80.928	49.528	63.942	717.89	450.00	47.422
#1	.00018	.02585	-.00070	-.00503	.00252	-.00000	.00240	-.00311
#2	-.00034	.01291	-.00005	-.00161	.00058	-.00238	-.00427	-.00420
#3	-.00009	.02156	-.00049	-.00393	.00145	.00365	.00508	-.00145
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Kristi K Buck

Sample Name: PBW A4 Acquired: 10/6/2016 12:37:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586390-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00039	.00089	.00453	-.00045	-.00014	.00092	1.0304
Stddev	.00091	.00013	.00353	.00440	.00062	.00004	.2497
%RSD	233.10	15.094	77.764	975.59	454.22	4.3737	24.237
#1	.00075	.00083	.00230	-.00154	.00055	.00087	.93713
#2	.00106	.00080	.00270	.00439	-.00031	.00092	1.3133
#3	-.00064	.00105	.00860	-.00420	-.00065	.00095	.84068
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	11285.	97688.	11879.
Stddev	97.	1112.	83.
%RSD	.86028	1.1387	.69780
#1	11279.	97136.	11973.
#2	11385.	96959.	11818.
#3	11192.	98968.	11844.

Approved: October 06, 2016

Sample Name: LCSW A4 Acquired: 10/6/2016 12:40:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586390-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20080**	**5.1773**	**.19365**	**.94449**	**.50144**	**.02426**	**5.0588**	**.02441**
Stddev	.00010	.0086	.00301	.00222	.00105	.00008	.0211	.00040
%RSD	.05160	.16609	1.5543	.23550	.20850	.31849	.41637	1.6204
#1	.20070	5.1867	.19664	.94244	.50227	.02425	5.0351	.02427
#2	.20090	5.1755	.19369	.94685	.50027	.02434	5.0657	.02411
#3	.20079	5.1698	.19062	.94417	.50177	.02419	5.0755	.02486
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	**.10026**	**.24653**	**.24808**	**1.9944**	**25.019**	**.50245**	**4.9990**	**.25188**
Stddev	.00041	.00103	.00185	.0150	.137	.00262	.0337	.00230
%RSD	.40627	.41589	.74509	.75109	.54949	.52143	.67431	.91490
#1	.10031	.24688	.25018	1.9852	24.917	.50525	5.0326	.25101
#2	.10064	.24537	.24736	2.0116	25.175	.50005	4.9652	.25015
#3	.09983	.24733	.24670	1.9862	24.964	.50204	4.9992	.25450
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	**.49681**	**25.359**	**.25024**	**4.7546**	**.25287**	**.58901**	**.19577**	**2.4799**
Stddev	.00063	.066	.00137	.0156	.00270	.00213	.00187	.0081
%RSD	.12673	.26167	.54776	.32715	1.0689	.36195	.95395	.32782
#1	.49750	25.431	.25165	4.7715	.25594	.59146	.19392	2.4891
#2	.49664	25.301	.25016	4.7512	.25084	.58757	.19766	2.4767
#3	.49628	25.345	.24891	4.7410	.25182	.58800	.19572	2.4738
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Sample Name: LCSW A4 Acquired: 10/6/2016 12:40:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586390-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49640**	**.50169**	**.49612**	**.25601**	**.49274**	**.48972**	**1.8982**
Stddev	.00203	.00095	.00407	.00285	.00231	.00144	.0767
%RSD	.40923	.18933	.82062	1.1114	.46852	.29426	4.0393
#1	.49874	.50084	.50078	.25306	.49494	.49119	1.8480
#2	.49528	.50152	.49433	.25874	.49034	.48966	1.9865
#3	.49517	.50271	.49324	.25625	.49295	.48831	1.8602
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	**11140.**	**97671.**	**12191.**
Stddev	37.	28.	21.
%RSD	.32826	.02847	.17303
#1	11172.	97639.	12214.
#2	11147.	97687.	12172.
#3	11100.	97686.	12189.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610007501 Acquired: 10/6/2016 12:44:23 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00189**	**3.4423**	**-.00025**	**.03218**	**.11116**	**.00020**	**12.989**	**.00028**
Stddev	.00131	.0095	.00068	.00194	.00020	.00004	.020	.00023
%RSD	69.250	.27578	275.17	6.0135	.17891	19.201	.15303	81.290
#1	.00215	3.4356	-.00097	.03178	.11116	.00019	12.996	.00023
#2	.00048	3.4381	-.00016	.03047	.11136	.00024	13.005	.00052
#3	.00306	3.4532	.00038	.03428	.11096	.00017	12.967	.00008
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	**.00417**	**.00434**	**.01074**	**5.8253**	**4.6913**	**-.00089**	**3.2380**	**.65166**
Stddev	.00052	.00113	.00093	.0333	.1090	.00256	.0472	.00220
%RSD	12.529	26.030	8.6605	.57131	2.3239	289.04	1.4579	.33817
#1	.00377	.00370	.01033	5.7930	4.6958	.00099	3.2726	.65099
#2	.00476	.00565	.01009	5.8595	4.7980	-.00381	3.2572	.65412
#3	.00397	.00368	.01181	5.8235	4.5801	.00016	3.1843	.64987
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	**.00038**	**2.0001**	**.00667**	**.65114**	**.01146**	**.00068**	**.01013**	**6.1673**
Stddev	.00035	.0307	.00077	.00656	.00344	.00282	.00579	.0341
%RSD	90.427	1.5338	11.509	1.0078	30.049	413.10	57.142	.55281
#1	.00077	1.9886	.00710	.65431	.01366	.00191	.00896	6.1767
#2	.00027	2.0349	.00713	.64359	.01323	.00268	.00501	6.1958
#3	.00011	1.9769	.00578	.65551	.00749	-.00255	.01641	6.1295
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016
Ki K Buck

Sample Name: L1610007501 Acquired: 10/6/2016 12:44:23 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00074**	**.06441**	**.04526**	**-.00209**	**.00619**	**.08895**	**1.2510**
Stddev	.00008	.00028	.00206	.00041	.00038	.00030	.7552
%RSD	10.881	.44010	4.5440	19.514	6.1031	.33518	60.372
#1	.00067	.06435	.04580	-.00173	.00652	.08905	.38462
#2	.00071	.06472	.04299	-.00253	.00577	.08919	1.5978
#3	.00083	.06416	.04699	-.00201	.00627	.08862	1.7705
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	**11375.**	**99376.**	**12250.**
Stddev	78.	507.	67.
%RSD	.68689	.51023	.54950
#1	11460.	99000.	12190.
#2	11357.	99176.	12237.
#3	11307.	99953.	12323.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610007502 Acquired: 10/6/2016 12:48:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00181**	**.08732**	**-.00027**	**.03039**	**.04540**	**-.00003**	**12.501**	**-.00010**
Stddev	.00058	.00378	.00097	.00039	.00040	.00009	.032	.00005
%RSD	31.888	4.3298	355.41	1.2893	.88447	318.51	.25349	51.317
#1	.00117	.08501	.00084	.03083	.04502	-.00005	12.489	-.00015
#2	.00195	.09169	-.00071	.03007	.04582	-.00011	12.537	-.00005
#3	.00230	.08527	-.00095	.03028	.04536	.00007	12.477	-.00009
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	**.00028**	**.00088**	**.00262**	**.72611**	**4.3192**	**.00087**	**2.7186**	**.41450**
Stddev	.00006	.00039	.00069	.01211	.0714	.00223	.0907	.00178
%RSD	22.883	44.492	26.304	1.6684	1.6540	255.95	3.3383	.42834
#1	.00021	.00045	.00329	.73142	4.3620	.00263	2.6712	.41461
#2	.00034	.00122	.00266	.71225	4.3588	-.00164	2.8232	.41267
#3	.00028	.00097	.00191	.73467	4.2367	.00162	2.6613	.41622
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	**-.00009**	**2.3475**	**.00102**	**.21808**	**.00098**	**-.00036**	**.00610**	**3.4460**
Stddev	.00030	.0119	.00057	.00503	.00352	.00202	.00416	.0066
%RSD	322.30	.50540	56.057	2.3061	358.05	558.00	68.266	.19222
#1	.00006	2.3600	.00138	.22078	-.00303	.00065	.00332	3.4474
#2	.00010	2.3461	.00036	.21228	.00355	.00095	.01089	3.4388
#3	-.00044	2.3364	.00133	.22118	.00244	-.00268	.00410	3.4519
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610007502 Acquired: 10/6/2016 12:48:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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**	**.06238**	**.00198**	**-.00092**	**.00076**	**.00807**	**1.4196**
Stddev	.00046	.00018	.00181	.00062	.00070	.00009	.3426
%RSD	69.195	.29025	91.444	67.384	91.959	1.1180	24.133
#1	.00041	.06259	.00354	-.00162	.00044	.00800	1.3923
#2	.00038	.06226	-.00001	-.00070	.00157	.00817	1.7751
#3	.00119	.06229	.00241	-.00044	.00029	.00804	1.0915
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	**11237.**	**98729.**	**12193.**
Stddev	40.	392.	78.
%RSD	.35792	.39735	.63824
#1	11190.	98721.	12232.
#2	11260.	99126.	12103.
#3	11260.	98341.	12243.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610007503 Acquired: 10/6/2016 12:51:48 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00107**	**.03589**	**.00148**	**.09457**	**.01854**	**-.00003**	**.56631**	**-.00023**
Stddev	.00197	.00595	.00185	.00170	.00047	.00004	.01297	.00018
%RSD	184.45	16.592	125.43	1.7931	2.5336	130.73	2.2898	75.986
#1	.00174	.03090	.00070	.09264	.01828	.00001	.58045	-.00005
#2	.00261	.03429	.00014	.09526	.01909	-.00004	.56350	-.00024
#3	-.00115	.04248	.00359	.09581	.01827	-.00007	.55497	-.00040
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**	**-.00024**	**.00372**	**.01285**	**.20628**	**.00626**	**.14062**	**.00192**
Stddev	.00042	.00054	.00088	.00882	.05980	.00217	.01062	.00102
%RSD	112.15	228.88	23.774	68.603	28.991	34.615	7.5489	53.022
#1	-.00083	.00036	.00282	.00272	.23106	.00870	.13060	.00187
#2	-.00032	-.00071	.00458	.01703	.24971	.00454	.15175	.00295
#3	.00001	-.00036	.00377	.01879	.13807	.00556	.13953	.00092
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	**.00330**	**108.73**	**-.00078**	**.00860**	**-.00332**	**.00057**	**.00645**	**3.2733**
Stddev	.00033	.52	.00126	.00750	.00384	.00409	.00516	.0075
%RSD	10.107	.47616	162.19	87.222	115.52	716.95	80.041	.22957
#1	.00300	108.24	-.00183	.01620	-.00490	.00528	.00052	3.2749
#2	.00366	109.27	.00062	.00841	.00105	-.00215	.00888	3.2651
#3	.00325	108.67	-.00112	.00120	-.00613	-.00141	.00995	3.2799
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Ki K Buck

Sample Name: L1610007503 Acquired: 10/6/2016 12:51:48 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**-.00002**	**.02199**	**.00450**	**-.00088**	**.00061**	**.00222**	**.81232**
Stddev	.00109	.00010	.00430	.00043	.00042	.00006	.14801
%RSD	5667.4	.45275	95.646	48.426	68.680	2.8277	18.221
#1	-.00122	.02188	.00898	-.00134	.00072	.00216	.92067
#2	.00026	.02203	.00041	-.00083	.00014	.00229	.64368
#3	.00091	.02206	.00410	-.00048	.00095	.00221	.87262
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	**10949.**	**94714.**	**12116.**
Stddev	93.	1397.	22.
%RSD	.84512	1.4747	.18396
#1	10843.	96172.	12092.
#2	10994.	94584.	12136.
#3	11011.	93387.	12122.

Approved: October 06, 2016

Kristi K Buck

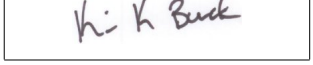
Sample Name: L1610007504 Acquired: 10/6/2016 12:55:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00017**	**.00738**	**.00074**	**.01376**	**.13435**	**.00001**	**43.190**	**-.00028**
Stddev	.00051	.00168	.00081	.00164	.00060	.00004	.205	.00019
%RSD	293.83	22.765	110.66	11.929	.44514	248.24	.47358	68.370
#1	.00059	.00544	.00018	.01194	.13394	.00004	43.271	-.00025
#2	.00033	.00830	.00167	.01422	.13504	.00003	43.341	-.00049
#3	-.00040	.00841	.00036	.01512	.13408	-.00003	42.957	-.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	**.00005**	**.00107**	**.01941**	**.36108**	**1.2746**	**.00228**	**5.1691**	**.11746**
Stddev	.00007	.00113	.00069	.00257	.0819	.00250	.0693	.00248
%RSD	134.35	105.99	3.5759	.71040	6.4290	109.96	1.3402	2.1153
#1	-.00002	.00228	.02014	.36227	1.3124	-.00028	5.1581	.11686
#2	.00012	.00091	.01934	.35814	1.3308	.00238	5.2432	.12019
#3	.00005	.00002	.01876	.36284	1.1806	.00473	5.1059	.11533
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	**.00021**	**2.7491**	**.00071**	**-.00315**	**.00247**	**-.00153**	**.00860**	**2.9686**
Stddev	.00041	.0386	.00134	.00218	.00055	.00291	.00366	.0035
%RSD	196.50	1.4061	190.55	69.435	22.415	189.88	42.528	.11692
#1	.00067	2.7382	.00223	-.00380	.00233	-.00478	.00904	2.9686
#2	-.00010	2.7920	-.00033	-.00071	.00308	-.00066	.00474	2.9721
#3	.00005	2.7170	.00022	-.00493	.00200	.00084	.01202	2.9652
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610007504 Acquired: 10/6/2016 12:55:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00036**	**.26329**	**-.00194**	**-.00061**	**-.00002**	**.26863**	**1.1314**
Stddev	.00018	.00112	.00072	.00181	.00047	.00005	.2558
%RSD	51.425	.42514	36.926	296.65	2418.1	.01851	22.606
#1	.00016	.26341	-.00270	-.00246	-.00015	.26867	.86019
#2	.00053	.26434	-.00127	.00115	-.00041	.26865	1.3683
#3	.00039	.26211	-.00185	-.00052	.00050	.26858	1.1658
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	**10965.**	**96201.**	**12248.**
Stddev	80.	1548.	46.
%RSD	.73022	1.6087	.37750
#1	10890.	97340.	12297.
#2	10957.	94439.	12205.
#3	11049.	96825.	12243.

Approved: October 06, 2016

Kristi K Buck

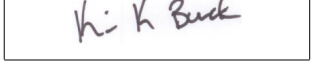
Sample Name: L1610007505 Acquired: 10/6/2016 12:59:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00092**	**.28977**	**-.00015**	**.11867**	**.04239**	**-.00001**	**42.580**	**-.00027**
Stddev	.00117	.00589	.00090	.00135	.00017	.00003	.149	.00005
%RSD	126.13	2.0320	600.81	1.1400	.40881	245.18	.35076	17.150
#1	.00100	.29010	-.00027	.11773	.04235	-.00005	42.736	-.00023
#2	-.00028	.28373	-.00099	.11806	.04257	-.00001	42.439	-.00032
#3	.00205	.29549	.00081	.12022	.04223	.00002	42.564	-.00027
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**	**.00131**	**.00340**	**.25911**	**2.3818**	**-.00055**	**2.5220**	**.00623**
Stddev	.00023	.00084	.00141	.00973	.1732	.00100	.0499	.00112
%RSD	109.09	64.600	41.361	3.7562	7.2707	181.15	1.9800	18.023
#1	.00031	.00228	.00381	.26546	2.5778	-.00094	2.5590	.00735
#2	.00037	.00083	.00184	.26397	2.3180	.00058	2.4652	.00624
#3	-.00005	.00081	.00457	.24791	2.2496	-.00130	2.5419	.00510
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	**-.00020**	**2.4674**	**-.00043**	**.10769**	**.00146**	**.00265**	**.00875**	**2.9735**
Stddev	.00055	.0226	.00046	.00158	.00212	.00339	.00585	.0087
%RSD	280.22	.91605	105.67	1.4685	145.04	127.77	66.839	.29182
#1	-.00056	2.4843	-.00082	.10628	-.00046	.00657	.01400	2.9660
#2	-.00047	2.4417	-.00056	.10940	.00373	.00069	.00244	2.9830
#3	.00044	2.4763	.00007	.10737	.00111	.00071	.00983	2.9716
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610007505 Acquired: 10/6/2016 12:59:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00065**	**.12949**	**.00499**	**-.00127**	**.00074**	**.01107**	**1.4754**
Stddev	.00016	.00071	.00232	.00447	.00078	.00025	.7673
%RSD	23.994	.54754	46.559	353.39	105.40	2.2790	52.006
#1	.00081	.12943	.00509	.00354	.00063	.01096	.83442
#2	.00050	.12882	.00261	-.00532	.00157	.01136	2.3256
#3	.00065	.13023	.00726	-.00202	.00002	.01090	1.2662
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	**11208.**	**97957.**	**12282.**
Stddev	83.	900.	64.
%RSD	.73801	.91855	.52177
#1	11113.	98933.	12208.
#2	11260.	97776.	12318.
#3	11252.	97161.	12320.

Approved: October 06, 2016

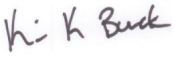
Sample Name: L1610007506 Acquired: 10/6/2016 13:02:59 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00008**	**.05560**	**-.00203**	**.01847**	**.04417**	**-.00003**	**29.030**	**-.00017**
Stddev	.00161	.00703	.00069	.00119	.00019	.00002	.082	.00005
%RSD	1923.0	12.642	34.148	6.4566	.43152	61.079	.28267	31.667
#1	.00135	.06372	-.00143	.01894	.04438	-.00005	29.098	-.00012
#2	.00024	.05165	-.00187	.01712	.04413	-.00003	29.054	-.00023
#3	-.00184	.05144	-.00279	.01936	.04400	-.00002	28.939	-.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	**-.00008**	**.00079**	**-.00070**	**.06176**	**1.0577**	**-.00300**	**4.9357**	**.00624**
Stddev	.00015	.00038	.00098	.00756	.0916	.00274	.0527	.00130
%RSD	177.99	48.011	138.90	12.239	8.6599	91.434	1.0667	20.790
#1	.00008	.00088	-.00021	.05582	.99109	-.00613	4.8749	.00712
#2	-.00022	.00037	-.00183	.05919	1.1621	-.00182	4.9648	.00475
#3	-.00011	.00111	-.00008	.07027	1.0198	-.00105	4.9674	.00685
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	**.00017**	**4.4313**	**-.00010**	**.02107**	**-.00084**	**-.00239**	**.00016**	**3.4868**
Stddev	.00040	.0098	.00090	.00841	.00149	.00368	.00635	.0108
%RSD	227.79	.22208	867.08	39.934	178.44	154.35	3889.3	.31083
#1	-.00011	4.4199	.00071	.03015	-.00145	.00114	.00623	3.4980
#2	.00063	4.4377	-.00107	.01354	-.00192	-.00210	-.00644	3.4764
#3	.00000	4.4362	.00005	.01951	.00087	-.00620	.00070	3.4861
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610007506 Acquired: 10/6/2016 13:02:59 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00048**	**.14648**	**.00254**	**-.00118**	**-.00052**	**.00210**	**.26540**
Stddev	.00077	.00025	.00574	.00192	.00017	.00017	1.0596
%RSD	160.89	.17364	226.10	162.87	32.557	7.9028	399.23
#1	.00123	.14641	.00833	-.00070	-.00037	.00218	-.93453
#2	.00052	.14627	-.00315	.00046	-.00070	.00191	1.0722
#3	-.00031	.14676	.00243	-.00329	-.00050	.00221	.65850
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	**11172.**	**97300.**	**11652.**
Stddev	128.	1371.	106.
%RSD	1.1485	1.4089	.91096
#1	11024.	95724.	11583.
#2	11237.	98210.	11774.
#3	11254.	97966.	11599.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610007506PS Acquired: 10/6/2016 13:06:45 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586422-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19479**	**5.0151**	**.19289**	**.93754**	**.52164**	**.02374**	**30.426**	**.02418**
Stddev	.00119	.0063	.00123	.00248	.00126	.00013	.072	.00017
%RSD	.61217	.12497	.63814	.26416	.24188	.54550	.23750	.68314
#1	.19581	5.0176	.19398	.93733	.52256	.02366	30.378	.02400
#2	.19348	5.0079	.19314	.93518	.52216	.02368	30.509	.02432
#3	.19508	5.0197	.19156	.94012	.52020	.02389	30.392	.02424
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	**.09723**	**.24061**	**.24192**	**1.9586**	**25.126**	**.48834**	**9.1769**	**.25931**
Stddev	.00074	.00137	.00162	.0334	.077	.00230	.1094	.00329
%RSD	.76013	.57133	.67168	1.7036	.30778	.47165	1.1921	1.2673
#1	.09711	.23906	.24126	1.9373	25.039	.48742	9.1854	.25850
#2	.09656	.24109	.24072	1.9971	25.187	.48664	9.0634	.26293
#3	.09802	.24168	.24377	1.9415	25.153	.49096	9.2817	.25651
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	**.48742**	**28.496**	**.24377**	**4.7182**	**.24402**	**.57424**	**.19230**	**5.5476**
Stddev	.00218	.118	.00130	.0275	.00206	.00209	.00353	.0172
%RSD	.44738	.41284	.53175	.58380	.84363	.36341	1.8335	.30995
#1	.48616	28.377	.24391	4.6947	.24395	.57316	.19294	5.5381
#2	.48616	28.612	.24240	4.7113	.24199	.57291	.19546	5.5373
#3	.48994	28.497	.24498	4.7485	.24611	.57664	.18850	5.5675
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610007506PS Acquired: 10/6/2016 13:06:45 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586422-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48443**	**.61103**	**.47892**	**.24929**	**.47996**	**.48788**	**.83084**
Stddev	.00205	.00082	.00291	.00515	.00113	.00163	.30080
%RSD	.42291	.13345	.60772	2.0640	.23475	.33350	36.204
#1	.48353	.61150	.47627	.25519	.47932	.48669	.87110
#2	.48298	.61151	.48204	.24692	.47930	.48721	.51193
#3	.48677	.61009	.47847	.24576	.48126	.48973	1.1095
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	**10851.**	**93550.**	**11863.**
Stddev	5.	368.	167.
%RSD	.04405	.39303	1.4102
#1	10846.	93312.	12045.
#2	10856.	93974.	11828.
#3	10851.	93365.	11716.

Approved: October 06, 2016

Kristi K Buck

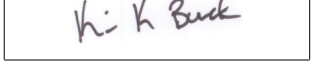
Sample Name: L1610007506SDL Acquired: 10/6/2016 13:10:20 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG586422-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00025**	**.01510**	**-.00138**	**.00498**	**.00887**	**-.00007**	**5.7663**	**-.00035**
Stddev	.00230	.01034	.00184	.00046	.00086	.00001	.0155	.00018
%RSD	907.05	68.506	133.39	9.1379	9.7009	14.135	.26800	51.766
#1	-.00239	.00457	-.00086	.00447	.00863	-.00008	5.7498	-.00036
#2	.00135	.01548	-.00342	.00515	.00983	-.00006	5.7804	-.00017
#3	.00180	.02525	.00014	.00533	.00816	-.00006	5.7687	-.00054
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**	**.00023**	**-.00163**	**.00319**	**.19623**	**-.00237**	**1.0254**	**.00057**
Stddev	.00017	.00025	.00055	.01602	.04177	.00476	.0504	.00196
%RSD	529.92	112.11	33.997	502.59	21.287	201.08	4.9143	343.22
#1	-.00018	.00049	-.00208	-.01039	.21596	-.00784	1.0137	.00118
#2	.00015	.00020	-.00101	-.00090	.14825	-.00009	.98181	.00216
#3	-.00007	-.00001	-.00179	.02086	.22447	.00082	1.0806	-.00162
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	**-.00050**	**.87418**	**-.00108**	**.01070**	**-.00167**	**.00432**	**.00510**	**.71101**
Stddev	.00043	.00649	.00075	.00207	.00180	.00226	.00537	.00263
%RSD	87.147	.74266	69.741	19.353	107.74	52.222	105.26	.37018
#1	-.00099	.87720	-.00023	.01056	-.00303	.00687	-.00090	.71394
#2	-.00031	.87861	-.00167	.01283	.00037	.00257	.00675	.71023
#3	-.00019	.86673	-.00134	.00870	-.00236	.00352	.00944	.70885
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610007506SDL Acquired: 10/6/2016 13:10:20 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG586422-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00025**	**.02888**	**.00649**	**.00016**	**.00030**	**.00117**	**1.0406**
Stddev	.00016	.00043	.00192	.00263	.00037	.00010	.6461
%RSD	65.512	1.5000	29.609	1649.8	122.04	8.7906	62.084
#1	-.00008	.02841	.00676	.00307	.00053	.00106	.83642
#2	-.00027	.02926	.00445	-.00054	-.00012	.00126	.52135
#3	-.00041	.02897	.00827	-.00205	.00050	.00120	1.7641
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	**11101.**	**97327.**	**12129.**
Stddev	20.	1008.	138.
%RSD	.18376	1.0352	1.1410
#1	11091.	98389.	12101.
#2	11125.	97205.	12279.
#3	11089.	96385.	12006.

Approved: October 06, 2016

Kristi K Buck

Sample Name: CCV Acquired: 10/6/2016 13:14:05 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.38988**	**9.8898**	**.38715**	**.48123**	**.96014**	**.04810**	**9.6014**
Stddev	.00136	.0411	.00131	.00161	.00283	.00027	.0589
%RSD	.34857	.41538	.33871	.33381	.29451	.56890	.61288
#1	.38997	9.8505	.38730	.47945	.95693	.04780	9.5409
#2	.38848	9.8864	.38577	.48169	.96122	.04834	9.6585
#3	.39119	9.9325	.38838	.48256	.96226	.04817	9.6048
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	**.04923**	**.19642**	**.47965**	**.48966**	**3.8722**	**48.157**	**.96025**
Stddev	.00009	.00043	.00358	.00326	.0215	.304	.00445
%RSD	.18327	.21812	.74680	.66494	.55473	.63040	.46292
#1	.04912	.19692	.47584	.49315	3.8525	47.812	.95649
#2	.04927	.19616	.48017	.48912	3.8951	48.384	.95911
#3	.04929	.19620	.48295	.48670	3.8690	48.274	.96515
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	**9.7085**	**.48546**	**.97561**	**48.141**	**.49144**	**9.7231**	**.48996**
Stddev	.0330	.00332	.00101	.202	.00137	.0138	.00125
%RSD	.34009	.68336	.10312	.41924	.27861	.14234	.25480
#1	9.6705	.48208	.97460	47.924	.49056	9.7350	.49063
#2	9.7309	.48559	.97661	48.323	.49075	9.7263	.49072
#3	9.7240	.48872	.97563	48.175	.49302	9.7079	.48852
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 06, 2016

Kristi K Buck

Sample Name: CCV Acquired: 10/6/2016 13:14:05 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**1.1702**	**.39692**	**4.9584**	**.97487**	**.96374**	**.96202**	**.49828**
Stddev	.0029	.00329	.0070	.00049	.00334	.00352	.00493
%RSD	.24743	.82809	.14166	.05056	.34670	.36638	.98854
#1	1.1728	.39422	4.9653	.97430	.96025	.96303	.49982
#2	1.1671	.39597	4.9585	.97519	.96692	.95811	.50225
#3	1.1708	.40058	4.9513	.97512	.96405	.96494	.49276
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	**.96263**	**.97431**	F **1.5093**
Stddev	.00593	.00213	.6373
%RSD	.61654	.21874	42.226
#1	.95702	.97665	1.1174
#2	.96201	.97381	1.1659
#3	.96884	.97248	2.2447
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	**10805.**	**94021.**	**12236.**
Stddev	34.	1903.	100.
%RSD	.31539	2.0237	.81690
#1	10782.	96019.	12351.
#2	10788.	93811.	12189.
#3	10844.	92232.	12169.

Approved: October 06, 2016

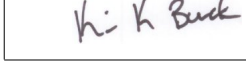
Sample Name: CCB Acquired: 10/6/2016 13:17:34 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00003**	**-.00506**	**-.00180**	**.00173**	**.00026**	**-.00006**	**-.00621**
Stddev	.00137	.00300	.00118	.00170	.00079	.00002	.00482
%RSD	3947.0	59.285	65.592	97.987	299.75	26.593	77.628
#1	-.00155	-.00838	-.00166	.00317	-.00030	-.00007	-.00152
#2	.00035	-.00425	-.00305	-.00014	-.00007	-.00006	-.01115
#3	.00110	-.00255	-.00070	.00216	.00117	-.00004	-.00595
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**	**.00026**	**-.00014**	**-.00139**	**-.01006**	**.03143**	**-.00197**
Stddev	.00036	.00001	.00051	.00096	.00523	.10056	.00415
%RSD	101.18	4.1259	375.16	68.948	51.959	319.91	210.82
#1	-.00020	.00028	.00031	-.00063	-.01450	-.07785	.00282
#2	-.00010	.00025	-.00070	-.00108	-.01139	.05207	-.00424
#3	-.00076	.00026	-.00002	-.00247	-.00430	.12008	-.00448
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	**.05095**	**-.00050**	**-.00043**	**.01792**	**-.00132**	**.00438**	**-.00166**
Stddev	.06074	.00060	.00052	.01936	.00149	.00193	.00175
%RSD	119.22	119.46	121.07	108.06	113.09	44.139	105.12
#1	.04857	-.00051	-.00025	.00929	-.00163	.00611	-.00231
#2	-.00856	.00010	-.00002	.00437	.00030	.00229	.00032
#3	.11285	-.00109	-.00101	.04009	-.00263	.00473	-.00299
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: CCB Acquired: 10/6/2016 13:17:34 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00213**	**.00527**	**.00056**	**.00057**	**-.00022**	**.00540**	**.00025**
Stddev	.00293	.00783	.00192	.00034	.00027	.00201	.00231
%RSD	137.28	148.54	344.63	58.566	123.65	37.166	932.44
#1	.00289	-.00354	.00094	.00083	-.00006	.00657	-.00218
#2	.00461	.01142	-.00153	.00070	-.00006	.00309	.00051
#3	-.00110	.00792	.00226	.00019	-.00053	.00656	.00241
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**	**-.00008**	F **1.2236**
Stddev	.00063	.00005	.3915
%RSD	979.75	67.326	31.998
#1	.00014	-.00006	1.4714
#2	-.00077	-.00004	.77224
#3	.00044	-.00014	1.4271
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	**11001.**	**96943.**	**12221.**
Stddev	11.	1299.	95.
%RSD	.09578	1.3397	.77564
#1	11000.	98401.	12169.
#2	11011.	96517.	12330.
#3	10990.	95910.	12163.

Approved: October 06, 2016

Ki K Buck

Sample Name: L1610007507 Acquired: 10/6/2016 13:21:23 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**-.00001**	**.38722**	**-.00034**	**.01588**	**.04003**	**.00000**	**24.912**	**-.00042**
Stddev	.00044	.00805	.00096	.00037	.00017	.00008	.153	.00012
%RSD	3691.0	2.0791	280.05	2.3441	.42423	2298.3	.61304	27.893
#1	.00043	.39566	-.00143	.01550	.04018	-.00008	25.004	-.00030
#2	-.00002	.38636	.00006	.01591	.03985	-.00000	24.736	-.00042
#3	-.00045	.37963	.00035	.01624	.04006	.00009	24.997	-.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	**.00021**	**.00121**	**.00128**	**.30328**	**.73421**	**.00077**	**4.3910**	**.00448**
Stddev	.00015	.00056	.00080	.02082	.08248	.00406	.0679	.00278
%RSD	72.248	46.212	62.668	6.8664	11.234	528.64	1.5461	62.173
#1	.00020	.00063	.00054	.27940	.76254	.00345	4.4655	.00226
#2	.00038	.00125	.00118	.31764	.64130	-.00390	4.3326	.00760
#3	.00007	.00174	.00214	.31281	.79879	.00276	4.3749	.00358
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**	**5.5921**	**.00039**	**.08146**	**.00017**	**-.00047**	**.00399**	**4.2292**
Stddev	.00007	.0396	.00093	.00881	.00132	.00206	.00644	.0046
%RSD	16.246	.70808	241.44	10.818	756.42	440.06	161.19	.10962
#1	-.00042	5.6233	.00139	.09162	.00125	.00089	.00976	4.2282
#2	-.00033	5.5475	.00023	.07697	-.00129	-.00284	.00517	4.2342
#3	-.00046	5.6054	-.00046	.07580	.00057	.00054	-.00295	4.2251
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Sample Name: L1610007507 Acquired: 10/6/2016 13:21:23 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00081**	**.14188**	**.01199**	**.00181**	**.00053**	**.00379**	**1.4095**
Stddev	.00027	.00073	.00561	.00081	.00034	.00004	.4392
%RSD	33.756	.51154	46.777	44.618	63.566	1.0231	31.160
#1	.00111	.14268	.01793	.00262	.00079	.00379	1.5039
#2	.00076	.14125	.00680	.00178	.00065	.00375	1.7939
#3	.00057	.14172	.01123	.00101	.00015	.00383	.93083
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	**11247.**	**98192.**	**12217.**
Stddev	27.	321.	71.
%RSD	.23771	.32726	.58345
#1	11238.	98182.	12213.
#2	11277.	98519.	12291.
#3	11226.	97876.	12148.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610009501 Acquired: 10/6/2016 13:25:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00055**	**.02395**	**.00069**	**.03213**	**.28259**	**-.00001**	**25.249**
Stddev	.00113	.00196	.00119	.00185	.00111	.00007	.046
%RSD	204.07	8.1916	172.19	5.7711	.39381	560.70	.18246
#1	-.00074	.02169	.00203	.03061	.28380	-.00004	25.296
#2	.00109	.02516	-.00023	.03420	.28160	-.00006	25.247
#3	.00130	.02501	.00027	.03158	.28238	.00007	25.204
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	**-.00031**	**.00062**	**.00188**	**-.00007**	**.13468**	**1.1715**	**.01633**
Stddev	.00017	.00013	.00081	.00045	.01476	.0623	.00104
%RSD	54.100	20.550	43.131	603.77	10.959	5.3183	6.3825
#1	-.00019	.00058	.00280	-.00026	.13952	1.2347	.01734
#2	-.00024	.00051	.00153	.00044	.14642	1.1697	.01637
#3	-.00051	.00076	.00129	-.00040	.11811	1.1101	.01526
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	**35.892**	**.03349**	**.00008**	F **325.64**	**.00103**	**2.2151**	**-.00064**
Stddev	.178	.00138	.00020	.33	.00035	.0049	.00188
%RSD	.49537	4.1331	257.81	.10181	33.832	.21899	292.11
#1	35.789	.03189	.00029	325.92	.00115	2.2114	-.00172
#2	35.790	.03430	-.00012	325.71	.00130	2.2206	.00153
#3	36.097	.03427	.00007	325.27	.00064	2.2135	-.00174
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 06, 2016

Ki K Buck

Sample Name: L1610009501 Acquired: 10/6/2016 13:25:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**-.00184**	**.00756**	**14.728**	**.00005**	**.47378**	**.00024**	**.00019**
Stddev	.00468	.00219	.022	.00140	.00043	.00235	.00082
%RSD	255.06	28.930	.14991	2745.4	.08975	993.18	423.46
#1	.00140	.00595	14.719	-.00152	.47422	-.00244	.00078
#2	.00029	.00668	14.753	.00050	.47337	.00116	-.00075
#3	-.00720	.01005	14.711	.00117	.47373	.00199	.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	**.00005**	**.00664**	**.23069**
Stddev	.00054	.00012	.36556
%RSD	1071.2	1.7470	158.46
#1	-.00028	.00677	.31753
#2	.00067	.00657	-.17047
#3	-.00024	.00657	.54501
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	**10576.**	**90479.**	**12077.**
Stddev	25.	209.	29.
%RSD	.23732	.23063	.24186
#1	10559.	90719.	12069.
#2	10564.	90346.	12110.
#3	10605.	90371.	12053.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610009502 Acquired: 10/6/2016 13:28:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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**	**.03007**	**-.00090**	**.03041**	**.27976**	**-.00004**	**25.135**
Stddev	.00084	.00459	.00317	.00047	.00071	.00003	.134
%RSD	263.71	15.260	351.23	1.5567	.25346	89.224	.53126
#1	.00120	.02710	-.00396	.03039	.28030	-.00008	25.040
#2	.00021	.02776	-.00113	.02995	.28001	-.00001	25.288
#3	-.00046	.03536	.00238	.03090	.27896	-.00003	25.077
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00020**	**.00082**	**.00297**	**.00085**	**.16759**	**1.3234**	**.02032**
Stddev	.00027	.00042	.00029	.00070	.01839	.0809	.00427
%RSD	139.59	50.721	9.8781	82.620	10.975	6.1104	20.993
#1	-.00035	.00035	.00266	.00146	.17502	1.4152	.01645
#2	.00012	.00115	.00303	.00008	.14665	1.2627	.01961
#3	-.00035	.00096	.00323	.00101	.18112	1.2923	.02489
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	**35.076**	**.03158**	**-.00006**	F **316.48**	**.00089**	**2.2899**	**.00013**
Stddev	.081	.00152	.00040	.93	.00055	.0075	.00260
%RSD	.23066	4.7987	620.43	.29492	61.491	.32942	2020.2
#1	34.990	.03279	.00038	316.38	.00035	2.2812	-.00003
#2	35.151	.03206	-.00018	317.46	.00145	2.2947	.00280
#3	35.086	.02988	-.00039	315.61	.00088	2.2938	-.00239
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 06, 2016

Ki K Buck

Sample Name: L1610009502 Acquired: 10/6/2016 13:28:50 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00407**	**.00383**	**14.481**	**.00028**	**.47119**	**.00175**	**.00078**
Stddev	.00298	.00437	.018	.00049	.00054	.00183	.00245
%RSD	73.076	114.28	.12744	178.18	.11538	104.64	314.65
#1	.00064	.00516	14.469	.00050	.47160	-.00031	.00116
#2	.00589	-.00106	14.502	-.00029	.47058	.00236	.00302
#3	.00569	.00738	14.472	.00062	.47140	.00320	-.00184
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00062**	**.00871**	**.68112**
Stddev	.00080	.00004	.15244
%RSD	130.08	.48863	22.381
#1	.00087	.00874	.63502
#2	.00126	.00874	.85130
#3	-.00028	.00866	.55705
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	**10769.**	**92177.**	**12246.**
Stddev	26.	185.	23.
%RSD	.24408	.20040	.18970
#1	10765.	92183.	12267.
#2	10745.	92359.	12250.
#3	10797.	91989.	12221.

Approved: October 06, 2016

Kristi K Buck

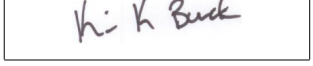
Sample Name: L1610011101 Acquired: 10/6/2016 13:32:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00031**	**.09055**	**.00160**	**.08173**	**.26516**	**-.00004**	**77.410**	**.00009**
Stddev	.00107	.00280	.00031	.00138	.00123	.00004	.431	.00005
%RSD	341.81	3.0905	19.257	1.6878	.46573	117.93	.55726	56.874
#1	.00038	.08868	.00154	.08131	.26465	-.00000	77.033	.00012
#2	-.00079	.08922	.00193	.08328	.26657	-.00003	77.880	.00003
#3	.00134	.09377	.00133	.08062	.26426	-.00009	77.317	.00013
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	**.00040**	**.00162**	**.00279**	**.86023**	**.73709**	**.00550**	**43.074**	**.42936**
Stddev	.00042	.00066	.00184	.02230	.04219	.00023	.310	.00107
%RSD	104.79	41.026	66.143	2.5926	5.7238	4.1118	.72048	.24865
#1	.00029	.00192	.00283	.84267	.78250	.00543	42.795	.42906
#2	.00086	.00086	.00092	.88533	.72966	.00532	43.408	.43055
#3	.00005	.00208	.00461	.85270	.69910	.00575	43.017	.42848
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	**-.00022**	**10.240**	**.00084**	**.06723**	**.00234**	**.00510**	**.00074**	**7.1754**
Stddev	.00016	.078	.00111	.00128	.00157	.00271	.00480	.0140
%RSD	71.016	.76328	132.15	1.8985	67.146	53.190	648.82	.19563
#1	-.00037	10.168	-.00039	.06810	.00381	.00280	.00057	7.1917
#2	-.00024	10.323	.00114	.06576	.00252	.00809	-.00397	7.1673
#3	-.00006	10.230	.00177	.06783	.00068	.00441	.00562	7.1673
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610011101 Acquired: 10/6/2016 13:32:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00005**	**.58218**	**-.00555**	**.00047**	**.00241**	**.00630**	**2.6377**
Stddev	.00045	.00237	.00095	.00366	.00062	.00011	.5829
%RSD	904.64	.40645	17.176	782.85	25.828	1.7815	22.099
#1	.00046	.58009	-.00471	-.00181	.00237	.00639	2.6710
#2	-.00043	.58475	-.00536	.00469	.00181	.00633	3.2032
#3	.00012	.58170	-.00659	-.00148	.00305	.00617	2.0389
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	**10906.**	**96406.**	**12246.**
Stddev	47.	171.	46.
%RSD	.43035	.17701	.37953
#1	10953.	96290.	12198.
#2	10905.	96325.	12250.
#3	10859.	96602.	12290.

Approved: October 06, 2016

Kristi K Buck

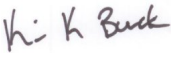
Sample Name: L1610011301 Acquired: 10/6/2016 13:36:15 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00012**	**.09930**	**.00210**	**.17398**	**.23118**	**-.00007**	**95.162**
Stddev	.00171	.00817	.00198	.00174	.00031	.00004	.173
%RSD	1469.7	8.2291	93.903	1.0017	.13453	60.972	.18223
#1	-.00174	.09011	.00013	.17326	.23085	-.00012	95.308
#2	.00045	.10203	.00211	.17597	.23146	-.00004	95.207
#3	.00164	.10575	.00408	.17272	.23124	-.00005	94.970
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	**.00016**	**.00009**	**.00171**	**.00000**	**.61599**	**2.1960**	**.01583**
Stddev	.00014	.00020	.00021	.00016	.02085	.0979	.00396
%RSD	82.705	224.69	12.004	3278.0	3.3853	4.4581	25.018
#1	.00023	-.00014	.00171	.00004	.63073	2.2702	.01151
#2	.00025	.00018	.00151	.00015	.59213	2.0850	.01929
#3	.00001	.00023	.00192	-.00017	.62510	2.2327	.01669
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	**56.458**	**.24239**	**.00064**	F **284.34**	**-.00024**	**.03616**	**.00209**
Stddev	.216	.00223	.00034	.71	.00083	.00281	.00360
%RSD	.38207	.92054	52.536	.24932	340.60	7.7635	172.11
#1	56.708	.24190	.00071	284.58	-.00120	.03913	.00403
#2	56.332	.24482	.00095	284.89	.00012	.03354	-.00206
#3	56.336	.24044	.00028	283.54	.00034	.03583	.00432
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 06, 2016



Sample Name: L1610011301 Acquired: 10/6/2016 13:36:15 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00397**	**.01474**	**9.1591**	**.00137**	**.60769**	**-.00517**	**-.00045**
Stddev	.00279	.00698	.0432	.00053	.00177	.00533	.00096
%RSD	70.313	47.381	.47129	38.997	.29052	103.04	211.96
#1	.00116	.01268	9.2086	.00143	.60958	-.00723	-.00054
#2	.00400	.02252	9.1397	.00186	.60741	-.00917	-.00136
#3	.00675	.00902	9.1290	.00080	.60608	.00088	.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	**.00757**	**.00444**	**1.2064**
Stddev	.00030	.00004	.9534
%RSD	3.9329	1.0105	79.022
#1	.00753	.00440	.23438
#2	.00730	.00449	2.1399
#3	.00789	.00441	1.2450
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	**10505.**	**91654.**	**12215.**
Stddev	99.	331.	178.
%RSD	.94459	.36073	1.4571
#1	10615.	91936.	12011.
#2	10476.	91736.	12340.
#3	10423.	91290.	12295.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610011401 Acquired: 10/6/2016 13:39:58 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00072**	**.12238**	**.00081**	**.19151**	**.36570**	**-.00002**	**54.623**	**-.00007**
Stddev	.00094	.00459	.00166	.00119	.00115	.00001	.090	.00023
%RSD	130.35	3.7522	205.52	.62228	.31555	49.771	.16535	331.73
#1	.00064	.12204	.00198	.19246	.36437	-.00001	54.633	.00008
#2	.00170	.12714	.00154	.19191	.36628	-.00002	54.528	.00004
#3	-.00017	.11797	-.00109	.19018	.36644	-.00002	54.708	-.00033
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	**.00026**	**.00107**	**.00091**	**1.0005**	**.37462**	**.00246**	**35.288**	**.76286**
Stddev	.00042	.00065	.00110	.0243	.10577	.00385	.187	.00266
%RSD	162.92	60.363	121.97	2.4274	28.233	156.35	.52951	.34869
#1	-.00013	.00033	-.00015	1.0201	.25943	-.00044	35.411	.76072
#2	.00020	.00137	.00081	.97335	.39707	.00100	35.073	.76201
#3	.00071	.00152	.00206	1.0082	.46737	.00683	35.380	.76584
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	**.00030**	**92.963**	**.00111**	**.02274**	**.00224**	**.00399**	**.01223**	**8.8395**
Stddev	.00065	.301	.00077	.00445	.00262	.00252	.00322	.0381
%RSD	216.18	.32346	69.467	19.551	116.92	63.263	26.377	.43138
#1	-.00044	93.134	.00199	.02328	.00181	.00114	.01318	8.8168
#2	.00078	92.616	.00077	.01804	.00505	.00488	.01486	8.8182
#3	.00056	93.140	.00057	.02688	-.00013	.00594	.00863	8.8835
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Ki K Buck

Sample Name: L1610011401 Acquired: 10/6/2016 13:39:58 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00085**	**.36006**	**.00167**	**.00099**	**.00116**	**.00547**	**2.2893**
Stddev	.00079	.00066	.00237	.00200	.00056	.00012	.2078
%RSD	92.555	.18235	142.46	202.38	48.455	2.2426	9.0761
#1	.00099	.35936	.00110	.00141	.00094	.00557	2.2720
#2	.00000	.36014	-.00037	-.00119	.00179	.00533	2.5051
#3	.00156	.36067	.00427	.00274	.00074	.00550	2.0907
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	**11050.**	**95352.**	**12572.**
Stddev	93.	673.	102.
%RSD	.84068	.70609	.81004
#1	10943.	95198.	12575.
#2	11092.	94769.	12673.
#3	11114.	96089.	12469.

Approved: October 06, 2016

Kristi K Buck

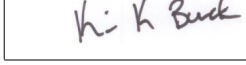
Sample Name: L1610012302 Acquired: 10/6/2016 13:43:41 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00088**	**.46767**	**-.00007**	**.00905**	**.01947**	**.00008**	**238.57**
Stddev	.00015	.00777	.00176	.00147	.00096	.00009	1.72
%RSD	16.514	1.6617	2597.3	16.295	4.9243	110.82	.72255
#1	-.00098	.45872	-.00153	.00772	.01860	-.00001	236.81
#2	-.00071	.47151	.00188	.00878	.01933	.00017	238.65
#3	-.00094	.47277	-.00055	.01063	.02050	.00008	240.25
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	**.00109**	**.00081**	**.00143**	**.00313**	**.73027**	**1.2312**	**.13612**
Stddev	.00002	.00047	.00084	.00063	.01425	.1013	.00231
%RSD	1.8782	57.877	58.394	20.263	1.9509	8.2285	1.6950
#1	.00109	.00027	.00127	.00241	.71712	1.2967	.13823
#2	.00106	.00102	.00234	.00335	.74541	1.1145	.13649
#3	.00110	.00114	.00069	.00362	.72829	1.2824	.13366
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	**200.16**	**.12510**	**-.00013**	F **429.89**	**.01373**	**.04898**	**-.00156**
Stddev	.56	.00020	.00022	4.89	.00116	.01283	.00340
%RSD	.27765	.16105	167.41	1.1366	8.4802	26.188	217.42
#1	199.73	.12533	-.00006	424.32	.01250	.06379	-.00541
#2	199.97	.12500	.00004	431.89	.01389	.04144	-.00031
#3	200.79	.12497	-.00038	433.46	.01481	.04171	.00103
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 06, 2016



Sample Name: L1610012302 Acquired: 10/6/2016 13:43:41 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00463**	**.00343**	**16.511**	**.00061**	**6.2101**	**-.01410**	**-.00197**
Stddev	.00177	.00097	.067	.00013	.0089	.00369	.00252
%RSD	38.301	28.162	.40558	21.031	.14326	26.143	128.33
#1	.00635	.00316	16.500	.00051	6.1998	-.01173	.00047
#2	.00474	.00450	16.583	.00057	6.2145	-.01222	-.00180
#3	.00281	.00263	16.450	.00075	6.2159	-.01835	-.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	**.00154**	**.03392**	**2.1294**
Stddev	.00051	.00006	.2131
%RSD	33.110	.17378	10.005
#1	.00185	.03398	1.8952
#2	.00095	.03392	2.1814
#3	.00181	.03387	2.3116
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	**9812.5**	**84417.**	**11692.**
Stddev	24.2	187.	234.
%RSD	.24703	.22181	1.9982
#1	9831.7	84232.	11937.
#2	9785.3	84606.	11667.
#3	9820.5	84414.	11472.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610012304 Acquired: 10/6/2016 13:47:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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**	**.04290**	**-.00268**	**.40412**	**.01785**	**.00007**	**1.3518**	**.00020**
Stddev	.00113	.00082	.00177	.00185	.00020	.00006	.0279	.00024
%RSD	147.23	1.9221	65.989	.45878	1.1098	91.350	2.0670	120.40
#1	.00155	.04323	-.00280	.40469	.01781	.00000	1.3800	.00029
#2	.00129	.04196	-.00439	.40562	.01807	.00013	1.3241	-.00007
#3	-.00053	.04350	-.00086	.40205	.01768	.00008	1.3511	.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	**.00077**	**.00076**	**-.00005**	**.01605**	**.13553**	**.01880**	**.95567**	**.06330**
Stddev	.00007	.00079	.00108	.00992	.04252	.00238	.05393	.00363
%RSD	9.6549	103.86	2237.1	61.791	31.370	12.664	5.6435	5.7397
#1	.00070	.00114	.00081	.01870	.16990	.02062	.91698	.06538
#2	.00075	.00128	-.00127	.02438	.08799	.01611	1.0173	.06541
#3	.00085	-.00015	.00032	.00508	.14871	.01967	.93276	.05910
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	**-.00035**	**36.222**	**-.00031**	**.23164**	**.00096**	**.00438**	**.00760**	**32.125**
Stddev	.00079	.182	.00075	.00255	.00074	.00244	.00252	.024
%RSD	224.76	.50272	242.80	1.0989	77.873	55.760	33.125	.07480
#1	.00050	36.406	-.00082	.23456	.00181	.00718	.00471	32.147
#2	-.00048	36.220	-.00065	.23044	.00057	.00273	.00876	32.130
#3	-.00107	36.041	.00055	.22992	.00048	.00322	.00932	32.099
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Sample Name: L1610012304 Acquired: 10/6/2016 13:47:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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**	**.02987**	**.00520**	**-.00187**	**.00147**	**.00481**	**.96815**
Stddev	.00060	.00027	.00237	.00101	.00148	.00007	.29521
%RSD	90.191	.92016	45.617	53.973	100.40	1.3715	30.492
#1	.00086	.03014	.00773	-.00227	.00111	.00478	1.1995
#2	.00114	.02987	.00487	-.00072	.00021	.00489	.63567
#3	-.00001	.02959	.00301	-.00262	.00310	.00477	1.0692
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	**11231.**	**98521.**	**12160.**
Stddev	39.	92.	101.
%RSD	.35080	.09347	.82992
#1	11224.	98627.	12060.
#2	11196.	98457.	12160.
#3	11273.	98480.	12261.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610012306 Acquired: 10/6/2016 13:51:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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**	**.12915**	**-.00192**	**.18504**	**.02294**	**.00005**	F **359.87**
Stddev	.00115	.00363	.00042	.00177	.00038	.00004	1.55
%RSD	146.68	2.8105	21.870	.95855	1.6656	76.908	.43207
#1	-.00210	.12605	-.00212	.18646	.02328	.00003	359.12
#2	-.00023	.12826	-.00143	.18305	.02253	.00003	361.66
#3	-.00002	.13314	-.00220	.18559	.02303	.00009	358.84
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	**.00196**	**.00162**	**.00108**	**.00179**	**.15026**	**1.6181**	**.26230**
Stddev	.00012	.00047	.00046	.00128	.01341	.0430	.00253
%RSD	5.8977	29.128	42.314	71.589	8.9220	2.6552	.96577
#1	.00183	.00107	.00157	.00104	.13803	1.6650	.26322
#2	.00203	.00188	.00067	.00105	.16459	1.5807	.26424
#3	.00203	.00190	.00099	.00326	.14814	1.6085	.25943
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	**365.66**	**.40259**	**.00007**	F **472.21**	**.02112**	**.01034**	**.00196**
Stddev	.98	.00107	.00022	6.24	.00047	.00703	.00287
%RSD	.26845	.26530	311.13	1.3224	2.2032	68.000	146.85
#1	365.79	.40167	-.00018	476.17	.02149	.01744	.00454
#2	366.57	.40376	.00017	475.44	.02127	.00338	.00247
#3	364.62	.40233	.00022	465.01	.02059	.01020	-.00114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 06, 2016
Ki K Buck

Sample Name: L1610012306 Acquired: 10/6/2016 13:51:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	.00069	.00700	13.212	.00048	F 9.9901	F -.04211	-.00446
Stddev	.00187	.00480	.032	.00074	.2782	.00494	.00189
%RSD	272.14	68.584	.24133	155.71	2.7847	11.720	42.460
#1	.00012	.00166	13.211	.00120	9.9198	-.04400	-.00319
#2	-.00084	.01096	13.244	.00052	10.297	-.03651	-.00664
#3	.00278	.00839	13.180	-.00028	9.7538	-.04582	-.00356
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	.00020	.00707	.37393
Stddev	.00066	.00005	.33445
%RSD	335.25	.75039	89.442
#1	.00087	.00707	.59838
#2	-.00043	.00712	-.01046
#3	.00015	.00701	.53387
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	9568.2	82111.	11383.
Stddev	80.5	19.	98.
%RSD	.84141	.02267	.86477
#1	9521.4	82102.	11422.
#2	9661.1	82132.	11271.
#3	9521.9	82098.	11456.

Approved: October 06, 2016

Kim K Buck

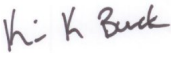
Sample Name: L1610012307 Acquired: 10/6/2016 13:55:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00121**	**.08138**	**.00108**	**.18441**	**.01873**	**.00003**	**247.94**
Stddev	.00177	.00466	.00100	.00371	.00082	.00001	2.35
%RSD	145.55	5.7273	93.002	2.0105	4.3869	30.360	.94621
#1	.00023	.08651	-.00008	.18696	.01968	.00003	245.51
#2	-.00318	.07740	.00170	.18016	.01816	.00002	248.10
#3	-.00068	.08024	.00161	.18611	.01836	.00004	250.20
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	**.00031**	**.00231**	**.00008**	**.00307**	**.14587**	**3.0087**	**.19033**
Stddev	.00019	.00031	.00029	.00027	.02081	.0396	.00579
%RSD	60.288	13.251	364.37	8.8435	14.265	1.3163	3.0405
#1	.00032	.00266	-.00024	.00317	.16823	2.9658	.18372
#2	.00012	.00216	.00032	.00328	.14228	3.0165	.19451
#3	.00049	.00211	.00016	.00276	.12708	3.0438	.19275
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	**183.71**	**.28260**	**.00019**	F **508.41**	**.00807**	**.01168**	**.00176**
Stddev	1.25	.00345	.00035	10.22	.00205	.00836	.00203
%RSD	.68161	1.2204	187.99	2.0106	25.459	71.547	115.15
#1	182.31	.27886	.00007	497.27	.00883	.00334	.00409
#2	184.06	.28566	.00059	510.59	.00963	.01164	.00070
#3	184.74	.28327	-.00009	517.36	.00574	.02006	.00049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 06, 2016



Sample Name: L1610012307 Acquired: 10/6/2016 13:55:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00284**	**-.00088**	**8.9766**	**.00081**	**8.6889**	**-.02668**	**.00156**
Stddev	.00735	.00660	.0333	.00026	.1013	.00534	.00229
%RSD	258.88	748.44	.37145	31.909	1.1658	20.012	146.68
#1	.01130	.00673	9.0097	.00075	8.7596	-.02262	-.00101
#2	-.00192	-.00484	8.9773	.00059	8.7342	-.02470	.00337
#3	-.00086	-.00454	8.9430	.00110	8.5728	-.03273	.00232
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**	**.00498**	**.70184**
Stddev	.00014	.00009	.46567
%RSD	24.260	1.8856	66.351
#1	.00070	.00509	.95868
#2	.00043	.00493	.98253
#3	.00063	.00492	.16430
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	**9945.3**	**84823.**	**11764.**
Stddev	70.0	1090.	174.
%RSD	.70417	1.2847	1.4754
#1	9922.3	83575.	11916.
#2	10024.	85588.	11801.
#3	9889.6	85304.	11575.

Approved: October 06, 2016

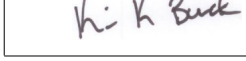
Sample Name: CCV Acquired: 10/6/2016 13:59:15 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.39396**	**10.076**	**.39172**	**.49108**	**.96542**	**.04899**	**9.7008**
Stddev	.00174	.050	.00149	.00277	.00180	.00035	.0070
%RSD	.44175	.49423	.38164	.56482	.18621	.71373	.07208
#1	.39478	10.090	.39144	.48801	.96744	.04860	9.7044
#2	.39514	10.020	.39333	.49184	.96400	.04909	9.7053
#3	.39196	10.116	.39038	.49339	.96481	.04928	9.6928
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	**.04887**	**.19705**	**.49133**	**.49406**	**3.9434**	**47.934**	**.95734**
Stddev	.00016	.00059	.00294	.00228	.0291	.120	.00347
%RSD	.31774	.29814	.59932	.46104	.73799	.25068	.36285
#1	.04903	.19721	.48892	.49594	3.9330	48.062	.96005
#2	.04872	.19754	.49045	.49472	3.9210	47.824	.95343
#3	.04887	.19640	.49461	.49153	3.9763	47.915	.95856
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	**9.9798**	**.49516**	**.98076**	**47.746**	**.49306**	**9.7647**	**.49439**
Stddev	.0830	.00436	.00266	.103	.00170	.0439	.00156
%RSD	.83219	.88132	.27093	.21601	.34461	.44975	.31534
#1	10.070	.49775	.98349	47.823	.49479	9.7881	.49533
#2	9.9057	.49761	.98061	47.629	.49300	9.7920	.49524
#3	9.9642	.49012	.97818	47.786	.49140	9.7140	.49259
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 06, 2016



Sample Name: CCV Acquired: 10/6/2016 13:59:15 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**1.1809**	**.38939**	**4.9764**	**.98051**	**.97348**	**.97891**	**.50426**
Stddev	.0054	.00418	.0175	.00173	.00178	.00640	.00348
%RSD	.45800	1.0733	.35194	.17694	.18297	.65358	.69085
#1	1.1804	.39204	4.9908	.98238	.97392	.97173	.50183
#2	1.1865	.38457	4.9815	.98018	.97152	.98400	.50825
#3	1.1757	.39155	4.9569	.97896	.97501	.98100	.50270
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	**.98098**	**.98545**	F **1.8282**
Stddev	.00402	.00409	.6957
%RSD	.40965	.41554	38.053
#1	.97865	.98896	2.6286
#2	.97868	.98644	1.4877
#3	.98562	.98095	1.3683
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	**10706.**	**92575.**	**12028.**
Stddev	22.	855.	55.
%RSD	.20663	.92307	.45585
#1	10699.	91876.	12056.
#2	10688.	93527.	12063.
#3	10731.	92320.	11965.

Approved: October 06, 2016

Ki K Buck

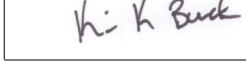
Sample Name: CCB Acquired: 10/6/2016 14:02:43 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00011**	**-.00295**	**-.00136**	**.00245**	**.00012**	**.00003**	**.00201**
Stddev	.00064	.00593	.00084	.00079	.00041	.00001	.02169
%RSD	581.64	200.86	61.459	32.256	338.28	52.187	1079.6
#1	.00032	-.00079	-.00044	.00268	.00028	.00002	-.02190
#2	-.00084	.00159	-.00156	.00310	.00042	.00002	.00751
#3	.00019	-.00965	-.00208	.00157	-.00035	.00004	.02043
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**	**.00029**	**-.00026**	**-.00156**	**-.00862**	**.03847**	**-.00116**
Stddev	.00008	.00023	.00049	.00067	.00374	.05272	.00407
%RSD	20.838	78.850	189.08	43.100	43.415	137.04	349.21
#1	-.00030	.00053	-.00082	-.00133	-.00469	.05440	-.00576
#2	-.00045	.00009	.00011	-.00104	-.00902	-.02038	.00197
#3	-.00042	.00023	-.00007	-.00232	-.01215	.08138	.00029
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	**.07644**	**-.00080**	**-.00050**	**.11879**	**-.00081**	**.00351**	**.00014**
Stddev	.02220	.00045	.00052	.00348	.00110	.00386	.00445
%RSD	29.045	56.376	104.48	2.9273	135.27	110.19	3231.8
#1	.05884	-.00031	-.00109	.11478	-.00060	.00723	.00525
#2	.06909	-.00119	-.00008	.12050	-.00201	-.00048	-.00197
#3	.10139	-.00091	-.00034	.12107	.00016	.00377	-.00287
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: CCB Acquired: 10/6/2016 14:02:43 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00198**	**.00179**	**.00280**	**-.00025**	**-.00019**	**.00129**	**.00165**
Stddev	.00092	.00221	.00056	.00043	.00012	.00345	.00419
%RSD	46.427	123.37	19.959	167.95	64.252	266.79	253.16
#1	.00109	.00422	.00308	.00007	-.00005	-.00064	.00357
#2	.00192	-.00011	.00316	-.00074	-.00024	.00527	-.00315
#3	.00292	.00127	.00215	-.00009	-.00028	-.00076	.00454
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**	**-.00012**	F **.93595**
Stddev	.00038	.00013	.23046
%RSD	124.28	109.38	24.623
#1	-.00012	-.00020	.69522
#2	.00044	-.00019	.95810
#3	.00060	.00003	1.1545
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	**10906.**	**94922.**	**12077.**
Stddev	83.	734.	94.
%RSD	.76369	.77321	.77454
#1	10838.	94339.	12176.
#2	10881.	94681.	12065.
#3	10999.	95746.	11990.

Approved: October 06, 2016

Kristi K Buck

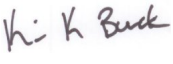
Sample Name: L1610013301 Acquired: 10/6/2016 14:06:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00072**	**.07130**	**-.00253**	**.01310**	**.00172**	**-.00004**	**.40168**	**-.00037**
Stddev	.00085	.00343	.00120	.00161	.00040	.00007	.01081	.00004
%RSD	117.73	4.8116	47.584	12.311	23.399	172.28	2.6912	10.682
#1	-.00120	.06993	-.00115	.01131	.00218	.00002	.39263	-.00041
#2	.00026	.06876	-.00336	.01354	.00147	-.00002	.39875	-.00034
#3	-.00122	.07520	-.00308	.01444	.00149	-.00012	.41365	-.00036
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**	**.00351**	**.03341**	**.43198**	**.10745**	**-.00355**	**.06836**	**.00490**
Stddev	.00011	.00035	.00018	.01584	.06374	.00103	.06235	.00164
%RSD	37772.	9.9981	.54788	3.6660	59.321	29.039	91.200	33.546
#1	-.00009	.00314	.03321	.45016	.14762	-.00380	.03075	.00348
#2	.00013	.00384	.03347	.42457	.14077	-.00443	.14033	.00452
#3	-.00004	.00355	.03356	.42121	.03396	-.00242	.03400	.00670
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**	**.33545**	**-.00014**	**.00073**	**.00202**	**.00009**	**.00360**	**.15614**
Stddev	.00014	.02707	.00089	.00375	.00103	.00448	.00299	.00170
%RSD	163.57	8.0684	623.96	511.45	50.731	4983.1	83.056	1.0882
#1	-.00004	.35021	.00050	-.00001	.00227	-.00366	.00278	.15638
#2	.00023	.35194	-.00116	-.00259	.00090	.00505	.00111	.15771
#3	.00006	.30422	.00023	.00480	.00291	-.00112	.00692	.15434
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610013301 Acquired: 10/6/2016 14:06:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00141**	**.00119**	**.00461**	**-.00374**	**-.00011**	**.01380**	**1.6394**
Stddev	.00050	.00018	.00415	.00044	.00077	.00018	.0516
%RSD	35.440	14.763	89.917	11.742	684.90	1.3308	3.1496
#1	.00186	.00138	.00444	-.00424	-.00069	.01364	1.6821
#2	.00087	.00104	.00885	-.00344	-.00040	.01400	1.6542
#3	.00149	.00116	.00055	-.00353	.00076	.01377	1.5820
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	**11198.**	**98556.**	**12138.**
Stddev	112.	452.	126.
%RSD	1.0004	.45831	1.0365
#1	11069.	99014.	11993.
#2	11266.	98542.	12212.
#3	11259.	98111.	12210.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610014503 Acquired: 10/6/2016 14:10:18 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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**	**.22111**	**.00030**	**.17559**	**.01489**	**-.00014**	**29.057**
Stddev	.00029	.00818	.00274	.00214	.00048	.00006	.087
%RSD	91.088	3.7016	920.53	1.2166	3.2017	44.454	.30051
#1	-.00007	.21221	.00264	.17703	.01512	-.00009	29.049
#2	-.00026	.22832	.00097	.17660	.01434	-.00021	28.974
#3	-.00064	.22280	-.00271	.17313	.01521	-.00013	29.148
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**	**.00656**	**.00007**	**.00096**	**-.00398**	**4.2034**	**2.0231**
Stddev	.00022	.00023	.00039	.00138	.01322	.0602	.0080
%RSD	60.244	3.4573	529.38	144.25	332.15	1.4315	.39807
#1	-.00030	.00631	.00053	.00160	-.00265	4.1858	2.0293
#2	-.00062	.00664	-.00018	.00191	-.01782	4.1539	2.0140
#3	-.00019	.00674	-.00012	-.00063	.00853	4.2703	2.0259
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	**8.1521**	**.00135**	**.02021**	F **746.86**	**.02048**	**1.0977**	**-.00078**
Stddev	.0723	.00133	.00030	8.47	.00064	.0095	.00235
%RSD	.88706	98.779	1.4693	1.1344	3.1095	.86426	302.08
#1	8.1334	.00272	.02023	739.29	.02112	1.1063	-.00256
#2	8.2319	.00125	.02050	756.01	.02046	1.0991	-.00166
#3	8.0910	.00007	.01990	745.27	.01985	1.0875	.00189
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 06, 2016

Ki K Buck

Sample Name: L1610014503 Acquired: 10/6/2016 14:10:18 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00766**	**.00016**	**1.3460**	**-.00001**	**.17386**	**.00237**	**-.00205**
Stddev	.00604	.00854	.0034	.00145	.00065	.00039	.00208
%RSD	78.951	5444.2	.25583	18992.	.37461	16.375	101.78
#1	.01450	.01001	1.3444	.00024	.17431	.00282	-.00110
#2	.00304	-.00514	1.3499	-.00157	.17416	.00221	-.00444
#3	.00543	-.00440	1.3436	.00130	.17311	.00209	-.00061
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**	**.00343**	**.88787**
Stddev	.00051	.00003	.79154
%RSD	74.082	.84957	89.151
#1	.00041	.00345	.80272
#2	.00127	.00344	.14234
#3	.00037	.00340	1.7185
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	**10366.**	**86814.**	**12110.**
Stddev	3.	497.	10.
%RSD	.02568	.57271	.08331
#1	10365.	87369.	12120.
#2	10369.	86661.	12110.
#3	10364.	86411.	12100.

Approved: October 06, 2016

Ki K Buck

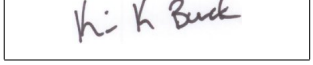
Sample Name: L1610014802 Acquired: 10/6/2016 14:14:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00074**	**.04046**	**.00234**	**.10858**	**.10624**	**-.00000**	**38.827**
Stddev	.00092	.00354	.00197	.00080	.00082	.00005	.141
%RSD	124.21	8.7373	84.168	.73466	.77343	1579.0	.36230
#1	.00175	.03793	.00175	.10901	.10686	-.00004	38.711
#2	.00054	.04450	.00074	.10766	.10654	-.00002	38.785
#3	-.00006	.03895	.00454	.10908	.10531	.00005	38.983
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00011**	**.00011**	**.00060**	**.00040**	**8.3024**	**4.3084**	**.00268**
Stddev	.00020	.00042	.00065	.00143	.0234	.0180	.00283
%RSD	183.54	370.19	107.92	358.21	.28222	.41728	105.66
#1	-.00010	.00013	.00130	.00014	8.3079	4.3089	.00197
#2	-.00031	.00052	.00046	-.00089	8.2766	4.2902	.00580
#3	.00009	-.00031	.00003	.00194	8.3225	4.3262	.00027
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	**8.4876**	**.16503**	**.00118**	**83.680**	**-.00111**	**.18796**	**.00356**
Stddev	.1108	.00259	.00017	.288	.00060	.00636	.00381
%RSD	1.3052	1.5686	14.372	.34460	53.718	3.3828	107.15
#1	8.5046	.16754	.00099	83.375	-.00130	.18938	.00577
#2	8.3692	.16237	.00122	83.716	-.00044	.18102	-.00084
#3	8.5888	.16518	.00132	83.948	-.00158	.19349	.00575
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: L1610014802 Acquired: 10/6/2016 14:14:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00257**	**.00830**	**9.3468**	**.00026**	**.18373**	**.00090**	**.00085**
Stddev	.00292	.00527	.0107	.00060	.00016	.00073	.00508
%RSD	113.70	63.483	.11420	232.54	.08635	81.428	597.08
#1	.00384	.00550	9.3397	.00094	.18369	.00010	-.00454
#2	-.00077	.00502	9.3591	-.00003	.18390	.00154	.00554
#3	.00465	.01438	9.3417	-.00014	.18359	.00105	.00155
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	**.00016**	**.00542**	F **-.27023**
Stddev	.00090	.00020	.53781
%RSD	562.63	3.7698	199.02
#1	.00025	.00521	.01006
#2	.00102	.00561	.06954
#3	-.00079	.00545	-.89029
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	**10898.**	**93841.**	**11828.**
Stddev	29.	1681.	103.
%RSD	.26249	1.7911	.87300
#1	10920.	91901.	11886.
#2	10908.	94770.	11889.
#3	10865.	94852.	11708.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610014803 Acquired: 10/6/2016 14:17:53 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586390-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00031**	**.04142**	**-.00006**	**.12881**	**.03119**	**-.00001**	**35.407**	**-.00005**
Stddev	.00078	.00123	.00086	.00150	.00030	.00002	.117	.00021
%RSD	251.64	2.9776	1501.8	1.1654	.96280	183.55	.32979	408.38
#1	-.00024	.04206	.00069	.12848	.03088	-.00000	35.322	.00013
#2	-.00003	.04220	-.00100	.13044	.03148	.00000	35.359	-.00027
#3	.00120	.04000	.00014	.12750	.03121	-.00004	35.540	-.00001
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	**.00048**	**.00083**	**.00280**	**.14649**	**3.9665**	**.00106**	**4.7604**	**.01136**
Stddev	.00072	.00094	.00155	.00676	.0916	.00454	.0406	.00106
%RSD	150.82	114.00	55.228	4.6112	2.3091	429.82	.85172	9.3355
#1	-.00011	-.00012	.00120	.15257	4.0717	-.00105	4.7223	.01183
#2	.00026	.00083	.00293	.13922	3.9043	-.00205	4.7559	.01210
#3	.00128	.00177	.00429	.14769	3.9235	.00627	4.8030	.01014
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	**.00344**	**20.755**	**.00066**	**.04323**	**-.00073**	**.00509**	**.00863**	**4.7245**
Stddev	.00033	.135	.00144	.00571	.00075	.00420	.00097	.0311
%RSD	9.6116	.65256	216.40	13.199	102.65	82.478	11.284	.65746
#1	.00307	20.637	.00073	.03947	-.00151	.00900	.00796	4.6939
#2	.00372	20.725	.00207	.04979	-.00002	.00561	.00819	4.7560
#3	.00353	20.903	-.00081	.04042	-.00065	.00065	.00975	4.7235
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Sample Name: L1610014803 Acquired: 10/6/2016 14:17:53 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586390-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00026	.16708	-.00171	.00045	.00191	.00620	1.0326
Stddev	.00066	.00026	.00232	.00332	.00044	.00007	.2616
%RSD	253.91	.15685	135.67	742.13	22.854	1.1540	25.331
#1	.00050	.16679	-.00295	.00221	.00166	.00614	1.0125
#2	-.00048	.16730	.00097	-.00339	.00242	.00628	1.3036
#3	.00076	.16716	-.00314	.00252	.00166	.00618	.78167
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	10842.	96018.	12259.
Stddev	113.	142.	129.
%RSD	1.0454	.14795	1.0524
#1	10817.	96160.	12289.
#2	10743.	96017.	12370.
#3	10965.	95876.	12117.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610014803MS Acquired: 10/6/2016 14:21:37 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586390-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19698**	**4.9762**	**.19608**	**1.0646**	**.51494**	**.02436**	**40.934**	**.02407**
Stddev	.00091	.0082	.00082	.0025	.00102	.00007	.111	.00053
%RSD	.46241	.16439	.41823	.23272	.19883	.28482	.27163	2.1855
#1	.19598	4.9713	.19620	1.0674	.51395	.02444	40.901	.02436
#2	.19722	4.9716	.19521	1.0628	.51488	.02431	41.058	.02439
#3	.19775	4.9856	.19683	1.0635	.51600	.02432	40.843	.02346
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	**.09825**	**.24290**	**.24955**	**2.1299**	**27.728**	**.48113**	**9.7388**	**.25891**
Stddev	.00016	.00121	.00127	.0200	.051	.00225	.0367	.00115
%RSD	.16546	.49665	.50845	.93745	.18529	.46688	.37693	.44463
#1	.09839	.24427	.24810	2.1317	27.736	.47913	9.6992	.25827
#2	.09829	.24199	.25008	2.1090	27.674	.48356	9.7457	.26024
#3	.09808	.24245	.25047	2.1489	27.776	.48070	9.7716	.25822
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	**.49651**	**44.914**	**.24537**	**4.8086**	**.24464**	**.58360**	**.19508**	**7.3711**
Stddev	.00215	.065	.00149	.0220	.00238	.00442	.00298	.0319
%RSD	.43389	.14519	.60660	.45690	.97322	.75676	1.5257	.43263
#1	.49528	44.948	.24370	4.7833	.24542	.58352	.19203	7.3394
#2	.49899	44.956	.24588	4.8205	.24653	.58806	.19798	7.4032
#3	.49525	44.839	.24655	4.8222	.24196	.57923	.19524	7.3708
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Sample Name: L1610014803MS Acquired: 10/6/2016 14:21:37 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586390-04

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48691**	**.65717**	**.49451**	**.24754**	**.49104**	**.48926**	**1.1427**
Stddev	.00247	.00074	.00187	.00313	.00010	.00256	.1559
%RSD	.50707	.11299	.37758	1.2635	.02121	.52289	13.644
#1	.48430	.65660	.49508	.25074	.49112	.48673	1.2640
#2	.48922	.65689	.49242	.24449	.49092	.49185	1.1972
#3	.48720	.65801	.49602	.24739	.49108	.48920	.96683
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	**10854.**	**94667.**	**12242.**
Stddev	135.	536.	71.
%RSD	1.2437	.56609	.58045
#1	10729.	94581.	12254.
#2	10836.	95241.	12306.
#3	10998.	94179.	12166.

Approved: October 06, 2016

Kristi K Buck

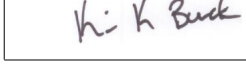
Sample Name: L1610014803MSD Acquired: 10/6/2016 14:25:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586390-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19609**	**4.9462**	**.19509**	**1.0643**	**.51786**	**.02442**	**41.739**	**.02416**
Stddev	.00061	.0063	.00184	.0023	.00475	.00000	.310	.00020
%RSD	.30890	.12806	.94378	.21486	.91777	.01062	.74240	.83959
#1	.19551	4.9511	.19566	1.0638	.51502	.02442	41.563	.02437
#2	.19604	4.9391	.19658	1.0623	.51521	.02441	41.556	.02414
#3	.19672	4.9485	.19303	1.0668	.52334	.02442	42.096	.02397
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	**.09777**	**.24355**	**.24934**	**2.1735**	**28.088**	**.47886**	**9.8737**	**.26099**
Stddev	.00024	.00169	.00238	.0293	.231	.00614	.0656	.00409
%RSD	.24187	.69581	.95566	1.3488	.82164	1.2824	.66423	1.5680
#1	.09790	.24167	.25208	2.1723	27.926	.47178	9.8588	.25644
#2	.09750	.24404	.24819	2.1449	27.986	.48202	9.8169	.26435
#3	.09791	.24495	.24775	2.2035	28.352	.48278	9.9455	.26219
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	**.49280**	**45.418**	**.24482**	**4.8164**	**.24715**	**.57893**	**.19676**	**7.4226**
Stddev	.00118	.372	.00147	.0242	.00192	.00337	.00633	.0104
%RSD	.23964	.81949	.59953	.50209	.77549	.58199	3.2161	.13970
#1	.49416	45.099	.24642	4.8439	.24884	.58264	.19680	7.4345
#2	.49222	45.327	.24452	4.7988	.24507	.57605	.20307	7.4174
#3	.49202	45.827	.24354	4.8063	.24755	.57810	.19042	7.4159
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610014803MSD Acquired: 10/6/2016 14:25:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586390-05

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48486**	**.66374**	**.49642**	**.24728**	**.48969**	**.48865**	**1.1439**
Stddev	.00154	.00637	.00616	.00192	.00211	.00133	.7683
%RSD	.31769	.95943	1.2418	.77505	.43169	.27303	67.165
#1	.48618	.66052	.49472	.24727	.48792	.48972	.27007
#2	.48317	.65962	.49129	.24920	.48913	.48716	1.4482
#3	.48524	.67107	.50326	.24537	.49203	.48908	1.7135
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	**10875.**	**96292.**	**11913.**
Stddev	151.	57.	133.
%RSD	1.3904	.05908	1.1175
#1	11036.	96354.	11889.
#2	10852.	96243.	11794.
#3	10736.	96277.	12057.

Approved: October 06, 2016

Kristi K Buck

Sample Name: CCV Acquired: 10/6/2016 14:28:35 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.39566**	**10.191**	**.39313**	**.49352**	**.97696**	**.04938**	**9.8069**	**.04909**
Stddev	.00051	.025	.00203	.00123	.00226	.00015	.0293	.00040
%RSD	.12933	.24289	.51526	.24912	.23136	.30437	.29866	.82296
#1	.39545	10.189	.39343	.49485	.97532	.04954	9.7856	.04953
#2	.39625	10.167	.39498	.49242	.97602	.04938	9.7948	.04873
#3	.39529	10.217	.39097	.49330	.97954	.04923	9.8403	.04901
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19755**	**.48928**	**.49533**	**3.9945**	**47.808**	**.96769**	**10.151**	**.50248**
Stddev	.00026	.00036	.00028	.0169	.077	.00637	.097	.00607
%RSD	.12965	.07412	.05618	.42178	.16005	.65860	.95881	1.2081
#1	.19737	.48915	.49560	4.0002	47.752	.96062	10.217	.49549
#2	.19744	.48969	.49505	4.0077	47.895	.97299	10.039	.50647
#3	.19784	.48901	.49535	3.9755	47.777	.96945	10.196	.50548
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.98186**	**48.280**	**.49522**	**9.8203**	**.50290**	**1.1848**	**.39641**	**4.9983**
Stddev	.00151	.139	.00118	.0070	.00271	.0077	.00999	.0035
%RSD	.15367	.28743	.23884	.07093	.53813	.65329	2.5213	.06982
#1	.98209	48.125	.49478	9.8133	.50159	1.1936	.39091	4.9986
#2	.98325	48.324	.49432	9.8272	.50601	1.1818	.39038	5.0017
#3	.98025	48.391	.49656	9.8205	.50109	1.1791	.40795	4.9947
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Approved: October 06, 2016
Ki K Buck

Sample Name: CCV Acquired: 10/6/2016 14:28:35 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.98205**	**.98648**	**1.0027**	**.50772**	**.97645**	**.98902**	**1.0853**
Stddev	.00069	.00188	.0031	.00305	.00100	.00079	.4243
%RSD	.07068	.19055	.30554	.60053	.10283	.08034	39.093
#1	.98271	.98534	1.0009	.50597	.97534	.98961	1.4875
#2	.98133	.98544	1.0062	.50595	.97672	.98933	1.1265
#3	.98212	.98865	1.0009	.51124	.97729	.98811	.64197
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**10666.**	**92386.**	**12112.**
Stddev	23.	548.	50.
%RSD	.21778	.59302	.41259
#1	10693.	93014.	12168.
#2	10651.	92136.	12071.
#3	10654.	92008.	12097.

Approved: October 06, 2016

Kristi K Buck

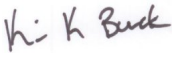
Sample Name: CCB Acquired: 10/6/2016 14:31:59 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00172**	**-.00414**	**-.00260**	**.00216**	**.00017**	**.00002**	**-.01369**
Stddev	.00047	.00473	.00212	.00084	.00032	.00003	.01659
%RSD	27.390	114.21	81.503	38.895	181.36	197.94	121.20
#1	.00204	-.00960	-.00195	.00161	.00009	-.00002	-.00402
#2	.00118	-.00142	-.00088	.00313	-.00009	.00004	-.00420
#3	.00195	-.00140	-.00497	.00175	.00052	.00003	-.03285
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	**-.00034**	**-.00000**	**-.00050**	**-.00132**	**.01819**	**.05536**	**-.00017**
Stddev	.00017	.00045	.00048	.00028	.01311	.03324	.00292
%RSD	50.766	28094.	95.076	21.186	72.103	60.041	1694.8
#1	-.00034	-.00013	-.00001	-.00164	.02694	.04935	.00188
#2	-.00050	.00050	-.00096	-.00109	.02452	.09119	-.00352
#3	-.00016	-.00038	-.00054	-.00124	.00311	.02553	.00112
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	**-.04336**	**.00226**	**-.00025**	**.05482**	**-.00163**	**.00309**	**-.00032**
Stddev	.02559	.00095	.00008	.01306	.00036	.00668	.00141
%RSD	59.010	41.888	33.300	23.831	21.886	216.33	439.17
#1	-.07236	.00195	-.00017	.06104	-.00122	.01074	-.00153
#2	-.02397	.00332	-.00033	.03981	-.00190	-.00158	.00123
#3	-.03375	.00151	-.00026	.06361	-.00175	.00011	-.00065
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: CCB Acquired: 10/6/2016 14:31:59 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**-.00113**	**-.00208**	**.00020**	**.00058**	**-.00031**	**.00260**	**.00022**
Stddev	.00115	.00151	.00287	.00073	.00015	.00367	.00272
%RSD	101.82	72.711	1461.5	126.16	47.720	141.23	1254.2
#1	-.00211	-.00383	.00277	.00132	-.00042	.00427	.00306
#2	.00013	-.00112	-.00291	.00057	-.00014	-.00161	-.00237
#3	-.00140	-.00130	.00073	-.00015	-.00038	.00513	-.00004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**-.00005**	**-.00028**	F **.53185**
Stddev	.00082	.00011	.70119
%RSD	1732.0	41.016	131.84
#1	.00055	-.00030	.83323
#2	.00029	-.00015	1.0320
#3	-.00098	-.00038	-.26964
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	**10990.**	**97309.**	**12144.**
Stddev	30.	279.	88.
%RSD	.27068	.28644	.72258
#1	11021.	97461.	12052.
#2	10962.	97478.	12154.
#3	10986.	96987.	12227.

Approved: October 06, 2016

Ki K Buck

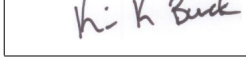
Sample Name: LLCCV Acquired: 10/6/2016 14:35:43 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00955**	**.19389**	**.00576**	**.08048**	**.00851**	**.00162**	**.71834**
Stddev	.00101	.00367	.00333	.00052	.00072	.00001	.01661
%RSD	10.522	1.8918	57.866	.65190	8.4071	.84557	2.3121
#1	.00906	.19035	.00218	.08050	.00921	.00164	.73545
#2	.00889	.19364	.00633	.08099	.00853	.00161	.70228
#3	.01071	.19767	.00877	.07994	.00778	.00162	.71730
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**	**.00423**	**.00393**	**.00342**	**.09206**	**.79555**	**.07809**
Stddev	.00015	.00027	.00064	.00117	.01419	.06560	.00207
%RSD	20.684	6.4748	16.282	34.196	15.410	8.2460	2.6469
#1	.00056	.00449	.00396	.00477	.08717	.86773	.08019
#2	.00070	.00394	.00328	.00278	.10804	.77939	.07802
#3	.00086	.00427	.00456	.00271	.08096	.73954	.07605
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	**.42848**	**.01026**	**.00733**	**.44895**	**.01514**	**.79907**	**.01011**
Stddev	.02156	.00156	.00039	.01655	.00100	.00566	.00101
%RSD	5.0307	15.170	5.3298	3.6863	6.5815	.70891	9.9489
#1	.44583	.01041	.00688	.44862	.01406	.79952	.00895
#2	.40435	.00863	.00747	.43256	.01535	.80450	.01067
#3	.43527	.01173	.00762	.46566	.01602	.79320	.01072
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: LLCCV Acquired: 10/6/2016 14:35:43 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.08773**	**.02323**	**.80248**	**.41330**	**.04173**	**.02788**	**.16756**
Stddev	.00540	.00220	.00274	.00064	.00026	.00306	.00040
%RSD	6.1552	9.4747	.34131	.15528	.61668	10.971	.24078
#1	.08827	.02563	.80517	.41257	.04203	.02526	.16768
#2	.09283	.02130	.79970	.41358	.04154	.02714	.16789
#3	.08207	.02276	.80258	.41376	.04164	.03125	.16711
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	**.00784**	**.02018**	F **93.064**
Stddev	.00072	.00012	.869
%RSD	9.1830	.59331	.93381
#1	.00852	.02024	92.373
#2	.00790	.02026	92.779
#3	.00709	.02004	94.039
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	**10865.**	**94664.**	**11784.**
Stddev	32.	212.	30.
%RSD	.29128	.22388	.25820
#1	10875.	94421.	11779.
#2	10891.	94810.	11816.
#3	10830.	94760.	11756.

Approved: October 06, 2016

Kristi K Buck

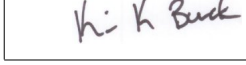
Sample Name: LLCCV Acquired: 10/6/2016 14:39:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01095**	**.23489**	**.01115**	**.09978**	**.01047**	**.00201**	**.81848**
Stddev	.00050	.00719	.00210	.00263	.00050	.00003	.02196
%RSD	4.5869	3.0627	18.884	2.6367	4.7857	1.3340	2.6833
#1	.01051	.22855	.01319	.09725	.01025	.00198	.80643
#2	.01149	.23342	.00899	.09958	.01105	.00201	.80518
#3	.01084	.24271	.01126	.10250	.01012	.00203	.84383
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**	**.00497**	**.00417**	**.00504**	**.09715**	**1.1144**	**.09630**
Stddev	.00034	.00015	.00034	.00066	.01384	.0991	.00272
%RSD	46.799	2.9548	8.0491	13.110	14.246	8.8937	2.8212
#1	.00034	.00504	.00452	.00566	.08793	1.1173	.09347
#2	.00098	.00481	.00415	.00434	.09045	1.0139	.09889
#3	.00088	.00508	.00385	.00511	.11306	1.2120	.09655
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	**.55371**	**.01174**	**.00954**	**.57172**	**.01963**	**1.0082**	**.01260**
Stddev	.03087	.00122	.00035	.01780	.00071	.0023	.00218
%RSD	5.5750	10.356	3.6734	3.1141	3.6418	.22383	17.332
#1	.58502	.01036	.00926	.57054	.02035	1.0056	.01128
#2	.55281	.01220	.00994	.55454	.01893	1.0089	.01512
#3	.52330	.01265	.00943	.59009	.01960	1.0099	.01141
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: LLCCV Acquired: 10/6/2016 14:39:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.10676**	**.02897**	**1.0102**	**.51864**	**.05157**	**.03298**	**.21005**
Stddev	.00155	.00318	.0051	.00070	.00009	.00215	.00563
%RSD	1.4488	10.972	.50096	.13467	.17264	6.5094	2.6810
#1	.10716	.02639	1.0095	.51930	.05166	.03397	.21059
#2	.10807	.03252	1.0056	.51791	.05148	.03052	.20417
#3	.10506	.02801	1.0156	.51869	.05158	.03445	.21540
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	**.00949**	**.02397**	F **116.19**
Stddev	.00094	.00010	.53
%RSD	9.9027	.41372	.45430
#1	.01055	.02394	116.13
#2	.00917	.02390	116.74
#3	.00875	.02409	115.69
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	**10966.**	**94655.**	**11856.**
Stddev	42.	367.	71.
%RSD	.38008	.38815	.59584
#1	10933.	94615.	11876.
#2	11013.	95041.	11914.
#3	10951.	94309.	11778.

Approved: October 06, 2016

Kristi K Buck

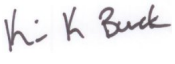
Sample Name: PBW 41 Acquired: 10/6/2016 14:43:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586502-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00097**	**-.00076**	**-.00137**	**.00101**	**-.00019**	**-.00004**	**.03400**	**-.00022**
Stddev	.00077	.00444	.00092	.00247	.00060	.00004	.01360	.00021
%RSD	79.764	583.48	66.909	244.61	312.45	112.96	39.991	94.166
#1	.00135	.00165	-.00125	-.00056	-.00050	-.00004	.03822	-.00020
#2	.00147	-.00589	-.00234	.00386	.00050	.00001	.01879	-.00043
#3	.00008	.00196	-.00052	-.00027	-.00058	-.00008	.04498	-.00002
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**	**.00031**	**-.00040**	**.00897**	**-.03595**	**-.00261**	**.06805**	**-.00032**
Stddev	.00029	.00052	.00063	.02373	.04337	.00203	.04625	.00115
%RSD	381.60	170.64	156.51	264.42	120.65	77.775	67.956	356.07
#1	.00015	.00011	-.00053	-.01832	.01358	-.00326	.08346	-.00057
#2	.00002	.00090	.00028	.02054	-.06717	-.00034	.01607	-.00133
#3	-.00040	-.00009	-.00096	.02470	-.05425	-.00424	.10463	.00093
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**	**.03814**	**.00039**	**-.00393**	**.00158**	**-.00357**	**.00710**	**.00215**
Stddev	.00040	.01985	.00169	.00360	.00185	.00480	.00939	.00095
%RSD	97.380	52.031	433.46	91.751	117.39	134.31	132.18	44.096
#1	-.00029	.02962	.00157	.00016	.00075	-.00125	.01368	.00290
#2	-.00008	.02398	-.00155	-.00529	.00029	-.00910	.01128	.00108
#3	-.00086	.06083	.00115	-.00665	.00370	-.00038	-.00365	.00247
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: PBW 41 Acquired: 10/6/2016 14:43:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586502-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00061**	**.00032**	**.00743**	**-.00376**	**.00040**	**.00055**	**1.5733**
Stddev	.00072	.00044	.00167	.00334	.00055	.00014	.3881
%RSD	117.81	134.88	22.460	88.852	137.77	26.220	24.665
#1	.00079	.00008	.00664	-.00490	.00104	.00070	1.6861
#2	.00121	.00006	.00935	.00000	.00014	.00042	1.8924
#3	-.00018	.00083	.00631	-.00638	.00002	.00053	1.1413
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	**11163.**	**99598.**	**12413.**
Stddev	83.	252.	33.
%RSD	.74629	.25313	.26477
#1	11202.	99777.	12421.
#2	11067.	99706.	12441.
#3	11219.	99309.	12377.

Approved: October 06, 2016

Kristi K Buck

Sample Name: LCSW 41 Acquired: 10/6/2016 14:46:49 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586502-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19945**	**5.1937**	**.19239**	**.92964**	**.48754**	**.02414**	**4.8883**	**.02428**
Stddev	.00095	.0179	.00172	.00040	.00169	.00009	.0080	.00038
%RSD	.47492	.34481	.89288	.04314	.34587	.35771	.16395	1.5604
#1	.19948	5.1780	.19353	.92945	.48571	.02423	4.8967	.02471
#2	.19849	5.1899	.19323	.92937	.48789	.02414	4.8876	.02400
#3	.20038	5.2132	.19042	.93010	.48903	.02406	4.8807	.02413
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	**.09914**	**.24271**	**.24671**	**2.0000**	**23.655**	**.48023**	**5.0010**	**.25125**
Stddev	.00033	.00153	.00060	.0276	.076	.00326	.0770	.00212
%RSD	.32983	.63236	.24164	1.3787	.32205	.67953	1.5389	.84435
#1	.09914	.24097	.24699	2.0247	23.706	.48090	4.9463	.25047
#2	.09948	.24326	.24712	1.9702	23.568	.47668	5.0890	.24963
#3	.09882	.24389	.24603	2.0050	23.693	.48311	4.9677	.25365
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.49338**	**24.410**	**.24736**	**4.6796**	**.25075**	**.57985**	**.19445**	**2.4538**
Stddev	.00091	.039	.00078	.0116	.00239	.00376	.00290	.0075
%RSD	.18520	.16163	.31418	.24766	.95360	.64923	1.4890	.30445
#1	.49440	24.387	.24792	4.6904	.25343	.58397	.19267	2.4537
#2	.49265	24.388	.24769	4.6674	.24883	.57899	.19779	2.4614
#3	.49308	24.456	.24648	4.6809	.24998	.57659	.19288	2.4464
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Ki K Buck

Sample Name: LCSW 41 Acquired: 10/6/2016 14:46:49 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586502-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48959**	**.49109**	**.49988**	**.25250**	**.48773**	**.48558**	**1.8915**
Stddev	.00011	.00258	.00198	.00278	.00240	.00096	.3080
%RSD	.02302	.52513	.39611	1.1028	.49268	.19750	16.285
#1	.48972	.48876	.49960	.24944	.48592	.48657	2.1809
#2	.48953	.49064	.49805	.25489	.48681	.48553	1.9259
#3	.48952	.49386	.50198	.25316	.49046	.48465	1.5677
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	**10909.**	**94953.**	**12355.**
Stddev	106.	832.	91.
%RSD	.96787	.87624	.73473
#1	10816.	95848.	12302.
#2	10888.	94809.	12459.
#3	11024.	94203.	12303.

Approved: October 06, 2016

Kristi K Buck

Sample Name: FBLK1 Acquired: 10/6/2016 14:50:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586325-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00112**	**.02332**	**-.00078**	**.00287**	**-.00009**	**-.00002**	**-.01262**
Stddev	.00121	.00658	.00114	.00093	.00051	.00005	.00752
%RSD	107.71	28.240	146.61	32.208	572.75	187.36	59.563
#1	.00139	.01665	-.00064	.00242	.00019	-.00008	-.01441
#2	-.00020	.02981	-.00198	.00394	.00022	.00001	-.00437
#3	.00218	.02349	.00028	.00227	-.00068	-.00000	-.01909
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 **-.00070**	**.00014**	**-.00039**	**-.00008**	**.00195**	**-.03858**	**-.00626**
Stddev	.00007	.00040	.00052	.00223	.00628	.05855	.00191
%RSD	10.158	272.63	132.86	2849.6	322.01	151.78	30.439
#1	-.00068	-.00031	-.00016	.00247	.00523	.02798	-.00666
#2	-.00063	.00033	-.00099	-.00168	.00591	-.06155	-.00794
#3	-.00077	.00042	-.00003	-.00103	-.00529	-.08216	-.00419
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000						
Low Limit	-.00050						

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01246**	**.00131**	**-.00058**	**131.07**	**-.00096**	**-.00643**	**.00084**
Stddev	.09234	.00175	.00015	.70	.00015	.00202	.00135
%RSD	740.88	133.33	26.000	.53704	15.122	31.471	159.57
#1	.06932	.00052	-.00052	130.31	-.00085	-.00629	.00239
#2	-.09409	.00010	-.00047	131.20	-.00113	-.00852	.00017
#3	.06216	.00332	-.00076	131.70	-.00091	-.00448	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016
Kristi K Buck

Sample Name: FBLK1 Acquired: 10/6/2016 14:50:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586325-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00222**	**-.00061**	**.00096**	**.00085**	**-.00033**	**.00113**	**-.00280**
Stddev	.00473	.00399	.00125	.00029	.00032	.00254	.00189
%RSD	213.43	653.55	129.86	34.636	96.650	224.13	67.294
#1	.00613	.00301	.00207	.00105	-.00006	-.00179	-.00216
#2	-.00304	.00004	-.00039	.00099	-.00025	.00286	-.00492
#3	.00356	-.00489	.00119	.00051	-.00068	.00233	-.00132
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	**.00092**	**.00220**	**.90405**
Stddev	.00169	.00019	.69942
%RSD	183.70	8.7585	77.365
#1	.00255	.00210	.13516
#2	.00103	.00208	1.0745
#3	-.00082	.00242	1.5025
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	**10823.**	**94587.**	**12295.**
Stddev	116.	469.	112.
%RSD	1.0752	.49592	.90974
#1	10689.	95123.	12228.
#2	10897.	94381.	12424.
#3	10883.	94255.	12234.

Approved: October 06, 2016

Kristi K Buck

Sample Name: FBLK2 Acquired: 10/6/2016 14:54:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586325-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00174**	**.00308**	**-.00154**	**.00108**	**.00014**	**-.00003**	**.09618**	**-.00022**
Stddev	.00031	.00577	.00329	.00227	.00057	.00002	.01897	.00029
%RSD	17.945	187.51	214.24	211.29	413.53	89.528	19.721	132.88
#1	.00151	.00146	.00038	-.00054	.00071	-.00001	.07454	-.00005
#2	.00161	.00948	-.00533	.00367	-.00043	-.00002	.10992	-.00005
#3	.00209	-.00171	.00034	.00009	.00014	-.00005	.10408	-.00055
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	**.00046**	**.00101**	**-.00001**	**.00362**	**-.00966**	**-.00346**	**.03574**	**-.00076**
Stddev	.00030	.00092	.00196	.00792	.10929	.00325	.03400	.00107
%RSD	66.207	90.605	34958.	218.90	1130.8	93.781	95.123	140.48
#1	.00081	.00110	.00162	.01171	.07935	-.00189	.06386	-.00086
#2	.00028	.00189	.00056	-.00411	.02330	-.00719	.04541	-.00178
#3	.00028	.00006	-.00219	.00325	-.13164	-.00130	-.00204	.00035
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	**-.00057**	**.04730**	**-.00018**	**.00173**	**-.00079**	**.00018**	**.00997**	**.01229**
Stddev	.00019	.01966	.00083	.00113	.00151	.00086	.01089	.00030
%RSD	33.967	41.560	465.13	65.255	192.08	479.41	109.17	2.4768
#1	-.00046	.06959	-.00005	.00283	-.00041	.00032	-.00124	.01245
#2	-.00046	.03244	.00058	.00177	-.00245	.00096	.01066	.01194
#3	-.00080	.03986	-.00107	.00058	.00050	-.00074	.02050	.01249
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

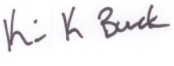
Kristi K Buck

Sample Name: FBLK2 Acquired: 10/6/2016 14:54:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586325-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00120	-.00008	.00494	-.00354	.00006	.00263	1.5411
Stddev	.00060	.00013	.00310	.00151	.00059	.00008	.1883
%RSD	49.961	159.49	62.655	42.587	1015.2	2.9020	12.219
#1	.00155	-.00015	.00323	-.00489	-.00063	.00263	1.4383
#2	.00051	-.00016	.00308	-.00381	.00043	.00271	1.7584
#3	.00155	.00007	.00851	-.00191	.00037	.00255	1.4266
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	11433.	101100.	12537.
Stddev	19.	148.	202.
%RSD	.16600	.14638	1.6147
#1	11418.	100950.	12308.
#2	11454.	101250.	12693.
#3	11426.	101100.	12610.

Approved: October 06, 2016



Sample Name: L1610016501 Acquired: 10/6/2016 14:57:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**-.00020**	**.06453**	**-.00124**	**.02733**	**.36261**	**-.00006**	F **295.11**
Stddev	.00114	.00585	.00159	.00148	.00078	.00005	.83
%RSD	572.40	9.0608	127.81	5.4328	.21593	75.250	.28288
#1	.00015	.07117	-.00291	.02747	.36174	-.00002	294.14
#2	.00073	.06015	-.00106	.02874	.36285	-.00005	295.56
#3	-.00147	.06227	.00025	.02578	.36325	-.00011	295.62
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	**.00007**	**.00052**	**.00089**	**.00663**	**.01276**	**176.29**	**.12353**
Stddev	.00014	.00026	.00135	.00042	.01091	.75	.00601
%RSD	194.13	50.595	151.37	6.2633	85.521	.42399	4.8623
#1	.00024	.00025	-.00064	.00621	.00838	176.58	.12412
#2	-.00003	.00053	.00191	.00662	.00472	176.85	.11725
#3	.00002	.00077	.00140	.00704	.02519	175.44	.12922
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	**.06002**	**-.00135**	**.00453**	**209.48**	**-.00134**	**.08869**	**.00439**
Stddev	.03103	.00119	.00017	.84	.00124	.00047	.00266
%RSD	51.705	88.329	3.7289	.40060	92.649	.53490	60.668
#1	.03034	-.00124	.00440	208.63	.00002	.08828	.00174
#2	.05747	-.00258	.00448	209.51	-.00163	.08921	.00706
#3	.09226	-.00021	.00472	210.30	-.00240	.08859	.00436
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016
Kristi K Buck

Sample Name: L1610016501 Acquired: 10/6/2016 14:57:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00266**	**.01277**	**.17620**	**.00335**	**.37006**	F **-.03404**	**.00093**
Stddev	.00710	.00552	.00091	.00022	.00091	.00146	.00166
%RSD	267.11	43.227	.51880	6.6350	.24579	4.2964	178.10
#1	-.00455	.01659	.17721	.00361	.36902	-.03543	-.00061
#2	.00289	.00644	.17542	.00322	.37070	-.03418	.00269
#3	.00964	.01528	.17599	.00322	.37046	-.03251	.00072
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	**.00018**	**.04270**	**1.0853**
Stddev	.00052	.00024	.6962
%RSD	294.69	.56324	64.152
#1	.00062	.04291	.51525
#2	.00030	.04275	.87935
#3	-.00040	.04244	1.8613
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	**10435.**	**89431.**	**12116.**
Stddev	32.	973.	13.
%RSD	.31122	1.0880	.10328
#1	10424.	88308.	12102.
#2	10471.	89957.	12121.
#3	10409.	90028.	12126.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610016501PS Acquired: 10/6/2016 15:01:28 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586548-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19771**	**4.6587**	**.20115**	**.97163**	**.80933**	**.02482**	F **270.52**
Stddev	.00125	.0254	.00475	.00212	.00200	.00003	.13
%RSD	.63385	.54406	2.3619	.21816	.24739	.10998	.04744
#1	.19632	4.6294	.20653	.97372	.80704	.02481	270.57
#2	.19807	4.6730	.19942	.96949	.81020	.02480	270.38
#3	.19875	4.6737	.19751	.97168	.81075	.02485	270.62
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	**.02484**	**.09587**	**.24012**	**.24423**	**1.9522**	**179.48**	**.58720**
Stddev	.00007	.00005	.00110	.00081	.0160	.30	.00589
%RSD	.28425	.05138	.45675	.33045	.82226	.16772	1.0032
#1	.02480	.09584	.24038	.24427	1.9408	179.81	.58410
#2	.02492	.09584	.23891	.24340	1.9452	179.40	.59399
#3	.02480	.09592	.24106	.24502	1.9706	179.23	.58350
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.8659**	**.25515**	**.49767**	**209.88**	**.23842**	**5.0397**	**.24105**
Stddev	.0594	.00202	.00246	.22	.00055	.0076	.00193
%RSD	1.2216	.79201	.49485	.10709	.22937	.15139	.79982
#1	4.8284	.25283	.49940	209.63	.23852	5.0333	.24314
#2	4.9344	.25656	.49877	209.94	.23891	5.0481	.23934
#3	4.8348	.25605	.49485	210.07	.23783	5.0376	.24068
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016

Sample Name: L1610016501PS Acquired: 10/6/2016 15:01:28 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586548-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.58767**	**.21016**	**2.6666**	**.47791**	**.81812**	**.47102**	**.22683**
Stddev	.00274	.00527	.0036	.00080	.00352	.00140	.00724
%RSD	.46695	2.5092	.13655	.16766	.43018	.29703	3.1907
#1	.58941	.20689	2.6705	.47883	.81441	.47263	.22100
#2	.58909	.21625	2.6658	.47743	.82142	.47024	.22456
#3	.58451	.20735	2.6634	.47746	.81852	.47018	.23493
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	**.49090**	**.53057**	**.61560**
Stddev	.00147	.00006	.16327
%RSD	.29848	.01044	26.522
#1	.49065	.53062	.48776
#2	.49247	.53051	.79952
#3	.48957	.53057	.55952
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	**10413.**	**90202.**	**12410.**
Stddev	42.	294.	119.
%RSD	.40061	.32638	.96095
#1	10451.	90393.	12273.
#2	10369.	89863.	12463.
#3	10420.	90350.	12494.

Approved: October 06, 2016

Kim K Buck

Sample Name: L1610016501SDL Acquired: 10/6/2016 15:04:59 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG586548-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00032**	**.02297**	**.00157**	**.00736**	**.07262**	**-.00002**	**69.023**	**-.00041**
Stddev	.00089	.00214	.00177	.00133	.00022	.00001	.303	.00004
%RSD	276.75	9.3276	112.63	18.127	.30724	57.049	.43899	10.046
#1	.00122	.02288	.00135	.00702	.07288	-.00001	68.807	-.00037
#2	-.00055	.02515	-.00008	.00884	.07247	-.00003	68.893	-.00045
#3	.00029	.02087	.00343	.00623	.07251	-.00001	69.369	-.00040
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**	**-.00068**	**.00027**	**-.00807**	**36.267**	**.02490**	**-.05081**	**.00134**
Stddev	.00037	.00027	.00112	.01731	.087	.00033	.08986	.00044
%RSD	679.97	38.829	410.62	214.57	.23877	1.3286	176.83	32.679
#1	.00043	-.00044	.00025	-.01625	36.360	.02528	-.11701	.00135
#2	.00004	-.00065	.00141	-.01978	36.251	.02475	.05148	.00090
#3	-.00030	-.00097	-.00084	.01182	36.190	.02467	-.08691	.00177
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	**.00034**	**43.730**	**-.00121**	**.02724**	**.00435**	**.00075**	**.01103**	**.03237**
Stddev	.00024	.322	.00264	.00043	.00231	.00570	.00825	.00156
%RSD	70.605	.73656	217.98	1.5899	53.040	755.63	74.771	4.8250
#1	.00032	43.614	-.00376	.02746	.00567	.00621	.01975	.03404
#2	.00011	43.482	-.00139	.02752	.00570	.00121	.00335	.03094
#3	.00059	44.094	.00152	.02674	.00169	-.00516	.01000	.03213
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610016501SDL Acquired: 10/6/2016 15:04:59 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG586548-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00020**	**.07431**	**-.00485**	**.00331**	**.00065**	**.00940**	**.55132**
Stddev	.00049	.00006	.00204	.00322	.00038	.00022	.13749
%RSD	246.40	.07998	41.958	97.192	58.590	2.3049	24.938
#1	.00072	.07427	-.00661	-.00000	.00092	.00915	.41666
#2	-.00025	.07429	-.00533	.00351	.00022	.00948	.54581
#3	.00013	.07438	-.00262	.00642	.00081	.00956	.69147
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	**10801.**	**94471.**	**12553.**
Stddev	30.	461.	39.
%RSD	.27886	.48749	.31243
#1	10815.	94970.	12571.
#2	10821.	94063.	12580.
#3	10766.	94378.	12508.

Approved: October 06, 2016

Kim K Buck

Sample Name: L1610018201 Acquired: 10/6/2016 15:08:40 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	.00188	98.752	.01530	.50289	.71728	-.00000	193.27
Stddev	.00080	.421	.00241	.00108	.00192	.00007	.32
%RSD	42.405	.42667	15.733	.21490	.26724	1347.3	.16476
#1	.00150	98.448	.01581	.50365	.71950	-.00005	193.20
#2	.00279	99.233	.01268	.50166	.71611	.00007	192.99
#3	.00134	98.574	.01741	.50337	.71625	-.00003	193.61
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	.00357	4.3265	.18400	.64693	16.286	12.944	3.0747
Stddev	.00050	.0092	.00045	.00263	.091	.086	.0068
%RSD	14.139	.21379	.24555	.40716	.56156	.66234	.22041
#1	.00299	4.3319	.18353	.64958	16.376	13.040	3.0669
#2	.00384	4.3317	.18405	.64690	16.290	12.875	3.0794
#3	.00388	4.3158	.18443	.64431	16.193	12.916	3.0778
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	33.112	.44452	.04266	F 733.82	38.391	95.535	.02721
Stddev	.147	.00387	.00031	4.09	.075	.221	.00235
%RSD	.44252	.87163	.72660	.55734	.19651	.23115	8.6501
#1	32.946	.44093	.04248	737.29	38.435	95.659	.02878
#2	33.222	.44863	.04302	734.87	38.434	95.666	.02834
#3	33.169	.44399	.04248	729.31	38.304	95.280	.02450
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610018201 Acquired: 10/6/2016 15:08:40 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	F **-.03095**	**.01031**	**5.3079**	**.02153**	**1.2408**	**.00571**	**-.00183**
Stddev	.00075	.00533	.0170	.00040	.0031	.00022	.00632
%RSD	2.4388	51.733	.31999	1.8638	.24611	3.8522	345.03
#1	-.03158	.00723	5.3171	.02113	1.2443	.00547	.00518
#2	-.03012	.01646	5.3183	.02193	1.2389	.00574	-.00711
#3	-.03116	.00722	5.2883	.02155	1.2392	.00591	-.00357
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	45.000						
Low Limit	-.02000						

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00879**	**1.4571**	**.18271**
Stddev	.00021	.0051	.60413
%RSD	2.4366	.35023	330.65
#1	.00887	1.4606	.63333
#2	.00896	1.4594	.41856
#3	.00855	1.4512	-.50377
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	**10284.**	**86865.**	**12456.**
Stddev	16.	340.	68.
%RSD	.15799	.39143	.54385
#1	10271.	87246.	12475.
#2	10302.	86594.	12511.
#3	10279.	86754.	12380.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610018202 Acquired: 10/6/2016 15:12:20 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00289**	**87.054**	**.01358**	**.48514**	**.59555**	**.00001**	**133.64**
Stddev	.00077	.189	.00252	.00252	.00561	.00003	.85
%RSD	26.475	.21766	18.550	.51886	.94209	281.24	.63872
#1	.00359	86.842	.01597	.48263	.60202	-.00002	134.55
#2	.00301	87.205	.01380	.48513	.59266	.00004	133.53
#3	.00207	87.115	.01095	.48767	.59197	.00000	132.86
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	**.00272**	**3.9192**	**.15467**	**.59748**	**15.460**	**13.138**	**3.1346**
Stddev	.00006	.0103	.00166	.00151	.138	.124	.0281
%RSD	2.0319	.26216	1.0754	.25285	.89267	.94213	.89523
#1	.00278	3.9294	.15358	.59900	15.600	13.278	3.1658
#2	.00271	3.9089	.15385	.59598	15.324	13.044	3.1265
#3	.00268	3.9192	.15659	.59747	15.456	13.092	3.1114
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	**34.329**	**.36977**	**.04133**	F **759.68**	**35.209**	**81.610**	**.02480**
Stddev	.234	.00167	.00053	9.23	.126	.304	.00262
%RSD	.68183	.45083	1.2827	1.2150	.35923	.37207	10.562
#1	34.543	.37139	.04170	766.90	35.342	81.946	.02177
#2	34.364	.36988	.04072	762.87	35.090	81.355	.02638
#3	34.079	.36806	.04156	749.28	35.195	81.530	.02624
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610018202 Acquired: 10/6/2016 15:12:20 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	F **-.02955**	**.00859**	**5.4615**	**.01828**	**.96550**	**.02254**	**-.00029**
Stddev	.00553	.00054	.0175	.00024	.00701	.00413	.00207
%RSD	18.703	6.3269	.31974	1.3259	.72649	18.329	719.51
#1	-.03398	.00839	5.4800	.01803	.97357	.02255	.00210
#2	-.02336	.00818	5.4454	.01851	.96096	.02666	-.00136
#3	-.03130	.00921	5.4589	.01829	.96196	.01840	-.00160
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	45.000						
Low Limit	-.02000						

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00965**	**1.1600**	**1.5022**
Stddev	.00063	.0031	.2700
%RSD	6.5543	.26862	17.970
#1	.00935	1.1625	1.5042
#2	.00923	1.1565	1.7711
#3	.01038	1.1610	1.2312
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	**10430.**	**89513.**	**12835.**
Stddev	24.	255.	89.
%RSD	.22988	.28510	.69178
#1	10454.	89304.	12757.
#2	10429.	89798.	12816.
#3	10406.	89439.	12932.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610018203 Acquired: 10/6/2016 15:16:00 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00112**	**221.87**	**.03330**	**.92719**	**1.5359**	**.00013**	**155.83**
Stddev	.00196	.87	.00177	.00324	.0009	.00006	.31
%RSD	175.18	.39226	5.3131	.34992	.05941	44.675	.19640
#1	.00337	220.92	.03469	.92729	1.5349	.00006	155.73
#2	-.00014	222.07	.03390	.93038	1.5361	.00014	156.17
#3	.00012	222.63	.03131	.92390	1.5367	.00018	155.58
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	**.00191**	**9.7938**	**.39427**	**1.4685**	**21.977**	**24.130**	**4.0899**
Stddev	.00081	.0275	.00115	.0040	.037	.089	.0026
%RSD	42.434	.28050	.29209	.27191	.16991	.36814	.06330
#1	.00098	9.7676	.39294	1.4643	21.945	24.098	4.0875
#2	.00228	9.7914	.39501	1.4691	21.969	24.061	4.0926
#3	.00246	9.8224	.39485	1.4722	22.018	24.230	4.0896
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	**61.875**	**.72832**	**.07677**	F **707.86**	**86.802**	F **196.92**	**.05014**
Stddev	.134	.00274	.00038	15.62	.186	.44	.00166
%RSD	.21654	.37605	.49459	2.2060	.21371	.22140	3.3098
#1	61.762	.72921	.07717	711.67	86.611	196.63	.05032
#2	61.841	.73051	.07672	721.22	86.814	196.72	.05170
#3	62.023	.72525	.07642	690.69	86.981	197.42	.04840
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass
High Limit				270.00		180.00	
Low Limit				-.50000		-.10000	

Approved: October 06, 2016

Sample Name: L1610018203 Acquired: 10/6/2016 15:16:00 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	F **-.07748**	**.02648**	**9.8636**	**.04291**	**1.6922**	**.03465**	**-.00375**
Stddev	.00370	.00471	.0113	.00019	.0026	.00282	.00348
%RSD	4.7804	17.797	.11480	.44732	.15248	8.1240	92.928
#1	-.07957	.03059	9.8568	.04294	1.6924	.03159	-.00475
#2	-.07320	.02752	9.8575	.04270	1.6896	.03713	-.00662
#3	-.07966	.02134	9.8767	.04308	1.6947	.03524	.00013
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	45.000						
Low Limit	-.02000						

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.01818**	**2.6133**	**.54908**
Stddev	.00081	.0034	.09668
%RSD	4.4542	.13136	17.609
#1	.01907	2.6123	.43756
#2	.01798	2.6105	.60940
#3	.01749	2.6171	.60028
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	**10390.**	**87287.**	**12689.**
Stddev	5.	623.	52.
%RSD	.04392	.71421	.40587
#1	10394.	88006.	12683.
#2	10385.	86921.	12641.
#3	10390.	86932.	12744.

Approved: October 06, 2016

Kristi K Buck

Sample Name: CCV Acquired: 10/6/2016 15:19:48 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.39343**	**10.062**	**.38895**	**.48604**	**.95068**	**.04889**	**9.6035**
Stddev	.00178	.042	.00221	.00216	.00143	.00006	.0201
%RSD	.45267	.42132	.56811	.44356	.15087	.11916	.20928
#1	.39542	10.043	.38881	.48851	.94918	.04893	9.6249
#2	.39199	10.032	.38680	.48453	.95204	.04892	9.5849
#3	.39287	10.110	.39122	.48509	.95080	.04882	9.6008
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	**.04888**	**.19619**	**.48314**	**.49135**	**3.9399**	**45.923**	**.92744**
Stddev	.00017	.00038	.00096	.00109	.0464	.288	.00157
%RSD	.35290	.19338	.19898	.22272	1.1771	.62714	.16963
#1	.04870	.19597	.48208	.49017	3.9080	45.653	.92563
#2	.04889	.19662	.48338	.49233	3.9931	46.226	.92829
#3	.04904	.19596	.48396	.49154	3.9186	45.890	.92841
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	**9.9422**	**.49195**	**.97569**	**46.404**	**.49298**	**9.6965**	**.49309**
Stddev	.1540	.00166	.00174	.172	.00195	.0230	.00427
%RSD	1.5492	.33700	.17861	.37001	.39506	.23743	.86592
#1	9.7687	.49168	.97386	46.229	.49125	9.6706	.48832
#2	9.9949	.49045	.97733	46.411	.49261	9.7145	.49657
#3	10.063	.49373	.97589	46.573	.49509	9.7045	.49437
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 06, 2016

Ki K Buck

Sample Name: CCV Acquired: 10/6/2016 15:19:48 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**1.1787**	**.39859**	**4.9667**	**.97244**	**.96453**	**.98510**	**.49836**
Stddev	.0031	.00541	.0209	.00190	.00397	.00289	.00525
%RSD	.26291	1.3568	.42087	.19502	.41189	.29364	1.0526
#1	1.1752	.39708	4.9452	.97063	.96005	.98245	.49420
#2	1.1803	.40460	4.9679	.97227	.96762	.98467	.49662
#3	1.1808	.39410	4.9869	.97442	.96592	.98818	.50425
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	**.96740**	**.98129**	F **1.6279**
Stddev	.00188	.00249	.3612
%RSD	.19470	.25378	22.188
#1	.96597	.97879	2.0275
#2	.96670	.98132	1.5316
#3	.96954	.98377	1.3246
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	**10820.**	**92888.**	**12458.**
Stddev	154.	685.	85.
%RSD	1.4200	.73779	.68203
#1	10643.	93466.	12533.
#2	10900.	93066.	12366.
#3	10918.	92131.	12476.

Approved: October 06, 2016
Kim K Buck

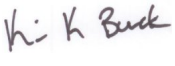
Sample Name: CCB Acquired: 10/6/2016 15:23:13 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00004**	**.01018**	**-.00211**	**.00391**	**-.00019**	**.00005**	**.00861**
Stddev	.00143	.00190	.00220	.00235	.00029	.00004	.02089
%RSD	3885.1	18.653	103.91	60.002	154.55	75.904	242.51
#1	-.00168	.00825	-.00324	.00256	-.00035	.00006	.02028
#2	.00092	.01024	.00042	.00663	.00015	.00008	-.01550
#3	.00065	.01204	-.00352	.00256	-.00036	.00001	.02107
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**	**.00004**	**.00033**	**-.00102**	**.01864**	**.16030**	**-.00014**
Stddev	.00031	.00038	.00039	.00191	.01976	.04017	.00311
%RSD	91.861	1068.8	119.99	187.70	106.02	25.060	2214.0
#1	-.00004	-.00034	.00067	-.00283	.02685	.18214	-.00266
#2	-.00065	.00002	-.00010	-.00120	-.00390	.18483	.00334
#3	-.00031	.00043	.00041	.00098	.03298	.11394	-.00110
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	**.04706**	**-.00085**	**-.00036**	**.19524**	**.00238**	**.00673**	**-.00101**
Stddev	.08696	.00051	.00011	.00971	.00123	.00561	.00354
%RSD	184.77	60.124	30.405	4.9759	51.643	83.361	351.53
#1	.05143	-.00058	-.00024	.20625	.00353	.00917	.00306
#2	.13176	-.00144	-.00045	.19157	.00252	.01072	-.00342
#3	-.04199	-.00053	-.00040	.18789	.00108	.00031	-.00266
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: CCB Acquired: 10/6/2016 15:23:13 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00270**	**.00413**	**.00134**	**-.00006**	**-.00024**	**.00489**	**-.00042**
Stddev	.00115	.00505	.00081	.00142	.00017	.00357	.00220
%RSD	42.547	122.52	60.718	2524.1	70.248	72.991	525.64
#1	.00200	.00961	.00220	-.00155	-.00016	.00829	.00197
#2	.00208	.00311	.00058	.00128	-.00044	.00519	-.00087
#3	.00403	-.00035	.00124	.00010	-.00013	.00118	-.00236
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	**.00016**	**-.00000**	F **1.1278**
Stddev	.00026	.00015	.9177
%RSD	155.84	85536.	81.372
#1	-.00013	.00008	1.6291
#2	.00028	-.00018	.06862
#3	.00034	.00010	1.6858
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	**10802.**	**95366.**	**12360.**
Stddev	47.	236.	65.
%RSD	.43380	.24717	.52695
#1	10847.	95541.	12297.
#2	10753.	95458.	12427.
#3	10805.	95098.	12356.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610018204 Acquired: 10/6/2016 15:26:58 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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**	**214.39**	**.03298**	**.95141**	**1.5560**	**.00018**	**171.82**
Stddev	.00039	.70	.00226	.00410	.0031	.00003	.49
%RSD	33.522	.32505	6.8386	.43080	.19839	15.196	.28683
#1	.00162	214.47	.03244	.94793	1.5533	.00021	171.50
#2	.00100	215.05	.03103	.95037	1.5594	.00016	172.38
#3	.00089	213.66	.03545	.95593	1.5553	.00018	171.56
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	**.00121**	**9.9545**	**.39389**	**1.4808**	**21.298**	**27.316**	**4.4820**
Stddev	.00088	.0928	.00078	.0124	.060	.061	.0178
%RSD	72.548	.93258	.19916	.83672	.27991	.22185	.39718
#1	.00104	10.060	.39305	1.4948	21.237	27.284	4.4716
#2	.00043	9.8863	.39401	1.4712	21.301	27.278	4.5026
#3	.00216	9.9168	.39460	1.4763	21.356	27.386	4.4719
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	**76.044**	**.75661**	**.07482**	F **726.85**	**86.715**	F **197.54**	**.05995**
Stddev	.285	.00127	.00096	13.96	.799	1.87	.00103
%RSD	.37503	.16787	1.2874	1.9199	.92183	.94784	1.7138
#1	76.115	.75574	.07591	740.53	87.625	199.69	.05880
#2	76.287	.75806	.07449	727.37	86.123	196.26	.06078
#3	75.730	.75601	.07407	712.64	86.399	196.67	.06027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass
High Limit				270.00		180.00	
Low Limit				-.50000		-.10000	

Approved: October 06, 2016

Ki K Buck

Sample Name: L1610018204 Acquired: 10/6/2016 15:26:58 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	F **-.07641**	**.02030**	**12.030**	**.04402**	**1.7718**	**.03790**	**-.00085**
Stddev	.00065	.00486	.102	.00098	.0029	.00311	.00315
%RSD	.85225	23.935	.84790	2.2369	.16276	8.2112	369.60
#1	-.07668	.01918	12.147	.04300	1.7685	.03881	.00090
#2	-.07567	.01609	11.957	.04497	1.7739	.03443	-.00449
#3	-.07689	.02561	11.987	.04407	1.7729	.04045	.00103
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	45.000						
Low Limit	-.02000						

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.02091**	**2.4862**	F **-.84245**
Stddev	.00054	.0234	.42001
%RSD	2.5618	.94036	49.856
#1	.02103	2.5128	-.61407
#2	.02033	2.4690	-1.3272
#3	.02138	2.4768	-.58611
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	**10145.**	**86287.**	**12912.**
Stddev	90.	641.	43.
%RSD	.89048	.74324	.33310
#1	10045.	86980.	12959.
#2	10222.	86167.	12903.
#3	10167.	85715.	12874.

Approved: October 06, 2016

Kim K Buck

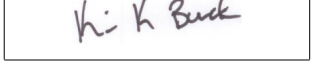
Sample Name: L1610018501 Acquired: 10/6/2016 15:30:45 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00052**	**.04979**	**-.00182**	**.01930**	**.17691**	**-.00002**	**165.92**	**-.00005**
Stddev	.00014	.02282	.00256	.00025	.00059	.00004	.71	.00027
%RSD	27.666	45.843	141.26	1.3047	.33126	205.83	.42758	542.39
#1	.00066	.04348	-.00272	.01901	.17653	-.00006	165.26	-.00025
#2	.00038	.03078	.00108	.01942	.17663	.00001	165.83	.00026
#3	.00052	.07511	-.00380	.01946	.17759	.00000	166.67	-.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	**.00016**	**.00071**	**.06960**	**.26614**	**1.2465**	**.00792**	**11.548**	**.01649**
Stddev	.00022	.00022	.00082	.00804	.1100	.00138	.029	.00065
%RSD	132.94	30.361	1.1825	3.0204	8.8225	17.463	.24922	3.9230
#1	.00033	.00091	.06867	.26440	1.3579	.00694	11.517	.01722
#2	-.00008	.00073	.06989	.25911	1.2435	.00733	11.574	.01597
#3	.00023	.00048	.07023	.27490	1.1380	.00951	11.553	.01629
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	**-.00043**	**57.985**	**.00249**	**-.01070**	**.00252**	**-.00163**	**.00774**	**4.2476**
Stddev	.00069	.247	.00103	.00161	.00220	.00334	.01036	.0038
%RSD	160.55	.42671	41.356	15.034	87.251	205.26	133.77	.09045
#1	-.00035	57.746	.00318	-.00884	.00490	-.00315	-.00415	4.2433
#2	.00022	57.969	.00298	-.01168	.00056	.00220	.01262	4.2507
#3	-.00115	58.240	.00131	-.01157	.00210	-.00395	.01476	4.2489
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610018501 Acquired: 10/6/2016 15:30:45 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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**	**.59337**	**-.01210**	**.00019**	**.00072**	**.06666**	**1.1594**
Stddev	.00094	.00161	.00059	.00142	.00049	.00018	.8301
%RSD	77.269	.27182	4.8794	742.30	68.676	.27742	71.599
#1	.00226	.59152	-.01186	-.00033	.00129	.06678	2.1166
#2	.00042	.59449	-.01277	-.00089	.00048	.06675	.72589
#3	.00099	.59411	-.01167	.00180	.00039	.06645	.63581
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	**10669.**	**93040.**	**12345.**
Stddev	29.	142.	93.
%RSD	.27357	.15299	.75228
#1	10642.	93169.	12431.
#2	10666.	93062.	12358.
#3	10700.	92887.	12247.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610018502 Acquired: 10/6/2016 15:34:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00164**	**.01946**	**-.00029**	**.01361**	**.12332**	**.00001**	**86.729**	**-.00001**
Stddev	.00128	.00689	.00311	.00265	.00041	.00007	.293	.00023
%RSD	78.307	35.419	1063.3	19.455	.32890	1059.9	.33829	1723.4
#1	.00178	.02094	-.00200	.01446	.12300	.00006	86.578	.00019
#2	.00029	.02550	.00330	.01064	.12317	-.00007	86.541	-.00027
#3	.00285	.01195	-.00217	.01573	.12378	.00003	87.067	.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	**.00021**	**.00127**	**.00125**	**.00271**	**.79620**	**.00385**	**7.9861**	**.00372**
Stddev	.00008	.00085	.00093	.00340	.01904	.00217	.0152	.00182
%RSD	39.196	66.927	74.504	125.58	2.3916	56.323	.19054	48.870
#1	.00013	.00032	.00076	.00560	.80986	.00220	7.9840	.00553
#2	.00020	.00195	.00067	.00355	.77445	.00304	7.9720	.00376
#3	.00029	.00155	.00233	-.00104	.80429	.00630	8.0023	.00189
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	**.00034**	**4.7577**	**-.00026**	**.00030**	**.00053**	**.00239**	**.00738**	**4.1392**
Stddev	.00046	.0363	.00114	.00099	.00189	.00413	.00285	.0032
%RSD	136.35	.76270	446.39	327.91	359.19	172.73	38.613	.07730
#1	.00077	4.7498	.00088	.00144	.00224	.00584	.00985	4.1424
#2	.00039	4.7260	-.00141	-.00016	.00085	.00351	.00426	4.1391
#3	-.00015	4.7973	-.00024	-.00037	-.00150	-.00218	.00802	4.1360
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Sample Name: L1610018502 Acquired: 10/6/2016 15:34:26 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00086**	**.25478**	**-.00617**	**.00188**	**-.00000**	**.00432**	**.62787**
Stddev	.00088	.00076	.00084	.00455	.00117	.00011	.58872
%RSD	102.22	.29715	13.615	241.91	50244.	2.4426	93.763
#1	.00187	.25453	-.00557	.00426	-.00135	.00423	1.3029
#2	.00031	.25418	-.00582	-.00336	.00072	.00444	.36026
#3	.00039	.25563	-.00713	.00474	.00062	.00430	.22051
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	**10904.**	**95041.**	**12163.**
Stddev	24.	587.	247.
%RSD	.21926	.61774	2.0287
#1	10894.	95285.	12161.
#2	10931.	95467.	12410.
#3	10886.	94371.	11917.

Approved: October 06, 2016

Kristi K Buck

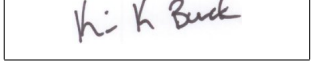
Sample Name: L1610018503 Acquired: 10/6/2016 15:38:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00103**	**.45465**	**.00027**	**.03122**	**.04425**	**.00002**	**21.422**	**-.00033**
Stddev	.00088	.00236	.00182	.00238	.00022	.00003	.044	.00014
%RSD	86.196	.51978	664.02	7.6284	.50771	143.15	.20547	43.950
#1	.00160	.45569	-.00021	.02864	.04417	-.00001	21.378	-.00030
#2	.00001	.45195	-.00125	.03167	.04408	.00002	21.466	-.00020
#3	.00147	.45632	.00228	.03334	.04451	.00005	21.422	-.00049
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	**.00149**	**.00089**	**.00358**	**.44675**	**4.5571**	**-.00180**	**2.4491**	**.12875**
Stddev	.00049	.00050	.00034	.00923	.0548	.00025	.0567	.00091
%RSD	33.111	56.519	9.3861	2.0661	1.2018	14.017	2.3167	.70867
#1	.00201	.00136	.00377	.44364	4.5810	-.00196	2.4002	.12921
#2	.00145	.00036	.00319	.43948	4.5959	-.00194	2.4357	.12770
#3	.00102	.00094	.00378	.45714	4.4944	-.00151	2.5113	.12934
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	**.00073**	**7.7615**	**.00916**	**.14105**	**.00105**	**.00076**	**.00728**	**3.9918**
Stddev	.00031	.0311	.00490	.00757	.00333	.00268	.00510	.0147
%RSD	43.007	.40085	53.467	5.3676	317.42	354.06	70.046	.36788
#1	.00075	7.7299	.01467	.14895	.00050	.00108	.01163	4.0054
#2	.00104	7.7921	.00753	.14034	-.00197	-.00207	.00167	3.9762
#3	.00041	7.7625	.00529	.13386	.00463	.00326	.00856	3.9939
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610018503 Acquired: 10/6/2016 15:38:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00045**	**.06002**	**.01177**	**-.00043**	**.00112**	**.00646**	**2.5077**
Stddev	.00051	.00052	.00386	.00455	.00015	.00020	.1717
%RSD	113.74	.85965	32.769	1050.1	13.516	3.0889	6.8466
#1	-.00013	.05944	.00798	-.00122	.00108	.00668	2.6761
#2	.00084	.06043	.01165	-.00454	.00129	.00638	2.5142
#3	.00064	.06019	.01569	.00446	.00100	.00631	2.3329
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	**11235.**	**97834.**	**12618.**
Stddev	50.	224.	37.
%RSD	.44115	.22864	.28958
#1	11237.	97586.	12639.
#2	11283.	97894.	12640.
#3	11184.	98021.	12576.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610018504 Acquired: 10/6/2016 15:41:48 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00118**	**.01425**	**-.00076**	**.01181**	**.12010**	**.00003**	**87.024**	**-.00000**
Stddev	.00204	.00604	.00137	.00096	.00021	.00003	.082	.00005
%RSD	172.26	42.422	180.49	8.1115	.17879	99.410	.09433	7213.5
#1	-.00091	.02019	-.00022	.01181	.12022	.00000	87.040	.00005
#2	.00316	.00811	-.00231	.01277	.12022	.00002	87.096	-.00003
#3	.00130	.01444	.00026	.01085	.11985	.00007	86.935	-.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	**.00007**	**.00093**	**.00061**	**.00962**	**1.1275**	**.00063**	**5.2528**	**.00334**
Stddev	.00040	.00038	.00089	.00642	.0428	.00063	.0602	.00154
%RSD	564.46	40.233	145.70	66.761	3.7986	99.547	1.1466	46.006
#1	.00023	.00096	.00159	.00888	1.1315	.00094	5.2250	.00383
#2	-.00039	.00130	.00041	.00360	1.0828	-.00009	5.2116	.00162
#3	.00037	.00055	-.00016	.01638	1.1681	.00105	5.3219	.00458
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**	**6.1910**	**.00068**	**.01088**	**.00205**	**-.00155**	**.00422**	**3.5284**
Stddev	.00043	.0104	.00128	.00667	.00304	.00035	.00164	.0039
%RSD	1165.0	.16761	188.55	61.347	148.64	22.771	38.763	.11104
#1	.00053	6.1905	-.00040	.00330	.00543	-.00175	.00476	3.5259
#2	-.00019	6.2016	.00034	.01348	.00121	-.00114	.00552	3.5329
#3	-.00023	6.1808	.00209	.01586	-.00049	-.00175	.00238	3.5264
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Ki K Buck

Sample Name: L1610018504 Acquired: 10/6/2016 15:41:48 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00063**	**.21416**	**-.00794**	**-.00057**	**.00088**	**.00282**	**.76672**
Stddev	.00078	.00024	.00196	.00130	.00087	.00012	.71205
%RSD	123.99	.11120	24.724	229.53	98.938	4.1395	92.870
#1	.00061	.21415	-.00866	-.00088	.00051	.00283	.83590
#2	-.00014	.21393	-.00944	.00086	.00187	.00269	.02261
#3	.00141	.21440	-.00572	-.00169	.00025	.00293	1.4417
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	**10907.**	**95506.**	**12516.**
Stddev	19.	223.	20.
%RSD	.17193	.23365	.15931
#1	10927.	95248.	12494.
#2	10889.	95628.	12533.
#3	10906.	95641.	12520.

Approved: October 06, 2016

Kristi K Buck

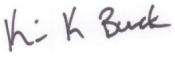
Sample Name: L1610018505 Acquired: 10/6/2016 15:45:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00004**	**.01843**	**-.00282**	**.01684**	**.09177**	**-.00000**	**86.369**	**.00012**
Stddev	.00164	.00207	.00121	.00071	.00063	.00004	.051	.00011
%RSD	4404.7	11.237	43.072	4.2002	.68456	1347.5	.05958	89.148
#1	.00109	.02078	-.00235	.01695	.09198	-.00002	86.315	.00005
#2	.00072	.01687	-.00419	.01609	.09227	.00004	86.372	.00025
#3	-.00192	.01764	-.00190	.01749	.09107	-.00003	86.418	.00007
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	**.00018**	**.00102**	**.00085**	**.01741**	**.80922**	**-.00037**	**8.6438**	**.00234**
Stddev	.00028	.00057	.00039	.00744	.08095	.00222	.0383	.00136
%RSD	157.79	56.211	45.872	42.710	10.003	597.09	.44318	58.263
#1	.00003	.00113	.00051	.02429	.88285	.00111	8.6136	.00247
#2	.00000	.00153	.00128	.01843	.72254	.00071	8.6869	.00362
#3	.00050	.00040	.00076	.00952	.82227	-.00293	8.6309	.00091
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	**-.00031**	**6.4175**	**-.00167**	**.00426**	**.00176**	**.00045**	**.00750**	**3.8616**
Stddev	.00048	.0176	.00186	.00332	.00034	.00082	.00261	.0080
%RSD	151.48	.27486	111.26	77.776	19.115	180.92	34.842	.20756
#1	.00021	6.4011	-.00241	.00758	.00145	.00042	.00494	3.8524
#2	-.00071	6.4154	.00044	.00426	.00171	.00128	.01017	3.8674
#3	-.00044	6.4362	-.00304	.00095	.00211	-.00035	.00739	3.8649
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610018505 Acquired: 10/6/2016 15:45:29 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00070**	**.27373**	**-.00901**	**-.00205**	**.00065**	**.00254**	**1.7768**
Stddev	.00046	.00016	.00656	.00022	.00035	.00005	.5245
%RSD	64.868	.05998	72.762	10.800	53.115	1.8968	29.520
#1	.00063	.27387	-.01138	-.00180	.00025	.00249	1.6192
#2	.00029	.27377	-.00160	-.00213	.00088	.00257	1.3492
#3	.00119	.27355	-.01405	-.00223	.00081	.00258	2.3621
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	**10764.**	**95172.**	**12256.**
Stddev	139.	325.	130.
%RSD	1.2868	.34188	1.0575
#1	10890.	95382.	12107.
#2	10788.	94798.	12340.
#3	10616.	95338.	12322.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610018506 Acquired: 10/6/2016 15:49:11 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00200**	**.12160**	**-.00155**	**.01246**	**.02995**	**.00002**	**27.573**	**-.00012**
Stddev	.00046	.00338	.00253	.00236	.00036	.00004	.054	.00018
%RSD	23.138	2.7813	163.01	18.955	1.1869	259.97	.19446	152.17
#1	.00240	.11804	.00091	.01395	.02999	.00001	27.588	-.00033
#2	.00150	.12476	-.00142	.00974	.03028	.00006	27.617	-.00002
#3	.00210	.12200	-.00415	.01369	.02957	-.00002	27.513	-.00001
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	**.00016**	**.00085**	**.00094**	**.06532**	**.52366**	**-.00288**	**1.6509**	**.00199**
Stddev	.00030	.00029	.00096	.02912	.04969	.00113	.0179	.00133
%RSD	187.37	34.846	101.99	44.575	9.4884	39.235	1.0852	67.091
#1	.00042	.00118	-.00015	.08749	.48359	-.00394	1.6671	.00074
#2	.00023	.00066	.00132	.03235	.50813	-.00169	1.6316	.00340
#3	-.00017	.00070	.00165	.07612	.57925	-.00300	1.6539	.00182
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	**.00022**	**1.6703**	**.00004**	**.03312**	**.00417**	**-.00230**	**.00665**	**4.8088**
Stddev	.00003	.0142	.00036	.00155	.00099	.00600	.00726	.0072
%RSD	13.034	.84884	934.64	4.6662	23.800	260.78	109.20	.15017
#1	.00019	1.6567	-.00037	.03282	.00305	-.00467	.00080	4.8101
#2	.00024	1.6850	.00033	.03174	.00453	-.00675	.00437	4.8011
#3	.00024	1.6693	.00016	.03479	.00493	.00452	.01478	4.8153
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Ki K Buck

Sample Name: L1610018506 Acquired: 10/6/2016 15:49:11 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00091**	**.05898**	**.00860**	**-.00124**	**.00129**	**.00128**	**1.7308**
Stddev	.00054	.00040	.00580	.00227	.00089	.00012	.3762
%RSD	58.741	.68283	67.398	182.56	68.573	9.1149	21.737
#1	.00149	.05910	.01391	-.00142	.00230	.00140	1.3596
#2	.00080	.05931	.00241	-.00342	.00061	.00117	1.7208
#3	.00044	.05853	.00949	.00111	.00098	.00125	2.1119
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	**11179.**	**97421.**	**12685.**
Stddev	22.	427.	72.
%RSD	.19539	.43812	.56860
#1	11156.	97073.	12601.
#2	11182.	97897.	12726.
#3	11199.	97292.	12727.

Approved: October 06, 2016

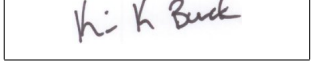
Sample Name: L1610018507 Acquired: 10/6/2016 15:52:52 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00318**	**12.038**	**.00839**	**.03229**	**.28456**	**.00087**	**89.934**	**.00015**
Stddev	.00212	.060	.00282	.00174	.00102	.00003	.270	.00002
%RSD	66.859	.50061	33.587	5.3792	.35722	2.9322	.30003	15.974
#1	.00328	11.986	.01031	.03384	.28354	.00088	89.622	.00014
#2	.00100	12.104	.00972	.03263	.28558	.00084	90.076	.00018
#3	.00525	12.024	.00516	.03041	.28455	.00088	90.103	.00013
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	**.00959**	**.02039**	**.03555**	**26.368**	**3.2685**	**.01280**	**12.084**	**.82548**
Stddev	.00004	.00014	.00033	.114	.0380	.00614	.080	.00214
%RSD	.45554	.69530	.94082	.43184	1.1633	47.991	.65849	.25929
#1	.00957	.02028	.03568	26.237	3.3087	.01970	11.994	.82656
#2	.00964	.02034	.03517	26.444	3.2635	.00793	12.112	.82302
#3	.00956	.02055	.03580	26.422	3.2331	.01078	12.146	.82687
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	**.00260**	**30.721**	**.02097**	**.94429**	**.08792**	**.00150**	**.00622**	**17.204**
Stddev	.00016	.096	.00024	.00933	.00109	.00266	.00484	.021
%RSD	6.2893	.31314	1.1229	.98795	1.2389	177.64	77.856	.11918
#1	.00249	30.638	.02070	.95476	.08710	.00190	.01169	17.222
#2	.00252	30.827	.02112	.94123	.08916	.00394	.00247	17.209
#3	.00279	30.699	.02109	.93687	.08751	-.00134	.00451	17.182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610018507 Acquired: 10/6/2016 15:52:52 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.01167**	**.43668**	**.20212**	**.00137**	**.01921**	**.20505**	**1.5564**
Stddev	.00062	.00132	.00193	.00290	.00031	.00023	.2094
%RSD	5.2745	.30335	.95327	211.23	1.5904	.11267	13.451
#1	.01098	.43525	.20059	-.00108	.01886	.20531	1.5161
#2	.01187	.43786	.20149	.00458	.01945	.20496	1.3701
#3	.01216	.43693	.20429	.00063	.01930	.20487	1.7829
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	**11088.**	**94553.**	**12762.**
Stddev	15.	527.	55.
%RSD	.13921	.55754	.42866
#1	11071.	95154.	12820.
#2	11090.	94337.	12756.
#3	11102.	94169.	12711.

Approved: October 06, 2016

Kristi K Buck

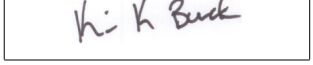
Sample Name: L1610018508 Acquired: 10/6/2016 15:56:30 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00103**	**.29351**	**-.00064**	**.01120**	**.03172**	**.00003**	**74.635**	**-.00019**
Stddev	.00222	.00232	.00126	.00079	.00035	.00003	.117	.00017
%RSD	214.23	.79072	197.64	7.0307	1.1017	87.900	.15624	91.601
#1	-.00132	.29121	-.00102	.01202	.03201	.00007	74.621	-.00021
#2	.00307	.29585	.00077	.01112	.03133	.00001	74.526	-.00035
#3	.00135	.29349	-.00167	.01045	.03181	.00002	74.758	-.00001
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	**.00009**	**.00124**	**.00191**	**.15858**	**.87942**	**.00079**	**4.0921**	**.02385**
Stddev	.00022	.00010	.00061	.00454	.01830	.00182	.0814	.00096
%RSD	237.83	8.1953	31.887	2.8613	2.0805	231.10	1.9894	4.0343
#1	.00034	.00112	.00133	.15635	.86167	.00209	3.9981	.02384
#2	.00001	.00132	.00186	.16380	.87836	-.00129	4.1425	.02482
#3	-.00007	.00127	.00255	.15558	.89821	.00157	4.1355	.02289
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	**-.00032**	**2.5256**	**.00063**	**.01571**	**.00175**	**-.00190**	**.00873**	**4.4715**
Stddev	.00035	.0226	.00111	.00228	.00086	.00096	.00680	.0119
%RSD	107.66	.89505	176.38	14.484	49.230	50.523	77.951	.26700
#1	-.00069	2.5284	.00062	.01309	.00186	-.00143	.01516	4.4847
#2	-.00027	2.5018	-.00047	.01720	.00084	-.00126	.00942	4.4614
#3	-.00000	2.5467	.00175	.01684	.00255	-.00300	.00161	4.4686
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

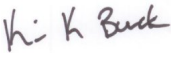


Sample Name: L1610018508 Acquired: 10/6/2016 15:56:30 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00056**	**.15354**	**.00385**	**-.00023**	**.00070**	**.00440**	**1.4579**
Stddev	.00016	.00043	.00469	.00294	.00013	.00010	.3231
%RSD	27.936	.27838	121.75	1270.9	19.240	2.3047	22.162
#1	.00073	.15306	.00145	.00177	.00076	.00431	1.5123
#2	.00053	.15369	.00085	.00115	.00054	.00438	1.7504
#3	.00042	.15387	.00926	-.00361	.00079	.00451	1.1111
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	**10975.**	**95777.**	**12677.**
Stddev	36.	156.	44.
%RSD	.33007	.16242	.34979
#1	11012.	95748.	12638.
#2	10940.	95945.	12725.
#3	10975.	95638.	12668.

Approved: October 06, 2016



Sample Name: CCV Acquired: 10/6/2016 16:00:11 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.39569**	**10.093**	**.38578**	**.49005**	**.95515**	**.04964**	**9.6875**
Stddev	.00186	.005	.00805	.00097	.00281	.00025	.0433
%RSD	.46893	.04628	2.0876	.19722	.29455	.50241	.44653
#1	.39653	10.098	.38385	.49116	.95568	.04993	9.7182
#2	.39698	10.088	.37887	.48957	.95211	.04949	9.6380
#3	.39356	10.093	.39463	.48941	.95766	.04949	9.7063
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	**.04881**	**.19547**	**.48791**	**.49099**	**3.9560**	**45.860**	**.92890**
Stddev	.00028	.00115	.00213	.00328	.0269	.046	.00181
%RSD	.57003	.58916	.43751	.66886	.67962	.10005	.19456
#1	.04874	.19507	.48952	.49119	3.9439	45.826	.92781
#2	.04857	.19457	.48549	.48761	3.9373	45.912	.92791
#3	.04911	.19676	.48871	.49416	3.9868	45.841	.93099
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	**10.127**	**.49936**	**.97177**	**46.940**	**.48943**	**9.6748**	**.49409**
Stddev	.081	.00218	.00556	.215	.00341	.0566	.00330
%RSD	.79754	.43586	.57195	.45786	.69729	.58499	.66737
#1	10.221	.50167	.97199	47.152	.48789	9.6610	.49033
#2	10.080	.49735	.96610	46.723	.48707	9.6264	.49546
#3	10.081	.49905	.97721	46.945	.49334	9.7370	.49649
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 06, 2016
Ki K Buck

Sample Name: CCV Acquired: 10/6/2016 16:00:11 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**1.1832**	**.38781**	**4.9516**	**.97062**	**.97159**	**.99744**	**.50030**
Stddev	.0091	.01059	.0311	.00648	.00264	.00574	.00310
%RSD	.76477	2.7295	.62762	.66757	.27171	.57545	.62056
#1	1.1775	.37578	4.9377	.96866	.97240	1.0016	.50357
#2	1.1784	.39569	4.9300	.96535	.96863	.99090	.49739
#3	1.1936	.39196	4.9872	.97785	.97372	.99978	.49994
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	**.97719**	**.98281**	F **2.4325**
Stddev	.00637	.00705	.8147
%RSD	.65159	.71704	33.491
#1	.98208	.98188	2.0232
#2	.96999	.97628	3.3707
#3	.97949	.99028	1.9036
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	**10574.**	**91392.**	**12284.**
Stddev	53.	775.	67.
%RSD	.50031	.84761	.54805
#1	10548.	91572.	12219.
#2	10635.	92061.	12281.
#3	10539.	90544.	12353.

Approved: October 06, 2016

Kristi K Buck

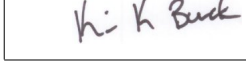
Sample Name: CCB Acquired: 10/6/2016 16:03:37 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00063**	**-.00218**	**-.00137**	**.00268**	**.00032**	**.00006**	**-.00671**
Stddev	.00146	.00744	.00338	.00065	.00042	.00001	.01363
%RSD	231.45	341.60	246.90	24.232	130.54	15.334	202.99
#1	-.00231	-.00951	.00251	.00194	-.00008	.00007	.00700
#2	.00034	.00536	-.00290	.00316	.00028	.00005	-.00688
#3	.00008	-.00239	-.00372	.00293	.00076	.00006	-.02026
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	**-.00016**	**-.00006**	**.00055**	**.00007**	**-.00307**	**.06161**	**-.00377**
Stddev	.00030	.00029	.00095	.00102	.02368	.03847	.00202
%RSD	191.88	470.29	174.09	1396.2	771.28	62.443	53.484
#1	-.00033	-.00028	.00022	.00086	-.02837	.08904	-.00209
#2	.00019	.00027	-.00020	.00044	.00061	.01763	-.00601
#3	-.00033	-.00017	.00162	-.00108	.01856	.07816	-.00321
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	**-.01989**	**-.00089**	**-.00030**	**.04606**	**-.00082**	**.00603**	**-.00006**
Stddev	.01952	.00122	.00034	.01293	.00121	.00392	.00128
%RSD	98.121	137.89	116.16	28.063	146.39	64.982	2177.1
#1	-.03700	-.00103	.00001	.05670	-.00220	.00327	.00142
#2	.00136	-.00203	-.00067	.04981	.00005	.01052	-.00069
#3	-.02403	.00040	-.00023	.03168	-.00032	.00431	-.00090
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: CCB Acquired: 10/6/2016 16:03:37 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**-.00025**	**.00536**	**.00190**	**.00058**	**-.00024**	**.00049**	**.00167**
Stddev	.00428	.00357	.00272	.00020	.00008	.00151	.00352
%RSD	1710.5	66.557	143.06	35.012	33.720	308.20	210.10
#1	-.00208	.00250	.00480	.00050	-.00030	-.00000	.00300
#2	-.00332	.00423	.00151	.00043	-.00015	.00218	.00433
#3	.00464	.00935	-.00060	.00081	-.00027	-.00071	-.00231
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**	**-.00000**	F **1.6146**
Stddev	.00043	.00008	.2589
%RSD	713.24	2411.5	16.037
#1	-.00050	.00007	1.6977
#2	.00036	.00001	1.8217
#3	-.00004	-.00009	1.3243
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	**10729.**	**96154.**	**12524.**
Stddev	26.	300.	54.
%RSD	.24025	.31218	.43418
#1	10758.	96290.	12499.
#2	10709.	96363.	12586.
#3	10720.	95810.	12487.

Approved: October 06, 2016

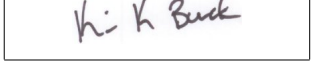
Sample Name: L1610019201 Acquired: 10/6/2016 16:07:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586502-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00030**	**.16175**	**.00186**	**.04595**	**.01944**	**.00000**	**1.8012**	**-.00012**
Stddev	.00053	.00548	.00194	.00257	.00043	.00005	.0077	.00017
%RSD	177.05	3.3861	104.29	5.6013	2.2143	2803.9	.42929	135.16
#1	-.00008	.16525	.00322	.04847	.01939	.00006	1.7923	.00007
#2	.00007	.16456	.00273	.04604	.01904	-.00002	1.8051	-.00019
#3	.00090	.15544	-.00036	.04333	.01990	-.00004	1.8061	-.00025
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	**.00101**	**.00100**	**.02997**	**.18605**	**.27262**	**.00078**	**.25917**	**.03780**
Stddev	.00031	.00028	.00119	.00872	.02179	.00408	.10025	.00165
%RSD	31.111	28.404	3.9740	4.6889	7.9915	525.19	38.683	4.3674
#1	.00122	.00075	.03098	.17607	.25975	.00496	.37233	.03768
#2	.00065	.00131	.03026	.18988	.26035	-.00319	.22376	.03620
#3	.00116	.00094	.02866	.19220	.29778	.00056	.18143	.03950
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	**.11225**	**125.38**	**.02064**	**-.00172**	**.00143**	**.00027**	**.00386**	**.24297**
Stddev	.00014	.41	.00177	.00318	.00167	.00169	.00366	.00087
%RSD	.12764	.32896	8.5547	184.45	116.81	615.94	94.872	.35733
#1	.11215	125.63	.01865	-.00137	.00319	.00216	.00567	.24365
#2	.11241	125.61	.02202	-.00506	-.00013	-.00026	.00625	.24199
#3	.11218	124.91	.02124	.00126	.00122	-.00108	-.00036	.24326
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610019201 Acquired: 10/6/2016 16:07:21 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586502-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00019**	**.02724**	**.00576**	**.00073**	**.00168**	**.03596**	**1.9454**
Stddev	.00075	.00030	.00439	.00160	.00026	.00016	.5870
%RSD	388.73	1.0834	76.293	218.75	15.273	.43226	30.174
#1	.00067	.02699	.01082	.00246	.00185	.03578	2.0811
#2	.00057	.02756	.00296	.00043	.00180	.03604	2.4526
#3	-.00067	.02717	.00349	-.00070	.00138	.03606	1.3024
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	**10877.**	**94328.**	**12793.**
Stddev	22.	269.	26.
%RSD	.20543	.28500	.20639
#1	10851.	94614.	12815.
#2	10886.	94291.	12764.
#3	10893.	94080.	12801.

Approved: October 06, 2016

Kim K Buck

Sample Name: L1610019201MS Acquired: 10/6/2016 16:11:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586502-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19768**	**5.0459**	**.20134**	**.98873**	**.50379**	**.02488**	**6.7310**	**.02443**
Stddev	.00062	.0105	.00133	.00152	.00085	.00001	.0337	.00039
%RSD	.31370	.20888	.66000	.15373	.16773	.04964	.50105	1.5998
#1	.19706	5.0563	.20093	.98849	.50346	.02489	6.7018	.02477
#2	.19830	5.0353	.20283	.98735	.50316	.02486	6.7233	.02450
#3	.19766	5.0462	.20027	.99036	.50475	.02487	6.7679	.02400
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	**.09907**	**.24445**	**.27613**	**2.1904**	**23.372**	**.46470**	**5.2257**	**.29078**
Stddev	.00027	.00042	.00109	.0196	.142	.00448	.0599	.00255
%RSD	.27101	.17163	.39448	.89401	.60911	.96352	1.1460	.87650
#1	.09929	.24484	.27607	2.2109	23.417	.46260	5.2151	.29140
#2	.09877	.24400	.27507	2.1884	23.212	.46166	5.2902	.28798
#3	.09914	.24452	.27724	2.1719	23.486	.46984	5.1718	.29296
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	**.61009**	**149.69**	**.26786**	**4.8352**	**.24526**	**.58501**	**.19759**	**2.6967**
Stddev	.00049	.18	.00257	.0100	.00300	.00342	.00338	.0084
%RSD	.07991	.12243	.96082	.20611	1.2237	.58517	1.7103	.31184
#1	.60978	149.90	.26963	4.8405	.24180	.58623	.19807	2.7030
#2	.61065	149.54	.26905	4.8415	.24685	.58765	.19399	2.7000
#3	.60984	149.65	.26491	4.8237	.24713	.58114	.20070	2.6872
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Kristi K Burck

Sample Name: L1610019201MS Acquired: 10/6/2016 16:11:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586502-04

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48767**	**.51879**	**.51560**	**.24525**	**.49174**	**.53044**	**2.9556**
Stddev	.00079	.00166	.00235	.00539	.00087	.00017	.7728
%RSD	.16283	.32000	.45537	2.1968	.17614	.03246	26.148
#1	.48857	.51775	.51289	.23948	.49086	.53053	3.8042
#2	.48708	.51792	.51686	.24615	.49176	.53054	2.2924
#3	.48735	.52071	.51705	.25014	.49260	.53024	2.7701
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	**10872.**	**94608.**	**12667.**
Stddev	19.	290.	84.
%RSD	.17289	.30635	.66462
#1	10876.	94279.	12574.
#2	10888.	94822.	12738.
#3	10851.	94725.	12689.

Approved: October 06, 2016

Kristi K Burck

Sample Name: L1610019201MSD Acquired: 10/6/2016 16:14:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586502-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19572**	**4.9657**	**.19581**	**.97303**	**.49772**	**.02468**	**6.6423**	**.02389**
Stddev	.00313	.0107	.00071	.00189	.00035	.00008	.0311	.00011
%RSD	1.6015	.21584	.36195	.19388	.07042	.32223	.46818	.47926
#1	.19703	4.9723	.19500	.97284	.49812	.02468	6.6089	.02397
#2	.19799	4.9534	.19611	.97124	.49748	.02460	6.6475	.02375
#3	.19215	4.9716	.19632	.97500	.49755	.02476	6.6704	.02393
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	**.09784**	**.24366**	**.27284**	**2.1865**	**23.173**	**.46532**	**5.2513**	**.28753**
Stddev	.00063	.00042	.00072	.0108	.047	.00230	.0481	.00206
%RSD	.64001	.17314	.26502	.49235	.20106	.49398	.91494	.71711
#1	.09837	.24365	.27356	2.1773	23.193	.46798	5.3068	.28551
#2	.09799	.24323	.27211	2.1838	23.120	.46397	5.2229	.28963
#3	.09715	.24408	.27285	2.1983	23.207	.46402	5.2243	.28743
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	**.60072**	**147.29**	**.26332**	**4.7590**	**.24450**	**.57400**	**.19359**	**2.6569**
Stddev	.00059	.13	.00078	.0137	.00219	.00402	.00510	.0041
%RSD	.09774	.09005	.29755	.28805	.89609	.70079	2.6346	.15512
#1	.60132	147.28	.26409	4.7432	.24702	.57186	.18784	2.6547
#2	.60014	147.16	.26253	4.7669	.24302	.57150	.19537	2.6617
#3	.60070	147.43	.26335	4.7670	.24346	.57864	.19756	2.6545
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Sample Name: L1610019201MSD Acquired: 10/6/2016 16:14:32 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586502-05

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48181**	**.51281**	**.50823**	**.24335**	**.48690**	**.52450**	**1.5804**
Stddev	.00068	.00068	.00291	.00236	.00272	.00078	.5950
%RSD	.14195	.13183	.57235	.97046	.55816	.14894	37.651
#1	.48118	.51223	.50488	.24559	.48944	.52530	.99277
#2	.48172	.51265	.51015	.24359	.48403	.52445	1.5658
#3	.48254	.51355	.50965	.24088	.48723	.52374	2.1825
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	**10821.**	**93727.**	**12617.**
Stddev	13.	440.	136.
%RSD	.12180	.46994	1.0771
#1	10820.	93356.	12516.
#2	10835.	94214.	12772.
#3	10809.	93612.	12564.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610020602 Acquired: 10/6/2016 16:18:01 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00054**	**.03462**	**-.00270**	**.01135**	**.00016**	**-.00003**	**2.0620**	**-.00009**
Stddev	.00187	.00365	.00084	.00213	.00046	.00003	.0129	.00012
%RSD	348.31	10.532	30.942	18.730	292.57	101.82	.62590	132.66
#1	-.00147	.03498	-.00315	.01365	.00002	-.00002	2.0745	-.00003
#2	.00086	.03808	-.00174	.00947	.00068	-.00007	2.0487	-.00001
#3	.00223	.03081	-.00322	.01093	-.00022	-.00001	2.0627	-.00022
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	**.00155**	**-.00043**	**.00193**	**.01628**	**12.672**	**-.00017**	**.53067**	**.00075**
Stddev	.00012	.00105	.00143	.01786	.144	.00242	.02249	.00133
%RSD	7.8346	243.09	74.249	109.67	1.1325	1451.0	4.2383	177.29
#1	.00165	-.00162	.00114	.03137	12.797	-.00188	.52035	-.00072
#2	.00141	.00037	.00106	.02091	12.515	.00260	.51519	.00110
#3	.00159	-.00005	.00358	-.00343	12.705	-.00122	.55646	.00188
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**	**27.213**	**.00676**	**1.5645**	**.00049**	**-.00211**	**.00682**	**.21347**
Stddev	.00081	.095	.00047	.0049	.00257	.00300	.00110	.00211
%RSD	165.54	.34825	6.9271	.31566	528.28	142.29	16.081	.98785
#1	.00133	27.320	.00729	1.5632	.00327	-.00125	.00771	.21542
#2	-.00028	27.139	.00652	1.5700	-.00180	.00037	.00715	.21123
#3	.00042	27.181	.00645	1.5604	-.00001	-.00544	.00559	.21375
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610020602 Acquired: 10/6/2016 16:18:01 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00047**	**.00171**	**.00141**	**-.00239**	**.00005**	**.00573**	**1.3689**
Stddev	.00071	.00002	.00370	.00405	.00038	.00016	.1142
%RSD	150.07	1.4163	262.73	169.01	805.46	2.8726	8.3453
#1	-.00021	.00170	-.00230	.00015	.00002	.00576	1.4960
#2	.00042	.00173	.00509	-.00027	.00044	.00588	1.2747
#3	.00121	.00168	.00143	-.00706	-.00032	.00556	1.3361
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	**11106.**	**97518.**	**12768.**
Stddev	23.	376.	216.
%RSD	.21025	.38548	1.6927
#1	11085.	97100.	12541.
#2	11131.	97829.	12972.
#3	11104.	97624.	12791.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610020604 Acquired: 10/6/2016 16:21:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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**	**.15083**	**.00062**	**.01788**	**.01543**	**-.00005**	**97.787**	**.00024**
Stddev	.00033	.00155	.00417	.00249	.00029	.00003	.389	.00014
%RSD	288.25	1.0310	672.94	13.907	1.8968	60.549	.39769	58.603
#1	.00003	.15237	-.00215	.01605	.01541	-.00001	97.671	.00011
#2	.00048	.14926	.00542	.02072	.01514	-.00007	97.469	.00022
#3	-.00016	.15086	-.00141	.01689	.01572	-.00005	98.221	.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	**.00142**	**.00495**	**.01946**	**.41008**	**14.270**	**-.00200**	**4.9200**	**.23230**
Stddev	.00033	.00019	.00105	.01278	.029	.00566	.0177	.00247
%RSD	23.166	3.8812	5.4137	3.1162	.20100	283.62	.35997	1.0653
#1	.00122	.00499	.01930	.39569	14.237	.00209	4.9355	.23439
#2	.00181	.00512	.01850	.42011	14.290	.00038	4.9237	.22957
#3	.00125	.00474	.02059	.41443	14.283	-.00846	4.9007	.23293
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	**.00185**	**30.856**	**.00347**	**58.697**	**.00170**	**.00285**	**.01199**	**.31952**
Stddev	.00053	.078	.00110	.338	.00135	.00479	.00592	.00263
%RSD	28.368	.25428	31.675	.57554	79.341	168.19	49.398	.82407
#1	.00208	30.826	.00383	58.319	.00296	.00820	.00685	.31649
#2	.00223	30.797	.00435	58.803	.00185	-.00105	.01066	.32129
#3	.00125	30.945	.00224	58.969	.00028	.00140	.01847	.32078
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016

Sample Name: L1610020604 Acquired: 10/6/2016 16:21:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	.00136	.06811	.00024	-.00071	.00191	.12990	1.1940
Stddev	.00040	.00039	.00074	.00182	.00009	.00050	.2361
%RSD	29.536	.56979	314.30	255.31	4.7517	.38739	19.775
#1	.00099	.06815	.00099	.00116	.00196	.12933	1.2076
#2	.00130	.06770	.00021	-.00248	.00180	.13029	.95142
#3	.00179	.06847	-.00049	-.00083	.00197	.13006	1.4231
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	11126.	96447.	13072.
Stddev	104.	260.	127.
%RSD	.93270	.26956	.97290
#1	11035.	96401.	12929.
#2	11102.	96212.	13173.
#3	11239.	96726.	13112.

Approved: October 06, 2016

Kristi K Buck

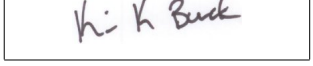
Sample Name: L1610020606 Acquired: 10/6/2016 16:25:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00069	.00314	-.00393	.00278	.00105	.00003	8.4769	-.00026
Stddev	.00114	.00233	.00026	.00076	.00029	.00004	.0087	.00022
%RSD	164.54	74.064	6.5733	27.244	27.468	129.28	.10290	81.689
#1	.00014	.00223	-.00397	.00324	.00130	.00001	8.4685	-.00038
#2	.00201	.00141	-.00417	.00190	.00073	.00000	8.4763	-.00039
#3	-.00007	.00578	-.00366	.00319	.00110	.00007	8.4859	-.00002
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	.00033	-.00018	-.00003	-.00903	2.1745	.00237	.27122	.02577
Stddev	.00043	.00047	.00017	.01691	.0099	.00291	.04850	.00148
%RSD	130.45	256.88	495.51	187.26	.45452	123.11	17.883	5.7399
#1	.00071	-.00061	-.00021	-.00817	2.1651	.00477	.30375	.02650
#2	.00041	.00031	.00012	.00743	2.1848	.00320	.21548	.02407
#3	-.00013	-.00025	-.00001	-.02636	2.1737	-.00087	.29445	.02674
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	1.0170	.00061	.08863	.00043	.00353	.00641	.10574
Stddev	.00054	.0107	.00070	.00199	.00345	.00206	.00458	.00310
%RSD	195.66	1.0476	114.58	2.2412	810.84	58.320	71.505	2.9327
#1	.00032	1.0142	-.00004	.08670	.00137	.00588	.00422	.10916
#2	-.00041	1.0287	.00136	.08853	-.00340	.00258	.00333	.10495
#3	-.00073	1.0080	.00052	.09066	.00330	.00211	.01168	.10311
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 06, 2016



Sample Name: L1610020606 Acquired: 10/6/2016 16:25:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.00073**	**.01354**	**.00335**	**-.00087**	**.00044**	**.00281**	**1.1860**
Stddev	.00018	.00012	.00148	.00096	.00033	.00008	.3557
%RSD	25.032	.91788	44.229	110.11	74.507	2.7687	29.995
#1	.00058	.01340	.00300	-.00133	.00063	.00281	1.4221
#2	.00068	.01362	.00208	-.00151	.00006	.00273	.77685
#3	.00094	.01360	.00498	.00023	.00063	.00289	1.3590
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	**11361.**	**99578.**	**12908.**
Stddev	33.	97.	59.
%RSD	.28719	.09707	.45751
#1	11365.	99478.	12889.
#2	11392.	99671.	12861.
#3	11327.	99586.	12974.

Approved: October 06, 2016

Kristi K Buck

Sample Name: L1610010901 Acquired: 10/6/2016 16:29:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00012**	**.03546**	**.02491**	**.39674**	**8.5679**	**-.00002**	**116.19**
Stddev	.00136	.00493	.00090	.00141	.0428	.00004	.49
%RSD	1134.2	13.912	3.6273	.35503	.49936	149.66	.41932
#1	-.00114	.03628	.02436	.39836	8.6145	-.00001	116.75
#2	-.00065	.03017	.02442	.39609	8.5585	-.00000	115.89
#3	.00142	.03993	.02595	.39578	8.5305	-.00006	115.94
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	**.00055**	**.00325**	**.00020**	**.00006**	**1.5644**	**6.8795**	**.60942**
Stddev	.00018	.00032	.00074	.00043	.0160	.0307	.00348
%RSD	31.582	9.9430	376.34	766.88	1.0237	.44595	.57047
#1	.00041	.00362	.00080	.00045	1.5673	6.8534	.61207
#2	.00075	.00305	.00041	.00012	1.5787	6.9133	.61072
#3	.00050	.00307	-.00062	-.00040	1.5471	6.8717	.60549
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	**13.798**	**.07185**	**-.00002**	F **299.14**	**-.00151**	**.09146**	**-.00081**
Stddev	.089	.00159	.00032	1.82	.00037	.00732	.00116
%RSD	.64576	2.2116	1779.0	.60705	24.392	8.0067	142.83
#1	13.897	.07006	-.00029	301.23	-.00169	.08526	-.00215
#2	13.724	.07311	.00034	298.23	-.00109	.08958	-.00020
#3	13.774	.07237	-.00010	297.97	-.00175	.09954	-.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 06, 2016

Sample Name: L1610010901 Acquired: 10/6/2016 16:29:06 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 100 Custom ID2: Custom ID3:
Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00217**	**.00627**	**.07264**	**.00015**	F **22.310**	**-.01198**	**.00332**
Stddev	.00370	.00240	.00229	.00015	.349	.00528	.00298
%RSD	170.44	38.298	3.1488	99.317	1.5641	44.074	89.743
#1	-.00210	.00573	.07073	.00024	21.916	-.01755	.00394
#2	.00445	.00418	.07517	.00023	22.580	-.01134	.00594
#3	.00417	.00889	.07202	-.00002	22.434	-.00705	.00008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit					9.0000		
Low Limit					-.01000		

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00008**	**.00638**	**.17206**
Stddev	.00054	.00011	.50242
%RSD	691.30	1.7504	292.00
#1	.00065	.00647	-.11363
#2	.00000	.00641	.75219
#3	-.00042	.00626	-.12237
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	**10381.**	**88139.**	**12465.**
Stddev	24.	227.	117.
%RSD	.23119	.25731	.93530
#1	10354.	87920.	12564.
#2	10389.	88373.	12493.
#3	10400.	88124.	12337.

Approved: October 06, 2016

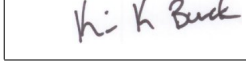
Sample Name: L1610010901 Acquired: 10/6/2016 16:40:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 200 Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00023**	**.01851**	**.01172**	**.19345**	**4.2091**	**.00006**	**59.642**
Stddev	.00090	.00495	.00235	.00253	.0030	.00006	.150
%RSD	384.85	26.756	20.048	1.3099	.07100	92.232	.25200
#1	.00062	.02077	.01116	.19295	4.2113	.00006	59.815
#2	-.00117	.01283	.01429	.19619	4.2057	.00012	59.539
#3	-.00016	.02192	.00970	.19120	4.2103	.00001	59.574
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00000**	**.00148**	**.00082**	**-.00075**	**.78591**	**3.3164**	**.30382**
Stddev	.00006	.00022	.00061	.00128	.01725	.0731	.00101
%RSD	28693.	14.758	74.718	170.76	2.1946	2.2037	.33295
#1	-.00005	.00166	.00105	.00066	.77468	3.3804	.30279
#2	.00007	.00124	.00013	-.00184	.80577	3.3321	.30384
#3	-.00002	.00156	.00129	-.00106	.77729	3.2368	.30482
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	**6.8614**	**.03715**	**-.00032**	**154.09**	**-.00136**	**.05539**	**-.00077**
Stddev	.0804	.00056	.00038	.57	.00098	.00567	.00070
%RSD	1.1721	1.5080	121.58	.37111	71.881	10.230	90.103
#1	6.7717	.03652	-.00037	154.73	-.00096	.04930	-.00051
#2	6.8855	.03759	-.00067	153.61	-.00248	.06051	-.00025
#3	6.9270	.03734	.00009	153.94	-.00065	.05636	-.00156
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: L1610010901 Acquired: 10/6/2016 16:40:22 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 200 Custom ID2: Custom ID3:
Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00070**	**.00570**	**.03104**	**-.00004**	F **11.267**	**-.00036**	**.00180**
Stddev	.00317	.00529	.00123	.00097	.316	.00313	.00244
%RSD	454.23	92.889	3.9579	2589.7	2.8016	871.20	135.53
#1	-.00140	.00261	.02967	.00108	11.599	-.00024	.00266
#2	-.00085	.01181	.03206	-.00060	11.233	-.00354	.00371
#3	.00434	.00268	.03139	-.00059	10.971	.00271	-.00095
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit					9.0000		
Low Limit					-.01000		

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**-.00038**	**.00306**	**.88210**
Stddev	.00085	.00005	.65680
%RSD	222.89	1.7637	74.459
#1	.00046	.00305	1.2597
#2	-.00037	.00300	1.2629
#3	-.00123	.00311	.12369
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	**10539.**	**90972.**	**12213.**
Stddev	66.	500.	222.
%RSD	.62475	.54968	1.8139
#1	10552.	91355.	11958.
#2	10597.	90407.	12358.
#3	10467.	91155.	12322.

Approved: October 06, 2016

Kristi K Buck

Sample Name: CCV Acquired: 10/6/2016 16:44:22 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.39280**	**9.9649**	**.39281**	**.48563**	**.96039**	**.04939**	**9.7002**
Stddev	.00324	.0652	.00367	.00084	.00312	.00008	.0422
%RSD	.82368	.65394	.93459	.17399	.32495	.16760	.43525
#1	.38913	9.8898	.39010	.48609	.95779	.04940	9.6951
#2	.39404	10.000	.39699	.48466	.96385	.04948	9.7448
#3	.39523	10.005	.39133	.48615	.95951	.04931	9.6609
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	**.04936**	**.19826**	**.48886**	**.49805**	**4.0376**	**45.447**	**.91330**
Stddev	.00041	.00040	.00344	.00169	.0337	.061	.00213
%RSD	.82783	.20409	.70276	.33945	.83359	.13383	.23294
#1	.04981	.19866	.48545	.49611	4.0101	45.398	.91103
#2	.04900	.19825	.48881	.49925	4.0276	45.515	.91525
#3	.04928	.19785	.49232	.49878	4.0752	45.429	.91363
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	**10.259**	**.50145**	**.98602**	**46.592**	**.49630**	**9.8471**	**.50099**
Stddev	.100	.00211	.00170	.086	.00115	.0207	.00252
%RSD	.97332	.42056	.17277	.18434	.23216	.21035	.50312
#1	10.265	.49911	.98628	46.598	.49669	9.8236	.50180
#2	10.157	.50203	.98758	46.675	.49721	9.8627	.49816
#3	10.356	.50321	.98420	46.504	.49501	9.8550	.50300
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 06, 2016
Ki K Buck

Sample Name: CCV Acquired: 10/6/2016 16:44:22 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**1.1939**	**.39782**	**4.9983**	**.98595**	**.97908**	**1.0038**	**.50761**
Stddev	.0046	.00765	.0110	.00020	.00303	.0047	.00387
%RSD	.38479	1.9233	.22006	.01986	.30972	.46480	.76297
#1	1.1928	.40664	4.9884	.98592	.97729	1.0030	.50328
#2	1.1900	.39297	5.0101	.98616	.98259	1.0088	.50883
#3	1.1990	.39385	4.9963	.98578	.97738	.99953	.51073
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	**.97546**	**.99722**	F **1.4275**
Stddev	.00428	.00278	.9091
%RSD	.43833	.27852	63.687
#1	.97098	.99477	2.4373
#2	.97591	1.0002	1.1712
#3	.97950	.99665	.67401
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	**10510.**	**91771.**	**12453.**
Stddev	55.	290.	66.
%RSD	.52365	.31633	.52607
#1	10456.	92089.	12454.
#2	10566.	91705.	12387.
#3	10509.	91520.	12518.

Approved: October 06, 2016

Ki K Buck

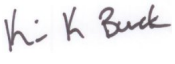
Sample Name: CCB Acquired: 10/6/2016 16:47:47 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00123**	**.00129**	**.00013**	**.00163**	**.00013**	**.00003**	**-.00414**
Stddev	.00141	.00417	.00259	.00148	.00072	.00004	.00575
%RSD	114.39	322.20	2072.8	91.127	567.33	143.05	138.98
#1	-.00006	.00382	-.00116	.00076	.00035	.00005	-.00897
#2	-.00280	-.00352	-.00157	.00334	-.00068	-.00002	-.00567
#3	-.00084	.00358	.00311	.00078	.00071	.00005	.00222
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**	**.00040**	**.00019**	**-.00159**	**.01955**	**.01960**	**-.00084**
Stddev	.00026	.00005	.00056	.00097	.01063	.03218	.00219
%RSD	101.99	12.501	291.03	61.105	54.385	164.14	260.30
#1	-.00055	.00043	.00048	-.00157	.01216	.05599	.00153
#2	-.00010	.00034	-.00046	-.00063	.01475	.00795	-.00278
#3	-.00011	.00043	.00055	-.00256	.03173	-.00512	-.00127
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	**-.00764**	**.00096**	**-.00062**	**.07455**	**-.00115**	**.00234**	**-.00154**
Stddev	.04638	.00019	.00057	.01987	.00095	.00555	.00293
%RSD	606.99	19.559	90.624	26.655	82.398	237.59	190.47
#1	.03702	.00076	-.00036	.07854	-.00160	-.00254	-.00293
#2	-.00437	.00113	-.00024	.09212	-.00181	.00117	.00183
#3	-.05557	.00099	-.00127	.05298	-.00006	.00838	-.00352
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: CCB Acquired: 10/6/2016 16:47:47 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**-.00159**	**.00376**	**.00125**	**-.00028**	**-.00005**	**.00128**	**-.00330**
Stddev	.00297	.00311	.00301	.00047	.00020	.00547	.00237
%RSD	187.42	82.521	241.57	171.28	374.51	427.19	71.934
#1	.00183	.00099	.00413	-.00082	.00015	.00728	-.00551
#2	-.00361	.00318	.00149	-.00009	-.00007	-.00342	-.00079
#3	-.00298	.00712	-.00188	.00007	-.00025	-.00002	-.00360
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**	**-.00017**	F **.76071**
Stddev	.00108	.00021	.23845
%RSD	134.71	123.48	31.346
#1	-.00017	-.00022	.65726
#2	.00196	-.00034	1.0334
#3	.00061	.00006	.59146
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	**10539.**	**93326.**	**12501.**
Stddev	51.	635.	76.
%RSD	.48096	.68010	.60962
#1	10566.	93975.	12572.
#2	10480.	93297.	12510.
#3	10570.	92707.	12420.

Approved: October 06, 2016

Kim K Buck

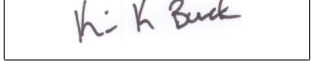
Sample Name: LLCCV Acquired: 10/6/2016 16:51:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00945**	**.18876**	**.00699**	**.07862**	**.00849**	**.00166**	**.83983**
Stddev	.00176	.00756	.00201	.00098	.00019	.00006	.01918
%RSD	18.594	4.0053	28.783	1.2516	2.2524	3.4836	2.2834
#1	.01148	.18445	.00755	.07790	.00827	.00159	.86157
#2	.00848	.18435	.00476	.07822	.00860	.00170	.83256
#3	.00839	.19749	.00866	.07974	.00860	.00169	.82534
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**	**.00461**	**.00454**	**.00409**	**.08807**	**.83113**	**.07990**
Stddev	.00011	.00033	.00061	.00188	.00902	.04378	.00282
%RSD	16.990	7.2030	13.375	46.051	10.240	5.2673	3.5234
#1	.00075	.00496	.00414	.00514	.09819	.87421	.07872
#2	.00064	.00430	.00524	.00521	.08088	.78668	.07786
#3	.00053	.00459	.00424	.00192	.08515	.83249	.08311
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	**.49824**	**.00952**	**.00734**	**.47468**	**.01629**	**.79888**	**.00697**
Stddev	.04233	.00258	.00033	.01762	.00032	.00661	.00222
%RSD	8.4953	27.112	4.4421	3.7121	1.9548	.82770	31.786
#1	.52560	.00895	.00715	.48913	.01592	.79407	.00856
#2	.44949	.00726	.00715	.47987	.01651	.79614	.00792
#3	.51965	.01233	.00772	.45505	.01644	.80642	.00444
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016



Sample Name: LLCCV Acquired: 10/6/2016 16:51:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.09067**	**.01849**	**.80380**	**.41473**	**.04159**	**.02762**	**.16309**
Stddev	.00457	.00505	.00414	.00267	.00028	.00153	.00063
%RSD	5.0360	27.341	.51453	.64355	.67189	5.5565	.38925
#1	.08578	.02306	.79973	.41168	.04127	.02939	.16378
#2	.09142	.01933	.80365	.41661	.04171	.02684	.16295
#3	.09481	.01306	.80800	.41591	.04179	.02664	.16253
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	**.00793**	**.02065**	F **88.609**
Stddev	.00089	.00021	.880
%RSD	11.204	.99943	.99360
#1	.00889	.02041	89.625
#2	.00777	.02077	88.111
#3	.00713	.02076	88.090
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	**10626.**	**93385.**	**12332.**
Stddev	63.	293.	102.
%RSD	.59108	.31397	.82772
#1	10688.	93410.	12409.
#2	10627.	93664.	12372.
#3	10563.	93080.	12216.

Approved: October 06, 2016

Kristi K Buck

Sample Name: LLCCV Acquired: 10/6/2016 16:55:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.01018**	**.22847**	**.00837**	**.09860**	**.00981**	**.00213**	**.74786**
Stddev	.00069	.00456	.00239	.00113	.00022	.00004	.01582
%RSD	6.7951	1.9958	28.570	1.1448	2.2465	1.6723	2.1153
#1	.01005	.22321	.01065	.09870	.00996	.00213	.76611
#2	.00956	.23132	.00859	.09967	.00956	.00209	.73943
#3	.01093	.23088	.00588	.09742	.00991	.00216	.73805
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	**.00078**	**.00510**	**.00521**	**.00312**	**.11612**	**.91728**	**.09768**
Stddev	.00046	.00006	.00054	.00054	.01511	.09167	.00458
%RSD	58.823	1.0798	10.400	17.364	13.014	9.9939	4.6911
#1	.00030	.00504	.00470	.00324	.11412	.84733	.09239
#2	.00084	.00515	.00515	.00359	.13213	.88344	.10044
#3	.00121	.00510	.00578	.00253	.10211	1.0211	.10020
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	**.64126**	**.01131**	**.00961**	**.56160**	**.02077**	**.99602**	**.01163**
Stddev	.02487	.00101	.00016	.00297	.00063	.00400	.00130
%RSD	3.8783	8.9223	1.6209	.52902	3.0268	.40126	11.225
#1	.66930	.01090	.00943	.56102	.02146	.99156	.01108
#2	.63263	.01057	.00968	.55896	.02063	.99723	.01068
#3	.62186	.01246	.00973	.56482	.02023	.99927	.01311
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 06, 2016

Kristi K Buck

Sample Name: LLCCV Acquired: 10/6/2016 16:55:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v105) 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	**.10721**	**.02377**	**1.0031**	**.51770**	**.05171**	**.03522**	**.21010**
Stddev	.00590	.00480	.0062	.00439	.00031	.00068	.00260
%RSD	5.4998	20.174	.62193	.84713	.59409	1.9385	1.2396
#1	.10062	.02298	.99592	.51471	.05174	.03485	.20755
#2	.10904	.01942	1.0074	.51565	.05140	.03479	.20999
#3	.11198	.02892	1.0059	.52273	.05201	.03600	.21275
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	**.00989**	**.02363**	F **112.11**
Stddev	.00070	.00021	1.15
%RSD	7.0712	.88768	1.0278
#1	.00993	.02343	113.42
#2	.01057	.02361	111.25
#3	.00917	.02384	111.67
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	**10756.**	**94764.**	**12451.**
Stddev	137.	561.	80.
%RSD	1.2721	.59219	.64415
#1	10899.	94121.	12367.
#2	10743.	95016.	12526.
#3	10627.	95155.	12460.

Approved: October 06, 2016

Kristi K Buck

2.3.2 Metals ICP-MS Data

2.3.2.1 Summary Data

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	35AWW09F-100316	**Prep Method:**	3015	**Prep Date:**	10/05/2016 09:02
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/12/2016 14:22
Workgroup #:	WG586830	**Analyst:**	BKT	**Run Date:**	10/12/2016 15:52
Collect Date:	10/03/2016 08:25	**Dilution:**	1	**File ID:**	NI.101216.155232
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	0.151		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #:	L16100123-04	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	35AWW10F-100316	**Prep Method:**	3015	**Prep Date:**	10/05/2016 09:02
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/12/2016 14:22
Workgroup #:	WG586830	**Analyst:**	BKT	**Run Date:**	10/12/2016 15:55
Collect Date:	10/03/2016 09:40	**Dilution:**	1	**File ID:**	NI.101216.155532
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	0.0770		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #:	L16100123-06	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	35AWW11F-100316	**Prep Method:**	3015	**Prep Date:**	10/05/2016 09:02
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/12/2016 14:22
Workgroup #:	WG586830	**Analyst:**	BKT	**Run Date:**	10/12/2016 18:14
Collect Date:	10/03/2016 10:50	**Dilution:**	10	**File ID:**	NI.101216.181404
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	0.525		0.0400	0.0200	0.0100

Certificate of Analysis

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #: L16100123-07 | **PrePrep Method:** N/A | **Instrument:** ICP-MS2
Client ID: 35AWW06-100316 | **Prep Method:** 3015 | **Prep Date:** 10/05/2016 09:02
Matrix: Water | **Analytical Method:** 6020A | **Cal Date:** 10/12/2016 14:22
Workgroup #: WG586830 | **Analyst:** BKT | **Run Date:** 10/12/2016 18:17
Collect Date: 10/03/2016 13:30 | **Dilution:** 10 | **File ID:** NI.101216.181703
Sample Tag: DL01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	0.346		0.0400	0.0200	0.0100

Certificate of Analysis

Sample #: L16100123-10 | **PrePrep Method:** N/A | **Instrument:** ICP-MS2
Client ID: 35AWW09FF-100316 | **Prep Method:** 3015 | **Prep Date:** 10/05/2016 09:02
Matrix: Water | **Analytical Method:** 6020A | **Cal Date:** 10/12/2016 14:22
Workgroup #: WG586830 | **Analyst:** BKT | **Run Date:** 10/12/2016 16:04
Collect Date: 10/03/2016 08:25 | **Dilution:** 1 | **File ID:** NI.101216.160430
Sample Tag: 01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.150		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #: L16100123-12 | **PrePrep Method:** N/A | **Instrument:** ICP-MS2
Client ID: 35AWW10-100316 | **Prep Method:** 3015 | **Prep Date:** 10/05/2016 09:02
Matrix: Water | **Analytical Method:** 6020A | **Cal Date:** 10/12/2016 14:22
Workgroup #: WG586830 | **Analyst:** BKT | **Run Date:** 10/12/2016 16:07
Collect Date: 10/03/2016 09:40 | **Dilution:** 1 | **File ID:** NI.101216.160729
Sample Tag: 01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0748		0.00400	0.00200	0.00100

Certificate of Analysis

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L16100123-14	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	35AWW11FF-100316	**Prep Method:**	3015	**Prep Date:**	10/05/2016 09:02
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/12/2016 14:22
Workgroup #:	WG586830	**Analyst:**	BKT	**Run Date:**	10/12/2016 18:20
Collect Date:	10/03/2016 10:50	**Dilution:**	10	**File ID:**	NI.101216.182002
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.487		0.0400	0.0200	0.0100

Certificate of Analysis

Sample #:	L16100123-15	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	35AWW06FF-100316	**Prep Method:**	3015	**Prep Date:**	10/05/2016 09:02
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/12/2016 14:22
Workgroup #:	WG586830	**Analyst:**	BKT	**Run Date:**	10/12/2016 18:23
Collect Date:	10/03/2016 13:30	**Dilution:**	10	**File ID:**	NI.101216.182302
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.341		0.0400	0.0200	0.0100

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: WG586277
Analyst: VC
Spike Analyst: VC
Run Date: 10/05/2016 09:02
Method: 3015
Balance: BAL016
Instrument: MW-3
Instrument Start: 10/05/2016 09:07

SOP: ME407 Revison 19
Spike Solution: STD75998
Spike Witness: ERP
40 & 50 ML. DIGESTION TU: COA18987
HNO3 Lot #: COA19196
MS Filters- fisher-Lot#R: RGT37258

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG586277-02	BLANK	1	20 mL	50 mL	182.249 g	182.249 g		
2	WG586277-03	LCS	1	20 mL	50 mL	183.877 g	183.891 g	.25 mL	
3	L16100090-01	SAMP	1	20 mL	50 mL	184.533 g	184.546 g		10/06/16
4	L16100095-01	SAMP	1	20 mL	50 mL	183.376 g	183.393 g		10/14/16
5	L16100095-02	SAMP	1	20 mL	50 mL	183.119 g	183.119 g		10/14/16
6	L16100111-01	SAMP	1	20 mL	50 mL	180.691 g	180.685 g		10/11/16
7	L16100113-01	SAMP	1	20 mL	50 mL	182.026 g	182.037 g		10/11/16
8	L16100114-01	SAMP	1	20 mL	50 mL	182.037 g	182.045 g		10/11/16
9	L16100123-02	SAMP	1	20 mL	50 mL	183.263 g	183.266 g		10/14/16
10	L16100123-04	SAMP	1	20 mL	50 mL	182.238 g	182.248 g		10/14/16
11	L16100123-06	SAMP	1	20 mL	50 mL	182.039 g	182.032 g		10/14/16
12	L16100123-07	SAMP	1	20 mL	50 mL	184.249 g	184.255 g		10/14/16
13	L16100123-10	SAMP	1	20 mL	50 mL	180.662 g	180.636 g		10/14/16
14	L16100123-12	SAMP	1	20 mL	50 mL	182.962 g	182.957 g		10/14/16
15	L16100123-14	SAMP	1	20 mL	50 mL	183.406 g	183.396 g		10/14/16
16	L16100123-15	SAMP	1	20 mL	50 mL	182.763 g	182.756 g		10/14/16
17	WG586277-01	REF	1	20 mL	50 mL	180.897 g	180.917 g		
18	L16100148-02	SAMP	1	20 mL	50 mL	180.897 g	180.917 g		10/14/16
19	WG586277-04	MS	1	20 mL	50 mL	181.397 g	181.397 g	.25 mL	
20	WG586277-05	MSD	1	20 mL	50 mL	182.805 g	182.814 g	.25 mL	

L16100090-01	FILTERED DIGESTATE

Analyst: Vicki Collins

Reviewer: Erin Potts

MW_DIG - Modified 09/30/2009
PDF ID: 4962406
Report generated: 10/05/2016 10:15

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 101216A.REP
Analyst1: BKT Analyst2: N/A
Method: 6020/6020A SOP: ME700A Rev: 3
Maintenance Log ID:

Calibration Std: STD78212 ICV Std: STD78221 Post Spike: STD76567
ICSA: STD77875 ICSAB: STD77876 Int. Std: RGT38092
CCV: STD78220 LLCCV: STD77873 Tuning Sol : STD77874
Stannous : Hydroxylamine :

Workgroups: 586830,586896,587381,586888

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.101216.141046	Blank	Blank		1		10/12/16 14:10
2	NI.101216.141347	WG587473-01	Calibration Point		1		10/12/16 14:13
3	NI.101216.141646	WG587473-02	Calibration Point		1		10/12/16 14:16
4	NI.101216.141946	WG587473-03	Calibration Point		1		10/12/16 14:19
5	NI.101216.142245	WG587473-04	Calibration Point		1		10/12/16 14:22
6	NI.101216.142546	WG587473-05	Initial Calibration Verification		1		10/12/16 14:25
7	NI.101216.142847	WG587473-06	Initial Calib Blank		1		10/12/16 14:28
8	NI.101216.143157	WG587473-07	Low Level Initial Calibration V		1		10/12/16 14:31
9	NI.101216.143504	WG587473-08	Interference Check		1		10/12/16 14:35
10	NI.101216.143803	WG587473-09	Interference Check		1		10/12/16 14:38
11	NI.101216.144103	WG587473-10	CCV		1		10/12/16 14:41
12	NI.101216.144403	WG587473-11	CCB		1		10/12/16 14:44
13	NI.101216.144703	WG586277-02	Method/Prep Blank	20/50	1		10/12/16 14:47
14	NI.101216.150956	WG586277-03	Laboratory Control S	20/50	1		10/12/16 15:09
15	NI.101216.151255	WG586277-01	Reference Sample		1	L16100148-02	10/12/16 15:12
16	NI.101216.151554	WG586277-04	Matrix Spike	20/50	1	L16100148-02	10/12/16 15:15
17	NI.101216.151854	WG586277-05	Matrix Spike Duplica	20/50	1	L16100148-02	10/12/16 15:18
18	NI.101216.152155	L16100095-01	LH18/24-SP650-6398-GRAB	20/50	1		10/12/16 15:21
19	NI.101216.152454	L16100095-02	LH18/24-SP650-6398-COMP	20/50	1		10/12/16 15:24
20	NI.101216.152753	WG586830-03	Post Digestion Spike		1	L16100095-02	10/12/16 15:27
21	NI.101216.153052	WG586830-04	Serial Dilution		5	L16100095-02	10/12/16 15:30
22	NI.101216.153351	WG586830-04	Serial Dilution		25	L16100095-02	10/12/16 15:33
23	NI.101216.153652	WG587473-12	CCV		1		10/12/16 15:36
24	NI.101216.153952	WG587473-13	CCB		1		10/12/16 15:39
25	NI.101216.154253	L16100111-01	DP005MW0507-008	20/50	1		10/12/16 15:42
26	NI.101216.154553	L16100113-01	DP005MW0519-008	20/50	1		10/12/16 15:45
27	NI.101216.154933	L16100114-01	DP005MW0506-008	20/50	1		10/12/16 15:49
28	NI.101216.155232	L16100123-02	35AWW09F-100316	20/50	1		10/12/16 15:52
29	NI.101216.155532	L16100123-04	35AWW10F-100316	20/50	1		10/12/16 15:55
30	NI.101216.155831	L16100123-06	35AWW11F-100316	20/50	1		10/12/16 15:58
31	NI.101216.160130	L16100123-07	35AWW06-100316	20/50	1		10/12/16 16:01
32	NI.101216.160430	L16100123-10	35AWW09FF-100316	20/50	1		10/12/16 16:04
33	NI.101216.160729	L16100123-12	35AWW10-100316	20/50	1		10/12/16 16:07
34	NI.101216.161028	L16100123-14	35AWW11FF-100316	20/50	1		10/12/16 16:10

Page: 1 Approved: October 13, 2016

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 101216A.REP
Analyst1: BKT Analyst2: N/A
Method: 6020/6020A SOP: ME700A Rev: 3
Maintenance Log ID:

Calibration Std: STD78212 ICV Std: STD78221 Post Spike: STD76567
ICSA: STD77875 ICSAB: STD77876 Int. Std: RGT38092
CCV: STD78220 LLCCV: STD77873 Tuning Sol : STD77874
Stannous : Hydroxylamine :

Workgroups: 586830,586896,587381,586888

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	NI.101216.161329	WG587473-14	CCV		1		10/12/16 16:13
36	NI.101216.161628	WG587473-15	CCB		1		10/12/16 16:16
37	NI.101216.161929	L16100123-15	35AWW06FF-100316	20/50	1		10/12/16 16:19
38	NI.101216.162230	WG587473-16	CCV		1		10/12/16 16:22
39	NI.101216.162530	WG587473-17	CCB		1		10/12/16 16:25
40	NI.101216.162831	WG586668-02	Method/Prep Blank	20/50	1		10/12/16 16:28
41	NI.101216.163130	WG586668-03	Laboratory Control S	20/50	1		10/12/16 16:31
42	NI.101216.163429	WG586668-01	Reference Sample		1	L16100101-08	10/12/16 16:34
43	NI.101216.163729	WG586668-05	Matrix Spike	20/50	1	L16100101-08	10/12/16 16:37
44	NI.101216.164029	WG586668-06	Matrix Spike Duplica	20/50	1	L16100101-08	10/12/16 16:40
45	NI.101216.164328	L16100101-02	V6J0092-02	20/50	1		10/12/16 16:43
46	NI.101216.164628	L16100101-04	V6J0092-04	20/50	1		10/12/16 16:46
47	NI.101216.164928	WG586896-01	Post Digestion Spike		1	L16100101-04	10/12/16 16:49
48	NI.101216.171410	WG586896-02	Serial Dilution		5	L16100101-04	10/12/16 17:14
49	NI.101216.171709	WG586896-02	Serial Dilution		25	L16100101-04	10/12/16 17:17
50	NI.101216.172010	WG587473-18	CCV		1		10/12/16 17:20
51	NI.101216.172309	WG587473-19	CCB		1		10/12/16 17:23
52	NI.101216.172610	L16100002-01	MDL-1	20/50	1		10/12/16 17:26
53	NI.101216.172910	L16100004-01	LOQ-1	20/50	1		10/12/16 17:29
54	NI.101216.173208	L16100004-09	LOQ-9	20/50	1		10/12/16 17:32
55	NI.101216.173508	L16100101-06	V6J0092-06	20/50	1		10/12/16 17:35
56	NI.101216.173807	L16100101-10	V6J0092-10	20/50	1		10/12/16 17:38
57	NI.101216.174107	L16100194-02	35AWW08F-100416	20/50	10		10/12/16 17:41
58	NI.101216.174407	L16100194-04	03WW01F-100416	20/50	10		10/12/16 17:44
59	NI.101216.174705	L16100194-05	35AWW20-100416	20/50	1		10/12/16 17:47
60	NI.101216.175005	L16100194-06	LHSMW07-100416	20/50	1		10/12/16 17:50
61	NI.101216.175305	L16100194-13	35AWW08FF-100416	20/50	10		10/12/16 17:53
62	NI.101216.175605	WG587473-20	CCV		1		10/12/16 17:56
63	NI.101216.175905	WG587473-21	CCB		1		10/12/16 17:59
64	NI.101216.180205	L16100194-15	03WW01FF-100416	20/50	10		10/12/16 18:02
65	NI.101216.180505	L16100194-16	35AWW20FF-100416	20/50	1		10/12/16 18:05
66	NI.101216.180804	L16100194-17	LHSMW07FF-100416	20/50	1		10/12/16 18:08
67	NI.101216.181104	L16100319-02	INS-WL01-100516	20/50	1		10/12/16 18:11
68	NI.101216.181404	L16100123-06	35AWW11F-100316	20/50	10		10/12/16 18:14

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 101216A.REP
Analyst1: BKT Analyst2: N/A
Method: 6020/6020A SOP: ME700A Rev: 3
Maintenance Log ID:

Calibration Std: STD78212 ICV Std: STD78221 Post Spike: STD76567
ICSA: STD77875 ICSAB: STD77876 Int. Std: RGT38092
CCV: STD78220 LLCCV: STD77873 Tuning Sol : STD77874
Stannous : Hydroxylamine :

Workgroups: 586830,586896,587381,586888

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	NI.101216.181703	L16100123-07	35AWW06-100316	20/50	10		10/12/16 18:17
70	NI.101216.182002	L16100123-14	35AWW11FF-100316	20/50	10		10/12/16 18:20
71	NI.101216.182302	L16100123-15	35AWW06FF-100316	20/50	10		10/12/16 18:23
72	NI.101216.182602	WG587473-22	CCV		1		10/12/16 18:26
73	NI.101216.182901	WG587473-23	CCB		1		10/12/16 18:29
74	NI.101216.183202	WG587473-24	Low Level Continuing Calibra		1		10/12/16 18:32
75	NI.101216.183503	WG586863-02	Method/Prep Blank	.25/100	1		10/12/16 18:35
76	NI.101216.183802	WG586863-03	Laboratory Control S	.25/100	1		10/12/16 18:38
77	NI.101216.184101	WG586863-01	Reference Sample		1	L16100319-03	10/12/16 18:41
78	NI.101216.184401	WG586863-04	Matrix Spike	.251/100	1	L16100319-03	10/12/16 18:44
79	NI.101216.184700	WG586863-05	Matrix Spike Duplica	.255/100	1	L16100319-03	10/12/16 18:47
80	NI.101216.185000	L16100389-02	BFB-16-058	.252/100	1		10/12/16 18:50
81	NI.101216.185259	L16100389-04	BFB-16-059	.257/100	1		10/12/16 18:52
82	NI.101216.185558	WG587381-01	Post Digestion Spike		1	L16100389-04	10/12/16 18:55
83	NI.101216.185858	WG587381-02	Serial Dilution		5	L16100389-04	10/12/16 18:58
84	NI.101216.190157	WG587381-02	Serial Dilution		25	L16100389-04	10/12/16 19:01
85	NI.101216.190458	WG587473-25	CCV		1		10/12/16 19:04
86	NI.101216.190758	WG587473-26	CCB		1		10/12/16 19:07
87	NI.101216.191059	L16100003-01	MDL-1	.25/100	1		10/12/16 19:10
88	NI.101216.191358	L16100005-01	LOQ-1	.25/100	1		10/12/16 19:13
89	NI.101216.191657	L16100005-10	LOQ-14	.25/100	1		10/12/16 19:16
90	NI.101216.191957	L16100389-06	BFB-16-060	.252/100	1		10/12/16 19:19
91	NI.101216.192256	L16100389-08	BFB-16-061	.256/100	1		10/12/16 19:22
92	NI.101216.192556	L16100389-10	BFB-16-062	.254/100	1		10/12/16 19:25
93	NI.101216.192855	L16100389-12	BFB-16-063	.25/100	1		10/12/16 19:28
94	NI.101216.193154	L16100389-14	BFB-16-064	.257/100	1		10/12/16 19:31
95	NI.101216.193454	L16100389-16	BFB-16-065	.253/100	1		10/12/16 19:34
96	NI.101216.193753	L16100389-18	BFB-16-066	.255/100	1		10/12/16 19:37
97	NI.101216.194054	WG587473-27	CCV		1		10/12/16 19:40
98	NI.101216.194354	WG587473-28	CCB		1		10/12/16 19:43
99	NI.101216.194654	L16100389-20	BFB-16-067	.25/100	1		10/12/16 19:46
100	NI.101216.194954	L16100389-22	BFB-16-068	.25/100	1		10/12/16 19:49
101	NI.101216.195253	L16100389-24	BFB-16-069	.258/100	1		10/12/16 19:52
102	NI.101216.195553	L16100389-26	BFB-16-070	.258/100	1		10/12/16 19:55

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Kym H. Rhoden

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 101216A.REP
Analyst1: BKT Analyst2: N/A
Method: 6020/6020A SOP: ME700A Rev: 3
Maintenance Log ID:

Calibration Std: STD78212 ICV Std: STD78221 Post Spike: STD76567
ICSA: STD77875 ICSAB: STD77876 Int. Std: RGT38092
CCV: STD78220 LLCCV: STD77873 Tuning Sol : STD77874
Stannous : Hydroxylamine :

Workgroups: 586830,586896,587381,586888

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	NI.101216.195853	L16100389-28	BFB-16-071	.259/100	1		10/12/16 19:58
104	NI.101216.200152	L16100389-30	BFB-16-072	.254/100	1		10/12/16 20:01
105	NI.101216.200452	L16100389-32	BFB-16-073	.25/100	1		10/12/16 20:04
106	NI.101216.200752	WG587473-29	Interference Check		1		10/12/16 20:07
107	NI.101216.201052	WG587473-30	Interference Check		1		10/12/16 20:10
108	NI.101216.201353	WG587473-31	CCV		1		10/12/16 20:13
109	NI.101216.201653	WG587473-32	CCB		1		10/12/16 20:16
110	NI.101216.201954	WG586713-02	Method/Prep Blank	40/50	50		10/12/16 20:19
111	NI.101216.202253	WG586713-03	Laboratory Control S	40/50	50		10/12/16 20:22
112	NI.101216.202553	L16100222-01	ALAN 14 BAGS		50	WG586713-01	10/12/16 20:25
113	NI.101216.202852	WG586713-04	Matrix Spike	5/50	50	L16100222-01	10/12/16 20:28
114	NI.101216.203152	WG586713-05	Matrix Spike Duplica	5/50	50	L16100222-01	10/12/16 20:31
115	NI.101216.203452	WG586888-01	Post Digestion Spike		50	L16100222-01	10/12/16 20:34
116	NI.101216.203751	WG586888-02	Serial Dilution		250	L16100222-01	10/12/16 20:37
117	NI.101216.204052	WG587473-33	CCV		1		10/12/16 20:40
118	NI.101216.204352	WG587473-34	CCB		1		10/12/16 20:43

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Microbac

Microbac Laboratories Inc.

Data Checklist

Date: 12-OCT-2016
Analyst: BKT
Analyst: NA
Method: 6020/6020A
Instrument: ICP-MS2
Curve Workgroup: 587473
Runlog ID: 78039
Analytical Workgroups: 586830,586896,587381,586888

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	
Level 4	
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	BKT
Secondary Reviewer	KHR
Comments	

Primary Reviewer:
13-OCT-2016

Secondary Reviewer:
13-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-13-2016 15:10:22

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6020A AAB#: WG586830

Login Number: L16100123

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
35AWW09F-100316	02	10/03/16					10/05/2016	2	180		10/12/16	9.3	180	
35AWW10F-100316	04	10/03/16					10/05/2016	2	180		10/12/16	9.3	180	
35AWW11F-100316	06	10/03/16					10/05/2016	1.9	180		10/12/16	9.3	180	
35AWW06-100316	07	10/03/16					10/05/2016	1.8	180		10/12/16	9.2	180	
35AWW09FF-100316	10	10/03/16					10/05/2016	2	180		10/12/16	9.3	180	
35AWW10-100316	12	10/03/16					10/05/2016	2	180		10/12/16	9.3	180	
35AWW11FF-100316	14	10/03/16					10/05/2016	1.9	180		10/12/16	9.3	180	
35AWW06FF-100316	15	10/03/16					10/05/2016	1.8	180		10/12/16	9.2	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4973641
Report generated 10/13/2016 10:46

METHOD BLANK SUMMARY

Login Number: L16100123
Blank File ID: NI.101216.144703
Prep Date: 10/05/16 09:02
Analyzed Date: 10/12/16 14:47
Analyst: BKT

Work Group: WG586830
Blank Sample ID: WG586277-02
Instrument ID: ICP-MS2
Method: 6020A

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586277-03	NI.100716.214423	10/07/16 21:44	01
LCS	WG586277-03	NI.101216.150956	10/12/16 15:09	02
35AWW09F-100316	L16100123-02	NI.101216.155232	10/12/16 15:52	01
35AWW10F-100316	L16100123-04	NI.101216.155532	10/12/16 15:55	01
35AWW09FF-100316	L16100123-10	NI.101216.160430	10/12/16 16:04	01
35AWW10-100316	L16100123-12	NI.101216.160729	10/12/16 16:07	01
35AWW11F-100316	L16100123-06	NI.101216.181404	10/12/16 18:14	DL01
35AWW06-100316	L16100123-07	NI.101216.181703	10/12/16 18:17	DL01
35AWW11FF-100316	L16100123-14	NI.101216.182002	10/12/16 18:20	DL01
35AWW06FF-100316	L16100123-15	NI.101216.182302	10/12/16 18:23	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 4973642
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16100123 Prep Date: 10/05/16 09:02 Sample ID: WG586277-02
Instrument ID: ICP-MS2 Run Date: 10/12/16 14:47 Prep Method: 3015
File ID: NI.101216.144703 Analyst: BKT Method: 6020A
Workgroup (AAB#): WG586830 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-MS-12-OCT-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Manganese, Total	0.00100	0.00400	0.00100	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4973643
13-OCT-2016 10:46

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100123 Run Date: 10/12/2016 Sample ID: WG586277-03
Instrument ID: ICP-MS2 Run Time: 15:09 Prep Method: 3015
File ID: NI.101216.150956 Analyst: BKT Method: 6020A
Workgroup (AAB#): WG586830 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD75998 Cal ID: ICP-MS-12-OCT-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Manganese, Total	0.125	0.126	101	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 4973644
Report generated: 10/13/2016 10:46

Microbac Laboratories Inc.
MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum:L16100123 Cal ID:ICP-MS2- Worknum:WG586830
Instrument ID:ICP-MS2 Contract #: Method:6020A
Parent ID:WG586277-01 File ID:NI.101216.151255 Dil:1 Matrix:WATER
Sample ID:WG586277-04 MS File ID:NI.101216.151554 Dil:1 Units:mg/L
Sample ID:WG586277-05 MSD File ID:NI.101216.151854 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Manganese	0.186	0.125	0.316	104	0.125	0.316	104	0.0849	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: 4973645
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
Serial Dilution Report

Login: L16100123 **Worknum:** WG586830
Instrument: ICP-MS2 **Method:** 6020A
Serial Dil: WG586830-04 **File ID:** NI.101216.153052 **Dil:** 5 **Units:** ug/L
Sample: L16100095-02 **File ID:** NI.101216.152454 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Manganese	15.3	X	15.9	X	4.06	

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: 4973639
10/13/2016 10:46

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L16100123 **Worknum:** WG586830
Instrument ID: ICP-MS2 **Method:** 6020A
Post Spike ID: WG586830-03 **File ID:** NI.101216.152753 **Dil:** 1 **Units:** ug/L
Sample ID: L16100095-02 **File ID:** NI.101216.152454 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MANGANESE	65.2		15.3		50	99.8	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: 4973640
Report generated: 10/13/2016 10:46

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L16100123**	Workgroup (AAB#):	**WG586830**
Analytical Method:	**6020A**	Instrument ID:	**ICP-MS2**
ICAL Worknum:	**WG587473**	Initial Calibration Date:	**12-OCT-2016 14:22**

	WG587473-01		WG587473-02		WG587473-03		WG587473-04			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
MANGANESE	0	1020	.4	2030	50	482000	100	928000	.999968	

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: 4973648
Report generated: 13-OCT-2016 10:46

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L16100123 Run Date: 10/12/2016 Sample ID: WG587473-06
Instrument ID: ICP-MS2 Run Time: 14:28 Method: 6020A
File ID: NI.101216.142847 Analyst: BKT Units: ug/L
Workgroup (AAB#): WG586830 Cal ID: ICP-MS2 - 12-OCT-16
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MANGANESE	.4	1.6	.4	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 4973650
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100123	Run Date:	10/12/2016	Sample ID:	WG587473-11
Instrument ID:	ICP-MS2	Run Time:	14:44	Method:	6020A
File ID:	NI.101216.144403	Analyst:	BKT	Units:	ug/L
Workgroup (AAB#):	WG586830	Cal ID:	ICP-MS - 12-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	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: 4973653
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100123	Run Date:	10/12/2016	Sample ID:	WG587473-13
Instrument ID:	ICP-MS2	Run Time:	15:39	Method:	6020A
File ID:	NI.101216.153952	Analyst:	BKT	Units:	ug/L
Workgroup (AAB#):	WG586830	Cal ID:	ICP-MS - 12-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	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: 4973653
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100123	Run Date:	10/12/2016	Sample ID:	WG587473-15
Instrument ID:	ICP-MS2	Run Time:	16:16	Method:	6020A
File ID:	NI.101216.161628	Analyst:	BKT	Units:	ug/L
Workgroup (AAB#):	WG586830	Cal ID:	ICP-MS - 12-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	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: 4973653
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100123	Run Date:	10/12/2016	Sample ID:	WG587473-21
Instrument ID:	ICP-MS2	Run Time:	17:59	Method:	6020A
File ID:	NI.101216.175905	Analyst:	BKT	Units:	ug/L
Workgroup (AAB#):	WG586830	Cal ID:	ICP-MS - 12-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	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: 4973653
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100123	Run Date:	10/12/2016	Sample ID:	WG587473-23
Instrument ID:	ICP-MS2	Run Time:	18:29	Method:	6020A
File ID:	NI.101216.182901	Analyst:	BKT	Units:	ug/L
Workgroup (AAB#):	WG586830	Cal ID:	ICP-MS - 12-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	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: 4973653
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100123	Run Date:	10/12/2016	Sample ID:	WG587473-28
Instrument ID:	ICP-MS2	Run Time:	19:43	Method:	6020A
File ID:	NI.101216.194354	Analyst:	BKT	Units:	ug/L
Workgroup (AAB#):	WG586830	Cal ID:	ICP-MS - 12-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	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: 4973653
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100123	Run Date:	10/12/2016	Sample ID:	WG587473-32
Instrument ID:	ICP-MS2	Run Time:	20:16	Method:	6020A
File ID:	NI.101216.201653	Analyst:	BKT	Units:	ug/L
Workgroup (AAB#):	WG586830	Cal ID:	ICP-MS - 12-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	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: 4973653
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L16100123 Run Date: 10/12/2016 Sample ID: WG587473-05
Instrument ID: ICP-MS2 Run Time: 14:25 Method: 6020A
File ID: NI.101216.142546 Analyst: BKT Units: ug/L
Workgroup (AAB#): WG586830 Cal ID: ICP-MS - 12-OCT-16
QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Manganese		50	49.4	98.8	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 4973649
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/12/2016 Sample ID: WG587473-10

Instrument ID: ICP-MS2 Run Time: 14:41 Method: 6020A

File ID: NI.101216.144103 Analyst: BKT QC Key: DOD4

Workgroup (AAB#): WG586830 Cal ID: ICP-MS - 12-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Manganese		0.0500	0.0499	mg/L	99.8	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4973652

Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/12/2016 Sample ID: WG587473-12
Instrument ID: ICP-MS2 Run Time: 15:36 Method: 6020A
File ID: NI.101216.153652 Analyst: BKT QC Key: DOD4
Workgroup (AAB#): WG586830 Cal ID: ICP-MS - 12-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Manganese		0.0500	0.0488	mg/L	97.7	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 4973652
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/12/2016 Sample ID: WG587473-14

Instrument ID: ICP-MS2 Run Time: 16:13 Method: 6020A

File ID: NI.101216.161329 Analyst: BKT QC Key: DOD4

Workgroup (AAB#): WG586830 Cal ID: ICP-MS - 12-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Manganese		0.0500	0.0497	mg/L	99.4	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4973652

Report generated 10/13/2016 10:46

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/12/2016 Sample ID: WG587473-20
Instrument ID: ICP-MS2 Run Time: 17:56 Method: 6020A
File ID: NI.101216.175605 Analyst: BKT QC Key: DOD4
Workgroup (AAB#): WG586830 Cal ID: ICP-MS - 12-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Manganese		0.0500	0.0508	mg/L	102	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 4973652
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/12/2016 Sample ID: WG587473-22

Instrument ID: ICP-MS2 Run Time: 18:26 Method: 6020A

File ID: NI.101216.182602 Analyst: BKT QC Key: DOD4

Workgroup (AAB#): WG586830 Cal ID: ICP-MS - 12-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Manganese		0.0500	0.0498	mg/L	99.6	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4973652

Report generated 10/13/2016 10:46

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/12/2016 Sample ID: WG587473-27

Instrument ID: ICP-MS2 Run Time: 19:40 Method: 6020A

File ID: NI.101216.194054 Analyst: BKT QC Key: DOD4

Workgroup (AAB#): WG586830 Cal ID: ICP-MS - 12-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Manganese		0.0500	0.0485	mg/L	96.9	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4973652

Report generated 10/13/2016 10:46

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/12/2016 Sample ID: WG587473-31
Instrument ID: ICP-MS2 Run Time: 20:13 Method: 6020A
File ID: NI.101216.201353 Analyst: BKT QC Key: DOD4
Workgroup (AAB#): WG586830 Cal ID: ICP-MS - 12-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Manganese		0.0500	0.0491	mg/L	98.2	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 4973652
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L16100123 Run Date: 10/12/2016 Sample ID: WG587473-07
Instrument ID: ICP-MS2 Run Time: 14:31 Method: 6020A
File ID: NI.101216.143157 Analyst: BKT QC Key: DOD4
Workgroup (AAB#): WG586830 Cal ID: ICP-MS - 12-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Manganese		0.500	0.391	ug/L	78.2	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 4973654
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L16100123 Run Date: 10/12/2016 Sample ID: WG587473-24
Instrument ID: ICP-MS2 Run Time: 18:32 Method: 6020A
File ID: NI.101216.183202 Analyst: BKT QC Key: DOD4
Workgroup (AAB#): WG586830 Cal ID: ICP-MS - 12-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Manganese		0.500	0.408	ug/L	81.6	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 4973654
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L16100123 **Workgroup (AAB#):** WG586830
Instrument ID: ICP-MS2 **Method:** 6020A
Sol. A : WG587473-08 **File ID:** NI.101216.143504 **Units:** ug/L
Sol. AB : WG587473-09 **File ID:** NI.101216.143803 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Manganese	NS	-0.0206	NS	100	99.8	99.8	

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: 4973651
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L16100123 **Workgroup (AAB#):** WG586830
Instrument ID: ICP-MS2 **Method:** 6020A
Sol. A : WG587473-29 **File ID:** NI.101216.200752 **Units:** ug/L
Sol. AB : WG587473-30 **File ID:** NI.101216.201052 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Manganese	NS	0.00580	NS	100	98.9	98.9	

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: 4973651
Report generated 10/13/2016 10:46

Microbac Laboratories Inc.

INTERNAL STANDARD REPORT

Login: L16100123 **Analytical Method:** 6020
Analytical Workgroup: WG586830 **Matrix:** 1
Instrument: ICP-MS2 **Analyst:** BKT
ICAL Date: 12-OCT-2016 14:13

			BISMUTH	GERMANIUM	INDIUM
Sample	Type	Run Date	% Rec	% Rec	% Rec
L16100095-02	SAMP	12-OCT-2016 15:24	86.833	93.158	95.688
L16100123-02	SAMP	12-OCT-2016 15:52	73.036	83.603	84.553
L16100123-04	SAMP	12-OCT-2016 15:55	99.598	93.077	108.731
L16100123-06	SAMP	12-OCT-2016 18:14	82.686	78.792	87.066
L16100123-07	SAMP	12-OCT-2016 18:17	85.441	79.661	89.692
L16100123-10	SAMP	12-OCT-2016 16:04	75.547	82.596	90.399
L16100123-12	SAMP	12-OCT-2016 16:07	98.087	89.422	106.775
L16100123-14	SAMP	12-OCT-2016 18:20	85.651	79.342	88.849
L16100123-15	SAMP	12-OCT-2016 18:23	85.858	79.127	88.802
WG586277-02	BLANK	12-OCT-2016 14:47	97.187	96.331	102.277
WG586277-03	LCS	12-OCT-2016 15:09	98.407	98.456	100.206
WG586830-03	PSPK	12-OCT-2016 15:27	88.053	91.831	94.853
WG586830-04	SERIAL	12-OCT-2016 15:30	94.283	94.955	100.573
WG587473-05	ICV	12-OCT-2016 14:25	91.055	92.647	95.515
WG587473-06	ICB	12-OCT-2016 14:28	94.128	93.662	99.444
WG587473-07	LLICV	12-OCT-2016 14:31	90.953	91.414	93.28
WG587473-08	ICS	12-OCT-2016 14:35	84.502	86.937	85.837
WG587473-09	ICS	12-OCT-2016 14:38	95.008	95.348	104.029
WG587473-10	CCV	12-OCT-2016 14:41	95.978	95.178	103.482
WG587473-11	CCB	12-OCT-2016 14:44	98.923	95.835	104.387
WG587473-12	CCV	12-OCT-2016 15:36	95.696	94.205	101.524
WG587473-13	CCB	12-OCT-2016 15:39	96.802	93.708	101.902
WG587473-14	CCV	12-OCT-2016 16:13	96.702	90.035	102.366
WG587473-15	CCB	12-OCT-2016 16:16	97.99	88.823	101.737
WG587473-20	CCV	12-OCT-2016 17:56	95.09	86.134	100.873
WG587473-21	CCB	12-OCT-2016 17:59	99.84	91.481	107.718
WG587473-22	CCV	12-OCT-2016 18:26	95.675	84.236	103.256
WG587473-23	CCB	12-OCT-2016 18:29	97.643	86.715	109.391
WG587473-24	LLCCV	12-OCT-2016 18:32	91.482	83.18	101.097
WG587473-27	CCV	12-OCT-2016 19:40	**78.801**	81.553	81.62
WG587473-28	CCB	12-OCT-2016 19:43	84.904	85.747	87.926
WG587473-29	ICS	12-OCT-2016 20:07	71.361	76.023	67.757
WG587473-30	ICS	12-OCT-2016 20:10	82.029	84.551	80.738
WG587473-31	CCV	12-OCT-2016 20:13	**77.88**	80.122	**79.267**
WG587473-32	CCB	12-OCT-2016 20:16	**77.408**	**78.212**	**76.491**

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: 4973647
Report generated: 10/13/2016 10:46

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L16100123 **Date:** 07/08/2016
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: 4973646
Report generated: 10/13/2016 10:46

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: Wednesday, October 12, 2016 13:58:52

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	1342	2024	0.709	
Mg	23.985	23.975	4502	2020	0.687	
Co	58.933	58.925	11688	2022	0.694	
In	114.904	114.875	22857	2028	0.685	
U	238.050	238.075	47457	2042	0.716	

Relative Std. Dev.

Mass	Meas. Intens. RSD
5.525	2.898
5.575	3.178
5.625	2.090
5.675	2.449
5.725	1.647
5.775	2.235
5.825	3.289
5.875	3.344
5.925	2.373
5.975	1.763
6.025	1.758
6.075	3.214
6.125	0.664
6.175	6.571
6.225	44.756
6.275	54.294
6.325	52.973
6.375	68.117
6.425	13.303
6.475	8.532
6.525	5.478
6.575	3.648
6.625	2.958
6.675	2.771
6.725	1.918
6.775	2.156
6.825	3.224

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6.875	3.136
6.925	1.931
6.975	2.566
7.025	1.882
7.075	2.366
7.125	0.522
7.175	3.291
7.225	3.361
7.275	14.020
7.325	51.349
7.375	67.748
7.425	60.111
7.475	58.330
7.525	40.825
7.575	15.215
7.625	52.705
7.675	52.705
7.725	46.351
7.775	57.334
7.825	74.536
7.875	76.697
7.925	31.044
7.975	60.111
8.025	15.215
8.075	33.535
8.125	57.601
8.175	39.460
8.225	34.401
8.275	44.605
8.325	37.268
8.375	117.260
8.425	79.466
8.475	40.825
22.525	223.607
22.575	28.828
22.625	21.114
22.675	36.377
22.725	61.237
22.775	49.739
22.825	47.507
22.875	37.417
22.925	37.029
22.975	23.697
23.025	39.491
23.075	20.494
23.125	44.231
23.175	50.508

Approved: October 13, 2016

23.225	28.671
23.275	54.427
23.325	28.135
23.375	21.651
23.425	18.254
23.475	21.740
23.525	8.860
23.575	5.708
23.625	2.449
23.675	1.128
23.725	2.144
23.775	1.783
23.825	1.684
23.875	1.911
23.925	0.756
23.975	1.597
24.025	0.654
24.075	0.957
24.125	1.360
24.175	0.874
24.225	0.978
24.275	2.817
24.325	28.671
24.375	48.990
24.425	27.114
24.475	4.737
24.525	2.425
24.575	2.074
24.625	0.946
24.675	1.057
24.725	0.874
24.775	1.648
24.825	1.035
24.875	0.959
24.925	1.067
24.975	1.803
25.025	1.284
25.075	0.805
25.125	1.021
25.175	1.436
25.225	1.606
25.275	11.732
25.325	35.545
25.375	15.309
25.425	27.332
25.475	5.998
57.525	3.369

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57.575	2.445
57.625	2.429
57.675	0.955
57.725	3.192
57.775	2.875
57.825	1.055
57.875	2.136
57.925	2.125
57.975	2.586
58.025	0.193
58.075	2.673
58.125	1.587
58.175	1.211
58.225	4.627
58.275	9.056
58.325	31.533
58.375	62.361
58.425	27.288
58.475	9.254
58.525	9.906
58.575	2.899
58.625	1.322
58.675	2.461
58.725	1.802
58.775	1.624
58.825	2.824
58.875	0.778
58.925	1.552
58.975	1.137
59.025	1.778
59.075	2.220
59.125	2.422
59.175	2.458
59.225	2.442
59.275	6.801
59.325	34.401
59.375	51.349
59.425	52.705
59.475	32.165
59.525	18.555
59.575	6.418
59.625	3.601
59.675	4.226
59.725	6.904
59.775	2.597
59.825	3.558
59.875	4.768

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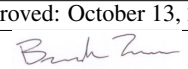

59.925	3.061
59.975	2.536
60.025	1.251
60.075	5.897
60.125	3.473
60.175	0.858
60.225	8.058
60.275	39.606
60.325	39.529
60.375	47.075
60.425	37.268
60.475	66.069
113.525	9.109
113.575	4.815
113.625	3.233
113.675	3.200
113.725	1.799
113.775	2.446
113.825	2.313
113.875	2.379
113.925	2.920
113.975	3.994
114.025	1.827
114.075	3.660
114.125	2.499
114.175	2.260
114.225	13.918
114.275	11.416
114.325	19.245
114.375	21.679
114.425	7.275
114.475	8.801
114.525	4.596
114.575	2.383
114.625	3.023
114.675	1.588
114.725	1.914
114.775	1.620
114.825	2.135
114.875	0.961
114.925	1.382
114.975	2.041
115.025	0.995
115.075	0.873
115.125	0.647
115.175	1.759
115.225	1.955

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115.275	7.369
115.325	14.425
115.375	40.074
115.425	19.563
115.475	6.869
115.525	20.012
115.575	9.345
115.625	4.969
115.675	7.496
115.725	4.899
115.775	2.679
115.825	3.707
115.875	4.089
115.925	4.281
115.975	5.536
116.025	3.322
116.075	6.202
116.125	5.829
116.175	9.230
116.225	16.635
116.275	21.872
116.325	11.907
116.375	22.822
116.425	24.495
116.475	43.853
236.525	223.607
236.575	53.420
236.625	31.044
236.675	20.412
236.725	28.037
236.775	14.671
236.825	23.598
236.875	26.461
236.925	35.415
236.975	19.569
237.025	21.126
237.075	18.087
237.125	30.540
237.175	28.917
237.225	35.110
237.275	9.421
237.325	26.216
237.375	20.166
237.425	20.195
237.475	22.237
237.525	21.694
237.575	6.383

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237.625	5.052
237.675	1.897
237.725	2.959
237.775	0.835
237.825	2.142
237.875	0.753
237.925	0.828
237.975	0.921
238.025	1.894
238.075	1.483
238.125	1.433
238.175	1.237
238.225	0.863
238.275	1.730
238.325	1.401
238.375	2.308
238.425	2.949
238.475	5.452
238.525	12.152
238.575	24.190
238.625	18.468
238.675	24.491
238.725	26.394
238.775	27.285
238.825	19.543
238.875	14.851
238.925	35.241
238.975	16.318
239.025	13.280
239.075	20.195
239.125	10.879
239.175	13.324
239.225	19.921
239.275	13.243
239.325	24.088
239.375	11.318
239.425	11.641
239.475	28.713

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SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Start Time: 10/12/2016 2:03:01 PM
End Time: 10/12/2016 2:05:24 PM

Daily Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9.0122): 14488.32
Obtained Intensity (Mg 23.985): 91245.26
Obtained Intensity (In 114.904): 93962.53
Obtained Intensity (U 238.05): 119374.21
Obtained Intensity (Bkgd 220): 1.00
Obtained Formula (CeO 155.9 / Ce 139.905): 0.016 (=6072.62 / 378485.73)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.003 (=1187.31 / 378485.73)

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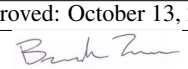

SmartTune Wizard - Details

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Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Optimization Status

Start Time: 10/12/2016 2:03:01 PM

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): 14488.32
                Obtained Intensity (Mg 23.985): 91245.26
                Obtained Intensity (In 114.904): 93962.53
                Obtained Intensity (U 238.05): 119374.21
                Obtained Intensity (Bkgd 220): 1.00
                Obtained Formula (CeO 155.9 / Ce 139.905): 0.016 (=6072.62 / 378485.73)
                Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.003 (=1187.31 / 378485.73)
[Passed]  Optimum value(s): N/A

End Time: 10/12/2016 2:05:24 PM
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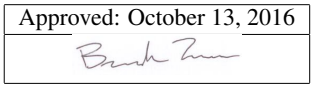

Method 6020 - Summary Report

Sample ID: Blank
Sample Date/Time: Wednesday, October 12, 2016 14:10:46
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: BKT 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	72553.4	2.4				ug/L		Standard
	Be	9	10.0	100.0				ug/L		Standard
	Al	27	231.7	9.0				ug/L		Standard
	Sc	45	23513.2	1.6				ug/L		Standard
	Ti	47	36.3	18.3				ug/L		Standard
	V	51	1387.2	12.6				ug/L		Standard
	Cr	52	7812.7	2.2				ug/L		Standard
	Cr	53	1410.1	4.6				ug/L		Standard
	Mn	55	1043.0	4.5				ug/L		Standard
	Co	59	197.7	24.7				ug/L		Standard
	Ni	60	63.7	22.9				ug/L		Standard
	Cu	65	122.0	2.5				ug/L		Standard
	Zn	66	209.3	3.8				ug/L		Standard
>	Ge	72	618040.5	0.9				ug/L		Standard
	As	75	11.1	60.5				ug/L		Standard
	Se	82	21.3	30.9				ug/L		Standard
	Se-1	77	86.3	10.5				ug/L		Standard
>	Ga	71	13.3	78.1				mg/L		Standard
	Rb	85	18.3	126.0				ug/L		Standard
	Y	89	463757.1	2.0				ug/L		Standard
>	Rh	103	11.7	65.5				ug/L		Standard
	Mo	98	28.9	39.5				ug/L		Standard
	Ag	107	101.3	9.9				ug/L		Standard
	Cd	111	9.3	22.5				mg/L		Standard
	Cd	114	47.2	23.6				ug/L		Standard
>	In	115	765457.5	0.7				ug/L		Standard
	Sn	118	168.0	19.4				ug/L		Standard
	Sb	123	332.1	15.8				ug/L		Standard
	Ba	135	37.3	27.9				ug/L		Standard
	Ce	140	895.0	19.8				ug/L		Standard
>	Tb	159	1511047.3	1.8				ug/L		Standard
	Ho	165	21.7	35.3				ug/L		Standard
	Tl	203	13.7	25.7				ug/L		Standard
	Tl	205	26.7	75.8				ug/L		Standard
	Pb	206	557.3	4.6				ug/L		Standard
	Pb	207	432.0	8.8				ug/L		Standard
	Pb	208	2118.4	3.8				ug/L		Standard
	U	238	78.3	40.7				ug/L		Standard
>	Bi	209	791816.9	0.9				ug/L		Standard

Sample ID: Blank
Report Date/Time: Wednesday, October 12, 2016 14:12:51
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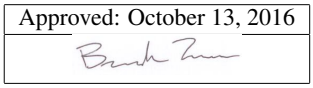

Na	23	5.0	100.0	mg/L	Standard
Mg	24	48.3	43.1	mg/L	Standard
K	39	3.3	86.6	mg/L	Standard
Ca	43	61.7	24.8	mg/L	Standard
Fe	54	139.4	12.5	mg/L	Standard
Fe	57	83.3	25.0	mg/L	Standard
Sc-1	45	23513.2	1.6	mg/L	Standard
Cl	35	3.3	69.3	ug/L	Standard
Kr	83	1.7	124.9	ug/L	Standard
Br	81	910.0	14.3	ug/L	Standard
P	31	85.0	21.2	ug/L	Standard
S	34	48.3	39.2	ug/L	Standard
Sr	88	71.7	24.5	ug/L	Standard
C	12	226.7	16.7	mg/L	Standard
N	14	0.0		mg/L	Standard
Hg	202	6.7	86.6	mg/L	Standard
Dy	164	22.2	26.6	mg/L	Standard
Ho-1	165	21.7	35.3	mg/L	Standard
Er	166	23.3	24.7	mg/L	Standard
I	127	4240.6	4.4	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

Sample ID: Blank
Report Date/Time: Wednesday, October 12, 2016 14:12:51
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Method 6020 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Wednesday, October 12, 2016 14:13:47
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: BKT 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	71295.7	1.2				ug/L	72553	Standard
	Be	9	3.3	173.2				ug/L	10	Standard
	Al	27	165.0	13.9				ug/L	232	Standard
	Sc	45	23339.6	2.4				ug/L	23513	Standard
	Ti	47	46.3	11.9				ug/L	36	Standard
	V	51	1285.2	7.3				ug/L	1387	Standard
	Cr	52	7457.8	3.1				ug/L	7813	Standard
	Cr	53	1305.1	11.8				ug/L	1410	Standard
	Mn	55	1020.7	5.1				ug/L	1043	Standard
	Co	59	134.0	13.6				ug/L	198	Standard
	Ni	60	56.3	2.7				ug/L	64	Standard
	Cu	65	102.3	6.9				ug/L	122	Standard
	Zn	66	199.0	4.0				ug/L	209	Standard
>	Ge	72	611985.2	1.8				ug/L	618040	Standard
	As	75	-7.9	305.3				ug/L	11	Standard
	Se	82	20.9	57.5				ug/L	21	Standard
	Se-1	77	85.3	10.0				ug/L	86	Standard
>	Ga	71	16.7	124.9				mg/L	13	Standard
	Rb	85	15.0	88.2				ug/L	18	Standard
	Y	89	449703.1	2.9				ug/L	463757	Standard
>	Rh	103	11.7	65.5				ug/L	12	Standard
	Mo	98	14.5	28.7				ug/L	29	Standard
	Ag	107	98.3	3.6				ug/L	101	Standard
	Cd	111	6.6	62.7				mg/L	9	Standard
	Cd	114	21.9	77.8				ug/L	47	Standard
>	In	115	774181.2	0.6				ug/L	765457	Standard
	Sn	118	114.7	9.0				ug/L	168	Standard
	Sb	123	97.5	31.0				ug/L	332	Standard
	Ba	135	27.3	17.3				ug/L	37	Standard
	Ce	140	423.3	26.4				ug/L	895	Standard
>	Tb	159	1517855.2	2.1				ug/L	1511047	Standard
	Ho	165	21.7	58.1				ug/L	22	Standard
	Tl	203	4.7	49.5				ug/L	14	Standard
	Tl	205	11.7	89.2				ug/L	27	Standard
	Pb	206	524.0	7.9				ug/L	557	Standard
	Pb	207	434.3	6.2				ug/L	432	Standard
	Pb	208	2014.1	3.8				ug/L	2118	Standard
	U	238	20.3	54.2				ug/L	78	Standard
>	Bi	209	777237.6	1.9				ug/L	791817	Standard

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Na	23	6.7	173.2	mg/L	5	Standard
Mg	24	56.7	25.5	mg/L	48	Standard
K	39	13.3	21.7	mg/L	3	Standard
Ca	43	41.7	48.5	mg/L	62	Standard
Fe	54	131.1	2.2	mg/L	139	Standard
Fe	57	110.0	4.5	mg/L	83	Standard
Sc-1	45	23339.6	2.4	mg/L	23513	Standard
Cl	35	2.7	86.6	ug/L	3	Standard
Kr	83	2.3	24.7	ug/L	2	Standard
Br	81	1080.0	13.1	ug/L	910	Standard
P	31	58.3	27.6	ug/L	85	Standard
S	34	46.7	37.6	ug/L	48	Standard
Sr	88	90.0	45.5	ug/L	72	Standard
C	12	210.0	17.2	mg/L	227	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	3.3	173.2	mg/L	7	Standard
Dy	164	19.2	137.3	mg/L	22	Standard
Ho-1	165	21.7	58.1	mg/L	22	Standard
Er	166	16.7	34.6	mg/L	23	Standard
I	127	4075.5	4.4	mg/L	4241	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
Report Date/Time: Wednesday, October 12, 2016 14:15:51
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Method 6020 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Wednesday, October 12, 2016 14:16:46
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: BKT 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	71841.6	1.7				ug/L	72553	Standard
	Be	9	60.0	38.2				ug/L	10	Standard
	Al	27	5359.3	1.9				ug/L	232	Standard
	Sc	45	24256.1	1.8				ug/L	23513	Standard
	Ti	47	58.3	21.7				ug/L	36	Standard
	V	51	1586.7	9.3				ug/L	1387	Standard
	Cr	52	7708.6	1.1				ug/L	7813	Standard
	Cr	53	1433.4	6.9				ug/L	1410	Standard
	Mn	55	2028.1	5.2				ug/L	1043	Standard
	Co	59	603.0	0.7				ug/L	198	Standard
	Ni	60	169.0	5.7				ug/L	64	Standard
	Cu	65	304.0	13.4				ug/L	122	Standard
	Zn	66	910.7	3.0				ug/L	209	Standard
>	Ge	72	613768.3	2.3				ug/L	618040	Standard
	As	75	10.1	247.4				ug/L	11	Standard
	Se	82	19.3	15.2				ug/L	21	Standard
	Se-1	77	96.0	18.1				ug/L	86	Standard
>	Ga	71	23.3	24.7				mg/L	13	Standard
	Rb	85	16.7	17.3				ug/L	18	Standard
	Y	89	458180.9	2.6				ug/L	463757	Standard
>	Rh	103	5.0	0.0				ug/L	12	Standard
	Mo	98	396.6	4.5				ug/L	29	Standard
	Ag	107	437.3	3.4				ug/L	101	Standard
	Cd	111	117.8	5.6				mg/L	9	Standard
	Cd	114	283.3	13.9				ug/L	47	Standard
>	In	115	779156.0	1.9				ug/L	765457	Standard
	Sn	118	248.0	4.7				ug/L	168	Standard
	Sb	123	270.0	17.6				ug/L	332	Standard
	Ba	135	201.3	3.3				ug/L	37	Standard
	Ce	140	285.0	6.3				ug/L	895	Standard
>	Tb	159	1509641.5	0.5				ug/L	1511047	Standard
	Ho	165	18.3	31.5				ug/L	22	Standard
	Tl	203	558.7	2.0				ug/L	14	Standard
	Tl	205	1358.4	10.2				ug/L	27	Standard
	Pb	206	1071.7	4.6				ug/L	557	Standard
	Pb	207	910.4	0.9				ug/L	432	Standard
	Pb	208	4224.6	1.5				ug/L	2118	Standard
	U	238	1517.7	1.3				ug/L	78	Standard
>	Bi	209	777211.1	2.4				ug/L	791817	Standard

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Na	23	1.7	173.2	mg/L	5	Standard
Mg	24	45.0	19.2	mg/L	48	Standard
K	39	3.3	86.6	mg/L	3	Standard
Ca	43	53.3	5.4	mg/L	62	Standard
Fe	54	129.2	21.9	mg/L	139	Standard
Fe	57	136.7	34.8	mg/L	83	Standard
Sc-1	45	24256.1	1.8	mg/L	23513	Standard
Cl	35	0.7	173.2	ug/L	3	Standard
Kr	83	3.0	57.7	ug/L	2	Standard
Br	81	1096.7	10.0	ug/L	910	Standard
P	31	58.3	32.5	ug/L	85	Standard
S	34	40.0	21.7	ug/L	48	Standard
Sr	88	78.3	32.8	ug/L	72	Standard
C	12	233.3	32.5	mg/L	227	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	0.0		mg/L	7	Standard
Dy	164	12.4	118.4	mg/L	22	Standard
Ho-1	165	18.3	31.5	mg/L	22	Standard
Er	166	20.0	86.6	mg/L	23	Standard
I	127	4197.2	3.3	mg/L	4241	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 3
Sample Date/Time: Wednesday, October 12, 2016 14:19:46
Number of Replicates: 3
Autosampler Position: 3
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	66544.2	1.5				ug/L	72553	Standard
	Be	9	42461.1	2.6	**50.0000**	1.528	3.1	ug/L	10	Standard
	Al	27	4672986.7	4.5	**50.0000**	2.999	6.0	ug/L	232	Standard
	Sc	45	23282.9	1.3				ug/L	23513	Standard
	Ti	47	16876.1	0.7	**100.0000**	0.567	0.6	ug/L	36	Standard
	V	51	300943.3	0.1	**50.0000**	0.623	1.2	ug/L	1387	Standard
	Cr	52	289769.8	1.0	**50.0000**	0.871	1.7	ug/L	7813	Standard
	Cr	53	38034.4	1.4	**50.0000**	0.504	1.0	ug/L	1410	Standard
	Mn	55	482490.2	2.2	**50.0000**	1.108	2.2	ug/L	1043	Standard
	Co	59	424952.2	1.6	**50.0000**	1.196	2.4	ug/L	198	Standard
	Ni	60	92966.7	0.8	**50.0000**	0.230	0.5	ug/L	64	Standard
	Cu	65	96127.3	1.2	**50.0000**	0.313	0.6	ug/L	122	Standard
	Zn	66	51297.4	1.0	**50.0000**	0.098	0.2	ug/L	209	Standard
>	Ge	72	591888.9	1.2				ug/L	618040	Standard
	As	75	54015.9	0.5	**50.0000**	0.530	1.1	ug/L	11	Standard
	Se	82	5041.0	1.5	**50.0000**	0.766	1.5	ug/L	21	Standard
	Se-1	77	3409.1	1.6	**50.0000**	0.201	0.4	ug/L	86	Standard
>	Ga	71	75.0	40.0				mg/L	13	Standard
	Rb	85	570.0	15.0				ug/L	18	Standard
	Y	89	443838.4	4.4				ug/L	463757	Standard
>	Rh	103	18.3	56.8				ug/L	12	Standard
	Mo	98	365359.6	0.9	**100.0000**	0.868	0.9	ug/L	29	Standard
	Ag	107	329285.2	1.9	**50.0000**	1.260	2.5	ug/L	101	Standard
	Cd	111	104876.7	1.6	**50.0000**	1.335	2.7	mg/L	9	Standard
	Cd	114	271841.3	1.3	**50.0000**	1.392	2.8	ug/L	47	Standard
>	In	115	762155.9	1.5				ug/L	765457	Standard
	Sn	118	60501.9	1.9	**50.0000**	1.712	3.4	ug/L	168	Standard
	Sb	123	280086.8	0.2	**50.0000**	0.665	1.3	ug/L	332	Standard
	Ba	135	132055.8	1.7	**50.0000**	1.563	3.1	ug/L	37	Standard
	Ce	140	348.3	10.2				ug/L	895	Standard
>	Tb	159	1463326.6	2.8				ug/L	1511047	Standard
	Ho	165	53.3	5.4				ug/L	22	Standard
	Tl	203	534001.2	1.3	**50.0000**	1.372	2.7	ug/L	14	Standard
	Tl	205	1238907.6	0.5	**50.0000**	1.146	2.3	ug/L	27	Standard
	Pb	206	407058.3	0.7	**50.0000**	1.104	2.2	ug/L	557	Standard
	Pb	207	357576.1	0.8	**50.0000**	1.213	2.4	ug/L	432	Standard
	Pb	208	1625450.7	0.5	**50.0000**	1.112	2.2	ug/L	2118	Standard
	U	238	1463386.1	0.5	**50.0000**	1.123	2.2	ug/L	78	Standard
>	Bi	209	751006.0	1.8				ug/L	791817	Standard

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	Na	23	13.3	21.7	**5.0000**	1.283	25.7	mg/L	5	Standard
	Mg	24	2521.9	6.2	**5.0000**	0.246	4.9	mg/L	48	Standard
	K	39	358.3	2.9	**5.0000**	0.172	3.4	mg/L	3	Standard
	Ca	43	53.3	14.3	**5.0000**	17.299	346.0	mg/L	62	Standard
	Fe	54	5050.5	4.1	**5.0000**	0.278	5.6	mg/L	139	Standard
	Fe	57	1525.1	4.7	**5.0000**	0.328	6.6	mg/L	83	Standard
>	**Sc-1**	45	23282.9	1.3				mg/L	23513	Standard
	Cl	35	2.0	100.0				ug/L	3	Standard
	Kr	83	4.7	61.9				ug/L	2	Standard
	Br	81	1050.0	10.7				ug/L	910	Standard
	P	31	95.0	29.3				ug/L	85	Standard
	S	34	38.3	39.8				ug/L	48	Standard
	Sr	88	61.7	28.5				ug/L	72	Standard
	C	12	246.7	16.9				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	46.3	32.8				mg/L	22	Standard
	Ho-1	165	53.3	5.4				mg/L	22	Standard
	Er	166	6.7	173.2				mg/L	23	Standard
	I	127	4642.4	2.2				mg/L	4241	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 3
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Method 6020 - Summary Report

Sample ID: Standard 4
Sample Date/Time: Wednesday, October 12, 2016 14:22:45
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: BKT 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	64269.5	3.5				ug/L	72553	Standard
	Be	9	78141.1	2.5	**97.6300**	4.836	5.0	ug/L	10	Standard
	Al	27	8881559.2	2.1	**99.2016**	3.877	3.9	ug/L	232	Standard
	Sc	45	22197.9	1.3				ug/L	23513	Standard
	Ti	47	32663.8	0.6	**198.9868**	4.291	2.2	ug/L	36	Standard
	V	51	581064.9	0.8	**99.4093**	1.764	1.8	ug/L	1387	Standard
	Cr	52	552427.4	1.4	**99.2793**	1.199	1.2	ug/L	7813	Standard
	Cr	53	70790.0	0.2	**98.3432**	2.136	2.2	ug/L	1410	Standard
	Mn	55	928390.8	1.4	**99.2069**	0.893	0.9	ug/L	1043	Standard
	Co	59	828806.6	0.7	**99.8171**	1.585	1.6	ug/L	198	Standard
	Ni	60	180414.1	0.4	**99.5875**	2.248	2.3	ug/L	64	Standard
	Cu	65	185415.7	1.1	**99.3092**	1.306	1.3	ug/L	122	Standard
	Zn	66	100602.9	1.0	**100.4978**	1.298	1.3	ug/L	209	Standard
>	Ge	72	579467.5	2.3				ug/L	618040	Standard
	As	75	105520.4	1.4	**99.8684**	1.393	1.4	ug/L	11	Standard
	Se	82	9950.0	1.6	**100.4767**	1.820	1.8	ug/L	21	Standard
	Se-1	77	6633.5	2.5	**100.3679**	3.368	3.4	ug/L	86	Standard
>	Ga	71	90.0	33.8				mg/L	13	Standard
	Rb	85	1115.0	5.9				ug/L	18	Standard
	Y	89	432677.1	1.7				ug/L	463757	Standard
>	Rh	103	26.7	21.7				ug/L	12	Standard
	Mo	98	716914.8	1.6	**201.2340**	3.878	1.9	ug/L	29	Standard
	Ag	107	639007.1	1.3	**100.0607**	0.978	1.0	ug/L	101	Standard
	Cd	111	205483.7	0.7	**100.5340**	0.883	0.9	mg/L	9	Standard
	Cd	114	541730.8	1.5	**101.3761**	1.322	1.3	ug/L	47	Standard
>	In	115	738591.8	0.6				ug/L	765457	Standard
	Sn	118	119358.7	1.8	**100.9492**	2.330	2.3	ug/L	168	Standard
	Sb	123	558152.3	1.1	**101.3819**	1.270	1.3	ug/L	332	Standard
	Ba	135	256396.7	1.0	**100.0847**	0.651	0.7	ug/L	37	Standard
	Ce	140	448.3	6.1				ug/L	895	Standard
>	Tb	159	1404177.7	3.5				ug/L	1511047	Standard
	Ho	165	81.7	9.4				ug/L	22	Standard
	Tl	203	1037975.5	0.4	**100.7791**	1.253	1.2	ug/L	14	Standard
	Tl	205	2379314.2	3.1	**100.1923**	4.322	4.3	ug/L	27	Standard
	Pb	206	781837.5	1.1	**100.2236**	1.662	1.7	ug/L	557	Standard
	Pb	207	690716.6	1.1	**100.5048**	1.634	1.6	ug/L	432	Standard
	Pb	208	3118703.8	1.4	**100.1670**	1.440	1.4	ug/L	2118	Standard
	U	238	2841976.5	0.5	**100.7354**	0.961	1.0	ug/L	78	Standard
>	Bi	209	718454.3	1.2				ug/L	791817	Standard

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	Na	23	45.0	19.2	**13.1837**	2.505	19.0	mg/L	5	Standard
	Mg	24	4935.8	0.9	**10.1749**	0.159	1.6	mg/L	48	Standard
	K	39	601.7	13.8	**9.3841**	1.346	14.3	mg/L	3	Standard
	Ca	43	96.7	19.6	**18.4126**	7.181	39.0	mg/L	62	Standard
	Fe	54	9889.0	3.0	**10.1932**	0.417	4.1	mg/L	139	Standard
	Fe	57	2846.9	6.2	**10.1112**	0.545	5.4	mg/L	83	Standard
>	**Sc-1**	45	22197.9	1.3				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	4.7	65.5				ug/L	2	Standard
	Br	81	923.4	9.5				ug/L	910	Standard
	P	31	63.3	25.4				ug/L	85	Standard
	S	34	43.3	24.0				ug/L	48	Standard
	Sr	88	66.7	11.5				ug/L	72	Standard
	C	12	266.7	30.5				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	7	Standard
	Dy	164	35.9	58.2				mg/L	22	Standard
	Ho-1	165	81.7	9.4				mg/L	22	Standard
	Er	166	16.7	91.7				mg/L	23	Standard
	I	127	5252.6	0.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72			
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

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⌊	Rb	85
⌈	Y	89
⌊>	Rh	103
⌈	Mo	98
|	Ag	107
|	Cd	111
|	Cd	114
| >	In	115
|	Sn	118
|	Sb	123
⌊	Ba	135
⌈	Ce	140
⌊>	Tb	159
⌈	Ho	165
|	Tl	203
|	Tl	205
|	Pb	206
|	Pb	207
|	Pb	208
|	U	238
⌊>	Bi	209
⌈	Na	23
|	Mg	24
|	K	39
|	Ca	43
|	Fe	54
|	Fe	57
⌊>	Sc-1	45
	Cl	35
	Kr	83
	Br	81
	P	31
	S	34
	Sr	88
	C	12
	N	14
	Hg	202
	Dy	164
	Ho-1	165
	Er	166
	I	127

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Corr. Coef.	Na	23	Correlation coefficient < 0.998
Corr. Coef.	Ca	43	Correlation coefficient < 0.998

Sample ID: Standard 4
Report Date/Time: Wednesday, October 12, 2016 14:24:50
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Method 6020 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Wednesday, October 12, 2016 14:25:46
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: BKT 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	62704.8	5.8				ug/L	72553	Standard
	Be	9	40367.0	0.6	**51.7355**	2.655	5.1	ug/L	10	Standard
	Al	27	4390910.5	3.2	**50.2765**	1.286	2.6	ug/L	232	Standard
	Sc	45	21800.7	0.9				ug/L	23513	Standard
	Ti	47	16275.7	2.5	**100.1893**	1.617	1.6	ug/L	36	Standard
	V	51	292001.2	1.6	**50.4469**	0.941	1.9	ug/L	1387	Standard
	Cr	52	281545.1	2.0	**50.5826**	0.904	1.8	ug/L	7813	Standard
	Cr	53	35954.3	2.2	**49.6291**	1.112	2.2	ug/L	1410	Standard
	Mn	55	457506.0	1.3	**49.3986**	0.921	1.9	ug/L	1043	Standard
	Co	59	411116.8	1.2	**50.0922**	0.807	1.6	ug/L	198	Standard
	Ni	60	90617.5	1.0	**50.5947**	1.010	2.0	ug/L	64	Standard
	Cu	65	92875.5	0.8	**50.2860**	0.554	1.1	ug/L	122	Standard
	Zn	66	50745.8	0.4	**50.8990**	0.638	1.3	ug/L	209	Standard
>	Ge	72	572592.9	1.6				ug/L	618040	Standard
	As	75	52237.4	0.7	**50.0531**	0.818	1.6	ug/L	11	Standard
	Se	82	4913.9	0.5	**50.1509**	1.055	2.1	ug/L	21	Standard
	Se-1	77	3365.0	2.6	**50.8599**	1.187	2.3	ug/L	86	Standard
>	Ga	71	16.7	62.4				mg/L	13	Standard
	Rb	85	755.0	10.7				ug/L	18	Standard
	Y	89	428254.7	0.4				ug/L	463757	Standard
>	Rh	103	30.0	28.9				ug/L	12	Standard
	Mo	98	356352.5	1.7	**101.0475**	2.132	2.1	ug/L	29	Standard
	Ag	107	320521.8	0.6	**50.6967**	0.207	0.4	ug/L	101	Standard
	Cd	111	104434.5	0.5	**51.6153**	0.367	0.7	mg/L	9	Standard
	Cd	114	269658.5	2.0	**50.9750**	0.639	1.3	ug/L	47	Standard
>	In	115	731130.5	1.0				ug/L	765457	Standard
	Sn	118	60356.3	1.8	**51.4887**	0.468	0.9	ug/L	168	Standard
	Sb	123	290160.7	1.7	**53.2403**	0.395	0.7	ug/L	332	Standard
	Ba	135	130097.9	0.9	**51.2930**	0.584	1.1	ug/L	37	Standard
	Ce	140	181.7	14.1				ug/L	895	Standard
>	Tb	159	1384868.1	1.5				ug/L	1511047	Standard
	Ho	165	16.7	34.6				ug/L	22	Standard
	Tl	203	525714.9	0.2	**50.8617**	0.455	0.9	ug/L	14	Standard
	Tl	205	1219374.2	1.6	**51.1471**	0.451	0.9	ug/L	27	Standard
	Pb	206	396489.5	1.1	**50.6045**	0.220	0.4	ug/L	557	Standard
	Pb	207	353213.9	1.5	**51.1730**	0.279	0.5	ug/L	432	Standard
	Pb	208	1592445.7	1.1	**50.9275**	0.248	0.5	ug/L	2118	Standard
	U	238	1445088.1	0.4	**51.0415**	0.469	0.9	ug/L	78	Standard
>	Bi	209	720986.3	1.1				ug/L	791817	Standard

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⌈	**Na**	23	10.0	100.0	**2.6311**	3.072	116.7	mg/L	5	Standard
|	**Mg**	24	2375.2	3.2	**4.9444**	0.174	3.5	mg/L	48	Standard
|	**K**	39	291.7	23.7	**4.6033**	1.068	23.2	mg/L	3	Standard
|	**Ca**	43	75.0	20.0	**10.5859**	5.675	53.6	mg/L	62	Standard
|	**Fe**	54	4893.3	2.2	**5.0762**	0.152	3.0	mg/L	139	Standard
|	**Fe**	57	1433.4	8.3	**4.9607**	0.419	8.4	mg/L	83	Standard
⌊>	**Sc-1**	45	21800.7	0.9				mg/L	23513	Standard
	Cl	35	0.7	173.2				ug/L	3	Standard
	Kr	83	3.0	115.5				ug/L	2	Standard
	Br	81	930.0	17.9				ug/L	910	Standard
	P	31	83.3	33.0				ug/L	85	Standard
	S	34	53.3	43.3				ug/L	48	Standard
	Sr	88	101.7	11.4				ug/L	72	Standard
	C	12	263.3	9.6				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	13.0	118.3				mg/L	22	Standard
	Ho-1	165	16.7	34.6				mg/L	22	Standard
	Er	166	6.7	173.2				mg/L	23	Standard
	I	127	2360.2	0.9				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	103.471		
⌊	Al	27	100.553		
⌈	Sc	45			
|	Ti	47	100.189		
|	V	51	100.894		
|	Cr	52	101.165		
|	Cr	53			
|	Mn	55	98.797		
|	Co	59	100.184		
|	Ni	60	101.189		
|	Cu	65	100.572		
|	Zn	66	101.798		
|>	Ge	72		92.647	
|	As	75	100.106		
|	Se	82	100.302		
⌊	Se-1	77			
⌈>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	101.048		
Ag	107	101.393		
Cd	111	103.231		
Cd	114			
In	115			95.515
Sn	118	102.977		
Sb	123	106.481		
Ba	135	102.586		
Ce	140			
Tb	159			
Ho	165			
Tl	203	101.723		
Tl	205			
Pb	206	101.209		
Pb	207	102.346		
Pb	208	101.855		
U	238	102.083		
Bi	209			91.055
Na	23	52.621		
Mg	24	98.888		
K	39	92.065		
Ca	43	211.718		
Fe	54	101.525		
Fe	57	99.214		
Sc-1	45			
Cl	35			
Kr	83			
Br	81			
P	31			
S	34			
Sr	88			
C	12			
N	14			
Hg	202			
Dy	164			
Ho-1	165			
Er	166			
I	127			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Na	23	
QC Std 1	K	39	
QC Std 1	Ca	43	

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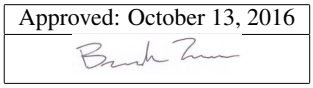

Method 6020 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Wednesday, October 12, 2016 14:28:47
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: BKT 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	64843.7	4.6				ug/L	72553	Standard
	Be	9	10.0	86.6	**-0.0043**	0.011	249.3	ug/L	10	Standard
	Al	27	541.7	77.5	**0.0026**	0.005	193.6	ug/L	232	Standard
	Sc	45	22291.4	2.0				ug/L	23513	Standard
	Ti	47	36.7	20.7	**-0.0122**	0.049	400.3	ug/L	36	Standard
	V	51	868.7	11.0	**-0.0576**	0.019	32.5	ug/L	1387	Standard
	Cr	52	5912.2	1.7	**-0.1977**	0.032	16.2	ug/L	7813	Standard
	Cr	53	1320.1	1.0	**0.0045**	0.045	1008.3	ug/L	1410	Standard
	Mn	55	927.7	5.7	**-0.0555**	0.007	12.5	ug/L	1043	Standard
	Co	59	164.7	21.9	**0.0013**	0.005	352.7	ug/L	198	Standard
	Ni	60	55.3	19.2	**-0.0074**	0.006	85.4	ug/L	64	Standard
	Cu	65	143.0	8.5	**-0.0273**	0.007	27.0	ug/L	122	Standard
	Zn	66	176.7	11.4	**-0.6374**	0.023	3.6	ug/L	209	Standard
>	Ge	72	578867.0	1.6				ug/L	618040	Standard
	As	75	-37.0	50.4	**0.0059**	0.018	303.0	ug/L	11	Standard
	Se	82	18.0	28.6	**0.0473**	0.054	114.3	ug/L	21	Standard
	Se-1	77	85.0	10.5	**-0.0343**	0.124	359.9	ug/L	86	Standard
>	Ga	71	16.7	45.8				mg/L	13	Standard
	Rb	85	25.0	52.9				ug/L	18	Standard
	Y	89	431916.0	1.9				ug/L	463757	Standard
>	Rh	103	11.7	65.5				ug/L	12	Standard
	Mo	98	275.5	35.6	**0.0694**	0.026	37.8	ug/L	29	Standard
	Ag	107	132.0	18.4	**0.0051**	0.004	70.4	ug/L	101	Standard
	Cd	111	15.3	41.4	**0.0026**	0.003	112.8	mg/L	9	Standard
	Cd	114	90.3	77.6	**0.0161**	0.013	78.7	ug/L	47	Standard
>	In	115	761203.2	0.9				ug/L	765457	Standard
	Sn	118	237.3	37.5	**0.0456**	0.072	157.8	ug/L	168	Standard
	Sb	123	1336.9	55.6	**0.2385**	0.130	54.4	ug/L	332	Standard
	Ba	135	32.0	55.3	**-0.0124**	0.007	53.3	ug/L	37	Standard
	Ce	140	120.0	11.0				ug/L	895	Standard
>	Tb	159	1436064.5	0.2				ug/L	1511047	Standard
	Ho	165	25.0	60.0				ug/L	22	Standard
	Tl	203	85.7	91.4	**0.0079**	0.007	94.2	ug/L	14	Standard
	Tl	205	156.7	96.3	**0.0034**	0.006	181.1	ug/L	27	Standard
	Pb	206	545.3	9.2	**-0.0096**	0.007	71.0	ug/L	557	Standard
	Pb	207	446.3	4.6	**-0.0099**	0.003	32.6	ug/L	432	Standard
	Pb	208	2107.7	6.0	**-0.0102**	0.004	44.0	ug/L	2118	Standard
	U	238	194.3	94.5	**0.0069**	0.006	91.8	ug/L	78	Standard
>	Bi	209	745324.0	1.1				ug/L	791817	Standard

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	Na	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
	Mg	24	46.7	43.3	**0.0160**	0.041	255.9	mg/L	48	Standard
	K	39	10.0	100.0	**0.1123**	0.153	136.3	mg/L	3	Standard
	Ca	43	43.3	17.6	**-2.1689**	2.848	131.3	mg/L	62	Standard
	Fe	54	94.6	27.5	**-0.0202**	0.027	133.3	mg/L	139	Standard
	Fe	57	81.7	24.7	**-0.1568**	0.073	46.4	mg/L	83	Standard
>	**Sc-1**	45	22291.4	2.0				mg/L	23513	Standard
	Cl	35	2.7	114.6				ug/L	3	Standard
	Kr	83	4.7	32.7				ug/L	2	Standard
	Br	81	953.4	23.1				ug/L	910	Standard
	P	31	63.3	43.5				ug/L	85	Standard
	S	34	56.7	10.2				ug/L	48	Standard
	Sr	88	76.7	10.0				ug/L	72	Standard
	C	12	220.0	25.3				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	19.5	88.8				mg/L	22	Standard
	Ho-1	165	25.0	60.0				mg/L	22	Standard
	Er	166	10.0	100.0				mg/L	23	Standard
	I	127	4018.9	0.7				mg/L	4241	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		93.662	
	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	99.444
|	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	94.128
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 2	Sb	123	
QC Std 2	Na	23	
QC Std 2	K	39	

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QC Std 2	Ca	43
QC Std 2	Fe	57

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Method 6020 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Wednesday, October 12, 2016 14:31:57
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: BKT 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	60698.1	4.0				ug/L	72553	Standard
	Be	9	176.7	10.7	**0.2169**	0.026	12.1	ug/L	10	Standard
	Al	27	271.7	1.1	**-0.0003**	0.000	42.9	ug/L	232	Standard
	Sc	45	21667.2	3.5				ug/L	23513	Standard
	Ti	47	30.0	23.3	**-0.0482**	0.047	96.8	ug/L	36	Standard
	V	51	3022.0	4.9	**0.3248**	0.034	10.6	ug/L	1387	Standard
	Cr	52	9634.7	1.7	**0.5243**	0.070	13.3	ug/L	7813	Standard
	Cr	53	1783.4	6.7	**0.7255**	0.223	30.7	ug/L	1410	Standard
	Mn	55	4972.8	0.7	**0.3910**	0.008	2.1	ug/L	1043	Standard
	Co	59	3215.7	2.1	**0.3788**	0.014	3.6	ug/L	198	Standard
	Ni	60	2755.3	1.6	**1.5222**	0.024	1.6	ug/L	64	Standard
	Cu	65	1560.7	1.6	**0.7545**	0.032	4.2	ug/L	122	Standard
	Zn	66	6984.9	2.4	**6.4025**	0.328	5.1	ug/L	209	Standard
>	**Ge**	72	564973.5	2.2				ug/L	618040	Standard
	As	75	355.7	5.0	**0.3860**	0.011	2.9	ug/L	11	Standard
	Se	82	49.7	13.8	**0.3814**	0.082	21.4	ug/L	21	Standard
	Se-1	77	108.0	11.2	**0.3624**	0.216	59.7	ug/L	86	Standard
>	**Ga**	71	21.7	87.4				mg/L	13	Standard
	Rb	85	25.0	34.6				ug/L	18	Standard
	Y	89	417454.1	1.9				ug/L	463757	Standard
>	**Rh**	103	13.3	57.3				ug/L	12	Standard
	Mo	98	73.4	27.4	**0.0158**	0.006	38.2	ug/L	29	Standard
	Ag	107	2488.5	2.0	**0.3882**	0.005	1.3	ug/L	101	Standard
	Cd	111	485.6	5.2	**0.2413**	0.016	6.7	mg/L	9	Standard
	Cd	114	1318.8	3.4	**0.2551**	0.012	4.8	ug/L	47	Standard
>	**In**	115	714017.4	1.7				ug/L	765457	Standard
	Sn	118	107.3	14.0	**-0.0549**	0.015	26.7	ug/L	168	Standard
	Sb	123	2437.3	5.9	**0.4617**	0.033	7.1	ug/L	332	Standard
	Ba	135	1900.8	5.0	**0.7438**	0.051	6.9	ug/L	37	Standard
	Ce	140	88.3	31.2				ug/L	895	Standard
>	**Tb**	159	1382324.7	4.3				ug/L	1511047	Standard
	Ho	165	20.0	25.0				ug/L	22	Standard
	Tl	203	815.7	1.6	**0.0788**	0.001	1.0	ug/L	14	Standard
	Tl	205	1750.1	5.9	**0.0706**	0.005	7.6	ug/L	27	Standard
	Pb	206	2056.8	2.1	**0.1862**	0.006	3.0	ug/L	557	Standard
	Pb	207	1655.8	3.6	**0.1681**	0.013	7.8	ug/L	432	Standard
	Pb	208	7777.8	1.7	**0.1739**	0.007	3.9	ug/L	2118	Standard
	U	238	10828.9	3.4	**0.3834**	0.019	5.0	ug/L	78	Standard
>	**Bi**	209	720182.4	2.5				ug/L	791817	Standard

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⌈	**Na**	23	1.7	173.2	**0.0705**	0.915	1297.7	mg/L	5	Standard
|	**Mg**	24	43.3	6.7	**0.0118**	0.005	44.9	mg/L	48	Standard
|	**K**	39	3.3	86.6	**0.0118**	0.047	401.4	mg/L	3	Standard
|	**Ca**	43	40.0	21.7	**-2.9459**	3.760	127.6	mg/L	62	Standard
|	**Fe**	54	81.1	14.2	**-0.0320**	0.009	28.6	mg/L	139	Standard
|	**Fe**	57	106.7	7.2	**-0.0524**	0.034	65.8	mg/L	83	Standard
⌊>	**Sc-1**	45	21667.2	3.5				mg/L	23513	Standard
	Cl	35	4.0	50.0				ug/L	3	Standard
	Kr	83	4.3	13.3				ug/L	2	Standard
	Br	81	810.0	9.6				ug/L	910	Standard
	P	31	66.7	34.6				ug/L	85	Standard
	S	34	28.3	27.0				ug/L	48	Standard
	Sr	88	63.3	19.9				ug/L	72	Standard
	C	12	296.7	36.0				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	7	Standard
	Dy	164	32.5	46.3				mg/L	22	Standard
	Ho-1	165	20.0	25.0				mg/L	22	Standard
	Er	166	16.7	34.6				mg/L	23	Standard
	I	127	1353.4	6.7				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	108.453		
⌊	Al	27	-0.032		
⌈	Sc	45			
|	Ti	47			
|	V	51	81.196		
|	Cr	52	65.544		
|	Cr	53			
|	Mn	55	78.203		
|	Co	59	94.695		
|	Ni	60	95.135		
|	Cu	65	94.311		
|	Zn	66	102.439		
|>	Ge	72		91.414	
|	As	75	96.511		
|	Se	82	95.360		
⌊	Se-1	77			
⌈>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107	97.049		
Cd	111	100.541		
Cd	114			
In	115		93.280	
Sn	118			
Sb	123	115.431		
Ba	135	99.168		
Ce	140			
Tb	159			
Ho	165			
Tl	203	98.551		
Tl	205			
Pb	206			
Pb	207			
Pb	208	86.970		
U	238	95.849		
Bi	209		90.953	
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 4
Sample Date/Time: Wednesday, October 12, 2016 14:35:04
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: BKT 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	55325.9	3.0				ug/L	72553	Standard
	Be	9	5.0	100.0	**-0.0095**	0.007	74.6	ug/L	10	Standard
	Al	27	3787656.1	3.4	**49.1068**	0.938	1.9	ug/L	232	Standard
	Sc	45	20305.3	1.0				ug/L	23513	Standard
	Ti	47	2322.5	3.3	**15.0465**	0.810	5.4	ug/L	36	Standard
	V	51	670.9	21.1	**-0.0825**	0.028	34.5	ug/L	1387	Standard
	Cr	52	4605.0	1.5	**-0.3712**	0.011	3.0	ug/L	7813	Standard
	Cr	53	2031.8	4.3	**1.2356**	0.140	11.3	ug/L	1410	Standard
	Mn	55	1163.7	2.6	**-0.0206**	0.002	7.5	ug/L	1043	Standard
	Co	59	201.0	5.3	**0.0075**	0.002	20.1	ug/L	198	Standard
	Ni	60	396.0	6.5	**0.1979**	0.018	9.2	ug/L	64	Standard
	Cu	65	282.3	3.4	**0.0591**	0.003	4.4	ug/L	122	Standard
	Zn	66	1246.7	3.3	**0.5379**	0.018	3.3	ug/L	209	Standard
>	Ge	72	537303.3	2.0				ug/L	618040	Standard
	As	75	-33.1	37.6	**0.0073**	0.013	175.3	ug/L	11	Standard
	Se	82	19.1	4.9	**0.0730**	0.008	11.4	ug/L	21	Standard
	Se-1	77	227.0	9.7	**2.4117**	0.305	12.7	ug/L	86	Standard
>	Ga	71	45.0	19.2				mg/L	13	Standard
	Rb	85	2143.5	7.6				ug/L	18	Standard
	Y	89	383715.7	1.7				ug/L	463757	Standard
>	Rh	103	15.0	57.7				ug/L	12	Standard
	Mo	98	240230.7	3.4	**75.8335**	3.740	4.9	ug/L	29	Standard
	Ag	107	135.3	0.4	**0.0089**	0.000	4.1	ug/L	101	Standard
	Cd	111	-10.2	141.7	**-0.0103**	0.008	78.2	mg/L	9	Standard
	Cd	114	627.8	11.6	**0.1317**	0.014	10.4	ug/L	47	Standard
>	In	115	657045.1	1.9				ug/L	765457	Standard
	Sn	118	84.0	26.8	**-0.0692**	0.021	30.5	ug/L	168	Standard
	Sb	123	749.6	34.9	**0.1559**	0.051	32.5	ug/L	332	Standard
	Ba	135	51.3	5.6	**-0.0020**	0.002	83.6	ug/L	37	Standard
	Ce	140	1436.7	3.3				ug/L	895	Standard
>	Tb	159	1280409.3	0.5				ug/L	1511047	Standard
	Ho	165	20.0	86.6				ug/L	22	Standard
	Tl	203	91.7	6.2	**0.0094**	0.000	5.1	ug/L	14	Standard
	Tl	205	208.3	14.7	**0.0064**	0.001	19.0	ug/L	27	Standard
	Pb	206	857.0	1.8	**0.0411**	0.004	8.7	ug/L	557	Standard
	Pb	207	751.0	4.8	**0.0449**	0.006	13.0	ug/L	432	Standard
	Pb	208	3391.5	0.6	**0.0416**	0.002	5.9	ug/L	2118	Standard
	U	238	20.3	23.2	**0.0010**	0.000	15.8	ug/L	78	Standard
>	Bi	209	669099.6	2.6				ug/L	791817	Standard

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⌈	**Na**	23	31.7	24.1	**10.0670**	2.647	26.3	mg/L	5	Standard
|	**Mg**	24	4979.2	2.8	**11.2269**	0.219	2.0	mg/L	48	Standard
|	**K**	39	268.3	17.3	**4.5461**	0.755	16.6	mg/L	3	Standard
|	**Ca**	43	95.0	21.1	**21.1358**	8.024	38.0	mg/L	62	Standard
|	**Fe**	54	2928.3	1.8	**3.2193**	0.093	2.9	mg/L	139	Standard
|	**Fe**	57	1036.7	2.7	**3.7511**	0.138	3.7	mg/L	83	Standard
⌊>	**Sc-1**	45	20305.3	1.0				mg/L	23513	Standard
	Cl	35	2.7	43.3				ug/L	3	Standard
	Kr	83	4.3	26.6				ug/L	2	Standard
	Br	81	940.0	15.7				ug/L	910	Standard
	P	31	23.3	32.7				ug/L	85	Standard
	S	34	28.3	56.7				ug/L	48	Standard
	Sr	88	80.0	22.5				ug/L	72	Standard
	C	12	313.3	15.1				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	15.5	93.0				mg/L	22	Standard
	Ho-1	165	20.0	86.6				mg/L	22	Standard
	Er	166	23.3	99.0				mg/L	23	Standard
	I	127	3685.4	4.4				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9			
⌊	Al	27	0.982		
⌈	Sc	45			
|	Ti	47	15.046		
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		86.937	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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	Rb	85		
	Y	89		
>	Rh	103		
	Mo	98	75.833	
	Ag	107		
	Cd	111		
	Cd	114		
>	In	115		85.837
	Sn	118		
	Sb	123		
	Ba	135		
	Ce	140		
>	Tb	159		
	Ho	165		
	Tl	203		
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208		
	U	238		
>	Bi	209		84.502
	Na	23	80.536	
	Mg	24	224.538	
	K	39	90.922	
	Ca	43	140.905	
	Fe	54	25.754	
	Fe	57	30.009	
>	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	Ti	47	
QC Std 4	Mo	98	

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QC Std 4	Mg	24
QC Std 4	Ca	43
QC Std 4	Fe	54
QC Std 4	Fe	57

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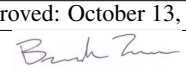

Method 6020 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Wednesday, October 12, 2016 14:38:03
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: BKT 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	67354.4	1.0				ug/L	72553	Standard
	Be	9	85772.1	1.7	**102.1522**	1.365	1.3	ug/L	10	Standard
	Al	27	4980548.7	3.1	**53.0356**	1.355	2.6	ug/L	232	Standard
	Sc	45	22461.6	2.4				ug/L	23513	Standard
	Ti	47	18356.1	1.1	**109.8291**	1.906	1.7	ug/L	36	Standard
	V	51	603736.7	1.8	**101.5574**	2.521	2.5	ug/L	1387	Standard
	Cr	52	576638.6	1.8	**101.9339**	2.599	2.5	ug/L	7813	Standard
	Cr	53	74573.1	1.6	**101.9054**	1.376	1.3	ug/L	1410	Standard
	Mn	55	950231.2	1.0	**99.8449**	1.692	1.7	ug/L	1043	Standard
	Co	59	837978.5	0.8	**99.2233**	1.470	1.5	ug/L	198	Standard
	Ni	60	184578.1	2.1	**100.1685**	2.824	2.8	ug/L	64	Standard
	Cu	65	190615.6	2.2	**100.3892**	2.929	2.9	ug/L	122	Standard
	Zn	66	104294.8	1.4	**102.4561**	2.147	2.1	ug/L	209	Standard
>	Ge	72	589286.7	0.7				ug/L	618040	Standard
	As	75	109166.9	1.4	**101.5899**	2.135	2.1	ug/L	11	Standard
	Se	82	10198.8	0.6	**101.2598**	1.292	1.3	ug/L	21	Standard
	Se-1	77	6987.3	1.3	**103.9808**	1.848	1.8	ug/L	86	Standard
>	Ga	71	105.0	21.8				mg/L	13	Standard
	Rb	85	825.0	4.8				ug/L	18	Standard
	Y	89	447453.2	1.1				ug/L	463757	Standard
>	Rh	103	58.3	21.6				ug/L	12	Standard
	Mo	98	385911.8	0.1	**100.4760**	1.330	1.3	ug/L	29	Standard
	Ag	107	611292.3	1.5	**88.8037**	2.402	2.7	ug/L	101	Standard
	Cd	111	223599.3	0.5	**101.4765**	1.221	1.2	mg/L	9	Standard
	Cd	114	563697.7	1.7	**97.8576**	2.372	2.4	ug/L	47	Standard
>	In	115	796298.6	1.2				ug/L	765457	Standard
	Sn	118	271.0	10.6	**0.0637**	0.020	31.9	ug/L	168	Standard
	Sb	123	608660.5	1.5	**102.5608**	2.586	2.5	ug/L	332	Standard
	Ba	135	266890.0	1.4	**96.6407**	1.787	1.8	ug/L	37	Standard
	Ce	140	163.3	20.8				ug/L	895	Standard
>	Tb	159	1449038.0	2.3				ug/L	1511047	Standard
	Ho	165	8.3	124.9				ug/L	22	Standard
	Tl	203	1085828.5	0.1	**100.6820**	1.133	1.1	ug/L	14	Standard
	Tl	205	2510643.6	1.6	**100.9342**	1.442	1.4	ug/L	27	Standard
	Pb	206	837952.7	0.7	**102.5825**	0.951	0.9	ug/L	557	Standard
	Pb	207	715701.6	0.7	**99.4545**	1.364	1.4	ug/L	432	Standard
	Pb	208	3286949.2	1.1	**100.8186**	0.560	0.6	ug/L	2118	Standard
	U	238	2987155.4	1.7	**101.1080**	0.871	0.9	ug/L	78	Standard
>	Bi	209	752291.1	1.1				ug/L	791817	Standard

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	Na	23	51.7	24.4	**15.0265**	3.712	24.7	mg/L	5	Standard
	Mg	24	6221.3	3.8	**12.6908**	0.272	2.1	mg/L	48	Standard
	K	39	325.0	18.1	**4.9834**	0.870	17.5	mg/L	3	Standard
	Ca	43	93.3	6.2	**16.7357**	2.411	14.4	mg/L	62	Standard
	Fe	54	12563.4	1.9	**12.8304**	0.455	3.5	mg/L	139	Standard
	Fe	57	3765.5	6.5	**13.3604**	0.805	6.0	mg/L	83	Standard
>	**Sc-1**	45	22461.6	2.4				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	2.3	65.5				ug/L	2	Standard
	Br	81	1063.4	17.4				ug/L	910	Standard
	P	31	61.7	26.1				ug/L	85	Standard
	S	34	36.7	34.3				ug/L	48	Standard
	Sr	88	75.0	29.1				ug/L	72	Standard
	C	12	570.0	28.2				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	114.6				mg/L	7	Standard
	Dy	164	18.4	97.2				mg/L	22	Standard
	Ho-1	165	8.3	124.9				mg/L	22	Standard
	Er	166	33.3	45.8				mg/L	23	Standard
	I	127	3875.5	6.7				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	102.152		
	Al	27	1.061		
	Sc	45			
	Ti	47	109.829		
	V	51	101.557		
	Cr	52	101.934		
	Cr	53			
	Mn	55	99.845		
	Co	59	99.223		
	Ni	60	100.169		
	Cu	65	100.389		
	Zn	66	102.456		
>	Ge	72		95.348	
	As	75	101.590		
	Se	82	101.260		
	Se-1	77			
>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	100.476		
Ag	107	88.804		
Cd	111	101.477		
Cd	114			
In	115		104.029	
Sn	118			
Sb	123	102.561		
Ba	135	96.641		
Ce	140			
Tb	159			
Ho	165			
Tl	203	100.682		
Tl	205			
Pb	206			
Pb	207			
Pb	208	100.819		
U	238	101.108		
Bi	209		95.008	
Na	23	120.212		
Mg	24	253.816		
K	39	99.667		
Ca	43	111.571		
Fe	54	102.643		
Fe	57	106.883		
Sc-1	45			
Cl	35			
Kr	83			
Br	81			
P	31			
S	34			
Sr	88			
C	12			
N	14			
Hg	202			
Dy	164			
Ho-1	165			
Er	166			
I	127			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Al	27	
QC Std 5	Na	23	
QC Std 5	Mg	24	

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, October 12, 2016 14:41:03
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	68605.0	1.2				ug/L	72553	Standard
	Be	9	42972.5	0.9	**50.2399**	0.353	0.7	ug/L	10	Standard
	Al	27	4545586.9	0.6	**47.5266**	0.326	0.7	ug/L	232	Standard
	Sc	45	22713.7	1.6				ug/L	23513	Standard
	Ti	47	16515.3	1.5	**98.9581**	1.105	1.1	ug/L	36	Standard
	V	51	298977.0	1.1	**50.2712**	0.403	0.8	ug/L	1387	Standard
	Cr	52	288992.1	0.7	**50.5354**	0.190	0.4	ug/L	7813	Standard
	Cr	53	37912.4	2.2	**50.9830**	0.961	1.9	ug/L	1410	Standard
	Mn	55	474660.8	1.8	**49.8805**	0.699	1.4	ug/L	1043	Standard
	Co	59	423244.4	1.4	**50.1935**	0.795	1.6	ug/L	198	Standard
	Ni	60	92992.9	1.4	**50.5332**	0.943	1.9	ug/L	64	Standard
	Cu	65	96103.2	1.1	**50.6470**	0.723	1.4	ug/L	122	Standard
	Zn	66	50496.3	0.1	**49.2701**	0.222	0.5	ug/L	209	Standard
>	Ge	72	588237.5	0.4				ug/L	618040	Standard
	As	75	53468.9	1.1	**49.8630**	0.572	1.1	ug/L	11	Standard
	Se	82	5087.7	0.4	**50.5344**	0.316	0.6	ug/L	21	Standard
	Se-1	77	3479.4	1.2	**51.1959**	0.392	0.8	ug/L	86	Standard
>	Ga	71	31.7	18.2				mg/L	13	Standard
	Rb	85	758.4	14.6				ug/L	18	Standard
	Y	89	433346.7	2.3				ug/L	463757	Standard
>	Rh	103	40.0	45.1				ug/L	12	Standard
	Mo	98	369039.2	0.5	**96.5870**	1.279	1.3	ug/L	29	Standard
	Ag	107	334936.6	1.2	**48.8954**	0.183	0.4	ug/L	101	Standard
	Cd	111	112049.3	0.9	**51.1131**	0.138	0.3	mg/L	9	Standard
	Cd	114	294049.8	2.3	**51.3076**	1.017	2.0	ug/L	47	Standard
>	In	115	792113.3	0.8				ug/L	765457	Standard
	Sn	118	64438.1	1.0	**50.7387**	0.242	0.5	ug/L	168	Standard
	Sb	123	314677.1	2.3	**53.2926**	0.866	1.6	ug/L	332	Standard
	Ba	135	135962.4	1.5	**49.4736**	0.374	0.8	ug/L	37	Standard
	Ce	140	151.7	33.0				ug/L	895	Standard
>	Tb	159	1465627.8	1.6				ug/L	1511047	Standard
	Ho	165	13.3	21.7				ug/L	22	Standard
	Tl	203	550864.9	1.1	**50.5593**	0.181	0.4	ug/L	14	Standard
	Tl	205	1281424.7	0.4	**51.0007**	0.809	1.6	ug/L	27	Standard
	Pb	206	411869.2	1.3	**49.8718**	0.537	1.1	ug/L	557	Standard
	Pb	207	360069.0	0.6	**49.4942**	0.614	1.2	ug/L	432	Standard
	Pb	208	1640720.7	1.0	**49.7796**	0.231	0.5	ug/L	2118	Standard
	U	238	1513677.3	1.9	**50.7159**	0.271	0.5	ug/L	78	Standard
>	Bi	209	759972.1	1.4				ug/L	791817	Standard

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	Na	23	20.0	25.0	**5.4652**	1.412	25.8	mg/L	5	Standard
	Mg	24	2438.5	6.6	**4.8698**	0.296	6.1	mg/L	48	Standard
	K	39	281.7	13.8	**4.2740**	0.656	15.3	mg/L	3	Standard
	Ca	43	83.3	21.1	**12.6387**	7.062	55.9	mg/L	62	Standard
	Fe	54	5070.6	4.0	**5.0462**	0.128	2.5	mg/L	139	Standard
	Fe	57	1483.4	9.5	**4.9214**	0.424	8.6	mg/L	83	Standard
>	**Sc-1**	45	22713.7	1.6				mg/L	23513	Standard
	Cl	35	3.3	34.6				ug/L	3	Standard
	Kr	83	3.7	15.7				ug/L	2	Standard
	Br	81	856.7	8.4				ug/L	910	Standard
	P	31	45.0	29.4				ug/L	85	Standard
	S	34	25.0	34.6				ug/L	48	Standard
	Sr	88	80.0	27.2				ug/L	72	Standard
	C	12	303.3	16.6				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	12.5	96.5				mg/L	22	Standard
	Ho-1	165	13.3	21.7				mg/L	22	Standard
	Er	166	16.7	69.3				mg/L	23	Standard
	I	127	3760.5	3.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	100.480		
	Al	27	95.053		
	Sc	45			
	Ti	47	98.958		
	V	51	100.542		
	Cr	52	101.071		
	Cr	53			
	Mn	55	99.761		
	Co	59	100.387		
	Ni	60	101.066		
	Cu	65	101.294		
	Zn	66	98.540		
>	Ge	72		95.178	
	As	75	99.726		
	Se	82	101.069		
	Se-1	77			
>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	96.587	
|	Ag	107	97.791	
|	Cd	111	102.226	
|	Cd	114		
|>	In	115		103.482
|	Sn	118	101.477	
|	Sb	123	106.585	
⌊	Ba	135	98.947	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	101.119	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	99.559	
|	U	238	101.432	
⌊>	Bi	209		95.978
⌈	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: Wednesday, October 12, 2016 14:44:03
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: BKT 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	70200.6	1.9				ug/L	72553	Standard
	Be	9	10.0	86.6	**-0.0055**	0.010	175.0	ug/L	10	Standard
	Al	27	283.3	4.1	**-0.0006**	0.000	14.2	ug/L	232	Standard
	Sc	45	22735.4	4.6				ug/L	23513	Standard
	Ti	47	35.0	11.4	**-0.0270**	0.030	111.8	ug/L	36	Standard
	V	51	844.4	18.3	**-0.0653**	0.025	38.3	ug/L	1387	Standard
	Cr	52	6069.2	0.9	**-0.1938**	0.036	18.6	ug/L	7813	Standard
	Cr	53	1495.1	7.3	**0.2023**	0.096	47.3	ug/L	1410	Standard
	Mn	55	877.4	4.0	**-0.0629**	0.006	10.1	ug/L	1043	Standard
	Co	59	137.3	4.2	**-0.0024**	0.000	16.0	ug/L	198	Standard
	Ni	60	45.0	15.6	**-0.0137**	0.005	33.2	ug/L	64	Standard
	Cu	65	129.0	4.1	**-0.0364**	0.004	12.1	ug/L	122	Standard
	Zn	66	186.0	6.1	**-0.6325**	0.007	1.1	ug/L	209	Standard
>	Ge	72	592296.5	3.0				ug/L	618040	Standard
	As	75	-10.6	358.6	**0.0310**	0.035	111.8	ug/L	11	Standard
	Se	82	20.1	8.7	**0.0636**	0.012	19.2	ug/L	21	Standard
	Se-1	77	95.7	6.1	**0.0993**	0.128	128.6	ug/L	86	Standard
>	Ga	71	25.0	34.6				mg/L	13	Standard
	Rb	85	21.7	35.3				ug/L	18	Standard
	Y	89	444152.5	4.0				ug/L	463757	Standard
>	Rh	103	13.3	43.3				ug/L	12	Standard
	Mo	98	357.6	32.4	**0.0876**	0.031	35.8	ug/L	29	Standard
	Ag	107	103.7	7.3	**0.0001**	0.001	2470.2	ug/L	101	Standard
	Cd	111	6.5	32.9	**-0.0017**	0.001	55.7	mg/L	9	Standard
	Cd	114	37.4	18.8	**0.0062**	0.001	21.2	ug/L	47	Standard
>	In	115	799039.3	1.4				ug/L	765457	Standard
	Sn	118	159.0	16.6	**-0.0244**	0.022	90.9	ug/L	168	Standard
	Sb	123	1390.4	53.7	**0.2381**	0.129	54.0	ug/L	332	Standard
	Ba	135	23.0	13.0	**-0.0162**	0.001	6.4	ug/L	37	Standard
	Ce	140	70.0	21.4				ug/L	895	Standard
>	Tb	159	1477996.1	3.5				ug/L	1511047	Standard
	Ho	165	20.0	25.0				ug/L	22	Standard
	Tl	203	38.7	32.7	**0.0033**	0.001	36.3	ug/L	14	Standard
	Tl	205	91.7	42.4	**0.0006**	0.002	264.8	ug/L	27	Standard
	Pb	206	533.3	4.8	**-0.0143**	0.003	20.1	ug/L	557	Standard
	Pb	207	437.0	1.8	**-0.0142**	0.001	7.1	ug/L	432	Standard
	Pb	208	2071.7	2.2	**-0.0145**	0.001	6.7	ug/L	2118	Standard
	U	238	67.0	32.3	**0.0024**	0.001	30.5	ug/L	78	Standard
>	Bi	209	783289.3	2.4				ug/L	791817	Standard

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⌈	**Na**	23	3.3	86.6	**0.5564**	0.878	157.9	mg/L	5	Standard
|	**Mg**	24	38.3	37.7	**-0.0034**	0.025	742.9	mg/L	48	Standard
|	**K**	39	8.3	91.7	**0.0877**	0.119	135.7	mg/L	3	Standard
|	**Ca**	43	36.7	7.9	**-5.0053**	0.475	9.5	mg/L	62	Standard
|	**Fe**	54	129.6	13.4	**0.0132**	0.012	87.6	mg/L	139	Standard
|	**Fe**	57	98.3	28.0	**-0.1044**	0.082	78.9	mg/L	83	Standard
⌊>	**Sc-1**	45	22735.4	4.6				mg/L	23513	Standard
	Cl	35	2.7	114.6				ug/L	3	Standard
	Kr	83	2.3	49.5				ug/L	2	Standard
	Br	81	983.4	4.1				ug/L	910	Standard
	P	31	78.3	25.8				ug/L	85	Standard
	S	34	38.3	60.2				ug/L	48	Standard
	Sr	88	73.3	61.9				ug/L	72	Standard
	C	12	233.3	6.5				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	35.7	86.0				mg/L	22	Standard
	Ho-1	165	20.0	25.0				mg/L	22	Standard
	Er	166	20.0	50.0				mg/L	23	Standard
	I	127	4225.6	4.1				mg/L	4241	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		95.835	
|	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	104.387
|	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	98.923
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Sb	123	

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Method 6020 - Summary Report

Sample ID: PBW 74 WG586277-02
Sample Date/Time: Wednesday, October 12, 2016 14:47:03
Number of Replicates: 3
Autosampler Position: 301
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	68290.3	2.9				ug/L	72553	Standard
	Be	9	13.3	57.3	**-0.0010**	0.009	947.5	ug/L	10	Standard
	Al	27	16786.0	1.3	**0.1728**	0.003	1.7	ug/L	232	Standard
	Sc	45	22284.7	3.2				ug/L	23513	Standard
	Ti	47	35.0	19.8	**-0.0285**	0.043	150.8	ug/L	36	Standard
	V	51	948.4	13.9	**-0.0487**	0.022	44.7	ug/L	1387	Standard
	Cr	52	11222.2	2.2	**0.7128**	0.047	6.6	ug/L	7813	Standard
	Cr	53	2115.1	5.5	**1.0473**	0.158	15.1	ug/L	1410	Standard
	Mn	55	1607.1	1.7	**0.0125**	0.001	10.3	ug/L	1043	Standard
	Co	59	203.0	12.2	**0.0052**	0.003	51.9	ug/L	198	Standard
	Ni	60	353.0	7.4	**0.1517**	0.015	10.2	ug/L	64	Standard
	Cu	65	175.7	1.3	**-0.0124**	0.001	11.2	ug/L	122	Standard
	Zn	66	1278.7	3.0	**0.4376**	0.043	9.8	ug/L	209	Standard
>	Ge	72	595364.2	1.0				ug/L	618040	Standard
	As	75	-40.0	39.3	**0.0041**	0.015	359.0	ug/L	11	Standard
	Se	82	18.4	6.4	**0.0463**	0.012	26.7	ug/L	21	Standard
	Se-1	77	105.7	2.4	**0.2390**	0.053	22.3	ug/L	86	Standard
>	Ga	71	43.3	17.6				mg/L	13	Standard
	Rb	85	70.0	12.4				ug/L	18	Standard
	Y	89	442511.4	1.4				ug/L	463757	Standard
>	Rh	103	15.0	33.3				ug/L	12	Standard
	Mo	98	161.1	37.9	**0.0372**	0.016	43.9	ug/L	29	Standard
	Ag	107	114.7	5.5	**0.0020**	0.001	46.8	ug/L	101	Standard
	Cd	111	9.1	33.0	**-0.0004**	0.001	337.8	mg/L	9	Standard
	Cd	114	63.2	32.4	**0.0109**	0.004	33.8	ug/L	47	Standard
>	In	115	782888.4	0.5				ug/L	765457	Standard
	Sn	118	127.7	12.1	**-0.0471**	0.013	26.7	ug/L	168	Standard
	Sb	123	609.6	47.5	**0.1081**	0.050	46.3	ug/L	332	Standard
	Ba	135	104.7	15.8	**0.0140**	0.006	42.2	ug/L	37	Standard
	Ce	140	90.0	24.2				ug/L	895	Standard
>	Tb	159	1475250.4	1.2				ug/L	1511047	Standard
	Ho	165	18.3	41.7				ug/L	22	Standard
	Tl	203	38.7	24.9	**0.0033**	0.001	26.6	ug/L	14	Standard
	Tl	205	100.0	30.0	**0.0010**	0.001	123.9	ug/L	27	Standard
	Pb	206	634.7	2.8	**-0.0010**	0.001	125.0	ug/L	557	Standard
	Pb	207	525.0	2.0	**-0.0012**	0.002	164.5	ug/L	432	Standard
	Pb	208	2438.1	2.9	**-0.0024**	0.001	56.4	ug/L	2118	Standard
	U	238	76.7	24.5	**0.0028**	0.001	22.7	ug/L	78	Standard
>	Bi	209	769542.8	1.0				ug/L	791817	Standard

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⌈	**Na**	23	1.7	173.2	**0.0317**	0.848	2677.3	mg/L	5	Standard
|	**Mg**	24	56.7	25.5	**0.0370**	0.031	82.6	mg/L	48	Standard
|	**K**	39	11.7	49.5	**0.1408**	0.094	66.4	mg/L	3	Standard
|	**Ca**	43	43.3	46.6	**-2.2342**	7.345	328.8	mg/L	62	Standard
|	**Fe**	54	112.2	17.0	**-0.0014**	0.024	1658.5	mg/L	139	Standard
|	**Fe**	57	125.0	12.0	**0.0053**	0.070	1334.5	mg/L	83	Standard
⌊>	**Sc-1**	45	22284.7	3.2				mg/L	23513	Standard
	Cl	35	2.7	86.6				ug/L	3	Standard
	Kr	83	4.3	26.6				ug/L	2	Standard
	Br	81	940.0	8.4				ug/L	910	Standard
	P	31	71.7	35.8				ug/L	85	Standard
	S	34	45.0	40.1				ug/L	48	Standard
	Sr	88	63.3	27.7				ug/L	72	Standard
	C	12	333.3	15.1				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0					mg/L	7	Standard
	Dy	164	28.6	65.0				mg/L	22	Standard
	Ho-1	165	18.3	41.7				mg/L	22	Standard
	Er	166	30.0	88.2				mg/L	23	Standard
	I	127	4038.9	2.7				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		94.124	
|	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		96.331	
|	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	102.277
|	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	97.187
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: PBW 74 WG586277-02
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Method 6020 - Summary Report

Sample ID: LCSW 74 WG586277-03
Sample Date/Time: Wednesday, October 12, 2016 15:09:56
Number of Replicates: 3
Autosampler Position: 302
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	68509.6	3.3				ug/L	72553	Standard
	Be	9	43679.5	1.2	**51.1799**	2.076	4.1	ug/L	10	Standard
	Al	27	17525.1	2.6	**0.1800**	0.004	2.3	ug/L	232	Standard
	Sc	45	22950.7	2.3				ug/L	23513	Standard
	Ti	47	48.7	5.2	**0.0461**	0.012	26.4	ug/L	36	Standard
	V	51	314765.1	0.5	**51.1783**	0.834	1.6	ug/L	1387	Standard
	Cr	52	311847.9	0.5	**52.7887**	1.311	2.5	ug/L	7813	Standard
	Cr	53	40375.4	2.2	**52.5644**	1.888	3.6	ug/L	1410	Standard
	Mn	55	495253.5	0.6	**50.3308**	1.254	2.5	ug/L	1043	Standard
	Co	59	439287.6	0.5	**50.3697**	0.735	1.5	ug/L	198	Standard
	Ni	60	98104.7	2.7	**51.5299**	0.584	1.1	ug/L	64	Standard
	Cu	65	101295.5	1.0	**51.6128**	0.552	1.1	ug/L	122	Standard
	Zn	66	54129.5	1.0	**51.0934**	0.691	1.4	ug/L	209	Standard
>	Ge	72	608499.0	1.9				ug/L	618040	Standard
	As	75	53877.8	0.5	**48.5812**	0.707	1.5	ug/L	11	Standard
	Se	82	5172.6	0.9	**49.6789**	1.250	2.5	ug/L	21	Standard
	Se-1	77	3540.1	2.6	**50.3305**	0.573	1.1	ug/L	86	Standard
>	Ga	71	36.7	43.8				mg/L	13	Standard
	Rb	85	56.7	31.0				ug/L	18	Standard
	Y	89	453316.1	1.8				ug/L	463757	Standard
>	Rh	103	30.0	33.3				ug/L	12	Standard
	Mo	98	183.7	33.0	**0.0440**	0.016	36.4	ug/L	29	Standard
	Ag	107	330846.2	1.2	**49.8821**	0.788	1.6	ug/L	101	Standard
	Cd	111	109572.6	1.5	**51.6174**	0.492	1.0	mg/L	9	Standard
	Cd	114	278412.4	2.5	**50.1647**	0.827	1.6	ug/L	47	Standard
>	In	115	767033.7	1.0				ug/L	765457	Standard
	Sn	118	187.7	13.9	**0.0039**	0.020	525.3	ug/L	168	Standard
	Sb	123	293636.1	1.3	**51.3635**	0.977	1.9	ug/L	332	Standard
	Ba	135	137180.2	0.8	**51.5557**	0.721	1.4	ug/L	37	Standard
	Ce	140	143.3	28.2				ug/L	895	Standard
>	Tb	159	1477068.4	0.5				ug/L	1511047	Standard
	Ho	165	8.3	34.6				ug/L	22	Standard
	Tl	203	561084.5	0.8	**50.2262**	0.262	0.5	ug/L	14	Standard
	Tl	205	1304465.9	0.9	**50.6367**	1.021	2.0	ug/L	27	Standard
	Pb	206	432816.5	0.9	**51.1180**	0.666	1.3	ug/L	557	Standard
	Pb	207	366042.5	0.5	**49.0732**	0.741	1.5	ug/L	432	Standard
	Pb	208	1695221.2	0.3	**50.1660**	0.515	1.0	ug/L	2118	Standard
	U	238	1520496.2	0.6	**49.6918**	0.326	0.7	ug/L	78	Standard
>	Bi	209	779199.5	1.1				ug/L	791817	Standard

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⌈	**Na**	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	35.0	24.7	**-0.0102**	0.016	160.7	mg/L	48	Standard
|	**K**	39	3.3	86.6	**0.0070**	0.043	613.7	mg/L	3	Standard
|	**Ca**	43	61.7	12.4	**4.1530**	2.431	58.5	mg/L	62	Standard
|	**Fe**	54	120.1	4.9	**0.0027**	0.003	129.4	mg/L	139	Standard
|	**Fe**	57	138.3	5.5	**0.0385**	0.031	79.6	mg/L	83	Standard
⌊>	**Sc-1**	45	22950.7	2.3				mg/L	23513	Standard
	Cl	35	2.0	100.0				ug/L	3	Standard
	Kr	83	4.3	35.3				ug/L	2	Standard
	Br	81	1080.0	8.1				ug/L	910	Standard
	P	31	58.3	26.2				ug/L	85	Standard
	S	34	23.3	12.4				ug/L	48	Standard
	Sr	88	75.0	37.1				ug/L	72	Standard
	C	12	313.3	32.0				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	20.0	50.0				mg/L	7	Standard
	Dy	164	11.4	58.0				mg/L	22	Standard
	Ho-1	165	8.3	34.6				mg/L	22	Standard
	Er	166	40.0	50.0				mg/L	23	Standard
	I	127	4659.1	7.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		94.427	
|	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		98.456	
|	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	100.206
|	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	98.407
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSW 74 WG586277-03
Report Date/Time: Wednesday, October 12, 2016 15:12:01
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Method 6020 - Summary Report

Sample ID: L1610014802 WG586277-01
Sample Date/Time: Wednesday, October 12, 2016 15:12:55
Number of Replicates: 3
Autosampler Position: 303
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	68802.7	4.3				ug/L	72553	Standard
	Be	9	11.7	49.5	**-0.0032**	0.007	208.0	ug/L	10	Standard
	Al	27	3579092.3	1.1	**37.3556**	1.603	4.3	ug/L	232	Standard
	Sc	45	23207.8	2.9				ug/L	23513	Standard
	Ti	47	138.3	8.1	**0.5877**	0.062	10.5	ug/L	36	Standard
	V	51	1931.6	14.6	**0.1165**	0.045	38.5	ug/L	1387	Standard
	Cr	52	11769.2	1.4	**0.8182**	0.013	1.6	ug/L	7813	Standard
	Cr	53	2523.5	5.2	**1.6234**	0.154	9.5	ug/L	1410	Standard
	Mn	55	712015.2	1.4	**74.3181**	1.423	1.9	ug/L	1043	Standard
	Co	59	1150.4	1.9	**0.1168**	0.004	3.1	ug/L	198	Standard
	Ni	60	1089.4	2.0	**0.5497**	0.008	1.5	ug/L	64	Standard
	Cu	65	876.0	1.1	**0.3549**	0.002	0.5	ug/L	122	Standard
	Zn	66	3228.3	1.5	**2.3615**	0.071	3.0	ug/L	209	Standard
>	Ge	72	592907.0	0.8				ug/L	618040	Standard
	As	75	2329.9	1.3	**2.1952**	0.046	2.1	ug/L	11	Standard
	Se	82	80.6	1.6	**0.6611**	0.013	2.0	ug/L	21	Standard
	Se-1	77	187.3	7.8	**1.4696**	0.236	16.0	ug/L	86	Standard
>	Ga	71	38.3	65.7				mg/L	13	Standard
	Rb	85	30515.7	1.3				ug/L	18	Standard
	Y	89	439003.2	2.5				ug/L	463757	Standard
>	Rh	103	40.0	45.1				ug/L	12	Standard
	Mo	98	2947.0	1.3	**0.7912**	0.031	4.0	ug/L	29	Standard
	Ag	107	131.0	6.2	**0.0048**	0.002	34.6	ug/L	101	Standard
	Cd	111	37.5	5.4	**0.0131**	0.001	10.8	mg/L	9	Standard
	Cd	114	118.9	17.3	**0.0211**	0.003	15.8	ug/L	47	Standard
>	In	115	767441.2	2.7				ug/L	765457	Standard
	Sn	118	164.3	6.0	**-0.0151**	0.007	49.1	ug/L	168	Standard
	Sb	123	2506.2	41.3	**0.4417**	0.184	41.6	ug/L	332	Standard
	Ba	135	133195.7	1.5	**50.0456**	1.263	2.5	ug/L	37	Standard
	Ce	140	2193.5	1.4				ug/L	895	Standard
>	Tb	159	1475551.3	1.9				ug/L	1511047	Standard
	Ho	165	63.3	19.9				ug/L	22	Standard
	Tl	203	206.0	5.6	**0.0191**	0.001	5.0	ug/L	14	Standard
	Tl	205	478.3	11.3	**0.0164**	0.002	13.1	ug/L	27	Standard
	Pb	206	2338.2	1.7	**0.2113**	0.006	2.9	ug/L	557	Standard
	Pb	207	1927.5	1.6	**0.1972**	0.006	3.1	ug/L	432	Standard
	Pb	208	9028.4	0.7	**0.2035**	0.004	1.9	ug/L	2118	Standard
	U	238	3778.1	2.6	**0.1290**	0.003	2.2	ug/L	78	Standard
>	Bi	209	747317.3	0.7				ug/L	791817	Standard

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⌈	**Na**	23	71.7	17.6	**20.4256**	4.230	20.7	mg/L	5	Standard
|	**Mg**	24	19327.3	3.5	**38.3469**	1.749	4.6	mg/L	48	Standard
|	**K**	39	138.3	40.6	**2.0181**	0.785	38.9	mg/L	3	Standard
|	**Ca**	43	123.3	28.8	**26.4072**	11.889	45.0	mg/L	62	Standard
|	**Fe**	54	3841.2	3.2	**3.7133**	0.155	4.2	mg/L	139	Standard
|	**Fe**	57	1281.7	3.7	**4.0949**	0.130	3.2	mg/L	83	Standard
⌊>	**Sc-1**	45	23207.8	2.9				mg/L	23513	Standard
	Cl	35	1.3	173.2				ug/L	3	Standard
	Kr	83	3.3	17.3				ug/L	2	Standard
	Br	81	8188.9	7.2				ug/L	910	Standard
	P	31	91.7	22.7				ug/L	85	Standard
	S	34	31.7	32.9				ug/L	48	Standard
	Sr	88	115.0	15.7				ug/L	72	Standard
	C	12	396.7	11.9				mg/L	227	Standard
	N	14	16.7	34.6				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	65.1	18.0				mg/L	22	Standard
	Ho-1	165	63.3	19.9				mg/L	22	Standard
	Er	166	33.3	17.3				mg/L	23	Standard
	I	127	97090.0	12.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		94.831	
|	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		95.933	
|	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	100.259
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	94.380
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: L1610014802S WG586277-04
Sample Date/Time: Wednesday, October 12, 2016 15:15:54
Number of Replicates: 3
Autosampler Position: 304
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	66388.5	1.2				ug/L	72553	Standard
	Be	9	43128.0	3.5	**52.1194**	2.318	4.4	ug/L	10	Standard
	Al	27	3762007.4	1.1	**40.6458**	0.324	0.8	ug/L	232	Standard
	Sc	45	22573.5	0.8				ug/L	23513	Standard
	Ti	47	130.0	9.4	**0.5417**	0.082	15.1	ug/L	36	Standard
	V	51	304870.6	1.1	**51.0533**	1.407	2.8	ug/L	1387	Standard
	Cr	52	295521.2	0.6	**51.4839**	1.195	2.3	ug/L	7813	Standard
	Cr	53	39431.3	1.9	**52.8830**	2.106	4.0	ug/L	1410	Standard
	Mn	55	1204298.0	0.8	**126.2591**	2.536	2.0	ug/L	1043	Standard
	Co	59	417258.0	0.8	**49.2765**	1.300	2.6	ug/L	198	Standard
	Ni	60	94261.3	1.3	**50.9973**	0.700	1.4	ug/L	64	Standard
	Cu	65	96989.1	0.6	**50.8937**	0.840	1.7	ug/L	122	Standard
	Zn	66	55561.0	1.1	**54.0605**	1.269	2.3	ug/L	209	Standard
>	Ge	72	590884.0	1.9				ug/L	618040	Standard
	As	75	58413.9	1.0	**54.2361**	0.873	1.6	ug/L	11	Standard
	Se	82	5169.7	1.2	**51.1243**	0.419	0.8	ug/L	21	Standard
	Se-1	77	3603.1	2.7	**52.8201**	0.916	1.7	ug/L	86	Standard
>	Ga	71	66.7	28.4				mg/L	13	Standard
	Rb	85	31023.4	1.4				ug/L	18	Standard
	Y	89	446782.8	4.3				ug/L	463757	Standard
>	Rh	103	61.7	20.4				ug/L	12	Standard
	Mo	98	3077.8	1.7	**0.8310**	0.019	2.3	ug/L	29	Standard
	Ag	107	310197.0	1.0	**47.0263**	0.774	1.6	ug/L	101	Standard
	Cd	111	110122.5	1.4	**52.1658**	0.906	1.7	mg/L	9	Standard
	Cd	114	274685.1	1.1	**49.7693**	0.222	0.4	ug/L	47	Standard
>	In	115	762824.6	0.7				ug/L	765457	Standard
	Sn	118	165.7	13.3	**-0.0133**	0.017	128.9	ug/L	168	Standard
	Sb	123	309970.5	0.4	**54.5152**	0.188	0.3	ug/L	332	Standard
	Ba	135	272658.1	0.5	**103.0571**	0.960	0.9	ug/L	37	Standard
	Ce	140	2463.5	6.1				ug/L	895	Standard
>	Tb	159	1470708.8	0.5				ug/L	1511047	Standard
	Ho	165	46.7	16.4				ug/L	22	Standard
	Tl	203	540706.1	1.2	**50.9818**	0.600	1.2	ug/L	14	Standard
	Tl	205	1250131.1	1.8	**51.1077**	0.859	1.7	ug/L	27	Standard
	Pb	206	417658.1	1.6	**51.9557**	0.780	1.5	ug/L	557	Standard
	Pb	207	353584.3	2.1	**49.9263**	1.012	2.0	ug/L	432	Standard
	Pb	208	1631086.1	1.7	**50.8392**	0.814	1.6	ug/L	2118	Standard
	U	238	1488573.0	1.3	**51.2404**	0.600	1.2	ug/L	78	Standard
>	Bi	209	739749.2	0.1				ug/L	791817	Standard

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⌈	**Na**	23	50.0	10.0	**14.4692**	1.536	10.6	mg/L	5	Standard
|	**Mg**	24	20153.4	2.5	**41.0883**	0.737	1.8	mg/L	48	Standard
|	**K**	39	175.0	17.8	**2.6545**	0.499	18.8	mg/L	3	Standard
|	**Ca**	43	108.3	14.1	**22.2065**	5.658	25.5	mg/L	62	Standard
|	**Fe**	54	3977.2	2.0	**3.9591**	0.112	2.8	mg/L	139	Standard
|	**Fe**	57	1265.1	8.3	**4.1599**	0.349	8.4	mg/L	83	Standard
⌊>	**Sc-1**	45	22573.5	0.8				mg/L	23513	Standard
	Cl	35	3.3	124.9				ug/L	3	Standard
	Kr	83	3.0	57.7				ug/L	2	Standard
	Br	81	9369.6	9.0				ug/L	910	Standard
	P	31	81.7	27.6				ug/L	85	Standard
	S	34	40.0	43.3				ug/L	48	Standard
	Sr	88	151.7	5.0				ug/L	72	Standard
	C	12	446.7	14.4				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	7	Standard
	Dy	164	60.9	24.4				mg/L	22	Standard
	Ho-1	165	46.7	16.4				mg/L	22	Standard
	Er	166	50.0	60.0				mg/L	23	Standard
	I	127	98167.7	6.0				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		91.503	
|	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		95.606	
|	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	99.656
|	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	93.424
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610014802SD WG586277-05
Sample Date/Time: Wednesday, October 12, 2016 15:18:54
Number of Replicates: 3
Autosampler Position: 305
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	66577.6	1.4				ug/L	72553	Standard
	Be	9	42257.2	1.2	**50.9101**	0.656	1.3	ug/L	10	Standard
	Al	27	3743640.4	0.3	**40.3371**	0.645	1.6	ug/L	232	Standard
	Sc	45	22832.2	1.9				ug/L	23513	Standard
	Ti	47	146.3	14.0	**0.6444**	0.149	23.1	ug/L	36	Standard
	V	51	301714.7	1.1	**50.7033**	1.956	3.9	ug/L	1387	Standard
	Cr	52	292782.8	0.4	**51.1764**	1.613	3.2	ug/L	7813	Standard
	Cr	53	37675.1	1.5	**50.6342**	2.469	4.9	ug/L	1410	Standard
	Mn	55	1200690.4	1.4	**126.3664**	5.789	4.6	ug/L	1043	Standard
	Co	59	419670.9	0.8	**49.7316**	1.582	3.2	ug/L	198	Standard
	Ni	60	93403.7	1.0	**50.7225**	1.895	3.7	ug/L	64	Standard
	Cu	65	95306.8	0.5	**50.1850**	1.437	2.9	ug/L	122	Standard
	Zn	66	54446.3	0.1	**53.1512**	1.825	3.4	ug/L	209	Standard
>	Ge	72	589072.5	3.3				ug/L	618040	Standard
	As	75	57871.7	0.8	**53.9184**	1.344	2.5	ug/L	11	Standard
	Se	82	5122.3	0.9	**50.8388**	1.559	3.1	ug/L	21	Standard
	Se-1	77	3547.4	1.0	**52.1756**	1.248	2.4	ug/L	86	Standard
>	Ga	71	50.0	26.5				mg/L	13	Standard
	Rb	85	31656.4	0.6				ug/L	18	Standard
	Y	89	437795.5	2.4				ug/L	463757	Standard
>	Rh	103	58.3	19.8				ug/L	12	Standard
	Mo	98	3100.8	0.8	**0.8339**	0.012	1.5	ug/L	29	Standard
	Ag	107	311421.3	0.8	**47.0237**	0.568	1.2	ug/L	101	Standard
	Cd	111	110700.8	2.3	**52.2244**	0.736	1.4	mg/L	9	Standard
	Cd	114	275333.3	1.3	**49.6906**	0.586	1.2	ug/L	47	Standard
>	In	115	765888.3	1.3				ug/L	765457	Standard
	Sn	118	168.3	8.0	**-0.0117**	0.010	81.5	ug/L	168	Standard
	Sb	123	311807.5	1.3	**54.6197**	0.501	0.9	ug/L	332	Standard
	Ba	135	272582.7	1.4	**102.6119**	0.448	0.4	ug/L	37	Standard
	Ce	140	2683.6	13.8				ug/L	895	Standard
>	Tb	159	1464858.2	0.9				ug/L	1511047	Standard
	Ho	165	56.7	35.7				ug/L	22	Standard
	Tl	203	538501.0	1.5	**50.9489**	1.232	2.4	ug/L	14	Standard
	Tl	205	1230051.0	0.9	**50.4629**	1.240	2.5	ug/L	27	Standard
	Pb	206	413007.9	0.9	**51.5596**	1.451	2.8	ug/L	557	Standard
	Pb	207	347698.2	1.1	**49.2701**	1.462	3.0	ug/L	432	Standard
	Pb	208	1613965.6	0.7	**50.4814**	1.224	2.4	ug/L	2118	Standard
	U	238	1493710.7	1.2	**51.5912**	0.914	1.8	ug/L	78	Standard
>	Bi	209	737388.8	1.9				ug/L	791817	Standard

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⌈	**Na**	23	63.3	12.1	**18.2448**	2.373	13.0	mg/L	5	Standard
|	**Mg**	24	19841.3	0.8	**40.0072**	1.007	2.5	mg/L	48	Standard
|	**K**	39	133.3	9.4	**1.9856**	0.162	8.1	mg/L	3	Standard
|	**Ca**	43	111.7	31.4	**22.8718**	12.589	55.0	mg/L	62	Standard
|	**Fe**	54	3849.6	6.6	**3.7807**	0.187	5.0	mg/L	139	Standard
|	**Fe**	57	1173.4	1.5	**3.7799**	0.141	3.7	mg/L	83	Standard
⌊>	**Sc-1**	45	22832.2	1.9				mg/L	23513	Standard
	Cl	35	2.0	100.0				ug/L	3	Standard
	Kr	83	3.0	57.7				ug/L	2	Standard
	Br	81	9092.7	3.4				ug/L	910	Standard
	P	31	90.0	33.8				ug/L	85	Standard
	S	34	43.3	17.6				ug/L	48	Standard
	Sr	88	126.7	34.0				ug/L	72	Standard
	C	12	423.3	17.7				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	76.0	26.4				mg/L	22	Standard
	Ho-1	165	56.7	35.7				mg/L	22	Standard
	Er	166	83.3	27.7				mg/L	23	Standard
	I	127	109633.0	10.3				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		91.764	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		95.313	
|	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	100.056
|	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	93.126
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610009501
Sample Date/Time: Wednesday, October 12, 2016 15:21:55
Number of Replicates: 3
Autosampler Position: 306
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	68859.5	2.0				ug/L	72553	Standard
	Be	9	18.3	63.0	**0.0044**	0.013	300.2	ug/L	10	Standard
	Al	27	16969090.0	1.9	**176.8120**	4.796	2.7	ug/L	232	Standard
	Sc	45	22810.5	4.6				ug/L	23513	Standard
	Ti	47	325.7	2.6	**1.7582**	0.045	2.6	ug/L	36	Standard
	V	51	425.5	67.9	**-0.1336**	0.049	36.8	ug/L	1387	Standard
	Cr	52	16170.3	1.4	**1.6822**	0.105	6.2	ug/L	7813	Standard
	Cr	53	7528.6	18.4	**8.8505**	2.051	23.2	ug/L	1410	Standard
	Mn	55	150450.1	1.6	**16.0260**	0.663	4.1	ug/L	1043	Standard
	Co	59	4146.2	3.7	**0.4834**	0.030	6.3	ug/L	198	Standard
	Ni	60	2948.0	2.4	**1.5975**	0.074	4.7	ug/L	64	Standard
	Cu	65	1077.0	3.2	**0.4758**	0.008	1.8	ug/L	122	Standard
	Zn	66	4194.6	2.6	**3.4296**	0.215	6.3	ug/L	209	Standard
>	Ge	72	576949.5	2.4				ug/L	618040	Standard
	As	75	652.3	14.1	**0.6613**	0.091	13.8	ug/L	11	Standard
	Se	82	198.7	10.2	**1.8861**	0.241	12.8	ug/L	21	Standard
	Se-1	77	583.3	7.6	**7.6489**	0.764	10.0	ug/L	86	Standard
>	Ga	71	60.0	22.0				mg/L	13	Standard
	Rb	85	7870.4	3.5				ug/L	18	Standard
	Y	89	427082.4	3.7				ug/L	463757	Standard
>	Rh	103	151.7	13.7				ug/L	12	Standard
	Mo	98	457.9	7.6	**0.1236**	0.007	5.9	ug/L	29	Standard
	Ag	107	151.7	22.0	**0.0089**	0.005	54.4	ug/L	101	Standard
	Cd	111	51.1	33.6	**0.0204**	0.008	38.6	mg/L	9	Standard
	Cd	114	135.7	46.3	**0.0252**	0.011	45.5	ug/L	47	Standard
>	In	115	734951.6	2.7				ug/L	765457	Standard
	Sn	118	99.7	6.8	**-0.0642**	0.006	10.1	ug/L	168	Standard
	Sb	123	699.0	26.8	**0.1311**	0.033	25.5	ug/L	332	Standard
	Ba	135	371451.0	2.1	**145.8324**	6.375	4.4	ug/L	37	Standard
	Ce	140	550.0	4.2				ug/L	895	Standard
>	Tb	159	1419542.0	4.6				ug/L	1511047	Standard
	Ho	165	43.3	48.0				ug/L	22	Standard
	Tl	203	194.0	11.8	**0.0192**	0.002	10.5	ug/L	14	Standard
	Tl	205	491.7	7.4	**0.0184**	0.001	6.8	ug/L	27	Standard
	Pb	206	660.7	8.4	**0.0102**	0.006	55.7	ug/L	557	Standard
	Pb	207	546.3	5.3	**0.0094**	0.004	39.4	ug/L	432	Standard
	Pb	208	2548.8	4.4	**0.0089**	0.002	25.8	ug/L	2118	Standard
	U	238	4289.9	1.4	**0.1570**	0.002	1.1	ug/L	78	Standard
>	Bi	209	697152.7	2.1				ug/L	791817	Standard

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⌈	**Na**	23	63.3	39.7	**18.1308**	6.755	37.3	mg/L	5	Standard
|	**Mg**	24	88643.7	3.1	**179.5295**	13.216	7.4	mg/L	48	Standard
|	**K**	39	40.0	62.5	**0.5613**	0.359	64.0	mg/L	3	Standard
|	**Ca**	43	101.7	24.3	**19.0875**	7.453	39.0	mg/L	62	Standard
|	**Fe**	54	177.2	14.3	**0.0611**	0.021	34.3	mg/L	139	Standard
|	**Fe**	57	168.3	11.2	**0.1522**	0.093	61.1	mg/L	83	Standard
⌊>	**Sc-1**	45	22810.5	4.6				mg/L	23513	Standard
	Cl	35	5.3	94.4				ug/L	3	Standard
	Kr	83	4.0	66.1				ug/L	2	Standard
	Br	81	53353.8	3.2				ug/L	910	Standard
	P	31	108.3	9.6				ug/L	85	Standard
	S	34	30.0	33.3				ug/L	48	Standard
	Sr	88	240.0	16.5				ug/L	72	Standard
	C	12	796.7	5.1				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	54.3	36.0				mg/L	22	Standard
	Ho-1	165	43.3	48.0				mg/L	22	Standard
	Er	166	50.0	52.9				mg/L	23	Standard
	I	127	720657.8	9.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		94.909	
|	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		93.351	
|	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	96.015
|	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	88.045
⌈	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	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610009502
Sample Date/Time: Wednesday, October 12, 2016 15:24:54
Number of Replicates: 3
Autosampler Position: 307
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	69820.7	4.7				ug/L	72553	Standard
	Be	9	10.0	50.0	**-0.0051**	0.006	120.4	ug/L	10	Standard
	Al	27	16229792.6	1.0	**167.0010**	8.555	5.1	ug/L	232	Standard
	Sc	45	22730.4	4.5				ug/L	23513	Standard
	Ti	47	351.7	4.2	**1.9229**	0.108	5.6	ug/L	36	Standard
	V	51	-845.1	53.9	**-0.3543**	0.082	23.1	ug/L	1387	Standard
	Cr	52	17891.2	0.3	**2.0043**	0.112	5.6	ug/L	7813	Standard
	Cr	53	10462.0	8.4	**13.0701**	1.696	13.0	ug/L	1410	Standard
	Mn	55	143527.6	0.7	**15.3155**	0.579	3.8	ug/L	1043	Standard
	Co	59	4519.7	1.1	**0.5297**	0.022	4.2	ug/L	198	Standard
	Ni	60	3430.7	0.7	**1.8692**	0.059	3.2	ug/L	64	Standard
	Cu	65	1226.0	1.4	**0.5580**	0.029	5.2	ug/L	122	Standard
	Zn	66	5900.5	0.4	**5.1680**	0.206	4.0	ug/L	209	Standard
>	Ge	72	575754.9	3.2				ug/L	618040	Standard
	As	75	623.0	18.3	**0.6345**	0.112	17.7	ug/L	11	Standard
	Se	82	213.0	2.7	**2.0352**	0.121	5.9	ug/L	21	Standard
	Se-1	77	758.7	7.5	**10.3916**	1.223	11.8	ug/L	86	Standard
>	Ga	71	48.3	43.1				mg/L	13	Standard
	Rb	85	8112.2	1.5				ug/L	18	Standard
	Y	89	425573.4	3.4				ug/L	463757	Standard
>	Rh	103	143.3	23.7				ug/L	12	Standard
	Mo	98	559.8	3.3	**0.1532**	0.011	7.3	ug/L	29	Standard
	Ag	107	126.0	1.6	**0.0049**	0.001	12.6	ug/L	101	Standard
	Cd	111	48.6	13.7	**0.0194**	0.003	18.0	mg/L	9	Standard
	Cd	114	146.4	15.7	**0.0274**	0.005	18.7	ug/L	47	Standard
>	In	115	732451.8	3.7				ug/L	765457	Standard
	Sn	118	134.7	3.0	**-0.0340**	0.005	13.4	ug/L	168	Standard
	Sb	123	601.8	16.3	**0.1143**	0.022	19.3	ug/L	332	Standard
	Ba	135	360098.0	1.7	**141.9341**	7.365	5.2	ug/L	37	Standard
	Ce	140	628.3	8.1				ug/L	895	Standard
>	Tb	159	1409057.2	1.2				ug/L	1511047	Standard
	Ho	165	46.7	49.5				ug/L	22	Standard
	Tl	203	140.7	7.0	**0.0141**	0.001	9.3	ug/L	14	Standard
	Tl	205	368.3	9.6	**0.0132**	0.002	12.7	ug/L	27	Standard
	Pb	206	863.4	3.1	**0.0387**	0.001	2.5	ug/L	557	Standard
	Pb	207	715.0	4.4	**0.0364**	0.008	21.8	ug/L	432	Standard
	Pb	208	3325.5	1.3	**0.0362**	0.003	7.7	ug/L	2118	Standard
	U	238	3969.2	2.4	**0.1473**	0.002	1.4	ug/L	78	Standard
>	Bi	209	687561.7	3.1				ug/L	791817	Standard

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⌈	**Na**	23	40.0	57.3	**11.2137**	6.174	55.1	mg/L	5	Standard
|	**Mg**	24	82447.2	3.1	**167.5645**	12.466	7.4	mg/L	48	Standard
|	**K**	39	51.7	14.8	**0.7499**	0.139	18.5	mg/L	3	Standard
|	**Ca**	43	65.0	58.1	**6.0794**	15.204	250.1	mg/L	62	Standard
|	**Fe**	54	176.7	4.4	**0.0616**	0.009	14.0	mg/L	139	Standard
|	**Fe**	57	188.3	12.5	**0.2275**	0.113	49.7	mg/L	83	Standard
⌊>	**Sc-1**	45	22730.4	4.5				mg/L	23513	Standard
	Cl	35	5.3	43.3				ug/L	3	Standard
	Kr	83	2.3	65.5				ug/L	2	Standard
	Br	81	54494.6	4.2				ug/L	910	Standard
	P	31	115.0	11.5				ug/L	85	Standard
	S	34	33.3	70.9				ug/L	48	Standard
	Sr	88	183.3	9.6				ug/L	72	Standard
	C	12	753.4	17.9				mg/L	227	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	23.3	129.8				mg/L	22	Standard
	Ho-1	165	46.7	49.5				mg/L	22	Standard
	Er	166	70.0	28.6				mg/L	23	Standard
	I	127	726607.3	9.1				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		96.234	
|	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		93.158	
|	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	95.688
|	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	86.833
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Ba 135 Upper, S, EEE	Ba	135	

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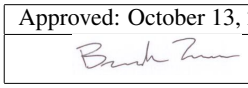

Method 6020 - Summary Report

Sample ID: L1610009502PS WG586830-03
Sample Date/Time: Wednesday, October 12, 2016 15:27:53
Number of Replicates: 3
Autosampler Position: 308
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	70721.4	1.8				ug/L	72553	Standard
	Be	9	43766.5	2.2	**49.6482**	1.564	3.2	ug/L	10	Standard
	Al	27	15900533.5	2.1	**161.2907**	3.493	2.2	ug/L	232	Standard
	Sc	45	22553.4	1.2				ug/L	23513	Standard
	Ti	47	344.0	5.9	**1.9052**	0.130	6.8	ug/L	36	Standard
	V	51	292128.6	1.2	**50.9140**	0.659	1.3	ug/L	1387	Standard
	Cr	52	289010.4	0.4	**52.4286**	0.367	0.7	ug/L	7813	Standard
	Cr	53	46715.3	1.9	**65.6265**	0.880	1.3	ug/L	1410	Standard
	Mn	55	598426.3	0.2	**65.2293**	0.253	0.4	ug/L	1043	Standard
	Co	59	401442.7	0.3	**49.3428**	0.361	0.7	ug/L	198	Standard
	Ni	60	89659.2	0.4	**50.4964**	0.464	0.9	ug/L	64	Standard
	Cu	65	90897.8	0.4	**49.6462**	0.164	0.3	ug/L	122	Standard
	Zn	66	55792.2	1.0	**56.5383**	0.206	0.4	ug/L	209	Standard
>	Ge	72	567552.7	0.6				ug/L	618040	Standard
	As	75	53233.5	0.4	**51.4525**	0.389	0.8	ug/L	11	Standard
	Se	82	5022.1	1.1	**51.7018**	0.258	0.5	ug/L	21	Standard
	Se-1	77	4096.6	1.8	**62.7674**	0.873	1.4	ug/L	86	Standard
>	Ga	71	81.7	14.1				mg/L	13	Standard
	Rb	85	7997.1	1.5				ug/L	18	Standard
	Y	89	424505.7	1.7				ug/L	463757	Standard
>	Rh	103	165.0	23.7				ug/L	12	Standard
	Mo	98	585.3	6.3	**0.1616**	0.010	6.2	ug/L	29	Standard
	Ag	107	282759.2	0.9	**45.0335**	0.415	0.9	ug/L	101	Standard
	Cd	111	101769.2	1.1	**50.6475**	0.560	1.1	mg/L	9	Standard
	Cd	114	253922.3	1.1	**48.3368**	0.368	0.8	ug/L	47	Standard
>	In	115	726062.3	0.4				ug/L	765457	Standard
	Sn	118	174.7	13.4	**0.0015**	0.021	1433.3	ug/L	168	Standard
	Sb	123	280585.0	0.9	**51.8445**	0.235	0.5	ug/L	332	Standard
	Ba	135	488183.8	0.6	**193.8769**	0.905	0.5	ug/L	37	Standard
	Ce	140	610.0	5.1				ug/L	895	Standard
>	Tb	159	1426277.3	1.8				ug/L	1511047	Standard
	Ho	165	41.7	45.4				ug/L	22	Standard
	Tl	203	508301.8	0.6	**50.8515**	0.499	1.0	ug/L	14	Standard
	Tl	205	1172623.4	1.7	**50.8654**	0.965	1.9	ug/L	27	Standard
	Pb	206	388713.2	0.5	**51.3044**	0.267	0.5	ug/L	557	Standard
	Pb	207	330248.4	0.8	**49.4763**	0.449	0.9	ug/L	432	Standard
	Pb	208	1525146.3	0.3	**50.4376**	0.350	0.7	ug/L	2118	Standard
	U	238	1453229.4	1.2	**53.0773**	0.790	1.5	ug/L	78	Standard
>	Bi	209	697218.8	0.4				ug/L	791817	Standard

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⌈	**Na**	23	36.7	20.8	**10.4786**	2.142	20.4	mg/L	5	Standard
|	**Mg**	24	83031.9	0.7	**169.7121**	1.982	1.2	mg/L	48	Standard
|	**K**	39	56.7	25.5	**0.8293**	0.216	26.0	mg/L	3	Standard
|	**Ca**	43	70.0	18.9	**7.7437**	5.049	65.2	mg/L	62	Standard
|	**Fe**	54	182.0	10.3	**0.0682**	0.017	25.4	mg/L	139	Standard
|	**Fe**	57	173.3	15.9	**0.1756**	0.107	60.8	mg/L	83	Standard
⌊>	**Sc-1**	45	22553.4	1.2				mg/L	23513	Standard
	Cl	35	3.3	69.3				ug/L	3	Standard
	Kr	83	4.7	12.4				ug/L	2	Standard
	Br	81	57027.1	1.4				ug/L	910	Standard
	P	31	105.0	47.6				ug/L	85	Standard
	S	34	25.0	20.0				ug/L	48	Standard
	Sr	88	190.0	11.5				ug/L	72	Standard
	C	12	740.0	13.7				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	21.4	71.3				mg/L	22	Standard
	Ho-1	165	41.7	45.4				mg/L	22	Standard
	Er	166	40.0					mg/L	23	Standard
	I	127	735949.5	9.2				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		97.475	
|	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		91.831	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1610009502PS WG586830-03
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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	94.853
|	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	88.053
⌈	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	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610009502SDL WG586830-04
Sample Date/Time: Wednesday, October 12, 2016 15:30:52
Number of Replicates: 3
Autosampler Position: 309
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	73670.4	1.6				ug/L	72553	Standard
	Be	9	18.3	83.3	**0.0030**	0.016	539.6	ug/L	10	Standard
	Al	27	3509827.6	1.0	**34.1777**	0.699	2.0	ug/L	232	Standard
	Sc	45	22306.4	3.1				ug/L	23513	Standard
	Ti	47	88.3	10.7	**0.2951**	0.050	16.9	ug/L	36	Standard
	V	51	1028.3	27.8	**-0.0324**	0.051	158.2	ug/L	1387	Standard
	Cr	52	9946.9	1.2	**0.5126**	0.024	4.7	ug/L	7813	Standard
	Cr	53	4202.3	5.0	**4.0035**	0.183	4.6	ug/L	1410	Standard
	Mn	55	31631.3	1.9	**3.1874**	0.002	0.1	ug/L	1043	Standard
	Co	59	1088.4	1.7	**0.1109**	0.005	4.2	ug/L	198	Standard
	Ni	60	806.4	4.2	**0.4018**	0.026	6.5	ug/L	64	Standard
	Cu	65	1110.7	1.4	**0.4839**	0.004	0.7	ug/L	122	Standard
	Zn	66	3172.7	1.5	**2.3390**	0.058	2.5	ug/L	209	Standard
>	Ge	72	586861.5	1.9				ug/L	618040	Standard
	As	75	113.6	44.7	**0.1477**	0.050	33.6	ug/L	11	Standard
	Se	82	63.8	16.5	**0.5038**	0.118	23.4	ug/L	21	Standard
	Se-1	77	232.7	5.7	**2.1840**	0.201	9.2	ug/L	86	Standard
>	Ga	71	26.7	60.3				mg/L	13	Standard
	Rb	85	1803.4	10.4				ug/L	18	Standard
	Y	89	436378.1	3.5				ug/L	463757	Standard
>	Rh	103	35.0	14.3				ug/L	12	Standard
	Mo	98	141.2	9.7	**0.0325**	0.002	7.2	ug/L	29	Standard
	Ag	107	212.0	32.2	**0.0172**	0.012	68.8	ug/L	101	Standard
	Cd	111	33.8	72.0	**0.0116**	0.012	106.8	mg/L	9	Standard
	Cd	114	100.2	69.4	**0.0181**	0.014	75.1	ug/L	47	Standard
>	In	115	769847.1	4.3				ug/L	765457	Standard
	Sn	118	177.3	3.4	**-0.0049**	0.003	54.6	ug/L	168	Standard
	Sb	123	2179.7	41.0	**0.3793**	0.141	37.2	ug/L	332	Standard
	Ba	135	76770.0	1.2	**28.7653**	1.144	4.0	ug/L	37	Standard
	Ce	140	166.7	12.1				ug/L	895	Standard
>	Tb	159	1468827.0	2.8				ug/L	1511047	Standard
	Ho	165	31.7	32.9				ug/L	22	Standard
	Tl	203	197.0	42.0	**0.0185**	0.009	46.6	ug/L	14	Standard
	Tl	205	433.3	37.5	**0.0148**	0.007	49.9	ug/L	27	Standard
	Pb	206	674.3	7.5	**0.0064**	0.010	148.4	ug/L	557	Standard
	Pb	207	579.7	11.3	**0.0089**	0.012	136.1	ug/L	432	Standard
	Pb	208	2676.8	7.8	**0.0075**	0.010	127.9	ug/L	2118	Standard
	U	238	1113.0	21.2	**0.0384**	0.010	25.0	ug/L	78	Standard
>	Bi	209	746549.8	3.8				ug/L	791817	Standard

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⌈	**Na**	23	10.0		**2.5647**	0.095	3.7	mg/L	5	Standard
|	**Mg**	24	17333.3	4.1	**35.7477**	0.471	1.3	mg/L	48	Standard
|	**K**	39	13.3	21.7	**0.1643**	0.040	24.5	mg/L	3	Standard
|	**Ca**	43	65.0	35.3	**5.9554**	8.074	135.6	mg/L	62	Standard
|	**Fe**	54	174.2	12.2	**0.0628**	0.028	43.9	mg/L	139	Standard
|	**Fe**	57	135.0	22.2	**0.0395**	0.102	259.4	mg/L	83	Standard
⌊>	**Sc-1**	45	22306.4	3.1				mg/L	23513	Standard
	Cl	35	4.0	86.6				ug/L	3	Standard
	Kr	83	2.7	21.7				ug/L	2	Standard
	Br	81	13028.9	5.5				ug/L	910	Standard
	P	31	71.7	26.4				ug/L	85	Standard
	S	34	41.7	25.0				ug/L	48	Standard
	Sr	88	100.0	22.9				ug/L	72	Standard
	C	12	370.0	23.6				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	Standard
	Dy	164	34.9	43.5				mg/L	22	Standard
	Ho-1	165	31.7	32.9				mg/L	22	Standard
	Er	166	36.7	41.7				mg/L	23	Standard
	I	127	179587.4	3.9				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		101.540	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		94.955	
|	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	100.573
|	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	94.283
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1610009502SDL WG586830-04
Sample Date/Time: Wednesday, October 12, 2016 15:33:51
Number of Replicates: 3
Autosampler Position: 310
Sample Description: 25
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	74010.4	2.2				ug/L	72553	Standard
	Be	9	5.0	100.0	**-0.0113**	0.005	48.1	ug/L	10	Standard
	Al	27	702437.5	0.5	**6.8073**	0.183	2.7	ug/L	232	Standard
	Sc	45	22720.4	1.4				ug/L	23513	Standard
	Ti	47	50.0	0.0	**0.0570**	0.002	4.2	ug/L	36	Standard
	V	51	1306.9	12.6	**0.0087**	0.027	313.9	ug/L	1387	Standard
	Cr	52	8298.9	1.3	**0.1785**	0.025	14.2	ug/L	7813	Standard
	Cr	53	1911.8	2.2	**0.7379**	0.069	9.4	ug/L	1410	Standard
	Mn	55	7633.9	0.8	**0.6313**	0.001	0.2	ug/L	1043	Standard
	Co	59	313.7	3.8	**0.0178**	0.001	7.1	ug/L	198	Standard
	Ni	60	226.3	10.5	**0.0822**	0.012	14.7	ug/L	64	Standard
	Cu	65	211.7	2.6	**0.0051**	0.003	57.5	ug/L	122	Standard
	Zn	66	1623.4	2.4	**0.7573**	0.026	3.4	ug/L	209	Standard
>	Ge	72	602123.3	0.8				ug/L	618040	Standard
	As	75	17.4	319.4	**0.0570**	0.051	89.0	ug/L	11	Standard
	Se	82	28.7	25.9	**0.1450**	0.074	51.3	ug/L	21	Standard
	Se-1	77	113.3	10.5	**0.3346**	0.182	54.4	ug/L	86	Standard
>	Ga	71	18.3	31.5				mg/L	13	Standard
	Rb	85	358.3	10.5				ug/L	18	Standard
	Y	89	440105.4	0.3				ug/L	463757	Standard
>	Rh	103	13.3	43.3				ug/L	12	Standard
	Mo	98	54.7	5.1	**0.0088**	0.001	11.9	ug/L	29	Standard
	Ag	107	117.7	7.9	**0.0022**	0.001	57.1	ug/L	101	Standard
	Cd	111	9.9	17.5	**-0.0001**	0.001	609.6	mg/L	9	Standard
	Cd	114	50.8	34.4	**0.0085**	0.003	34.8	ug/L	47	Standard
>	In	115	793735.0	2.3				ug/L	765457	Standard
	Sn	118	155.0	6.2	**-0.0269**	0.007	27.6	ug/L	168	Standard
	Sb	123	631.3	49.6	**0.1095**	0.050	46.1	ug/L	332	Standard
	Ba	135	15692.1	2.1	**5.6775**	0.094	1.7	ug/L	37	Standard
	Ce	140	65.0	35.3				ug/L	895	Standard
>	Tb	159	1492640.7	1.6				ug/L	1511047	Standard
	Ho	165	20.0	25.0				ug/L	22	Standard
	Tl	203	87.3	24.9	**0.0077**	0.002	25.5	ug/L	14	Standard
	Tl	205	216.7	5.8	**0.0054**	0.000	9.1	ug/L	27	Standard
	Pb	206	604.3	7.1	**-0.0055**	0.005	95.2	ug/L	557	Standard
	Pb	207	531.3	1.3	**-0.0012**	0.001	86.4	ug/L	432	Standard
	Pb	208	2382.1	2.3	**-0.0049**	0.002	36.4	ug/L	2118	Standard
	U	238	176.7	4.4	**0.0060**	0.000	4.0	ug/L	78	Standard
>	Bi	209	778927.0	0.3				ug/L	791817	Standard

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⌈	**Na**	23	1.7	173.2	**0.0421**	0.866	2054.9	mg/L	5	Standard
|	**Mg**	24	3632.1	4.7	**7.2958**	0.448	6.1	mg/L	48	Standard
|	**K**	39	10.0	100.0	**0.1093**	0.151	138.0	mg/L	3	Standard
|	**Ca**	43	46.7	24.7	**-1.2132**	4.411	363.6	mg/L	62	Standard
|	**Fe**	54	115.6	5.0	**-0.0006**	0.007	1248.7	mg/L	139	Standard
|	**Fe**	57	116.7	21.1	**-0.0352**	0.091	258.2	mg/L	83	Standard
⌊>	**Sc-1**	45	22720.4	1.4				mg/L	23513	Standard
	Cl	35	3.3	91.7				ug/L	3	Standard
	Kr	83	4.7	61.9				ug/L	2	Standard
	Br	81	3710.5	2.7				ug/L	910	Standard
	P	31	60.0	43.3				ug/L	85	Standard
	S	34	38.3	7.5				ug/L	48	Standard
	Sr	88	110.0	16.4				ug/L	72	Standard
	C	12	323.3	8.9				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	32.7	47.4				mg/L	22	Standard
	Ho-1	165	20.0	25.0				mg/L	22	Standard
	Er	166	13.3	43.3				mg/L	23	Standard
	I	127	45698.8	1.8				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		102.008	
|	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		97.425	
|	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	103.694
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	98.372
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: Wednesday, October 12, 2016 15:36:52
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	69892.6	3.0				ug/L	72553	Standard
	Be	9	43763.1	2.1	**50.2596**	2.200	4.4	ug/L	10	Standard
	Al	27	4654116.5	3.3	**47.7617**	0.559	1.2	ug/L	232	Standard
	Sc	45	22166.2	0.5				ug/L	23513	Standard
	Ti	47	16576.4	1.6	**100.3768**	2.571	2.6	ug/L	36	Standard
	V	51	299338.9	0.4	**50.8650**	1.000	2.0	ug/L	1387	Standard
	Cr	52	283505.8	1.3	**50.0896**	1.315	2.6	ug/L	7813	Standard
	Cr	53	37621.7	2.1	**51.1409**	1.918	3.8	ug/L	1410	Standard
	Mn	55	459968.5	2.2	**48.8416**	1.285	2.6	ug/L	1043	Standard
	Co	59	412099.0	1.3	**49.3866**	1.265	2.6	ug/L	198	Standard
	Ni	60	91074.9	0.6	**50.0069**	0.831	1.7	ug/L	64	Standard
	Cu	65	93634.8	1.4	**49.8574**	0.829	1.7	ug/L	122	Standard
	Zn	66	49910.1	1.3	**49.2045**	0.791	1.6	ug/L	209	Standard
>	Ge	72	582225.3	1.5				ug/L	618040	Standard
	As	75	52807.9	1.8	**49.7680**	1.484	3.0	ug/L	11	Standard
	Se	82	4985.4	1.2	**50.0389**	1.238	2.5	ug/L	21	Standard
	Se-1	77	3292.0	1.0	**48.8888**	0.911	1.9	ug/L	86	Standard
>	Ga	71	23.3	53.9				mg/L	13	Standard
	Rb	85	756.7	5.3				ug/L	18	Standard
	Y	89	439904.1	2.6				ug/L	463757	Standard
>	Rh	103	41.7	30.2				ug/L	12	Standard
	Mo	98	363734.0	1.5	**97.0578**	2.127	2.2	ug/L	29	Standard
	Ag	107	328275.0	1.1	**48.8618**	0.782	1.6	ug/L	101	Standard
	Cd	111	108977.3	1.0	**50.6906**	1.217	2.4	mg/L	9	Standard
	Cd	114	286257.1	1.5	**50.9291**	1.141	2.2	ug/L	47	Standard
>	In	115	777126.2	2.7				ug/L	765457	Standard
	Sn	118	62000.6	1.7	**49.7709**	0.938	1.9	ug/L	168	Standard
	Sb	123	301989.7	1.4	**52.1456**	0.697	1.3	ug/L	332	Standard
	Ba	135	133367.1	0.5	**49.4904**	1.369	2.8	ug/L	37	Standard
	Ce	140	83.3	6.9				ug/L	895	Standard
>	Tb	159	1462648.2	1.0				ug/L	1511047	Standard
	Ho	165	8.3	34.6				ug/L	22	Standard
	Tl	203	545385.6	0.5	**50.2148**	0.892	1.8	ug/L	14	Standard
	Tl	205	1267197.3	2.3	**50.5797**	0.887	1.8	ug/L	27	Standard
	Pb	206	409747.9	2.0	**49.7674**	1.066	2.1	ug/L	557	Standard
	Pb	207	361783.8	1.3	**49.8830**	0.973	1.9	ug/L	432	Standard
	Pb	208	1639616.2	1.1	**49.9008**	0.817	1.6	ug/L	2118	Standard
	U	238	1496583.7	1.2	**50.3039**	0.876	1.7	ug/L	78	Standard
>	Bi	209	757740.4	2.1				ug/L	791817	Standard

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⌈	**Na**	23	16.7	45.8	**4.6057**	2.317	50.3	mg/L	5	Standard
|	**Mg**	24	2421.9	5.4	**4.9584**	0.277	5.6	mg/L	48	Standard
|	**K**	39	388.3	29.0	**6.0418**	1.740	28.8	mg/L	3	Standard
|	**Ca**	43	68.3	33.8	**7.5612**	8.897	117.7	mg/L	62	Standard
|	**Fe**	54	4897.9	6.8	**4.9939**	0.335	6.7	mg/L	139	Standard
|	**Fe**	57	1430.1	9.9	**4.8620**	0.551	11.3	mg/L	83	Standard
⌊>	**Sc-1**	45	22166.2	0.5				mg/L	23513	Standard
	Cl	35	2.0	173.2				ug/L	3	Standard
	Kr	83	1.7	91.7				ug/L	2	Standard
	Br	81	1183.4	10.2				ug/L	910	Standard
	P	31	83.3	12.5				ug/L	85	Standard
	S	34	65.0	7.7				ug/L	48	Standard
	Sr	88	81.7	14.1				ug/L	72	Standard
	C	12	303.3	25.0				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	18.6	110.3				mg/L	22	Standard
	Ho-1	165	8.3	34.6				mg/L	22	Standard
	Er	166	30.0	33.3				mg/L	23	Standard
	I	127	8927.7	12.0				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	100.519		
⌊	Al	27	95.523		
⌈	Sc	45			
|	Ti	47	100.377		
|	V	51	101.730		
|	Cr	52	100.179		
|	Cr	53			
|	Mn	55	97.683		
|	Co	59	98.773		
|	Ni	60	100.014		
|	Cu	65	99.715		
|	Zn	66	98.409		
|>	Ge	72		94.205	
|	As	75	99.536		
|	Se	82	100.078		
⌊	Se-1	77			
⌈>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	97.058		
Ag	107	97.724		
Cd	111	101.381		
Cd	114			
In	115		101.524	
Sn	118	99.542		
Sb	123	104.291		
Ba	135	98.981		
Ce	140			
Tb	159			
Ho	165			
Tl	203	100.430		
Tl	205			
Pb	206			
Pb	207			
Pb	208	99.802		
U	238	100.608		
Bi	209		95.696	
Na	23			
Mg	24			
K	39			
Ca	43			
Fe	54			
Fe	57			
Sc-1	45			
Cl	35			
Kr	83			
Br	81			
P	31			
S	34			
Sr	88			
C	12			
N	14			
Hg	202			
Dy	164			
Ho-1	165			
Er	166			
I	127			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, October 12, 2016 15:39:52
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	69237.9	1.2				ug/L	72553	Standard
	Be	9	6.7	43.3	**-0.0091**	0.003	35.7	ug/L	10	Standard
	Al	27	945.0	9.8	**0.0063**	0.001	17.1	ug/L	232	Standard
	Sc	45	22656.9	1.6				ug/L	23513	Standard
	Ti	47	30.7	5.0	**-0.0492**	0.011	23.0	ug/L	36	Standard
	V	51	902.1	2.7	**-0.0521**	0.006	11.6	ug/L	1387	Standard
	Cr	52	6073.2	0.6	**-0.1691**	0.018	10.7	ug/L	7813	Standard
	Cr	53	1236.7	3.1	**-0.1143**	0.074	65.1	ug/L	1410	Standard
	Mn	55	945.0	6.2	**-0.0537**	0.007	13.2	ug/L	1043	Standard
	Co	59	180.7	13.1	**0.0032**	0.003	95.5	ug/L	198	Standard
	Ni	60	64.7	6.2	**-0.0023**	0.003	114.5	ug/L	64	Standard
	Cu	65	124.7	19.8	**-0.0372**	0.014	36.4	ug/L	122	Standard
	Zn	66	187.7	15.9	**-0.6264**	0.032	5.1	ug/L	209	Standard
>	Ge	72	579152.9	1.2				ug/L	618040	Standard
	As	75	-27.9	7.3	**0.0146**	0.002	15.2	ug/L	11	Standard
	Se	82	18.0	30.5	**0.0471**	0.057	120.6	ug/L	21	Standard
	Se-1	77	93.7	8.7	**0.0996**	0.137	138.1	ug/L	86	Standard
>	Ga	71	18.3	41.7				mg/L	13	Standard
	Rb	85	20.0	90.1				ug/L	18	Standard
	Y	89	437873.9	0.6				ug/L	463757	Standard
>	Rh	103	10.0	86.6				ug/L	12	Standard
	Mo	98	234.6	15.2	**0.0567**	0.009	15.2	ug/L	29	Standard
	Ag	107	155.3	9.0	**0.0081**	0.002	29.5	ug/L	101	Standard
	Cd	111	22.0	26.1	**0.0056**	0.003	45.9	mg/L	9	Standard
	Cd	114	66.7	17.2	**0.0115**	0.002	19.0	ug/L	47	Standard
>	In	115	780016.8	1.6				ug/L	765457	Standard
	Sn	118	185.0	33.1	**-0.0012**	0.047	3924.0	ug/L	168	Standard
	Sb	123	717.9	48.0	**0.1264**	0.058	45.9	ug/L	332	Standard
	Ba	135	38.0	16.0	**-0.0105**	0.002	23.8	ug/L	37	Standard
	Ce	140	35.0	49.5				ug/L	895	Standard
>	Tb	159	1455791.5	1.9				ug/L	1511047	Standard
	Ho	165	20.0	25.0				ug/L	22	Standard
	Tl	203	124.0	4.0	**0.0111**	0.001	4.6	ug/L	14	Standard
	Tl	205	265.0	8.6	**0.0075**	0.001	10.6	ug/L	27	Standard
	Pb	206	572.0	2.3	**-0.0083**	0.002	24.4	ug/L	557	Standard
	Pb	207	496.3	1.8	**-0.0048**	0.002	44.4	ug/L	432	Standard
	Pb	208	2234.1	2.4	**-0.0082**	0.002	19.0	ug/L	2118	Standard
	U	238	273.3	7.9	**0.0093**	0.001	6.7	ug/L	78	Standard
>	Bi	209	766492.2	1.4				ug/L	791817	Standard

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⌈	**Na**	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	46.7	22.3	**0.0148**	0.022	151.0	mg/L	48	Standard
|	**K**	39	11.7	24.7	**0.1367**	0.048	34.9	mg/L	3	Standard
|	**Ca**	43	50.0	10.0	**0.0844**	1.898	2249.6	mg/L	62	Standard
|	**Fe**	54	144.1	26.4	**0.0289**	0.039	134.5	mg/L	139	Standard
|	**Fe**	57	96.7	11.9	**-0.1064**	0.048	45.3	mg/L	83	Standard
⌊>	**Sc-1**	45	22656.9	1.6				mg/L	23513	Standard
	Cl	35	2.0	173.2				ug/L	3	Standard
	Kr	83	3.3	17.3				ug/L	2	Standard
	Br	81	1143.4	6.4				ug/L	910	Standard
	P	31	45.0	11.1				ug/L	85	Standard
	S	34	30.0	44.1				ug/L	48	Standard
	Sr	88	73.3	28.4				ug/L	72	Standard
	C	12	186.7	38.8				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	5.4	110.5				mg/L	22	Standard
	Ho-1	165	20.0	25.0				mg/L	22	Standard
	Er	166	26.7	57.3				mg/L	23	Standard
	I	127	7051.6	2.3				mg/L	4241	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		93.708	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	101.902
|	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	96.802
⌈	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: L1610011101
Sample Date/Time: Wednesday, October 12, 2016 15:42:53
Number of Replicates: 3
Autosampler Position: 311
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	73301.9	2.1				ug/L	72553	Standard
	Be	9	25.0	0.0	**0.0106**	0.001	5.4	ug/L	10	Standard
	Al	27	17983315.2	1.9	**175.9878**	1.829	1.0	ug/L	232	Standard
	Sc	45	22700.3	2.4				ug/L	23513	Standard
	Ti	47	138.3	8.4	**0.6163**	0.066	10.7	ug/L	36	Standard
	V	51	7084.4	1.5	**1.0213**	0.020	2.0	ug/L	1387	Standard
	Cr	52	12290.7	2.3	**0.9870**	0.029	2.9	ug/L	7813	Standard
	Cr	53	1826.8	9.2	**0.7471**	0.211	28.3	ug/L	1410	Standard
	Mn	55	1772132.5	1.0	**191.6764**	4.401	2.3	ug/L	1043	Standard
	Co	59	2375.2	1.4	**0.2708**	0.006	2.3	ug/L	198	Standard
	Ni	60	2645.6	1.4	**1.4389**	0.008	0.5	ug/L	64	Standard
	Cu	65	2706.9	3.4	**1.3633**	0.038	2.8	ug/L	122	Standard
	Zn	66	3867.5	1.9	**3.1228**	0.073	2.3	ug/L	209	Standard
>	Ge	72	572980.2	1.6				ug/L	618040	Standard
	As	75	1655.5	3.7	**1.6247**	0.053	3.3	ug/L	11	Standard
	Se	82	33.4	11.1	**0.2067**	0.033	15.8	ug/L	21	Standard
	Se-1	77	100.3	2.9	**0.2182**	0.065	30.0	ug/L	86	Standard
>	Ga	71	73.3	39.4				mg/L	13	Standard
	Rb	85	1496.7	11.4				ug/L	18	Standard
	Y	89	434068.8	1.1				ug/L	463757	Standard
>	Rh	103	60.0	22.0				ug/L	12	Standard
	Mo	98	620.4	7.0	**0.1637**	0.011	6.5	ug/L	29	Standard
	Ag	107	119.7	17.7	**0.0033**	0.003	102.9	ug/L	101	Standard
	Cd	111	51.2	11.8	**0.0197**	0.003	14.9	mg/L	9	Standard
	Cd	114	141.0	16.1	**0.0253**	0.004	16.4	ug/L	47	Standard
>	In	115	760027.7	0.9				ug/L	765457	Standard
	Sn	118	147.7	3.7	**-0.0276**	0.004	16.0	ug/L	168	Standard
	Sb	123	454.0	25.1	**0.0836**	0.020	24.0	ug/L	332	Standard
	Ba	135	319475.6	1.0	**121.1999**	1.261	1.0	ug/L	37	Standard
	Ce	140	15613.0	1.6				ug/L	895	Standard
>	Tb	159	1449594.4	0.9				ug/L	1511047	Standard
	Ho	165	103.3	26.6				ug/L	22	Standard
	Tl	203	90.0	6.7	**0.0083**	0.000	5.6	ug/L	14	Standard
	Tl	205	210.0	8.6	**0.0056**	0.001	14.7	ug/L	27	Standard
	Pb	206	1748.1	0.9	**0.1400**	0.003	2.4	ug/L	557	Standard
	Pb	207	1360.7	2.2	**0.1192**	0.007	6.1	ug/L	432	Standard
	Pb	208	6534.2	0.3	**0.1278**	0.004	3.2	ug/L	2118	Standard
	U	238	47392.0	0.5	**1.6262**	0.025	1.5	ug/L	78	Standard
>	Bi	209	742356.6	1.7				ug/L	791817	Standard

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⌈	**Na**	23	95.0	27.9	**27.6554**	7.402	26.8	mg/L	5	Standard
|	**Mg**	24	2290.2	3.3	**4.5750**	0.227	5.0	mg/L	48	Standard
|	**K**	39	21.7	35.3	**0.2892**	0.119	41.1	mg/L	3	Standard
|	**Ca**	43	176.7	26.3	**47.4449**	15.687	33.1	mg/L	62	Standard
|	**Fe**	54	484.0	8.1	**0.3748**	0.036	9.5	mg/L	139	Standard
|	**Fe**	57	361.7	8.4	**0.8568**	0.138	16.1	mg/L	83	Standard
⌊>	**Sc-1**	45	22700.3	2.4				mg/L	23513	Standard
	Cl	35	6.7	69.3				ug/L	3	Standard
	Kr	83	2.7	94.4				ug/L	2	Standard
	Br	81	2116.8	8.8				ug/L	910	Standard
	P	31	81.7	9.4				ug/L	85	Standard
	S	34	53.3	35.5				ug/L	48	Standard
	Sr	88	196.7	29.5				ug/L	72	Standard
	C	12	523.3	22.8				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	7	Standard
	Dy	164	133.5	27.9				mg/L	22	Standard
	Ho-1	165	103.3	26.6				mg/L	22	Standard
	Er	166	66.7	22.9				mg/L	23	Standard
	I	127	51626.6	9.3				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		101.032	
|	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		92.709	
|	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	99.291
|	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	93.754
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610011301
Sample Date/Time: Wednesday, October 12, 2016 15:45:53
Number of Replicates: 3
Autosampler Position: 312
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	72759.3	0.5				ug/L	72553	Standard
	Be	9	10.0	50.0	**-0.0058**	0.006	95.7	ug/L	10	Standard
	Al	27	24182967.6	2.5	**238.4206**	6.413	2.7	ug/L	232	Standard
	Sc	45	23286.2	1.7				ug/L	23513	Standard
	Ti	47	184.7	6.3	**0.8937**	0.065	7.3	ug/L	36	Standard
	V	51	18109.5	2.8	**2.9091**	0.088	3.0	ug/L	1387	Standard
	Cr	52	16037.2	2.0	**1.6549**	0.059	3.6	ug/L	7813	Standard
	Cr	53	10040.0	4.1	**12.3952**	0.498	4.0	ug/L	1410	Standard
	Mn	55	990884.8	0.6	**106.2979**	1.157	1.1	ug/L	1043	Standard
	Co	59	812.7	3.0	**0.0797**	0.003	4.1	ug/L	198	Standard
	Ni	60	1955.8	2.0	**1.0458**	0.022	2.1	ug/L	64	Standard
	Cu	65	690.7	2.9	**0.2677**	0.013	5.0	ug/L	122	Standard
	Zn	66	3834.5	0.8	**3.0603**	0.050	1.6	ug/L	209	Standard
>	Ge	72	577227.8	0.7				ug/L	618040	Standard
	As	75	1533.6	3.5	**1.4975**	0.057	3.8	ug/L	11	Standard
	Se	82	212.3	4.5	**2.0190**	0.083	4.1	ug/L	21	Standard
	Se-1	77	804.7	7.6	**11.0404**	0.866	7.8	ug/L	86	Standard
>	Ga	71	81.7	23.2				mg/L	13	Standard
	Rb	85	4008.9	2.7				ug/L	18	Standard
	Y	89	435432.9	1.8				ug/L	463757	Standard
>	Rh	103	111.7	18.1				ug/L	12	Standard
	Mo	98	679.0	5.2	**0.1818**	0.006	3.3	ug/L	29	Standard
	Ag	107	110.3	9.7	**0.0021**	0.002	103.5	ug/L	101	Standard
	Cd	111	165.8	7.8	**0.0751**	0.005	6.7	mg/L	9	Standard
	Cd	114	359.9	15.1	**0.0659**	0.010	15.3	ug/L	47	Standard
>	In	115	751569.9	3.5				ug/L	765457	Standard
	Sn	118	252.3	6.1	**0.0609**	0.011	17.8	ug/L	168	Standard
	Sb	123	293.4	33.6	**0.0555**	0.016	28.9	ug/L	332	Standard
	Ba	135	280035.2	0.7	**107.5011**	3.144	2.9	ug/L	37	Standard
	Ce	140	3090.3	4.9				ug/L	895	Standard
>	Tb	159	1475776.1	3.1				ug/L	1511047	Standard
	Ho	165	90.0	28.9				ug/L	22	Standard
	Tl	203	86.7	14.7	**0.0083**	0.001	15.4	ug/L	14	Standard
	Tl	205	198.3	10.2	**0.0054**	0.001	16.0	ug/L	27	Standard
	Pb	206	1070.0	2.8	**0.0613**	0.005	7.6	ug/L	557	Standard
	Pb	207	893.0	3.2	**0.0585**	0.005	8.2	ug/L	432	Standard
	Pb	208	4138.9	0.3	**0.0585**	0.001	1.3	ug/L	2118	Standard
	U	238	78730.4	0.9	**2.8125**	0.040	1.4	ug/L	78	Standard
>	Bi	209	712917.4	0.6				ug/L	791817	Standard

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⌈	**Na**	23	173.3	21.8	**49.7505**	11.320	22.8	mg/L	5	Standard
|	**Mg**	24	69549.3	1.7	**137.6569**	0.922	0.7	mg/L	48	Standard
|	**K**	39	63.3	18.2	**0.9042**	0.183	20.2	mg/L	3	Standard
|	**Ca**	43	165.0	8.0	**41.7518**	4.842	11.6	mg/L	62	Standard
|	**Fe**	54	355.3	3.1	**0.2348**	0.016	7.0	mg/L	139	Standard
|	**Fe**	57	373.3	7.4	**0.8627**	0.084	9.8	mg/L	83	Standard
⌊>	**Sc-1**	45	23286.2	1.7				mg/L	23513	Standard
	Cl	35	2.0	100.0				ug/L	3	Standard
	Kr	83	2.0	50.0				ug/L	2	Standard
	Br	81	28941.0	7.4				ug/L	910	Standard
	P	31	81.7	52.8				ug/L	85	Standard
	S	34	48.3	6.0				ug/L	48	Standard
	Sr	88	216.7	11.6				ug/L	72	Standard
	C	12	716.7	9.3				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	7	Standard
	Dy	164	106.3	16.4				mg/L	22	Standard
	Ho-1	165	90.0	28.9				mg/L	22	Standard
	Er	166	76.7	7.5				mg/L	23	Standard
	I	127	70047.2	8.0				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		100.284	
|	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		93.396	
|	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	98.186
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	90.036
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610011401
Sample Date/Time: Wednesday, October 12, 2016 15:49:33
Number of Replicates: 3
Autosampler Position: 313
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	72141.6	5.1				ug/L	72553	Standard
	Be	9	10.0	86.6	**-0.0056**	0.010	171.4	ug/L	10	Standard
	Al	27	15654510.5	1.3	**155.9604**	9.238	5.9	ug/L	232	Standard
	Sc	45	22682.0	5.7				ug/L	23513	Standard
	Ti	47	183.7	19.3	**0.9183**	0.235	25.6	ug/L	36	Standard
	V	51	4138.1	7.1	**0.5232**	0.041	7.9	ug/L	1387	Standard
	Cr	52	12930.2	0.7	**1.1490**	0.047	4.1	ug/L	7813	Standard
	Cr	53	2166.8	3.5	**1.2920**	0.091	7.0	ug/L	1410	Standard
	Mn	55	3238858.7	2.2	**356.9722**	13.875	3.9	ug/L	1043	Standard
	Co	59	1274.1	2.1	**0.1395**	0.007	4.9	ug/L	198	Standard
	Ni	60	1799.4	1.9	**0.9857**	0.045	4.6	ug/L	64	Standard
	Cu	65	1488.7	1.0	**0.7182**	0.029	4.0	ug/L	122	Standard
	Zn	66	4136.9	1.8	**3.4769**	0.183	5.3	ug/L	209	Standard
>	**Ge**	72	562704.3	2.6				ug/L	618040	Standard
	As	75	1433.0	3.6	**1.4377**	0.066	4.6	ug/L	11	Standard
	Se	82	40.9	20.0	**0.2929**	0.094	32.3	ug/L	21	Standard
	Se-1	77	109.3	10.7	**0.3917**	0.225	57.6	ug/L	86	Standard
>	**Ga**	71	76.7	21.0				mg/L	13	Standard
	Rb	85	773.4	7.0				ug/L	18	Standard
	Y	89	420479.9	2.2				ug/L	463757	Standard
>	**Rh**	103	45.0	19.2				ug/L	12	Standard
	Mo	98	390.2	4.8	**0.1030**	0.006	6.2	ug/L	29	Standard
	Ag	107	116.7	25.0	**0.0031**	0.005	144.1	ug/L	101	Standard
	Cd	111	56.5	21.7	**0.0227**	0.006	25.5	mg/L	9	Standard
	Cd	114	161.0	31.6	**0.0296**	0.010	32.2	ug/L	47	Standard
>	**In**	115	745747.4	2.3				ug/L	765457	Standard
	Sn	118	149.0	10.0	**-0.0239**	0.015	63.8	ug/L	168	Standard
	Sb	123	374.2	13.6	**0.0710**	0.011	15.2	ug/L	332	Standard
	Ba	135	454054.9	3.1	**175.7087**	9.606	5.5	ug/L	37	Standard
	Ce	140	4167.2	1.0				ug/L	895	Standard
>	**Tb**	159	1434733.6	1.3				ug/L	1511047	Standard
	Ho	165	81.7	3.5				ug/L	22	Standard
	Tl	203	108.0	51.0	**0.0101**	0.005	50.1	ug/L	14	Standard
	Tl	205	273.3	43.0	**0.0083**	0.005	57.1	ug/L	27	Standard
	Pb	206	1883.5	5.4	**0.1604**	0.013	7.8	ug/L	557	Standard
	Pb	207	1567.4	5.0	**0.1517**	0.011	7.3	ug/L	432	Standard
	Pb	208	7196.7	2.6	**0.1518**	0.005	3.1	ug/L	2118	Standard
	U	238	16397.9	1.9	**0.5717**	0.023	4.0	ug/L	78	Standard
>	**Bi**	209	731096.2	2.4				ug/L	791817	Standard

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⌈	**Na**	23	90.0	58.8	**26.7073**	16.788	62.9	mg/L	5	Standard
|	**Mg**	24	22253.0	3.8	**45.2631**	3.159	7.0	mg/L	48	Standard
|	**K**	39	21.7	13.3	**0.2908**	0.056	19.3	mg/L	3	Standard
|	**Ca**	43	113.3	13.5	**24.1530**	7.631	31.6	mg/L	62	Standard
|	**Fe**	54	536.8	15.5	**0.4306**	0.095	22.0	mg/L	139	Standard
|	**Fe**	57	331.7	12.8	**0.7438**	0.086	11.5	mg/L	83	Standard
⌊>	**Sc-1**	45	22682.0	5.7				mg/L	23513	Standard
	Cl	35	4.0	86.6				ug/L	3	Standard
	Kr	83	3.7	31.5				ug/L	2	Standard
	Br	81	6501.4	2.1				ug/L	910	Standard
	P	31	128.3	35.1				ug/L	85	Standard
	S	34	41.7	34.6				ug/L	48	Standard
	Sr	88	168.3	24.9				ug/L	72	Standard
	C	12	913.4	12.8				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	83.5	13.4				mg/L	22	Standard
	Ho-1	165	81.7	3.5				mg/L	22	Standard
	Er	166	66.7	62.5				mg/L	23	Standard
	I	127	268202.6	9.8				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		99.433	
|	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		91.047	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	97.425
|	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	92.331
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610012302
Sample Date/Time: Wednesday, October 12, 2016 15:52:32
Number of Replicates: 3
Autosampler Position: 314
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	73698.8	1.4				ug/L	72553	Standard
	Be	9	25.0	52.9	**0.0106**	0.015	140.9	ug/L	10	Standard
	Al	27	84245792.2	3.0	**819.8563**	14.268	1.7	ug/L	232	Standard
	Sc	45	20567.3	2.1				ug/L	23513	Standard
	Ti	47	1097.7	5.3	**7.2683**	0.350	4.8	ug/L	36	Standard
	V	51	1150.2	55.4	**0.0148**	0.124	837.0	ug/L	1387	Standard
	Cr	52	14697.1	1.0	**1.7247**	0.037	2.1	ug/L	7813	Standard
	Cr	53	17975.7	3.3	**26.6633**	0.983	3.7	ug/L	1410	Standard
	Mn	55	503391.2	1.0	**60.2573**	0.209	0.3	ug/L	1043	Standard
	Co	59	3971.2	1.9	**0.5177**	0.006	1.2	ug/L	198	Standard
	Ni	60	16506.0	4.6	**10.1786**	0.405	4.0	ug/L	64	Standard
	Cu	65	2230.5	3.7	**1.2366**	0.039	3.1	ug/L	122	Standard
	Zn	66	9890.6	2.1	**10.3533**	0.268	2.6	ug/L	209	Standard
>	Ge	72	516702.0	0.8				ug/L	618040	Standard
	As	75	1420.7	8.8	**1.5475**	0.122	7.9	ug/L	11	Standard
	Se	82	629.4	2.0	**7.0007**	0.106	1.5	ug/L	21	Standard
	Se-1	77	2005.5	2.0	**33.1394**	0.935	2.8	ug/L	86	Standard
>	Ga	71	393.3	1.9				mg/L	13	Standard
	Rb	85	10426.9	4.5				ug/L	18	Standard
	Y	89	392790.3	1.5				ug/L	463757	Standard
>	Rh	103	671.7	3.4				ug/L	12	Standard
	Mo	98	167.9	7.3	**0.0483**	0.004	7.8	ug/L	29	Standard
	Ag	107	179.0	2.4	**0.0170**	0.001	5.0	ug/L	101	Standard
	Cd	111	732.5	2.2	**0.4044**	0.010	2.4	mg/L	9	Standard
	Cd	114	1893.3	2.9	**0.4040**	0.011	2.6	ug/L	47	Standard
>	In	115	647220.3	0.6				ug/L	765457	Standard
	Sn	118	130.3	8.1	**-0.0231**	0.011	46.3	ug/L	168	Standard
	Sb	123	326.6	29.2	**0.0711**	0.019	27.3	ug/L	332	Standard
	Ba	135	22514.7	1.1	**10.0074**	0.088	0.9	ug/L	37	Standard
	Ce	140	29370.1	2.1				ug/L	895	Standard
>	Tb	159	1254604.6	1.9				ug/L	1511047	Standard
	Ho	165	725.0	5.5				ug/L	22	Standard
	Tl	203	161.3	5.3	**0.0193**	0.001	5.3	ug/L	14	Standard
	Tl	205	351.7	14.5	**0.0154**	0.003	17.8	ug/L	27	Standard
	Pb	206	2014.1	1.3	**0.2439**	0.002	1.0	ug/L	557	Standard
	Pb	207	1590.4	4.1	**0.2152**	0.014	6.5	ug/L	432	Standard
	Pb	208	7545.7	1.2	**0.2258**	0.005	2.4	ug/L	2118	Standard
	U	238	50953.9	0.5	**2.2439**	0.012	0.5	ug/L	78	Standard
>	Bi	209	578311.0	0.8				ug/L	791817	Standard

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⌈	**Na**	23	420.0	4.1	**137.2321**	8.166	6.0	mg/L	5	Standard
|	**Mg**	24	105863.6	1.9	**237.2951**	0.941	0.4	mg/L	48	Standard
|	**K**	39	31.7	18.2	**0.4927**	0.099	20.1	mg/L	3	Standard
|	**Ca**	43	378.3	6.0	**138.2373**	6.102	4.4	mg/L	62	Standard
|	**Fe**	54	373.5	10.7	**0.3014**	0.037	12.2	mg/L	139	Standard
|	**Fe**	57	558.3	10.1	**1.7832**	0.273	15.3	mg/L	83	Standard
⌊>	**Sc-1**	45	20567.3	2.1				mg/L	23513	Standard
	Cl	35	6.7	69.3				ug/L	3	Standard
	Kr	83	3.7	41.7				ug/L	2	Standard
	Br	81	165765.3	1.5				ug/L	910	Standard
	P	31	96.7	13.0				ug/L	85	Standard
	S	34	48.3	15.8				ug/L	48	Standard
	Sr	88	1358.4	6.7				ug/L	72	Standard
	C	12	1116.7	14.3				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	1920.1	2.6				mg/L	7	Standard
	Dy	164	973.0	10.2				mg/L	22	Standard
	Ho-1	165	725.0	5.5				mg/L	22	Standard
	Er	166	633.3	11.4				mg/L	23	Standard
	I	127	3244914.5	12.8				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		101.579	
|	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		83.603	
|	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	84.553
|	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	73.036
⌈	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: L1610012304
Sample Date/Time: Wednesday, October 12, 2016 15:55:32
Number of Replicates: 3
Autosampler Position: 315
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	77947.0	4.8				ug/L	72553	Standard
	Be	9	63.3	16.4	**0.0482**	0.008	16.1	ug/L	10	Standard
	Al	27	425112.0	3.9	**3.9097**	0.034	0.9	ug/L	232	Standard
	Sc	45	22166.2	2.2				ug/L	23513	Standard
	Ti	47	196.0	7.1	**0.9682**	0.100	10.3	ug/L	36	Standard
	V	51	3817.2	2.9	**0.4524**	0.027	5.9	ug/L	1387	Standard
	Cr	52	13465.6	1.9	**1.1934**	0.022	1.9	ug/L	7813	Standard
	Cr	53	2705.2	8.3	**1.9932**	0.367	18.4	ug/L	1410	Standard
	Mn	55	287220.4	3.1	**30.8018**	0.572	1.9	ug/L	1043	Standard
	Co	59	6069.6	4.7	**0.7175**	0.026	3.7	ug/L	198	Standard
	Ni	60	1621.8	0.1	**0.8639**	0.012	1.4	ug/L	64	Standard
	Cu	65	888.0	6.7	**0.3757**	0.038	10.1	ug/L	122	Standard
	Zn	66	3189.3	2.4	**2.4193**	0.081	3.3	ug/L	209	Standard
>	Ge	72	575251.4	1.2				ug/L	618040	Standard
	As	75	805.4	2.7	**0.8084**	0.011	1.4	ug/L	11	Standard
	Se	82	80.8	12.1	**0.6879**	0.099	14.4	ug/L	21	Standard
	Se-1	77	130.0	10.1	**0.6703**	0.212	31.6	ug/L	86	Standard
>	Ga	71	31.7	9.1				mg/L	13	Standard
	Rb	85	1910.1	2.1				ug/L	18	Standard
	Y	89	440955.1	3.1				ug/L	463757	Standard
>	Rh	103	10.0	86.6				ug/L	12	Standard
	Mo	98	136.1	8.7	**0.0284**	0.002	7.6	ug/L	29	Standard
	Ag	107	104.7	10.2	**-0.0004**	0.002	572.7	ug/L	101	Standard
	Cd	111	91.8	7.8	**0.0352**	0.002	7.1	mg/L	9	Standard
	Cd	114	272.9	12.2	**0.0450**	0.005	10.1	ug/L	47	Standard
>	In	115	832291.7	4.4				ug/L	765457	Standard
	Sn	118	139.3	2.7	**-0.0443**	0.002	4.0	ug/L	168	Standard
	Sb	123	1055.9	8.0	**0.1736**	0.009	5.3	ug/L	332	Standard
	Ba	135	24038.4	2.3	**8.3101**	0.201	2.4	ug/L	37	Standard
	Ce	140	1830.1	7.4				ug/L	895	Standard
>	Tb	159	1493088.3	1.7				ug/L	1511047	Standard
	Ho	165	130.0	30.0				ug/L	22	Standard
	Tl	203	116.7	5.7	**0.0101**	0.000	4.2	ug/L	14	Standard
	Tl	205	280.0	11.7	**0.0078**	0.001	15.2	ug/L	27	Standard
	Pb	206	793.7	0.9	**0.0157**	0.002	15.2	ug/L	557	Standard
	Pb	207	667.0	0.5	**0.0159**	0.001	6.5	ug/L	432	Standard
	Pb	208	3059.5	1.2	**0.0141**	0.001	4.4	ug/L	2118	Standard
	U	238	997.7	6.8	**0.0325**	0.002	6.4	ug/L	78	Standard
>	Bi	209	788637.1	1.7				ug/L	791817	Standard

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	Na	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
	Mg	24	8794.2	3.6	**18.2123**	0.292	1.6	mg/L	48	Standard
	K	39	6.7	86.6	**0.0605**	0.089	147.9	mg/L	3	Standard
	Ca	43	36.7	20.8	**-4.5985**	3.241	70.5	mg/L	62	Standard
	Fe	54	103.4	22.4	**-0.0107**	0.023	215.9	mg/L	139	Standard
	Fe	57	126.7	36.5	**0.0150**	0.184	1223.5	mg/L	83	Standard
>	**Sc-1**	45	22166.2	2.2				mg/L	23513	Standard
	Cl	35	4.7	24.7				ug/L	3	Standard
	Kr	83	3.3	96.4				ug/L	2	Standard
	Br	81	15841.6	6.8				ug/L	910	Standard
	P	31	158.3	13.1				ug/L	85	Standard
	S	34	30.0	60.1				ug/L	48	Standard
	Sr	88	116.7	20.3				ug/L	72	Standard
	C	12	1126.7	11.2				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	123.3	20.4				mg/L	7	Standard
	Dy	164	108.8	29.3				mg/L	22	Standard
	Ho-1	165	130.0	30.0				mg/L	22	Standard
	Er	166	163.3	27.6				mg/L	23	Standard
	I	127	3444136.4	7.1				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		107.434	
	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		93.077	
	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	108.731
|	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	99.598
⌈	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: L1610012306
Sample Date/Time: Wednesday, October 12, 2016 15:58:31
Number of Replicates: 3
Autosampler Position: 316
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	87637.8	2.6				ug/L	72553	Standard
	Be	9	26.7	47.2	**0.0075**	0.011	148.8	ug/L	10	Standard
	Al	27	159435753.3	1.3	**1305.7195**	44.769	3.4	ug/L	232	Standard
	Sc	45	20095.0	3.7				ug/L	23513	Standard
	Ti	47	316.7	3.3	**1.9519**	0.122	6.3	ug/L	36	Standard
	V	51	-1401.8	38.5	**-0.4801**	0.109	22.8	ug/L	1387	Standard
	Cr	52	13207.8	2.7	**1.4488**	0.134	9.2	ug/L	7813	Standard
	Cr	53	20330.3	3.5	**30.7085**	0.640	2.1	ug/L	1410	Standard
	Mn	55	1648992.7	2.5	**199.8117**	9.558	4.8	ug/L	1043	Standard
	Co	59	8282.9	3.8	**1.1119**	0.067	6.1	ug/L	198	Standard
	Ni	60	24789.3	1.7	**15.4662**	0.589	3.8	ug/L	64	Standard
	Cu	65	2166.8	4.0	**1.2125**	0.083	6.9	ug/L	122	Standard
	Zn	66	5729.1	1.0	**5.7190**	0.188	3.3	ug/L	209	Standard
>	Ge	72	511742.1	2.4				ug/L	618040	Standard
	As	75	2236.6	1.7	**2.4379**	0.085	3.5	ug/L	11	Standard
	Se	82	1024.4	5.5	**11.6065**	0.923	8.0	ug/L	21	Standard
	Se-1	77	3384.0	4.3	**57.4388**	3.460	6.0	ug/L	86	Standard
>	Ga	71	143.3	16.1				mg/L	13	Standard
	Rb	85	12011.4	1.1				ug/L	18	Standard
	Y	89	388808.9	3.3				ug/L	463757	Standard
>	Rh	103	1250.1	9.0				ug/L	12	Standard
	Mo	98	373.4	3.9	**0.1143**	0.006	4.9	ug/L	29	Standard
	Ag	107	147.0	3.1	**0.0113**	0.000	1.7	ug/L	101	Standard
	Cd	111	1210.9	1.7	**0.6730**	0.028	4.1	mg/L	9	Standard
	Cd	114	2983.0	4.5	**0.6377**	0.024	3.8	ug/L	47	Standard
>	In	115	646221.7	2.5				ug/L	765457	Standard
	Sn	118	148.0	6.9	**-0.0058**	0.009	160.8	ug/L	168	Standard
	Sb	123	379.6	15.4	**0.0825**	0.014	16.9	ug/L	332	Standard
	Ba	135	26919.9	0.8	**11.9953**	0.391	3.3	ug/L	37	Standard
	Ce	140	9187.8	2.5				ug/L	895	Standard
>	Tb	159	1208880.0	3.0				ug/L	1511047	Standard
	Ho	165	338.3	2.3				ug/L	22	Standard
	Tl	203	162.3	8.3	**0.0209**	0.001	6.5	ug/L	14	Standard
	Tl	205	396.7	11.6	**0.0194**	0.003	15.8	ug/L	27	Standard
	Pb	206	835.0	4.0	**0.0665**	0.007	10.0	ug/L	557	Standard
	Pb	207	683.0	2.7	**0.0607**	0.006	10.6	ug/L	432	Standard
	Pb	208	3150.1	1.0	**0.0602**	0.005	7.5	ug/L	2118	Standard
	U	238	117397.2	1.9	**5.5783**	0.239	4.3	ug/L	78	Standard
>	Bi	209	536290.6	2.4				ug/L	791817	Standard

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⌈	**Na**	23	718.4	17.3	**241.5915**	49.401	20.4	mg/L	5	Standard
|	**Mg**	24	120921.3	4.8	**278.0060**	23.366	8.4	mg/L	48	Standard
|	**K**	39	36.7	20.8	**0.5918**	0.135	22.8	mg/L	3	Standard
|	**Ca**	43	548.3	7.6	**214.3338**	17.365	8.1	mg/L	62	Standard
|	**Fe**	54	133.9	19.5	**0.0361**	0.032	89.1	mg/L	139	Standard
|	**Fe**	57	795.0	13.1	**2.7958**	0.302	10.8	mg/L	83	Standard
⌊>	**Sc-1**	45	20095.0	3.7				mg/L	23513	Standard
	Cl	35	4.7	24.7				ug/L	3	Standard
	Kr	83	3.7	15.7				ug/L	2	Standard
	Br	81	267935.4	1.6				ug/L	910	Standard
	P	31	80.0	38.0				ug/L	85	Standard
	S	34	51.7	31.1				ug/L	48	Standard
	Sr	88	2265.2	2.2				ug/L	72	Standard
	C	12	840.0	7.1				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	20.0	86.6				mg/L	7	Standard
	Dy	164	400.1	39.7				mg/L	22	Standard
	Ho-1	165	338.3	2.3				mg/L	22	Standard
	Er	166	346.7	21.7				mg/L	23	Standard
	I	127	854971.0	7.4				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		120.791	
|	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		82.801	
|	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	84.423
|	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	67.729
⌈	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
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
V 51 Lower	V	51	

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Mn 55 Upper, S, EEE	Mn	55

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Method 6020 - Summary Report

Sample ID: L1610012307
Sample Date/Time: Wednesday, October 12, 2016 16:01:30
Number of Replicates: 3
Autosampler Position: 317
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	81946.4	5.4				ug/L	72553	Standard
	Be	9	13.3	43.3	**-0.0036**	0.006	170.3	ug/L	10	Standard
	Al	27	79460679.5	0.6	**696.7694**	33.567	4.8	ug/L	232	Standard
	Sc	45	19868.0	3.4				ug/L	23513	Standard
	Ti	47	201.7	18.7	**1.1515**	0.249	21.6	ug/L	36	Standard
	V	51	1270.0	15.3	**0.0392**	0.039	100.0	ug/L	1387	Standard
	Cr	52	13284.8	1.5	**1.4560**	0.033	2.3	ug/L	7813	Standard
	Cr	53	9908.2	5.8	**13.9698**	0.835	6.0	ug/L	1410	Standard
	Mn	55	1141798.8	1.4	**137.8647**	0.886	0.6	ug/L	1043	Standard
	Co	59	8839.6	1.4	**1.1840**	0.017	1.5	ug/L	198	Standard
	Ni	60	11219.2	1.7	**6.9576**	0.076	1.1	ug/L	64	Standard
	Cu	65	1723.8	1.7	**0.9398**	0.018	1.9	ug/L	122	Standard
	Zn	66	3600.4	0.7	**3.2796**	0.058	1.8	ug/L	209	Standard
>	Ge	72	512976.5	0.7				ug/L	618040	Standard
	As	75	1385.8	11.1	**1.5212**	0.155	10.2	ug/L	11	Standard
	Se	82	511.6	3.2	**5.7064**	0.144	2.5	ug/L	21	Standard
	Se-1	77	1199.0	5.2	**19.4181**	0.926	4.8	ug/L	86	Standard
>	Ga	71	95.0	36.8				mg/L	13	Standard
	Rb	85	4305.6	2.2				ug/L	18	Standard
	Y	89	388331.0	2.8				ug/L	463757	Standard
>	Rh	103	1063.4	1.1				ug/L	12	Standard
	Mo	98	388.1	3.2	**0.1103**	0.004	3.6	ug/L	29	Standard
	Ag	107	137.7	7.8	**0.0080**	0.002	24.3	ug/L	101	Standard
	Cd	111	183.5	7.5	**0.0908**	0.007	7.7	mg/L	9	Standard
	Cd	114	454.2	2.3	**0.0900**	0.002	1.9	ug/L	47	Standard
>	In	115	694751.1	0.6				ug/L	765457	Standard
	Sn	118	154.3	8.8	**-0.0101**	0.013	129.1	ug/L	168	Standard
	Sb	123	696.5	13.2	**0.1379**	0.017	12.3	ug/L	332	Standard
	Ba	135	22308.8	2.4	**9.2350**	0.171	1.9	ug/L	37	Standard
	Ce	140	33450.2	1.3				ug/L	895	Standard
>	Tb	159	1257138.3	0.6				ug/L	1511047	Standard
	Ho	165	420.0	11.7				ug/L	22	Standard
	Tl	203	122.3	2.9	**0.0147**	0.000	1.3	ug/L	14	Standard
	Tl	205	268.3	19.9	**0.0111**	0.003	24.9	ug/L	27	Standard
	Pb	206	846.0	5.4	**0.0585**	0.006	10.0	ug/L	557	Standard
	Pb	207	655.3	0.7	**0.0466**	0.001	3.0	ug/L	432	Standard
	Pb	208	3124.8	1.2	**0.0499**	0.001	2.3	ug/L	2118	Standard
	U	238	289226.5	0.8	**12.8097**	0.334	2.6	ug/L	78	Standard
>	Bi	209	575140.9	1.8				ug/L	791817	Standard

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	Na	23	495.0	9.6	**167.1774**	10.779	6.4	mg/L	5	Standard
	Mg	24	127850.7	2.4	**296.9881**	15.061	5.1	mg/L	48	Standard
	K	39	43.3	17.6	**0.7190**	0.158	22.0	mg/L	3	Standard
	Ca	43	316.7	11.1	**117.1177**	10.687	9.1	mg/L	62	Standard
	Fe	54	160.1	15.9	**0.0676**	0.023	34.0	mg/L	139	Standard
	Fe	57	460.0	8.2	**1.4533**	0.199	13.7	mg/L	83	Standard
>	**Sc-1**	45	19868.0	3.4				mg/L	23513	Standard
	Cl	35	7.3	68.6				ug/L	3	Standard
	Kr	83	3.7	31.5				ug/L	2	Standard
	Br	81	130093.1	2.9				ug/L	910	Standard
	P	31	93.3	18.8				ug/L	85	Standard
	S	34	53.3	5.4				ug/L	48	Standard
	Sr	88	1983.5	3.5				ug/L	72	Standard
	C	12	1800.1	7.9				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	500.2	5.4				mg/L	22	Standard
	Ho-1	165	420.0	11.7				mg/L	22	Standard
	Er	166	343.3	22.2				mg/L	23	Standard
	I	127	220259.5	1.1				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.946	
	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		83.000	
	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	90.763
|	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	72.636
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1610012310
Sample Date/Time: Wednesday, October 12, 2016 16:04:30
Number of Replicates: 3
Autosampler Position: 318
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	80067.7	0.9				ug/L	72553	Standard
	Be	9	30.0	44.1	**0.0132**	0.013	98.4	ug/L	10	Standard
	Al	27	86925863.8	2.8	**778.8814**	26.964	3.5	ug/L	232	Standard
	Sc	45	19621.0	0.9				ug/L	23513	Standard
	Ti	47	594.0	5.8	**3.8752**	0.247	6.4	ug/L	36	Standard
	V	51	920.9	33.9	**-0.0278**	0.060	216.6	ug/L	1387	Standard
	Cr	52	13953.4	0.5	**1.6075**	0.004	0.3	ug/L	7813	Standard
	Cr	53	13979.8	3.0	**20.5924**	0.746	3.6	ug/L	1410	Standard
	Mn	55	495608.8	1.5	**60.0494**	0.947	1.6	ug/L	1043	Standard
	Co	59	3156.7	2.7	**0.4129**	0.012	2.8	ug/L	198	Standard
	Ni	60	16125.2	2.6	**10.0663**	0.257	2.6	ug/L	64	Standard
	Cu	65	2021.1	4.5	**1.1257**	0.052	4.6	ug/L	122	Standard
	Zn	66	9752.1	2.4	**10.3305**	0.268	2.6	ug/L	209	Standard
>	Ge	72	510479.0	0.3				ug/L	618040	Standard
	As	75	1431.0	8.4	**1.5776**	0.131	8.3	ug/L	11	Standard
	Se	82	630.4	4.0	**7.0999**	0.291	4.1	ug/L	21	Standard
	Se-1	77	1758.4	1.6	**29.2575**	0.549	1.9	ug/L	86	Standard
>	Ga	71	195.0	31.5				mg/L	13	Standard
	Rb	85	7723.6	6.4				ug/L	18	Standard
	Y	89	397862.0	1.7				ug/L	463757	Standard
>	Rh	103	690.0	1.4				ug/L	12	Standard
	Mo	98	127.4	14.5	**0.0327**	0.005	16.5	ug/L	29	Standard
	Ag	107	170.0	4.8	**0.0134**	0.001	9.2	ug/L	101	Standard
	Cd	111	791.2	2.6	**0.4086**	0.011	2.8	mg/L	9	Standard
	Cd	114	1925.0	1.6	**0.3842**	0.009	2.2	ug/L	47	Standard
>	In	115	691962.7	0.8				ug/L	765457	Standard
	Sn	118	129.7	32.9	**-0.0320**	0.038	118.3	ug/L	168	Standard
	Sb	123	282.0	14.6	**0.0581**	0.008	13.2	ug/L	332	Standard
	Ba	135	21059.0	1.2	**8.7528**	0.158	1.8	ug/L	37	Standard
	Ce	140	17111.3	0.9				ug/L	895	Standard
>	Tb	159	1261052.2	1.5				ug/L	1511047	Standard
	Ho	165	556.7	4.9				ug/L	22	Standard
	Tl	203	176.7	7.5	**0.0204**	0.002	8.6	ug/L	14	Standard
	Tl	205	456.7	4.6	**0.0201**	0.001	4.0	ug/L	27	Standard
	Pb	206	1364.1	4.0	**0.1331**	0.008	6.3	ug/L	557	Standard
	Pb	207	1042.7	3.2	**0.1098**	0.007	6.6	ug/L	432	Standard
	Pb	208	5107.0	0.6	**0.1216**	0.001	1.1	ug/L	2118	Standard
	U	238	52202.8	0.4	**2.2226**	0.025	1.1	ug/L	78	Standard
>	Bi	209	598197.4	1.1				ug/L	791817	Standard

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⌈	**Na**	23	446.7	16.3	**152.8698**	24.424	16.0	mg/L	5	Standard
|	**Mg**	24	105115.2	2.9	**246.9506**	5.095	2.1	mg/L	48	Standard
|	**K**	39	33.3	34.6	**0.5488**	0.208	38.0	mg/L	3	Standard
|	**Ca**	43	340.0	10.6	**129.2914**	16.783	13.0	mg/L	62	Standard
|	**Fe**	54	236.6	16.4	**0.1609**	0.047	29.5	mg/L	139	Standard
|	**Fe**	57	546.7	4.5	**1.8384**	0.103	5.6	mg/L	83	Standard
⌊>	**Sc-1**	45	19621.0	0.9				mg/L	23513	Standard
	Cl	35	4.0	50.0				ug/L	3	Standard
	Kr	83	2.3	24.7				ug/L	2	Standard
	Br	81	164400.5	0.9				ug/L	910	Standard
	P	31	98.3	16.3				ug/L	85	Standard
	S	34	33.3	56.8				ug/L	48	Standard
	Sr	88	1451.7	4.0				ug/L	72	Standard
	C	12	1650.1	5.3				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	973.4	13.6				mg/L	7	Standard
	Dy	164	634.8	10.1				mg/L	22	Standard
	Ho-1	165	556.7	4.9				mg/L	22	Standard
	Er	166	526.7	13.3				mg/L	23	Standard
	I	127	3257270.5	9.4				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		110.357	
|	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		82.596	
|	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	90.399
|	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	75.547
⌈	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: L1610012312
Sample Date/Time: Wednesday, October 12, 2016 16:07:29
Number of Replicates: 3
Autosampler Position: 319
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	81140.1	2.7				ug/L	72553	Standard
	Be	9	75.0	33.3	**0.0577**	0.026	44.9	ug/L	10	Standard
	Al	27	426778.9	2.1	**3.7700**	0.047	1.2	ug/L	232	Standard
	Sc	45	20430.4	1.4				ug/L	23513	Standard
	Ti	47	181.7	12.7	**0.9248**	0.145	15.6	ug/L	36	Standard
	V	51	3548.9	0.2	**0.4309**	0.005	1.2	ug/L	1387	Standard
	Cr	52	12119.8	1.9	**1.0375**	0.034	3.3	ug/L	7813	Standard
	Cr	53	2468.5	7.2	**1.7957**	0.238	13.3	ug/L	1410	Standard
	Mn	55	268197.0	1.0	**29.9372**	0.198	0.7	ug/L	1043	Standard
	Co	59	5427.3	2.2	**0.6667**	0.012	1.8	ug/L	198	Standard
	Ni	60	1537.7	3.7	**0.8519**	0.030	3.5	ug/L	64	Standard
	Cu	65	754.0	3.8	**0.3197**	0.015	4.7	ug/L	122	Standard
	Zn	66	2818.3	5.1	**2.1590**	0.132	6.1	ug/L	209	Standard
>	Ge	72	552663.2	0.7				ug/L	618040	Standard
	As	75	781.5	3.3	**0.8161**	0.025	3.1	ug/L	11	Standard
	Se	82	74.9	16.0	**0.6587**	0.128	19.5	ug/L	21	Standard
	Se-1	77	108.7	20.4	**0.4077**	0.347	85.0	ug/L	86	Standard
>	Ga	71	46.7	44.6				mg/L	13	Standard
	Rb	85	1688.4	7.7				ug/L	18	Standard
	Y	89	418273.3	0.6				ug/L	463757	Standard
>	Rh	103	20.0	25.0				ug/L	12	Standard
	Mo	98	115.8	22.6	**0.0239**	0.007	28.1	ug/L	29	Standard
	Ag	107	135.0	45.6	**0.0041**	0.009	210.5	ug/L	101	Standard
	Cd	111	102.5	33.6	**0.0407**	0.015	37.5	mg/L	9	Standard
	Cd	114	249.7	27.0	**0.0419**	0.012	27.6	ug/L	47	Standard
>	In	115	817314.9	0.8				ug/L	765457	Standard
	Sn	118	136.7	13.8	**-0.0446**	0.014	31.0	ug/L	168	Standard
	Sb	123	890.7	15.8	**0.1497**	0.023	15.7	ug/L	332	Standard
	Ba	135	23194.7	0.6	**8.1597**	0.055	0.7	ug/L	37	Standard
	Ce	140	1663.4	4.0				ug/L	895	Standard
>	Tb	159	1440538.2	0.8				ug/L	1511047	Standard
	Ho	165	91.7	20.7				ug/L	22	Standard
	Tl	203	176.0	43.0	**0.0156**	0.007	42.2	ug/L	14	Standard
	Tl	205	358.3	34.8	**0.0109**	0.005	42.6	ug/L	27	Standard
	Pb	206	799.7	4.4	**0.0178**	0.004	22.4	ug/L	557	Standard
	Pb	207	648.3	4.9	**0.0147**	0.003	22.2	ug/L	432	Standard
	Pb	208	2988.1	3.0	**0.0133**	0.002	12.2	ug/L	2118	Standard
	U	238	1078.4	6.9	**0.0356**	0.002	5.7	ug/L	78	Standard
>	Bi	209	776672.7	1.2				ug/L	791817	Standard

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⌈	**Na**	23	5.0	100.0	**1.2059**	1.666	138.2	mg/L	5	Standard
|	**Mg**	24	8143.9	3.4	**18.2991**	0.375	2.0	mg/L	48	Standard
|	**K**	39	6.7	114.6	**0.0694**	0.128	183.9	mg/L	3	Standard
|	**Ca**	43	36.7	7.9	**-3.4328**	1.299	37.8	mg/L	62	Standard
|	**Fe**	54	109.3	23.8	**0.0056**	0.030	542.5	mg/L	139	Standard
|	**Fe**	57	123.3	32.5	**0.0395**	0.165	418.1	mg/L	83	Standard
⌊>	**Sc-1**	45	20430.4	1.4				mg/L	23513	Standard
	Cl	35	2.7	43.3				ug/L	3	Standard
	Kr	83	5.0	91.7				ug/L	2	Standard
	Br	81	14029.8	4.2				ug/L	910	Standard
	P	31	126.7	22.4				ug/L	85	Standard
	S	34	23.3	65.5				ug/L	48	Standard
	Sr	88	116.7	22.0				ug/L	72	Standard
	C	12	753.4	11.4				mg/L	227	Standard
	N	14	6.7	173.2				mg/L	0	Standard
	Hg	202	113.3	35.7				mg/L	7	Standard
	Dy	164	135.1	11.7				mg/L	22	Standard
	Ho-1	165	91.7	20.7				mg/L	22	Standard
	Er	166	103.3	34.0				mg/L	23	Standard
	I	127	2982035.8	5.2				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		111.835	
|	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		89.422	
|	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	106.775
|	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	98.087
⌈	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: L1610012314
Sample Date/Time: Wednesday, October 12, 2016 16:10:28
Number of Replicates: 3
Autosampler Position: 320
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	85011.4	3.6				ug/L	72553	Standard
	Be	9	28.3	10.2	**0.0099**	0.002	18.2	ug/L	10	Standard
	Al	27	157066011.4	1.2	**1326.8856**	65.279	4.9	ug/L	232	Standard
	Sc	45	19389.1	2.0				ug/L	23513	Standard
	Ti	47	246.7	4.1	**1.4993**	0.092	6.1	ug/L	36	Standard
	V	51	-1404.5	37.1	**-0.4853**	0.107	21.9	ug/L	1387	Standard
	Cr	52	13418.9	0.3	**1.5423**	0.029	1.9	ug/L	7813	Standard
	Cr	53	19182.1	1.1	**29.4483**	0.051	0.2	ug/L	1410	Standard
	Mn	55	1596005.2	0.2	**196.8840**	2.370	1.2	ug/L	1043	Standard
	Co	59	7890.7	2.6	**1.0780**	0.042	3.9	ug/L	198	Standard
	Ni	60	23985.3	0.8	**15.2379**	0.293	1.9	ug/L	64	Standard
	Cu	65	2093.1	1.9	**1.1903**	0.025	2.1	ug/L	122	Standard
	Zn	66	5594.4	1.3	**5.6832**	0.146	2.6	ug/L	209	Standard
>	Ge	72	502325.6	1.2				ug/L	618040	Standard
	As	75	2126.5	7.1	**2.3611**	0.153	6.5	ug/L	11	Standard
	Se	82	959.2	1.2	**11.0520**	0.038	0.3	ug/L	21	Standard
	Se-1	77	3209.7	0.9	**55.4215**	1.120	2.0	ug/L	86	Standard
>	Ga	71	146.7	30.9				mg/L	13	Standard
	Rb	85	11322.6	1.8				ug/L	18	Standard
	Y	89	390134.6	1.4				ug/L	463757	Standard
>	Rh	103	1251.7	1.4				ug/L	12	Standard
	Mo	98	322.2	8.5	**0.0981**	0.007	7.1	ug/L	29	Standard
	Ag	107	137.7	9.5	**0.0097**	0.002	21.4	ug/L	101	Standard
	Cd	111	1226.0	1.2	**0.6832**	0.016	2.3	mg/L	9	Standard
	Cd	114	3024.2	2.5	**0.6488**	0.025	3.9	ug/L	47	Standard
>	In	115	644222.3	1.8				ug/L	765457	Standard
	Sn	118	104.3	7.3	**-0.0478**	0.007	14.5	ug/L	168	Standard
	Sb	123	364.0	6.2	**0.0793**	0.005	6.8	ug/L	332	Standard
	Ba	135	25539.8	1.2	**11.4100**	0.189	1.7	ug/L	37	Standard
	Ce	140	7882.1	1.7				ug/L	895	Standard
>	Tb	159	1189808.9	1.2				ug/L	1511047	Standard
	Ho	165	260.0	8.8				ug/L	22	Standard
	Tl	203	165.0	4.8	**0.0211**	0.001	5.5	ug/L	14	Standard
	Tl	205	376.7	18.6	**0.0181**	0.004	20.6	ug/L	27	Standard
	Pb	206	720.4	1.7	**0.0457**	0.003	7.0	ug/L	557	Standard
	Pb	207	580.7	4.5	**0.0397**	0.004	10.0	ug/L	432	Standard
	Pb	208	2775.8	2.5	**0.0430**	0.002	4.4	ug/L	2118	Standard
	U	238	117659.8	0.9	**5.5405**	0.019	0.3	ug/L	78	Standard
>	Bi	209	540785.8	0.9				ug/L	791817	Standard

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⌈	**Na**	23	743.4	9.4	**257.9250**	24.841	9.6	mg/L	5	Standard
|	**Mg**	24	114991.6	3.0	**273.5982**	13.489	4.9	mg/L	48	Standard
|	**K**	39	51.7	20.1	**0.8813**	0.170	19.3	mg/L	3	Standard
|	**Ca**	43	570.0	22.0	**232.9628**	59.734	25.6	mg/L	62	Standard
|	**Fe**	54	121.7	23.9	**0.0272**	0.036	132.5	mg/L	139	Standard
|	**Fe**	57	718.4	10.4	**2.5931**	0.272	10.5	mg/L	83	Standard
⌊>	**Sc-1**	45	19389.1	2.0				mg/L	23513	Standard
	Cl	35	10.0					ug/L	3	Standard
	Kr	83	3.3	62.4				ug/L	2	Standard
	Br	81	254578.1	2.0				ug/L	910	Standard
	P	31	101.7	30.0				ug/L	85	Standard
	S	34	51.7	59.1				ug/L	48	Standard
	Sr	88	2083.5	4.8				ug/L	72	Standard
	C	12	1250.1	4.2				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	23.3	24.7				mg/L	7	Standard
	Dy	164	339.9	27.3				mg/L	22	Standard
	Ho-1	165	260.0	8.8				mg/L	22	Standard
	Er	166	280.0	27.0				mg/L	23	Standard
	I	127	819726.7	6.0				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		117.171	
|	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		81.277	
|	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	84.162
|	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	68.297
⌈	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	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, October 12, 2016 16:13:29
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	73524.8	4.1				ug/L	72553	Standard
	Be	9	43066.1	1.3	**47.0256**	1.878	4.0	ug/L	10	Standard
	Al	27	4603174.3	0.7	**44.9477**	1.532	3.4	ug/L	232	Standard
	Sc	45	19547.6	2.2				ug/L	23513	Standard
	Ti	47	15226.6	1.8	**96.4410**	1.275	1.3	ug/L	36	Standard
	V	51	286919.7	2.0	**51.0008**	0.776	1.5	ug/L	1387	Standard
	Cr	52	273728.4	1.3	**50.6014**	0.456	0.9	ug/L	7813	Standard
	Cr	53	35882.5	2.9	**51.0112**	1.425	2.8	ug/L	1410	Standard
	Mn	55	447129.5	1.9	**49.6754**	1.147	2.3	ug/L	1043	Standard
	Co	59	405808.1	1.1	**50.8760**	0.794	1.6	ug/L	198	Standard
	Ni	60	88706.9	0.2	**50.9558**	0.134	0.3	ug/L	64	Standard
	Cu	65	90187.3	0.5	**50.2423**	0.332	0.7	ug/L	122	Standard
	Zn	66	47733.4	0.6	**49.2334**	0.112	0.2	ug/L	209	Standard
>	Ge	72	556452.0	0.5				ug/L	618040	Standard
	As	75	49771.6	0.8	**49.0662**	0.208	0.4	ug/L	11	Standard
	Se	82	4594.8	2.1	**48.2396**	1.042	2.2	ug/L	21	Standard
	Se-1	77	3186.3	1.9	**49.5241**	1.203	2.4	ug/L	86	Standard
>	Ga	71	36.7	41.7				mg/L	13	Standard
	Rb	85	708.3	9.1				ug/L	18	Standard
	Y	89	412452.9	1.8				ug/L	463757	Standard
>	Rh	103	43.3	46.6				ug/L	12	Standard
	Mo	98	336255.8	1.0	**88.9715**	0.878	1.0	ug/L	29	Standard
	Ag	107	318380.8	0.9	**46.9924**	0.491	1.0	ug/L	101	Standard
	Cd	111	108666.0	1.5	**50.1176**	0.805	1.6	mg/L	9	Standard
	Cd	114	281783.6	2.2	**49.7034**	0.129	0.3	ug/L	47	Standard
>	In	115	783564.5	2.0				ug/L	765457	Standard
	Sn	118	63357.9	0.9	**50.4403**	0.691	1.4	ug/L	168	Standard
	Sb	123	305993.1	1.0	**52.3982**	0.645	1.2	ug/L	332	Standard
	Ba	135	131933.3	0.5	**48.5473**	1.160	2.4	ug/L	37	Standard
	Ce	140	105.0	21.8				ug/L	895	Standard
>	Tb	159	1442266.8	1.0				ug/L	1511047	Standard
	Ho	165	30.0	44.1				ug/L	22	Standard
	Tl	203	547322.2	0.2	**49.8586**	0.429	0.9	ug/L	14	Standard
	Tl	205	1276410.3	0.9	**50.4172**	0.775	1.5	ug/L	27	Standard
	Pb	206	411596.0	0.1	**49.4641**	0.292	0.6	ug/L	557	Standard
	Pb	207	362681.6	0.7	**49.4750**	0.089	0.2	ug/L	432	Standard
	Pb	208	1643416.7	0.9	**49.4854**	0.198	0.4	ug/L	2118	Standard
	U	238	1518234.4	0.9	**50.4928**	0.682	1.4	ug/L	78	Standard
>	Bi	209	765701.9	0.7				ug/L	791817	Standard

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⌈	**Na**	23	15.0	57.7	**4.7407**	3.079	65.0	mg/L	5	Standard
|	**Mg**	24	2321.8	1.5	**5.3999**	0.193	3.6	mg/L	48	Standard
|	**K**	39	156.7	11.2	**2.7437**	0.317	11.5	mg/L	3	Standard
|	**Ca**	43	58.3	32.5	**6.6141**	7.653	115.7	mg/L	62	Standard
|	**Fe**	54	3986.2	3.2	**4.6023**	0.202	4.4	mg/L	139	Standard
|	**Fe**	57	1235.1	4.8	**4.7550**	0.349	7.3	mg/L	83	Standard
⌊>	**Sc-1**	45	19547.6	2.2				mg/L	23513	Standard
	Cl	35	4.7	89.2				ug/L	3	Standard
	Kr	83	8.3	18.3				ug/L	2	Standard
	Br	81	2283.5	14.8				ug/L	910	Standard
	P	31	58.3	27.6				ug/L	85	Standard
	S	34	46.7	30.9				ug/L	48	Standard
	Sr	88	113.3	31.3				ug/L	72	Standard
	C	12	350.0	25.7				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	124.9				mg/L	7	Standard
	Dy	164	15.1	141.0				mg/L	22	Standard
	Ho-1	165	30.0	44.1				mg/L	22	Standard
	Er	166	33.3	45.8				mg/L	23	Standard
	I	127	66887.9	30.2				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	94.051		
⌊	Al	27	89.895		
⌈	Sc	45			
|	Ti	47	96.441		
|	V	51	102.002		
|	Cr	52	101.203		
|	Cr	53			
|	Mn	55	99.351		
|	Co	59	101.752		
|	Ni	60	101.912		
|	Cu	65	100.485		
|	Zn	66	98.467		
|>	Ge	72		90.035	
|	As	75	98.132		
|	Se	82	96.479		
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	88.972	
|	Ag	107	93.985	
|	Cd	111	100.235	
|	Cd	114		
|>	In	115		102.366
|	Sn	118	100.881	
|	Sb	123	104.796	
⌊	Ba	135	97.095	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	99.717	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	98.971	
|	U	238	100.986	
⌊>	Bi	209		96.702
⌈	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 6	Al	27	
QC Std 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, October 12, 2016 16:16:28
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: BKT 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	71617.5	5.4				ug/L	72553	Standard
	Be	9	5.0	100.0	**-0.0110**	0.006	52.6	ug/L	10	Standard
	Al	27	745.0	17.4	**0.0039**	0.001	23.1	ug/L	232	Standard
	Sc	45	19405.8	6.4				ug/L	23513	Standard
	Ti	47	30.0	23.1	**-0.0438**	0.040	92.3	ug/L	36	Standard
	V	51	855.4	4.2	**-0.0520**	0.009	17.0	ug/L	1387	Standard
	Cr	52	5882.5	0.2	**-0.1447**	0.024	16.8	ug/L	7813	Standard
	Cr	53	1370.1	4.4	**0.1813**	0.100	55.1	ug/L	1410	Standard
	Mn	55	966.0	5.7	**-0.0457**	0.007	15.5	ug/L	1043	Standard
	Co	59	122.3	6.2	**-0.0030**	0.001	23.5	ug/L	198	Standard
	Ni	60	33.7	37.7	**-0.0185**	0.007	38.3	ug/L	64	Standard
	Cu	65	148.3	10.7	**-0.0202**	0.007	36.7	ug/L	122	Standard
	Zn	66	196.3	2.9	**-0.6069**	0.011	1.8	ug/L	209	Standard
>	Ge	72	548964.2	2.3				ug/L	618040	Standard
	As	75	-24.9	205.9	**0.0160**	0.052	323.0	ug/L	11	Standard
	Se	82	22.4	32.5	**0.1041**	0.078	75.3	ug/L	21	Standard
	Se-1	77	110.0	14.1	**0.4446**	0.271	61.0	ug/L	86	Standard
>	Ga	71	20.0	43.3				mg/L	13	Standard
	Rb	85	21.7	35.3				ug/L	18	Standard
	Y	89	414559.4	3.6				ug/L	463757	Standard
>	Rh	103	13.3	43.3				ug/L	12	Standard
	Mo	98	183.2	20.0	**0.0434**	0.011	24.7	ug/L	29	Standard
	Ag	107	117.0	10.4	**0.0024**	0.002	85.2	ug/L	101	Standard
	Cd	111	10.1	41.1	**0.0001**	0.002	2419.1	mg/L	9	Standard
	Cd	114	37.0	42.1	**0.0063**	0.003	45.6	ug/L	47	Standard
>	In	115	778754.3	2.3				ug/L	765457	Standard
	Sn	118	174.7	20.6	**-0.0083**	0.032	380.6	ug/L	168	Standard
	Sb	123	521.5	42.7	**0.0939**	0.040	42.6	ug/L	332	Standard
	Ba	135	21.3	26.7	**-0.0166**	0.002	12.4	ug/L	37	Standard
	Ce	140	35.0	51.5				ug/L	895	Standard
>	Tb	159	1491526.3	1.5				ug/L	1511047	Standard
	Ho	165	25.0	20.0				ug/L	22	Standard
	Tl	203	48.7	13.4	**0.0042**	0.001	15.2	ug/L	14	Standard
	Tl	205	128.3	34.0	**0.0020**	0.002	80.2	ug/L	27	Standard
	Pb	206	515.3	11.7	**-0.0159**	0.005	33.4	ug/L	557	Standard
	Pb	207	421.3	5.2	**-0.0158**	0.002	10.0	ug/L	432	Standard
	Pb	208	2017.4	7.6	**-0.0156**	0.003	17.0	ug/L	2118	Standard
	U	238	71.7	39.6	**0.0026**	0.001	37.6	ug/L	78	Standard
>	Bi	209	775898.9	3.2				ug/L	791817	Standard

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	Na	23	5.0	100.0	**1.2286**	1.622	132.0	mg/L	5	Standard
	Mg	24	46.7	12.4	**0.0306**	0.014	44.5	mg/L	48	Standard
	K	39	8.3	91.7	**0.1047**	0.139	132.6	mg/L	3	Standard
	Ca	43	35.0	28.6	**-3.1490**	5.272	167.4	mg/L	62	Standard
	Fe	54	116.1	36.5	**0.0209**	0.054	258.5	mg/L	139	Standard
	Fe	57	141.7	21.6	**0.1468**	0.153	103.9	mg/L	83	Standard
>	**Sc-1**	45	19405.8	6.4				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	3.7	15.7				ug/L	2	Standard
	Br	81	1560.1	8.6				ug/L	910	Standard
	P	31	53.3	32.9				ug/L	85	Standard
	S	34	55.0	32.8				ug/L	48	Standard
	Sr	88	98.3	22.9				ug/L	72	Standard
	C	12	286.7	10.7				mg/L	227	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	7	Standard
	Dy	164	12.1	47.1				mg/L	22	Standard
	Ho-1	165	25.0	20.0				mg/L	22	Standard
	Er	166	26.7	57.3				mg/L	23	Standard
	I	127	32022.2	5.1				mg/L	4241	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		88.823	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	101.737
|	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	97.990
⌈	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: L1610012315
Sample Date/Time: Wednesday, October 12, 2016 16:19:29
Number of Replicates: 3
Autosampler Position: 321
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	79987.3	1.8				ug/L	72553	Standard
	Be	9	21.7	35.3	**0.0049**	0.007	149.9	ug/L	10	Standard
	Al	27	77784517.4	1.3	**697.6588**	11.031	1.6	ug/L	232	Standard
	Sc	45	18376.1	1.4				ug/L	23513	Standard
	Ti	47	94.7	13.1	**0.4243**	0.080	18.8	ug/L	36	Standard
	V	51	1032.1	26.1	**-0.0040**	0.054	1363.9	ug/L	1387	Standard
	Cr	52	12299.3	0.6	**1.2893**	0.030	2.3	ug/L	7813	Standard
	Cr	53	9634.7	2.7	**13.7541**	0.461	3.4	ug/L	1410	Standard
	Mn	55	1045426.2	0.2	**128.0114**	1.454	1.1	ug/L	1043	Standard
	Co	59	6312.3	1.5	**0.8522**	0.006	0.7	ug/L	198	Standard
	Ni	60	10685.1	1.1	**6.7194**	0.110	1.6	ug/L	64	Standard
	Cu	65	1552.1	3.0	**0.8492**	0.034	4.0	ug/L	122	Standard
	Zn	66	3112.0	1.9	**2.7736**	0.043	1.6	ug/L	209	Standard
>	Ge	72	505841.5	1.0				ug/L	618040	Standard
	As	75	1439.2	4.8	**1.6006**	0.077	4.8	ug/L	11	Standard
	Se	82	513.8	1.4	**5.8160**	0.137	2.4	ug/L	21	Standard
	Se-1	77	1173.4	4.4	**19.2718**	1.099	5.7	ug/L	86	Standard
>	Ga	71	51.7	20.1				mg/L	13	Standard
	Rb	85	3947.2	2.1				ug/L	18	Standard
	Y	89	377257.3	0.3				ug/L	463757	Standard
>	Rh	103	1088.4	9.7				ug/L	12	Standard
	Mo	98	416.8	7.2	**0.1231**	0.008	6.7	ug/L	29	Standard
	Ag	107	112.7	9.4	**0.0044**	0.002	37.3	ug/L	101	Standard
	Cd	111	148.1	5.1	**0.0751**	0.003	4.3	mg/L	9	Standard
	Cd	114	435.6	5.3	**0.0893**	0.004	5.0	ug/L	47	Standard
>	In	115	671518.0	1.3				ug/L	765457	Standard
	Sn	118	163.3	12.0	**0.0030**	0.018	590.1	ug/L	168	Standard
	Sb	123	611.2	16.2	**0.1256**	0.020	15.8	ug/L	332	Standard
	Ba	135	21449.8	0.5	**9.1881**	0.127	1.4	ug/L	37	Standard
	Ce	140	18249.3	1.2				ug/L	895	Standard
>	Tb	159	1239100.3	1.3				ug/L	1511047	Standard
	Ho	165	278.3	11.0				ug/L	22	Standard
	Tl	203	151.7	15.9	**0.0186**	0.003	15.7	ug/L	14	Standard
	Tl	205	340.0	5.3	**0.0153**	0.001	6.3	ug/L	27	Standard
	Pb	206	585.0	4.0	**0.0186**	0.004	22.2	ug/L	557	Standard
	Pb	207	467.3	6.5	**0.0141**	0.005	38.2	ug/L	432	Standard
	Pb	208	2187.4	0.8	**0.0141**	0.000	2.2	ug/L	2118	Standard
	U	238	286420.3	0.8	**12.9380**	0.090	0.7	ug/L	78	Standard
>	Bi	209	563736.3	0.5				ug/L	791817	Standard

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⌈	**Na**	23	463.3	9.3	**169.5895**	18.248	10.8	mg/L	5	Standard
|	**Mg**	24	124183.7	2.3	**311.5983**	7.711	2.5	mg/L	48	Standard
|	**K**	39	63.3	50.1	**1.1607**	0.621	53.5	mg/L	3	Standard
|	**Ca**	43	328.3	9.8	**133.7866**	14.309	10.7	mg/L	62	Standard
|	**Fe**	54	112.4	25.6	**0.0236**	0.038	163.1	mg/L	139	Standard
|	**Fe**	57	468.3	8.3	**1.6427**	0.175	10.6	mg/L	83	Standard
⌊>	**Sc-1**	45	18376.1	1.4				mg/L	23513	Standard
	Cl	35	8.0	90.1				ug/L	3	Standard
	Kr	83	5.0	52.9				ug/L	2	Standard
	Br	81	128664.2	2.3				ug/L	910	Standard
	P	31	83.3	22.7				ug/L	85	Standard
	S	34	36.7	55.1				ug/L	48	Standard
	Sr	88	1900.1	3.0				ug/L	72	Standard
	C	12	1363.4	6.6				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	291.5	39.9				mg/L	22	Standard
	Ho-1	165	278.3	11.0				mg/L	22	Standard
	Er	166	246.7	13.0				mg/L	23	Standard
	I	127	163000.1	10.5				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		110.246	
|	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		81.846	
|	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	87.728
|	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	71.195
⌈	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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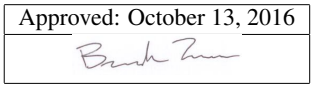

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, October 12, 2016 16:22:30
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	70627.6	1.5				ug/L	72553	Standard
	Be	9	41015.5	2.9	**46.5750**	1.114	2.4	ug/L	10	Standard
	Al	27	4562355.5	1.5	**46.3337**	0.250	0.5	ug/L	232	Standard
	Sc	45	18691.5	3.6				ug/L	23513	Standard
	Ti	47	14801.9	2.1	**96.8110**	1.930	2.0	ug/L	36	Standard
	V	51	278052.7	1.5	**51.0371**	0.560	1.1	ug/L	1387	Standard
	Cr	52	269716.0	1.1	**51.5077**	0.424	0.8	ug/L	7813	Standard
	Cr	53	35284.4	1.2	**51.8275**	0.753	1.5	ug/L	1410	Standard
	Mn	55	439709.7	1.2	**50.4422**	0.498	1.0	ug/L	1043	Standard
	Co	59	393901.6	0.5	**50.9915**	0.359	0.7	ug/L	198	Standard
	Ni	60	86755.7	0.7	**51.4593**	0.265	0.5	ug/L	64	Standard
	Cu	65	88741.8	1.6	**51.0474**	0.576	1.1	ug/L	122	Standard
	Zn	66	47076.0	1.3	**50.1512**	0.203	0.4	ug/L	209	Standard
>	Ge	72	538898.0	0.9				ug/L	618040	Standard
	As	75	48988.1	1.2	**49.8664**	0.300	0.6	ug/L	11	Standard
	Se	82	4580.6	2.5	**49.6555**	0.755	1.5	ug/L	21	Standard
	Se-1	77	3161.0	1.6	**50.7610**	0.859	1.7	ug/L	86	Standard
>	Ga	71	25.0	52.9				mg/L	13	Standard
	Rb	85	698.3	5.0				ug/L	18	Standard
	Y	89	404148.1	1.4				ug/L	463757	Standard
>	Rh	103	58.3	43.1				ug/L	12	Standard
	Mo	98	337290.1	0.7	**89.0213**	1.613	1.8	ug/L	29	Standard
	Ag	107	317414.2	0.9	**46.7303**	0.756	1.6	ug/L	101	Standard
	Cd	111	108977.2	1.3	**50.1305**	0.699	1.4	mg/L	9	Standard
	Cd	114	282002.9	1.1	**49.6197**	0.372	0.8	ug/L	47	Standard
>	In	115	785555.1	1.4				ug/L	765457	Standard
	Sn	118	65351.0	1.1	**51.9008**	1.177	2.3	ug/L	168	Standard
	Sb	123	308397.2	1.1	**52.6708**	0.415	0.8	ug/L	332	Standard
	Ba	135	132998.9	1.1	**48.8044**	0.641	1.3	ug/L	37	Standard
	Ce	140	113.3	13.5				ug/L	895	Standard
>	Tb	159	1440744.4	0.7				ug/L	1511047	Standard
	Ho	165	13.3	78.1				ug/L	22	Standard
	Tl	203	546863.0	1.2	**50.7015**	0.470	0.9	ug/L	14	Standard
	Tl	205	1277861.8	1.1	**51.3703**	0.532	1.0	ug/L	27	Standard
	Pb	206	411318.7	1.4	**50.3120**	0.745	1.5	ug/L	557	Standard
	Pb	207	361656.0	1.5	**50.2147**	0.700	1.4	ug/L	432	Standard
	Pb	208	1640549.7	1.5	**50.2800**	0.628	1.2	ug/L	2118	Standard
	U	238	1512255.0	0.9	**51.1869**	0.290	0.6	ug/L	78	Standard
>	Bi	209	752298.9	0.4				ug/L	791817	Standard

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	Na	23	41.7	6.9	**14.5572**	0.763	5.2	mg/L	5	Standard
	Mg	24	2381.9	4.8	**5.8054**	0.442	7.6	mg/L	48	Standard
	K	39	186.7	13.5	**3.4225**	0.380	11.1	mg/L	3	Standard
	Ca	43	63.3	12.1	**10.2705**	4.455	43.4	mg/L	62	Standard
	Fe	54	4105.2	5.9	**4.9711**	0.412	8.3	mg/L	139	Standard
	Fe	57	1356.7	3.1	**5.5331**	0.354	6.4	mg/L	83	Standard
>	**Sc-1**	45	18691.5	3.6				mg/L	23513	Standard
	Cl	35	0.7	173.2				ug/L	3	Standard
	Kr	83	5.0	91.7				ug/L	2	Standard
	Br	81	2093.5	20.9				ug/L	910	Standard
	P	31	53.3	23.6				ug/L	85	Standard
	S	34	28.3	20.4				ug/L	48	Standard
	Sr	88	126.7	26.3				ug/L	72	Standard
	C	12	413.3	5.6				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	11.9	132.7				mg/L	22	Standard
	Ho-1	165	13.3	78.1				mg/L	22	Standard
	Er	166	30.0	88.2				mg/L	23	Standard
	I	127	21914.4	16.0				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	93.150		
	Al	27	92.667		
	Sc	45			
	Ti	47	96.811		
	V	51	102.074		
	Cr	52	103.015		
	Cr	53			
	Mn	55	100.884		
	Co	59	101.983		
	Ni	60	102.919		
	Cu	65	102.095		
	Zn	66	100.302		
>	Ge	72		87.195	
	As	75	99.733		
	Se	82	99.311		
	Se-1	77			
>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	89.021		
Ag	107	93.461		
Cd	111	100.261		
Cd	114			
In	115		102.626	
Sn	118	103.802		
Sb	123	105.342		
Ba	135	97.609		
Ce	140			
Tb	159			
Ho	165			
Tl	203	101.403		
Tl	205			
Pb	206			
Pb	207			
Pb	208	100.560		
U	238	102.374		
Bi	209		95.009	
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 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, October 12, 2016 16:25:30
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: BKT 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	69934.5	3.6				ug/L	72553	Standard
	Be	9	6.7	114.6	**-0.0090**	0.009	101.6	ug/L	10	Standard
	Al	27	385.0	16.6	**0.0004**	0.001	181.3	ug/L	232	Standard
	Sc	45	19771.2	4.5				ug/L	23513	Standard
	Ti	47	26.0	30.5	**-0.0667**	0.051	76.8	ug/L	36	Standard
	V	51	867.0	26.1	**-0.0476**	0.042	88.8	ug/L	1387	Standard
	Cr	52	5813.4	1.6	**-0.1421**	0.012	8.2	ug/L	7813	Standard
	Cr	53	1180.0	12.3	**-0.0781**	0.214	273.9	ug/L	1410	Standard
	Mn	55	924.7	4.6	**-0.0489**	0.005	10.1	ug/L	1043	Standard
	Co	59	127.0	9.7	**-0.0022**	0.002	75.1	ug/L	198	Standard
	Ni	60	38.3	6.6	**-0.0154**	0.001	9.0	ug/L	64	Standard
	Cu	65	156.3	4.1	**-0.0144**	0.003	21.8	ug/L	122	Standard
	Zn	66	191.7	7.4	**-0.6090**	0.015	2.4	ug/L	209	Standard
>	Ge	72	541083.9	0.7				ug/L	618040	Standard
	As	75	-59.0	86.9	**-0.0187**	0.052	276.5	ug/L	11	Standard
	Se	82	18.3	12.8	**0.0628**	0.026	41.0	ug/L	21	Standard
	Se-1	77	84.3	17.5	**0.0462**	0.238	514.3	ug/L	86	Standard
>	Ga	71	33.3	37.7				mg/L	13	Standard
	Rb	85	28.3	71.3				ug/L	18	Standard
	Y	89	406131.5	2.4				ug/L	463757	Standard
>	Rh	103	21.7	113.8				ug/L	12	Standard
	Mo	98	187.8	17.3	**0.0449**	0.009	20.6	ug/L	29	Standard
	Ag	107	107.7	9.8	**0.0011**	0.001	130.9	ug/L	101	Standard
	Cd	111	8.8	39.1	**-0.0005**	0.002	313.1	mg/L	9	Standard
	Cd	114	33.4	10.8	**0.0056**	0.001	9.9	ug/L	47	Standard
>	In	115	774211.5	1.5				ug/L	765457	Standard
	Sn	118	185.0	21.6	**0.0007**	0.034	5158.2	ug/L	168	Standard
	Sb	123	521.9	38.1	**0.0942**	0.036	37.7	ug/L	332	Standard
	Ba	135	30.3	3.8	**-0.0132**	0.000	2.1	ug/L	37	Standard
	Ce	140	28.3	62.0				ug/L	895	Standard
>	Tb	159	1443760.6	2.1				ug/L	1511047	Standard
	Ho	165	23.3	44.6				ug/L	22	Standard
	Tl	203	45.3	15.6	**0.0040**	0.001	16.8	ug/L	14	Standard
	Tl	205	118.3	12.9	**0.0017**	0.001	34.5	ug/L	27	Standard
	Pb	206	524.3	5.7	**-0.0136**	0.003	24.4	ug/L	557	Standard
	Pb	207	425.3	5.2	**-0.0142**	0.003	19.5	ug/L	432	Standard
	Pb	208	2008.1	3.7	**-0.0147**	0.002	14.1	ug/L	2118	Standard
	U	238	68.7	33.0	**0.0026**	0.001	29.7	ug/L	78	Standard
>	Bi	209	761993.5	0.5				ug/L	791817	Standard

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⌈	**Na**	23	3.3	86.6	**0.6503**	0.960	147.6	mg/L	5	Standard
|	**Mg**	24	63.3	24.1	**0.0685**	0.043	62.2	mg/L	48	Standard
|	**K**	39	1.7	173.2	**-0.0119**	0.053	447.9	mg/L	3	Standard
|	**Ca**	43	40.0	45.1	**-1.4825**	7.604	512.9	mg/L	62	Standard
|	**Fe**	54	124.5	10.6	**0.0271**	0.010	36.4	mg/L	139	Standard
|	**Fe**	57	130.0	34.2	**0.0811**	0.173	213.6	mg/L	83	Standard
⌊>	**Sc-1**	45	19771.2	4.5				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	4.7	24.7				ug/L	2	Standard
	Br	81	1316.7	9.4				ug/L	910	Standard
	P	31	70.0	42.9				ug/L	85	Standard
	S	34	21.7	135.2				ug/L	48	Standard
	Sr	88	95.0	22.9				ug/L	72	Standard
	C	12	320.0	10.8				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	22.5	68.3				mg/L	22	Standard
	Ho-1	165	23.3	44.6				mg/L	22	Standard
	Er	166	16.7	69.3				mg/L	23	Standard
	I	127	15669.8	2.5				mg/L	4241	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		87.548	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	101.144
|	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	96.234
⌈	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

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Method 6020 - Summary Report

Sample ID: PBW 32 WG586668-02
Sample Date/Time: Wednesday, October 12, 2016 16:28:31
Number of Replicates: 3
Autosampler Position: 322
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	68065.9	2.6				ug/L	72553	Standard
	Be	9	5.0	100.0	**-0.0110**	0.006	52.1	ug/L	10	Standard
	Al	27	6688.1	4.5	**0.0670**	0.005	7.1	ug/L	232	Standard
	Sc	45	19576.0	2.1				ug/L	23513	Standard
	Ti	47	34.0	5.9	**-0.0148**	0.011	71.5	ug/L	36	Standard
	V	51	972.7	10.4	**-0.0285**	0.019	67.1	ug/L	1387	Standard
	Cr	52	7951.4	3.6	**0.2719**	0.038	13.9	ug/L	7813	Standard
	Cr	53	1431.7	10.1	**0.3012**	0.228	75.6	ug/L	1410	Standard
	Mn	55	1708.4	3.7	**0.0405**	0.005	11.8	ug/L	1043	Standard
	Co	59	150.3	12.1	**0.0008**	0.003	319.1	ug/L	198	Standard
	Ni	60	158.3	15.1	**0.0553**	0.013	23.7	ug/L	64	Standard
	Cu	65	205.3	10.5	**0.0135**	0.011	84.4	ug/L	122	Standard
	Zn	66	1214.7	5.8	**0.4918**	0.066	13.4	ug/L	209	Standard
>	Ge	72	541948.3	1.2				ug/L	618040	Standard
	As	75	-21.1	108.8	**0.0196**	0.024	120.0	ug/L	11	Standard
	Se	82	22.1	24.3	**0.1041**	0.059	56.7	ug/L	21	Standard
	Se-1	77	95.7	15.7	**0.2296**	0.239	104.2	ug/L	86	Standard
>	Ga	71	15.0	33.3				mg/L	13	Standard
	Rb	85	26.7	28.6				ug/L	18	Standard
	Y	89	409165.4	1.7				ug/L	463757	Standard
>	Rh	103	20.0	25.0				ug/L	12	Standard
	Mo	98	73.3	19.1	**0.0143**	0.004	25.2	ug/L	29	Standard
	Ag	107	101.7	5.4	**0.0004**	0.001	265.8	ug/L	101	Standard
	Cd	111	5.2	40.1	**-0.0021**	0.001	46.4	mg/L	9	Standard
	Cd	114	17.8	16.6	**0.0029**	0.001	17.9	ug/L	47	Standard
>	In	115	765855.8	1.4				ug/L	765457	Standard
	Sn	118	144.3	13.2	**-0.0313**	0.014	45.2	ug/L	168	Standard
	Sb	123	261.7	33.9	**0.0492**	0.015	30.5	ug/L	332	Standard
	Ba	135	83.3	10.3	**0.0069**	0.004	52.5	ug/L	37	Standard
	Ce	140	86.7	14.5				ug/L	895	Standard
>	Tb	159	1430005.0	0.4				ug/L	1511047	Standard
	Ho	165	16.7	45.8				ug/L	22	Standard
	Tl	203	28.3	21.3	**0.0024**	0.001	22.7	ug/L	14	Standard
	Tl	205	56.7	40.8	**-0.0007**	0.001	126.9	ug/L	27	Standard
	Pb	206	589.0	3.8	**-0.0058**	0.003	47.4	ug/L	557	Standard
	Pb	207	506.0	2.6	**-0.0031**	0.002	63.7	ug/L	432	Standard
	Pb	208	2290.4	1.2	**-0.0061**	0.001	13.2	ug/L	2118	Standard
	U	238	18.7	52.0	**0.0009**	0.000	37.0	ug/L	78	Standard
>	Bi	209	761525.3	0.3				ug/L	791817	Standard

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⌈	**Na**	23	1.7	173.2	**0.1253**	1.010	806.0	mg/L	5	Standard
|	**Mg**	24	78.3	25.8	**0.1035**	0.044	42.1	mg/L	48	Standard
|	**K**	39	8.3	34.6	**0.1050**	0.051	48.2	mg/L	3	Standard
|	**Ca**	43	31.7	24.1	**-4.9923**	3.027	60.6	mg/L	62	Standard
|	**Fe**	54	104.7	19.1	**0.0051**	0.021	417.1	mg/L	139	Standard
|	**Fe**	57	130.0	7.7	**0.0884**	0.032	35.6	mg/L	83	Standard
⌊>	**Sc-1**	45	19576.0	2.1				mg/L	23513	Standard
	Cl	35	3.3	124.9				ug/L	3	Standard
	Kr	83	4.3	66.6				ug/L	2	Standard
	Br	81	1336.7	16.1				ug/L	910	Standard
	P	31	56.7	18.4				ug/L	85	Standard
	S	34	30.0	28.9				ug/L	48	Standard
	Sr	88	128.3	8.1				ug/L	72	Standard
	C	12	423.3	15.7				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	25.1	60.7				mg/L	22	Standard
	Ho-1	165	16.7	45.8				mg/L	22	Standard
	Er	166	33.3	17.3				mg/L	23	Standard
	I	127	12988.9	1.8				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		93.815	
|	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		87.688	
|	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	100.052
|	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	96.174
⌈	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 32 WG586668-03
Sample Date/Time: Wednesday, October 12, 2016 16:31:30
Number of Replicates: 3
Autosampler Position: 323
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	69628.0	3.0				ug/L	72553	Standard
	Be	9	38607.5	3.1	**44.4823**	1.352	3.0	ug/L	10	Standard
	Al	27	7373.5	4.6	**0.0725**	0.005	6.2	ug/L	232	Standard
	Sc	45	20049.9	1.5				ug/L	23513	Standard
	Ti	47	33.3	16.5	**-0.0261**	0.037	141.6	ug/L	36	Standard
	V	51	270895.2	2.7	**47.7828**	1.817	3.8	ug/L	1387	Standard
	Cr	52	267554.5	2.4	**49.0498**	1.618	3.3	ug/L	7813	Standard
	Cr	53	34783.2	1.7	**49.0033**	1.239	2.5	ug/L	1410	Standard
	Mn	55	437753.4	3.7	**48.2699**	2.404	5.0	ug/L	1043	Standard
	Co	59	386581.1	2.8	**48.1036**	1.987	4.1	ug/L	198	Standard
	Ni	60	85767.8	2.2	**48.8983**	1.720	3.5	ug/L	64	Standard
	Cu	65	89261.2	2.1	**49.3513**	1.603	3.2	ug/L	122	Standard
	Zn	66	48276.1	1.2	**49.4207**	1.229	2.5	ug/L	209	Standard
>	**Ge**	72	560799.9	1.3				ug/L	618040	Standard
	As	75	49595.2	1.5	**48.5255**	1.333	2.7	ug/L	11	Standard
	Se	82	4599.0	2.5	**47.9219**	1.789	3.7	ug/L	21	Standard
	Se-1	77	3101.7	1.6	**47.7968**	1.428	3.0	ug/L	86	Standard
>	**Ga**	71	25.0	72.1				mg/L	13	Standard
	Rb	85	75.0	30.6				ug/L	18	Standard
	Y	89	423288.8	1.5				ug/L	463757	Standard
>	**Rh**	103	36.7	41.7				ug/L	12	Standard
	Mo	98	73.2	6.6	**0.0132**	0.001	7.3	ug/L	29	Standard
	Ag	107	316481.2	2.2	**45.2738**	1.861	4.1	ug/L	101	Standard
	Cd	111	109860.2	1.8	**49.1045**	1.753	3.6	mg/L	9	Standard
	Cd	114	277923.6	3.1	**47.5226**	2.228	4.7	ug/L	47	Standard
>	**In**	115	808791.5	2.2				ug/L	765457	Standard
	Sn	118	144.3	5.8	**-0.0375**	0.005	12.3	ug/L	168	Standard
	Sb	123	311796.2	1.8	**51.7432**	1.832	3.5	ug/L	332	Standard
	Ba	135	129254.9	2.6	**46.0909**	2.064	4.5	ug/L	37	Standard
	Ce	140	135.0	35.7				ug/L	895	Standard
>	**Tb**	159	1457490.0	3.2				ug/L	1511047	Standard
	Ho	165	45.0	29.4				ug/L	22	Standard
	Tl	203	546857.9	2.2	**49.9199**	1.622	3.2	ug/L	14	Standard
	Tl	205	1261815.7	1.4	**49.9402**	1.227	2.5	ug/L	27	Standard
	Pb	206	411898.8	2.4	**49.6093**	1.901	3.8	ug/L	557	Standard
	Pb	207	350021.6	2.4	**47.8514**	1.813	3.8	ug/L	432	Standard
	Pb	208	1613976.2	2.4	**48.7035**	1.752	3.6	ug/L	2118	Standard
	U	238	1430012.1	1.6	**47.6573**	1.375	2.9	ug/L	78	Standard
>	**Bi**	209	764322.2	1.9				ug/L	791817	Standard

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⌈	**Na**	23	1.7	173.2	**0.1122**	0.987	879.5	mg/L	5	Standard
|	**Mg**	24	43.3	13.3	**0.0194**	0.015	76.8	mg/L	48	Standard
|	**K**	39	8.3	124.9	**0.1034**	0.184	178.0	mg/L	3	Standard
|	**Ca**	43	43.3	29.0	**-0.3580**	5.117	1429.5	mg/L	62	Standard
|	**Fe**	54	109.4	15.9	**0.0081**	0.022	268.4	mg/L	139	Standard
|	**Fe**	57	128.3	6.0	**0.0688**	0.025	35.9	mg/L	83	Standard
⌊>	**Sc-1**	45	20049.9	1.5				mg/L	23513	Standard
	Cl	35	2.7	86.6				ug/L	3	Standard
	Kr	83	2.3	49.5				ug/L	2	Standard
	Br	81	2746.9	6.7				ug/L	910	Standard
	P	31	51.7	34.0				ug/L	85	Standard
	S	34	28.3	27.0				ug/L	48	Standard
	Sr	88	88.3	13.1				ug/L	72	Standard
	C	12	313.3	25.6				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	41.9	83.2				mg/L	22	Standard
	Ho-1	165	45.0	29.4				mg/L	22	Standard
	Er	166	30.0	33.3				mg/L	23	Standard
	I	127	13072.3	1.9				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		95.968	
|	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		90.738	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	105.661
|	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	96.528
⌈	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: L1610010108 WG586668-01
Sample Date/Time: Wednesday, October 12, 2016 16:34:29
Number of Replicates: 3
Autosampler Position: 324
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	68999.0	7.6				ug/L	72553	Standard
	Be	9	8.3	34.6	**-0.0072**	0.003	38.0	ug/L	10	Standard
	Al	27	17071847.5	2.9	**177.9575**	9.833	5.5	ug/L	232	Standard
	Sc	45	20921.1	6.1				ug/L	23513	Standard
	Ti	47	67.0	5.4	**0.1870**	0.039	20.8	ug/L	36	Standard
	V	51	1260.1	1.5	**0.0167**	0.010	61.0	ug/L	1387	Standard
	Cr	52	10326.2	2.1	**0.6689**	0.034	5.0	ug/L	7813	Standard
	Cr	53	2565.2	3.4	**1.8887**	0.091	4.8	ug/L	1410	Standard
	Mn	55	24021852.8	3.0	**2658.3963**	22.864	0.9	ug/L	1043	Standard
	Co	59	6187.9	4.4	**0.7519**	0.011	1.4	ug/L	198	Standard
	Ni	60	3591.8	3.9	**2.0123**	0.040	2.0	ug/L	64	Standard
	Cu	65	959.0	5.5	**0.4278**	0.029	6.8	ug/L	122	Standard
	Zn	66	13881.4	2.6	**13.6409**	0.188	1.4	ug/L	209	Standard
>	Ge	72	560404.3	3.7				ug/L	618040	Standard
	As	75	116.6	18.7	**0.1553**	0.022	14.1	ug/L	11	Standard
	Se	82	40.6	19.9	**0.2878**	0.071	24.8	ug/L	21	Standard
	Se-1	77	206.7	1.8	**1.9423**	0.186	9.6	ug/L	86	Standard
>	Ga	71	163.3	12.4				mg/L	13	Standard
	Rb	85	15122.5	3.6				ug/L	18	Standard
	Y	89	424088.2	3.6				ug/L	463757	Standard
>	Rh	103	30.0	44.1				ug/L	12	Standard
	Mo	98	399.2	6.3	**0.0990**	0.006	5.9	ug/L	29	Standard
	Ag	107	117.0	3.9	**0.0021**	0.001	36.6	ug/L	101	Standard
	Cd	111	19.2	16.9	**0.0041**	0.001	36.1	mg/L	9	Standard
	Cd	114	102.8	26.4	**0.0175**	0.004	22.6	ug/L	47	Standard
>	In	115	792899.2	5.9				ug/L	765457	Standard
	Sn	118	142.7	13.2	**-0.0369**	0.008	21.9	ug/L	168	Standard
	Sb	123	871.3	37.6	**0.1524**	0.059	38.6	ug/L	332	Standard
	Ba	135	1460452.9	2.9	**531.7911**	16.119	3.0	ug/L	37	Standard
	Ce	140	1196.7	4.9				ug/L	895	Standard
>	Tb	159	1452989.4	5.3				ug/L	1511047	Standard
	Ho	165	55.0					ug/L	22	Standard
	Tl	203	139.0	4.7	**0.0129**	0.000	3.0	ug/L	14	Standard
	Tl	205	280.0	17.0	**0.0084**	0.002	17.9	ug/L	27	Standard
	Pb	206	758.4	9.8	**0.0170**	0.006	34.7	ug/L	557	Standard
	Pb	207	613.3	4.7	**0.0139**	0.002	14.0	ug/L	432	Standard
	Pb	208	2937.8	5.0	**0.0158**	0.000	2.9	ug/L	2118	Standard
	U	238	1334.1	2.5	**0.0461**	0.001	2.6	ug/L	78	Standard
>	Bi	209	742339.1	4.5				ug/L	791817	Standard

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⌈	**Na**	23	65.0	40.7	**20.2259**	7.166	35.4	mg/L	5	Standard
|	**Mg**	24	13194.1	5.0	**29.0275**	1.075	3.7	mg/L	48	Standard
|	**K**	39	75.0	13.3	**1.2044**	0.165	13.7	mg/L	3	Standard
|	**Ca**	43	75.0	17.6	**12.1089**	7.111	58.7	mg/L	62	Standard
|	**Fe**	54	887.1	6.7	**0.8629**	0.035	4.0	mg/L	139	Standard
|	**Fe**	57	445.0	8.5	**1.3052**	0.252	19.3	mg/L	83	Standard
⌊>	**Sc-1**	45	20921.1	6.1				mg/L	23513	Standard
	Cl	35	4.0	100.0				ug/L	3	Standard
	Kr	83	3.7	41.7				ug/L	2	Standard
	Br	81	2800.3	4.8				ug/L	910	Standard
	P	31	81.7	12.7				ug/L	85	Standard
	S	34	35.0	37.8				ug/L	48	Standard
	Sr	88	151.7	3.8				ug/L	72	Standard
	C	12	813.4	0.7				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	40.6	61.7				mg/L	22	Standard
	Ho-1	165	55.0					mg/L	22	Standard
	Er	166	56.7	36.7				mg/L	23	Standard
	I	127	613008.2	4.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		95.101	
|	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		90.674	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1610010108 WG586668-01
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	Rb	85	
	Y	89	
>	Rh	103	
	Mo	98	
	Ag	107	
	Cd	111	
	Cd	114	
>	In	115	103.585
	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	93.751
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610010108S WG586668-05
Sample Date/Time: Wednesday, October 12, 2016 16:37:29
Number of Replicates: 3
Autosampler Position: 325
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	71027.9	2.9				ug/L	72553	Standard
	Be	9	42594.8	0.8	**48.1271**	1.595	3.3	ug/L	10	Standard
	Al	27	16231775.8	4.2	**164.0683**	9.695	5.9	ug/L	232	Standard
	Sc	45	21799.0	1.4				ug/L	23513	Standard
	Ti	47	80.0	3.8	**0.2639**	0.017	6.3	ug/L	36	Standard
	V	51	282252.7	1.4	**49.4158**	0.556	1.1	ug/L	1387	Standard
	Cr	52	271823.8	1.8	**49.4662**	0.206	0.4	ug/L	7813	Standard
	Cr	53	35296.1	1.3	**49.3707**	0.640	1.3	ug/L	1410	Standard
	Mn	55	23326794.7	0.7	**2560.5116**	22.507	0.9	ug/L	1043	Standard
	Co	59	392064.1	1.0	**48.4168**	0.710	1.5	ug/L	198	Standard
	Ni	60	88916.5	1.2	**50.3125**	0.710	1.4	ug/L	64	Standard
	Cu	65	87225.7	1.4	**47.8619**	0.826	1.7	ug/L	122	Standard
	Zn	66	60922.2	0.4	**62.1093**	0.658	1.1	ug/L	209	Standard
>	Ge	72	564933.5	1.4				ug/L	618040	Standard
	As	75	51168.3	1.3	**49.6861**	0.146	0.3	ug/L	11	Standard
	Se	82	4708.5	1.6	**48.6940**	0.680	1.4	ug/L	21	Standard
	Se-1	77	3281.4	3.9	**50.2478**	1.790	3.6	ug/L	86	Standard
>	Ga	71	133.3	13.2				mg/L	13	Standard
	Rb	85	14585.4	2.3				ug/L	18	Standard
	Y	89	428709.3	1.1				ug/L	463757	Standard
>	Rh	103	56.7	13.5				ug/L	12	Standard
	Mo	98	392.2	1.2	**0.0959**	0.002	2.1	ug/L	29	Standard
	Ag	107	312407.1	1.1	**45.0629**	0.641	1.4	ug/L	101	Standard
	Cd	111	110518.5	1.8	**49.8078**	0.186	0.4	mg/L	9	Standard
	Cd	114	277870.6	2.9	**47.8978**	0.793	1.7	ug/L	47	Standard
>	In	115	801799.4	2.1				ug/L	765457	Standard
	Sn	118	151.3	12.2	**-0.0310**	0.014	46.4	ug/L	168	Standard
	Sb	123	317764.2	1.3	**53.1750**	0.514	1.0	ug/L	332	Standard
	Ba	135	1565182.7	1.3	**563.0467**	11.187	2.0	ug/L	37	Standard
	Ce	140	1125.0	9.9				ug/L	895	Standard
>	Tb	159	1487537.6	4.2				ug/L	1511047	Standard
	Ho	165	66.7	22.9				ug/L	22	Standard
	Tl	203	544756.9	2.6	**50.3215**	0.972	1.9	ug/L	14	Standard
	Tl	205	1261801.1	1.5	**50.5404**	0.475	0.9	ug/L	27	Standard
	Pb	206	411317.5	0.8	**50.1307**	0.390	0.8	ug/L	557	Standard
	Pb	207	348140.0	1.4	**48.1603**	0.360	0.7	ug/L	432	Standard
	Pb	208	1609513.7	1.3	**49.1494**	0.400	0.8	ug/L	2118	Standard
	U	238	1458864.4	0.2	**49.2038**	0.237	0.5	ug/L	78	Standard
>	Bi	209	755013.3	0.6				ug/L	791817	Standard

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⌈	**Na**	23	55.0	15.7	**16.5183**	2.416	14.6	mg/L	5	Standard
|	**Mg**	24	12471.8	2.9	**26.3003**	0.381	1.4	mg/L	48	Standard
|	**K**	39	58.3	13.1	**0.8887**	0.134	15.1	mg/L	3	Standard
|	**Ca**	43	88.3	21.4	**15.8955**	7.808	49.1	mg/L	62	Standard
|	**Fe**	54	767.0	12.8	**0.6956**	0.101	14.5	mg/L	139	Standard
|	**Fe**	57	360.0	6.4	**0.9030**	0.089	9.9	mg/L	83	Standard
⌊>	**Sc-1**	45	21799.0	1.4				mg/L	23513	Standard
	Cl	35	2.7	114.6				ug/L	3	Standard
	Kr	83	2.7	43.3				ug/L	2	Standard
	Br	81	3193.7	7.5				ug/L	910	Standard
	P	31	71.7	28.2				ug/L	85	Standard
	S	34	45.0	29.4				ug/L	48	Standard
	Sr	88	131.7	23.2				ug/L	72	Standard
	C	12	703.3	10.3				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	Standard
	Dy	164	29.7	53.5				mg/L	22	Standard
	Ho-1	165	66.7	22.9				mg/L	22	Standard
	Er	166	76.7	19.9				mg/L	23	Standard
	I	127	716211.1	7.4				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		97.897	
|	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		91.407	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1610010108S WG586668-05
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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	104.748
|	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	95.352
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1610010108S WG586668-05
Report Date/Time: Wednesday, October 12, 2016 16:39:34
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Method 6020 - Summary Report

Sample ID: L1610010108SD WG586668-06
Sample Date/Time: Wednesday, October 12, 2016 16:40:29
Number of Replicates: 3
Autosampler Position: 326
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	72571.8	3.0				ug/L	72553	Standard
	Be	9	43077.9	3.3	**47.6110**	0.894	1.9	ug/L	10	Standard
	Al	27	16837057.8	0.8	**166.5024**	4.231	2.5	ug/L	232	Standard
	Sc	45	21827.4	1.5				ug/L	23513	Standard
	Ti	47	81.3	7.0	**0.2677**	0.038	14.4	ug/L	36	Standard
	V	51	289327.7	0.2	**50.1836**	0.448	0.9	ug/L	1387	Standard
	Cr	52	278827.0	1.0	**50.2885**	0.428	0.9	ug/L	7813	Standard
	Cr	53	36844.7	0.8	**51.1182**	0.753	1.5	ug/L	1410	Standard
	Mn	55	23980391.0	1.3	**2607.3580**	19.228	0.7	ug/L	1043	Standard
	Co	59	393785.8	0.8	**48.1700**	0.410	0.9	ug/L	198	Standard
	Ni	60	89506.6	1.3	**50.1687**	0.645	1.3	ug/L	64	Standard
	Cu	65	88169.8	1.5	**47.9217**	0.526	1.1	ug/L	122	Standard
	Zn	66	61258.6	0.9	**61.8580**	0.212	0.3	ug/L	209	Standard
>	Ge	72	570271.3	0.7				ug/L	618040	Standard
	As	75	51910.7	0.9	**49.9341**	0.129	0.3	ug/L	11	Standard
	Se	82	4856.3	0.4	**49.7533**	0.142	0.3	ug/L	21	Standard
	Se-1	77	3329.7	0.9	**50.5204**	0.225	0.4	ug/L	86	Standard
>	Ga	71	188.3	8.1				mg/L	13	Standard
	Rb	85	14880.6	1.4				ug/L	18	Standard
	Y	89	441061.8	2.5				ug/L	463757	Standard
>	Rh	103	65.0	20.4				ug/L	12	Standard
	Mo	98	406.5	3.1	**0.0987**	0.003	2.7	ug/L	29	Standard
	Ag	107	316937.0	1.0	**45.3159**	0.462	1.0	ug/L	101	Standard
	Cd	111	111408.9	1.2	**49.7785**	0.904	1.8	mg/L	9	Standard
	Cd	114	283140.5	2.1	**48.3931**	1.280	2.6	ug/L	47	Standard
>	In	115	808825.7	1.7				ug/L	765457	Standard
	Sn	118	176.7	8.0	**-0.0125**	0.009	71.6	ug/L	168	Standard
	Sb	123	314557.5	1.6	**52.1765**	0.451	0.9	ug/L	332	Standard
	Ba	135	1570738.6	2.1	**560.0414**	9.721	1.7	ug/L	37	Standard
	Ce	140	1146.7	8.4				ug/L	895	Standard
>	Tb	159	1496598.4	1.4				ug/L	1511047	Standard
	Ho	165	68.3	29.6				ug/L	22	Standard
	Tl	203	549177.5	0.8	**50.6219**	0.127	0.3	ug/L	14	Standard
	Tl	205	1290313.0	0.7	**51.5750**	0.849	1.6	ug/L	27	Standard
	Pb	206	412329.0	0.7	**50.1428**	0.212	0.4	ug/L	557	Standard
	Pb	207	349624.3	0.7	**48.2606**	0.203	0.4	ug/L	432	Standard
	Pb	208	1614205.0	1.3	**49.1843**	0.407	0.8	ug/L	2118	Standard
	U	238	1479887.8	0.9	**49.8013**	0.113	0.2	ug/L	78	Standard
>	Bi	209	756695.9	1.0				ug/L	791817	Standard

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⌈	**Na**	23	66.7	30.3	**20.0820**	6.020	30.0	mg/L	5	Standard
|	**Mg**	24	13075.6	3.0	**27.5418**	0.443	1.6	mg/L	48	Standard
|	**K**	39	91.7	11.4	**1.4163**	0.155	10.9	mg/L	3	Standard
|	**Ca**	43	88.3	14.2	**15.8461**	5.395	34.0	mg/L	62	Standard
|	**Fe**	54	839.6	11.1	**0.7725**	0.108	14.0	mg/L	139	Standard
|	**Fe**	57	371.7	12.4	**0.9465**	0.189	20.0	mg/L	83	Standard
⌊>	**Sc-1**	45	21827.4	1.5				mg/L	23513	Standard
	Cl	35	4.0	50.0				ug/L	3	Standard
	Kr	83	4.0	0.0				ug/L	2	Standard
	Br	81	3017.0	8.2				ug/L	910	Standard
	P	31	81.7	21.5				ug/L	85	Standard
	S	34	53.3	32.9				ug/L	48	Standard
	Sr	88	128.3	15.7				ug/L	72	Standard
	C	12	670.0	16.8				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	7	Standard
	Dy	164	43.5	37.4				mg/L	22	Standard
	Ho-1	165	68.3	29.6				mg/L	22	Standard
	Er	166	66.7	31.2				mg/L	23	Standard
	I	127	698981.7	7.0				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		100.025	
|	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		92.271	
|	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	105.666
|	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	95.565
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610010102
Sample Date/Time: Wednesday, October 12, 2016 16:43:28
Number of Replicates: 3
Autosampler Position: 327
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	70822.3	6.8				ug/L	72553	Standard
	Be	9	30.0	33.3	**0.0175**	0.013	74.4	ug/L	10	Standard
	Al	27	5234075.4	0.7	**53.1702**	3.586	6.7	ug/L	232	Standard
	Sc	45	21533.6	4.9				ug/L	23513	Standard
	Ti	47	67.3	7.5	**0.1812**	0.046	25.5	ug/L	36	Standard
	V	51	2799.6	12.9	**0.2803**	0.063	22.5	ug/L	1387	Standard
	Cr	52	10308.2	3.6	**0.6291**	0.075	11.9	ug/L	7813	Standard
	Cr	53	2581.9	3.0	**1.8474**	0.264	14.3	ug/L	1410	Standard
	Mn	55	2325759.0	1.1	**252.5236**	8.000	3.2	ug/L	1043	Standard
	Co	59	9886.9	0.8	**1.1904**	0.042	3.6	ug/L	198	Standard
	Ni	60	5210.9	1.0	**2.8824**	0.096	3.3	ug/L	64	Standard
	Cu	65	795.4	4.7	**0.3285**	0.015	4.6	ug/L	122	Standard
	Zn	66	3355.4	1.1	**2.6142**	0.107	4.1	ug/L	209	Standard
>	Ge	72	571268.0	4.2				ug/L	618040	Standard
	As	75	998.1	5.6	**1.0002**	0.073	7.3	ug/L	11	Standard
	Se	82	37.0	14.6	**0.2451**	0.062	25.4	ug/L	21	Standard
	Se-1	77	168.7	5.2	**1.2839**	0.032	2.5	ug/L	86	Standard
>	Ga	71	51.7	24.4				mg/L	13	Standard
	Rb	85	6364.7	3.8				ug/L	18	Standard
	Y	89	440733.8	3.7				ug/L	463757	Standard
>	Rh	103	30.0	44.1				ug/L	12	Standard
	Mo	98	11350.7	1.1	**2.9082**	0.137	4.7	ug/L	29	Standard
	Ag	107	157.7	22.9	**0.0075**	0.005	62.3	ug/L	101	Standard
	Cd	111	16.7	13.4	**0.0029**	0.001	47.3	mg/L	9	Standard
	Cd	114	121.9	9.6	**0.0205**	0.002	10.3	ug/L	47	Standard
>	In	115	808942.3	5.3				ug/L	765457	Standard
	Sn	118	178.0	3.4	**-0.0113**	0.005	44.5	ug/L	168	Standard
	Sb	123	4045.4	2.3	**0.6760**	0.049	7.2	ug/L	332	Standard
	Ba	135	210611.8	1.0	**75.1745**	3.300	4.4	ug/L	37	Standard
	Ce	140	1210.0	8.7				ug/L	895	Standard
>	Tb	159	1482310.0	5.4				ug/L	1511047	Standard
	Ho	165	335.0	5.4				ug/L	22	Standard
	Tl	203	125.7	33.2	**0.0113**	0.004	31.3	ug/L	14	Standard
	Tl	205	326.7	30.7	**0.0099**	0.004	37.0	ug/L	27	Standard
	Pb	206	1044.0	6.1	**0.0490**	0.005	9.5	ug/L	557	Standard
	Pb	207	831.4	2.7	**0.0414**	0.002	4.3	ug/L	432	Standard
	Pb	208	3938.5	4.9	**0.0436**	0.003	6.4	ug/L	2118	Standard
	U	238	9068.0	1.3	**0.3030**	0.007	2.2	ug/L	78	Standard
>	Bi	209	763130.4	3.4				ug/L	791817	Standard

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⌈	**Na**	23	58.3	26.2	**17.8299**	4.784	26.8	mg/L	5	Standard
|	**Mg**	24	11766.2	2.5	**25.1640**	1.517	6.0	mg/L	48	Standard
|	**K**	39	55.0	18.2	**0.8426**	0.135	16.0	mg/L	3	Standard
|	**Ca**	43	98.3	19.3	**20.5312**	9.598	46.8	mg/L	62	Standard
|	**Fe**	54	1405.9	2.4	**1.3954**	0.097	6.9	mg/L	139	Standard
|	**Fe**	57	530.0	6.6	**1.5764**	0.208	13.2	mg/L	83	Standard
⌊>	**Sc-1**	45	21533.6	4.9				mg/L	23513	Standard
	Cl	35	4.0	50.0				ug/L	3	Standard
	Kr	83	2.7	21.7				ug/L	2	Standard
	Br	81	3413.7	2.1				ug/L	910	Standard
	P	31	91.7	54.9				ug/L	85	Standard
	S	34	33.3	82.6				ug/L	48	Standard
	Sr	88	98.3	17.9				ug/L	72	Standard
	C	12	630.0	12.4				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	Standard
	Dy	164	286.9	14.6				mg/L	22	Standard
	Ho-1	165	335.0	5.4				mg/L	22	Standard
	Er	166	483.3	10.2				mg/L	23	Standard
	I	127	53194.6	14.7				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		97.614	
|	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		92.432	
|	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	105.681
|	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	96.377
⌈	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: L1610010104
Sample Date/Time: Wednesday, October 12, 2016 16:46:28
Number of Replicates: 3
Autosampler Position: 328
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	71917.2	4.7				ug/L	72553	Standard
	Be	9	16.7	75.5	**0.0022**	0.015	670.5	ug/L	10	Standard
	Al	27	12553744.5	2.4	**125.4769**	8.575	6.8	ug/L	232	Standard
	Sc	45	22610.2	3.5				ug/L	23513	Standard
	Ti	47	73.0	19.2	**0.2120**	0.084	39.8	ug/L	36	Standard
	V	51	1072.8	10.0	**-0.0215**	0.019	88.0	ug/L	1387	Standard
	Cr	52	9872.9	0.8	**0.5356**	0.017	3.1	ug/L	7813	Standard
	Cr	53	3047.0	3.4	**2.4793**	0.146	5.9	ug/L	1410	Standard
	Mn	55	12507307.7	2.3	**1348.5795**	25.538	1.9	ug/L	1043	Standard
	Co	59	4541.7	3.3	**0.5326**	0.020	3.8	ug/L	198	Standard
	Ni	60	4029.9	2.4	**2.2036**	0.045	2.0	ug/L	64	Standard
	Cu	65	1337.4	1.3	**0.6184**	0.012	2.0	ug/L	122	Standard
	Zn	66	4417.3	1.5	**3.6664**	0.064	1.7	ug/L	209	Standard
>	Ge	72	575010.3	0.4				ug/L	618040	Standard
	As	75	493.6	3.2	**0.5115**	0.013	2.6	ug/L	11	Standard
	Se	82	40.4	11.0	**0.2766**	0.044	15.7	ug/L	21	Standard
	Se-1	77	242.7	7.4	**2.4098**	0.262	10.9	ug/L	86	Standard
>	Ga	71	146.7	12.9				mg/L	13	Standard
	Rb	85	15094.2	3.8				ug/L	18	Standard
	Y	89	436471.2	1.0				ug/L	463757	Standard
>	Rh	103	41.7	36.7				ug/L	12	Standard
	Mo	98	1305.2	2.8	**0.3312**	0.008	2.5	ug/L	29	Standard
	Ag	107	110.3	1.9	**0.0009**	0.000	38.5	ug/L	101	Standard
	Cd	111	14.0	20.3	**0.0017**	0.001	75.3	mg/L	9	Standard
	Cd	114	53.8	33.3	**0.0089**	0.003	34.2	ug/L	47	Standard
>	In	115	803653.3	0.4				ug/L	765457	Standard
	Sn	118	170.0	8.0	**-0.0168**	0.011	64.9	ug/L	168	Standard
	Sb	123	335.3	19.3	**0.0595**	0.011	18.3	ug/L	332	Standard
	Ba	135	518457.9	0.8	**186.0215**	1.764	0.9	ug/L	37	Standard
	Ce	140	468.3	10.5				ug/L	895	Standard
>	Tb	159	1504127.1	0.7				ug/L	1511047	Standard
	Ho	165	151.7	18.2				ug/L	22	Standard
	Tl	203	76.7	7.2	**0.0069**	0.000	6.6	ug/L	14	Standard
	Tl	205	191.7	26.1	**0.0047**	0.002	42.1	ug/L	27	Standard
	Pb	206	929.7	3.6	**0.0356**	0.003	8.9	ug/L	557	Standard
	Pb	207	720.7	1.6	**0.0266**	0.001	3.1	ug/L	432	Standard
	Pb	208	3507.8	2.3	**0.0310**	0.002	7.1	ug/L	2118	Standard
	U	238	5555.4	3.6	**0.1863**	0.006	3.2	ug/L	78	Standard
>	Bi	209	760312.6	0.8				ug/L	791817	Standard

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⌈	**Na**	23	68.3	58.7	**19.7348**	11.633	58.9	mg/L	5	Standard
|	**Mg**	24	17334.9	4.8	**35.3354**	2.760	7.8	mg/L	48	Standard
|	**K**	39	75.0	20.0	**1.1164**	0.272	24.3	mg/L	3	Standard
|	**Ca**	43	80.0	39.0	**11.6154**	12.155	104.6	mg/L	62	Standard
|	**Fe**	54	465.7	8.1	**0.3594**	0.056	15.4	mg/L	139	Standard
|	**Fe**	57	276.7	4.5	**0.5503**	0.036	6.5	mg/L	83	Standard
⌊>	**Sc-1**	45	22610.2	3.5				mg/L	23513	Standard
	Cl	35	4.7	137.8				ug/L	3	Standard
	Kr	83	5.0	40.0				ug/L	2	Standard
	Br	81	4143.9	9.2				ug/L	910	Standard
	P	31	86.7	20.3				ug/L	85	Standard
	S	34	46.7	16.4				ug/L	48	Standard
	Sr	88	146.7	17.2				ug/L	72	Standard
	C	12	670.0	6.0				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	163.6	12.2				mg/L	22	Standard
	Ho-1	165	151.7	18.2				mg/L	22	Standard
	Er	166	133.3	8.7				mg/L	23	Standard
	I	127	230656.6	4.7				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		99.123	
|	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		93.038	
|	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	104.990
|	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	96.021
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1610010104
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Method 6020 - Summary Report

Sample ID: L1610010104PS WG586896-01
Sample Date/Time: Wednesday, October 12, 2016 16:49:28
Number of Replicates: 3
Autosampler Position: 329
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	71943.8	2.7				ug/L	72553	Standard
	Be	9	43199.8	0.6	**48.1775**	1.018	2.1	ug/L	10	Standard
	Al	27	12483266.1	1.9	**124.4900**	2.163	1.7	ug/L	232	Standard
	Sc	45	21702.2	2.0				ug/L	23513	Standard
	Ti	47	73.7	12.6	**0.2180**	0.052	23.9	ug/L	36	Standard
	V	51	296062.1	1.6	**51.1676**	0.623	1.2	ug/L	1387	Standard
	Cr	52	284316.7	1.2	**51.1138**	0.456	0.9	ug/L	7813	Standard
	Cr	53	38525.6	1.8	**53.3297**	0.612	1.1	ug/L	1410	Standard
	Mn	55	12753991.6	0.5	**1381.7256**	9.681	0.7	ug/L	1043	Standard
	Co	59	398627.6	1.9	**48.5832**	0.556	1.1	ug/L	198	Standard
	Ni	60	90173.3	2.1	**50.3553**	0.485	1.0	ug/L	64	Standard
	Cu	65	90204.1	0.9	**48.8554**	0.567	1.2	ug/L	122	Standard
	Zn	66	53455.8	1.3	**53.6766**	0.215	0.4	ug/L	209	Standard
>	Ge	72	572346.7	1.1				ug/L	618040	Standard
	As	75	49530.1	1.6	**47.4723**	0.288	0.6	ug/L	11	Standard
	Se	82	4935.7	2.7	**50.3786**	0.775	1.5	ug/L	21	Standard
	Se-1	77	3464.4	3.0	**52.4186**	1.230	2.3	ug/L	86	Standard
>	Ga	71	113.3	24.3				mg/L	13	Standard
	Rb	85	15019.1	3.0				ug/L	18	Standard
	Y	89	439064.2	0.5				ug/L	463757	Standard
>	Rh	103	55.0	39.6				ug/L	12	Standard
	Mo	98	1401.9	1.8	**0.3544**	0.008	2.4	ug/L	29	Standard
	Ag	107	310823.2	0.5	**44.5123**	0.715	1.6	ug/L	101	Standard
	Cd	111	110825.1	1.1	**49.5945**	0.979	2.0	mg/L	9	Standard
	Cd	114	285130.7	1.8	**48.8029**	0.869	1.8	ug/L	47	Standard
>	In	115	807564.6	1.2				ug/L	765457	Standard
	Sn	118	231.0	5.5	**0.0298**	0.009	29.2	ug/L	168	Standard
	Sb	123	309196.0	1.7	**51.3669**	0.751	1.5	ug/L	332	Standard
	Ba	135	655882.8	1.2	**234.2229**	4.478	1.9	ug/L	37	Standard
	Ce	140	440.0	9.0				ug/L	895	Standard
>	Tb	159	1494767.7	1.3				ug/L	1511047	Standard
	Ho	165	165.0	25.9				ug/L	22	Standard
	Tl	203	546145.8	1.6	**50.3978**	0.551	1.1	ug/L	14	Standard
	Tl	205	1263591.7	2.0	**50.5613**	1.098	2.2	ug/L	27	Standard
	Pb	206	415616.9	1.6	**50.5979**	0.449	0.9	ug/L	557	Standard
	Pb	207	349441.3	1.1	**48.2980**	1.176	2.4	ug/L	432	Standard
	Pb	208	1626118.7	1.4	**49.6095**	1.038	2.1	ug/L	2118	Standard
	U	238	1505750.1	2.1	**50.7314**	1.160	2.3	ug/L	78	Standard
>	Bi	209	755935.0	2.2				ug/L	791817	Standard

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⌈	**Na**	23	45.0	40.1	**13.5265**	5.688	42.0	mg/L	5	Standard
|	**Mg**	24	17698.7	2.5	**37.5276**	0.463	1.2	mg/L	48	Standard
|	**K**	39	71.7	26.4	**1.1093**	0.323	29.1	mg/L	3	Standard
|	**Ca**	43	100.0	21.8	**20.6759**	9.240	44.7	mg/L	62	Standard
|	**Fe**	54	429.8	19.5	**0.3396**	0.086	25.4	mg/L	139	Standard
|	**Fe**	57	260.0	10.7	**0.5307**	0.125	23.5	mg/L	83	Standard
⌊>	**Sc-1**	45	21702.2	2.0				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	2.3	65.5				ug/L	2	Standard
	Br	81	4424.0	5.5				ug/L	910	Standard
	P	31	95.0	10.5				ug/L	85	Standard
	S	34	46.7	50.6				ug/L	48	Standard
	Sr	88	130.0	3.8				ug/L	72	Standard
	C	12	686.7	9.4				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	34.6				mg/L	7	Standard
	Dy	164	159.3	34.9				mg/L	22	Standard
	Ho-1	165	165.0	25.9				mg/L	22	Standard
	Er	166	153.3	10.0				mg/L	23	Standard
	I	127	247487.8	5.9				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		99.160	
|	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		92.607	
|	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	105.501
|	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	95.468
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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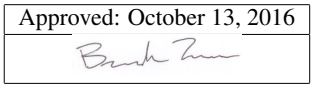

Method 6020 - Summary Report

Sample ID: L1610010104SDL WG586896-02
Sample Date/Time: Wednesday, October 12, 2016 17:14:10
Number of Replicates: 3
Autosampler Position: 330
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	68591.7	3.8				ug/L	72553	Standard
	Be	9	8.3	69.3	**-0.0071**	0.007	95.0	ug/L	10	Standard
	Al	27	2461754.5	3.6	**25.7424**	0.099	0.4	ug/L	232	Standard
	Sc	45	22199.6	0.7				ug/L	23513	Standard
	Ti	47	42.3	20.6	**0.0236**	0.055	231.5	ug/L	36	Standard
	V	51	1036.7	11.8	**-0.0278**	0.023	82.7	ug/L	1387	Standard
	Cr	52	7248.7	2.1	**0.0533**	0.024	44.8	ug/L	7813	Standard
	Cr	53	1521.7	5.6	**0.3039**	0.149	48.9	ug/L	1410	Standard
	Mn	55	2530854.1	1.8	**272.5874**	4.976	1.8	ug/L	1043	Standard
	Co	59	1035.4	1.2	**0.1070**	0.001	1.0	ug/L	198	Standard
	Ni	60	847.0	4.4	**0.4329**	0.024	5.5	ug/L	64	Standard
	Cu	65	490.0	8.0	**0.1605**	0.023	14.4	ug/L	122	Standard
	Zn	66	2014.1	4.1	**1.2275**	0.113	9.2	ug/L	209	Standard
>	Ge	72	575478.6	1.9				ug/L	618040	Standard
	As	75	76.4	70.3	**0.1135**	0.051	44.8	ug/L	11	Standard
	Se	82	22.0	60.7	**0.0906**	0.139	152.9	ug/L	21	Standard
	Se-1	77	126.0	13.1	**0.6077**	0.264	43.4	ug/L	86	Standard
>	Ga	71	36.7	20.8				mg/L	13	Standard
	Rb	85	2968.6	4.0				ug/L	18	Standard
	Y	89	440692.1	0.2				ug/L	463757	Standard
>	Rh	103	10.0	50.0				ug/L	12	Standard
	Mo	98	313.6	5.2	**0.0799**	0.006	7.5	ug/L	29	Standard
	Ag	107	104.3	14.4	**0.0009**	0.002	264.0	ug/L	101	Standard
	Cd	111	6.6	54.4	**-0.0015**	0.002	121.8	mg/L	9	Standard
	Cd	114	52.1	43.0	**0.0092**	0.004	44.4	ug/L	47	Standard
>	In	115	761768.6	2.2				ug/L	765457	Standard
	Sn	118	170.3	15.6	**-0.0095**	0.019	205.3	ug/L	168	Standard
	Sb	123	1114.7	44.8	**0.1989**	0.086	43.0	ug/L	332	Standard
	Ba	135	100727.0	3.4	**38.1032**	0.706	1.9	ug/L	37	Standard
	Ce	140	140.0	25.0				ug/L	895	Standard
>	Tb	159	1450703.4	1.1				ug/L	1511047	Standard
	Ho	165	50.0	0.0				ug/L	22	Standard
	Tl	203	58.0	19.0	**0.0051**	0.001	18.3	ug/L	14	Standard
	Tl	205	138.3	16.3	**0.0025**	0.001	33.1	ug/L	27	Standard
	Pb	206	632.0	0.3	**-0.0013**	0.001	77.8	ug/L	557	Standard
	Pb	207	531.3	3.6	**-0.0003**	0.002	629.6	ug/L	432	Standard
	Pb	208	2441.1	0.2	**-0.0023**	0.001	37.4	ug/L	2118	Standard
	U	238	1086.4	1.0	**0.0362**	0.001	2.3	ug/L	78	Standard
>	Bi	209	769364.0	1.4				ug/L	791817	Standard

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⌈	**Na**	23	10.0	50.0	**2.5757**	1.507	58.5	mg/L	5	Standard
|	**Mg**	24	3513.7	3.2	**7.2180**	0.182	2.5	mg/L	48	Standard
|	**K**	39	25.0	52.9	**0.3486**	0.206	59.2	mg/L	3	Standard
|	**Ca**	43	46.7	22.3	**-0.8037**	4.051	504.0	mg/L	62	Standard
|	**Fe**	54	186.0	16.5	**0.0754**	0.031	40.9	mg/L	139	Standard
|	**Fe**	57	108.3	2.7	**-0.0563**	0.013	22.7	mg/L	83	Standard
⌊>	**Sc-1**	45	22199.6	0.7				mg/L	23513	Standard
	Cl	35	3.3	91.7				ug/L	3	Standard
	Kr	83	4.0	25.0				ug/L	2	Standard
	Br	81	1650.1	5.3				ug/L	910	Standard
	P	31	55.0	18.2				ug/L	85	Standard
	S	34	48.3	36.3				ug/L	48	Standard
	Sr	88	75.0	46.7				ug/L	72	Standard
	C	12	306.7	37.7				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	70.8	9.7				mg/L	22	Standard
	Ho-1	165	50.0	0.0				mg/L	22	Standard
	Er	166	53.3	60.3				mg/L	23	Standard
	I	127	45388.2	8.4				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		94.540	
|	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		93.113	
|	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	99.518
|	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	97.164
⌈	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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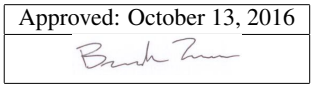

Method 6020 - Summary Report

Sample ID: L1610010104SDL WG586896-02
Sample Date/Time: Wednesday, October 12, 2016 17:17:09
Number of Replicates: 3
Autosampler Position: 331
Sample Description: 25
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	67017.9	2.4				ug/L	72553	Standard
	Be	9	8.3	69.3	**-0.0069**	0.007	97.3	ug/L	10	Standard
	Al	27	497322.7	2.2	**5.3196**	0.019	0.4	ug/L	232	Standard
	Sc	45	22606.9	3.4				ug/L	23513	Standard
	Ti	47	32.0	27.2	**-0.0392**	0.050	127.2	ug/L	36	Standard
	V	51	1327.3	7.5	**0.0237**	0.015	63.7	ug/L	1387	Standard
	Cr	52	6959.3	2.0	**0.0088**	0.002	17.7	ug/L	7813	Standard
	Cr	53	1030.0	9.7	**-0.3888**	0.133	34.2	ug/L	1410	Standard
	Mn	55	514355.6	2.7	**55.6446**	1.055	1.9	ug/L	1043	Standard
	Co	59	306.0	5.7	**0.0188**	0.001	7.7	ug/L	198	Standard
	Ni	60	242.0	1.9	**0.0974**	0.004	4.4	ug/L	64	Standard
	Cu	65	206.7	7.5	**0.0083**	0.010	117.7	ug/L	122	Standard
	Zn	66	1610.8	1.9	**0.8291**	0.057	6.9	ug/L	209	Standard
>	Ge	72	571604.2	2.0				ug/L	618040	Standard
	As	75	-13.0	414.3	**0.0290**	0.051	175.5	ug/L	11	Standard
	Se	82	11.4	57.1	**-0.0178**	0.068	381.1	ug/L	21	Standard
	Se-1	77	72.7	15.2	**-0.2060**	0.194	94.0	ug/L	86	Standard
>	Ga	71	13.3	57.3				mg/L	13	Standard
	Rb	85	641.7	14.8				ug/L	18	Standard
	Y	89	434725.9	1.5				ug/L	463757	Standard
>	Rh	103	8.3	69.3				ug/L	12	Standard
	Mo	98	73.8	17.8	**0.0149**	0.004	24.9	ug/L	29	Standard
	Ag	107	96.7	11.2	**-0.0000**	0.002	4104.4	ug/L	101	Standard
	Cd	111	8.9	51.5	**-0.0003**	0.002	668.4	mg/L	9	Standard
	Cd	114	38.3	16.1	**0.0068**	0.001	17.2	ug/L	47	Standard
>	In	115	748920.3	0.5				ug/L	765457	Standard
	Sn	118	124.0	12.7	**-0.0455**	0.013	28.2	ug/L	168	Standard
	Sb	123	262.8	46.9	**0.0506**	0.022	43.4	ug/L	332	Standard
	Ba	135	20707.1	0.4	**7.9491**	0.023	0.3	ug/L	37	Standard
	Ce	140	63.3	32.9				ug/L	895	Standard
>	Tb	159	1446746.6	0.8				ug/L	1511047	Standard
	Ho	165	16.7	45.8				ug/L	22	Standard
	Tl	203	26.3	31.6	**0.0022**	0.001	33.7	ug/L	14	Standard
	Tl	205	56.7	31.0	**-0.0007**	0.001	93.2	ug/L	27	Standard
	Pb	206	547.0	3.6	**-0.0116**	0.002	21.1	ug/L	557	Standard
	Pb	207	494.0	7.1	**-0.0055**	0.005	89.5	ug/L	432	Standard
	Pb	208	2259.4	1.3	**-0.0078**	0.001	15.4	ug/L	2118	Standard
	U	238	220.0	7.0	**0.0075**	0.001	7.1	ug/L	78	Standard
>	Bi	209	770814.7	0.7				ug/L	791817	Standard

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⌈	**Na**	23	3.3	86.6	**0.5303**	0.857	161.6	mg/L	5	Standard
|	**Mg**	24	758.4	8.6	**1.4649**	0.084	5.7	mg/L	48	Standard
|	**K**	39	6.7	114.6	**0.0575**	0.113	195.7	mg/L	3	Standard
|	**Ca**	43	48.3	52.1	**-0.4300**	9.895	2301.2	mg/L	62	Standard
|	**Fe**	54	140.8	4.0	**0.0260**	0.010	40.1	mg/L	139	Standard
|	**Fe**	57	125.0	28.8	**-0.0026**	0.134	5129.2	mg/L	83	Standard
⌊>	**Sc-1**	45	22606.9	3.4				mg/L	23513	Standard
	Cl	35	2.7	86.6				ug/L	3	Standard
	Kr	83	5.0	40.0				ug/L	2	Standard
	Br	81	1093.4	5.0				ug/L	910	Standard
	P	31	65.0	38.5				ug/L	85	Standard
	S	34	51.7	29.6				ug/L	48	Standard
	Sr	88	101.7	14.2				ug/L	72	Standard
	C	12	196.7	43.8				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	7	Standard
	Dy	164	32.1	101.6				mg/L	22	Standard
	Ho-1	165	16.7	45.8				mg/L	22	Standard
	Er	166	26.7	78.1				mg/L	23	Standard
	I	127	14240.0	3.3				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		92.371	
|	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		92.487	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	97.840
|	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	97.348
⌈	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: L1610010104SDL WG586896-02
Report Date/Time: Wednesday, October 12, 2016 17:19:13
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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, October 12, 2016 17:20:10
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	62154.0	2.9				ug/L	72553	Standard
	Be	9	39122.1	0.3	**50.5123**	1.498	3.0	ug/L	10	Standard
	Al	27	4298453.9	2.1	**49.6430**	2.181	4.4	ug/L	232	Standard
	Sc	45	20927.8	1.4				ug/L	23513	Standard
	Ti	47	15421.2	1.6	**99.2553**	1.705	1.7	ug/L	36	Standard
	V	51	280648.8	1.8	**50.6886**	0.861	1.7	ug/L	1387	Standard
	Cr	52	269344.6	2.0	**50.5911**	0.957	1.9	ug/L	7813	Standard
	Cr	53	34472.5	4.1	**49.7478**	1.987	4.0	ug/L	1410	Standard
	Mn	55	441140.7	1.1	**49.7956**	0.618	1.2	ug/L	1043	Standard
	Co	59	392196.3	0.6	**49.9570**	0.288	0.6	ug/L	198	Standard
	Ni	60	86281.3	1.4	**50.3571**	0.604	1.2	ug/L	64	Standard
	Cu	65	88789.8	1.7	**50.2571**	0.776	1.5	ug/L	122	Standard
	Zn	66	46908.5	1.6	**49.1579**	0.690	1.4	ug/L	209	Standard
>	Ge	72	547651.1	0.3				ug/L	618040	Standard
	As	75	49626.6	0.6	**49.7101**	0.427	0.9	ug/L	11	Standard
	Se	82	4694.4	1.0	**50.0828**	0.611	1.2	ug/L	21	Standard
	Se-1	77	3259.4	3.0	**51.5234**	1.667	3.2	ug/L	86	Standard
>	Ga	71	21.7	66.6				mg/L	13	Standard
	Rb	85	673.3	7.5				ug/L	18	Standard
	Y	89	417391.6	1.3				ug/L	463757	Standard
>	Rh	103	28.3	36.7				ug/L	12	Standard
	Mo	98	340439.6	1.2	**96.7779**	0.231	0.2	ug/L	29	Standard
	Ag	107	308147.0	1.3	**48.8658**	0.523	1.1	ug/L	101	Standard
	Cd	111	102116.1	1.7	**50.5966**	0.239	0.5	mg/L	9	Standard
	Cd	114	266210.7	4.1	**50.4458**	1.512	3.0	ug/L	47	Standard
>	In	115	729244.3	1.4				ug/L	765457	Standard
	Sn	118	58744.0	1.8	**50.2399**	0.199	0.4	ug/L	168	Standard
	Sb	123	282583.8	0.6	**51.9909**	0.527	1.0	ug/L	332	Standard
	Ba	135	128244.5	0.6	**50.6948**	0.523	1.0	ug/L	37	Standard
	Ce	140	110.0	37.2				ug/L	895	Standard
>	Tb	159	1381284.9	0.8				ug/L	1511047	Standard
	Ho	165	15.0	0.0				ug/L	22	Standard
	Tl	203	521553.0	1.5	**50.5991**	0.292	0.6	ug/L	14	Standard
	Tl	205	1219520.6	0.5	**51.3034**	0.402	0.8	ug/L	27	Standard
	Pb	206	393210.4	0.8	**50.3305**	0.179	0.4	ug/L	557	Standard
	Pb	207	346078.8	0.4	**50.2858**	0.394	0.8	ug/L	432	Standard
	Pb	208	1558973.8	0.5	**50.0007**	0.394	0.8	ug/L	2118	Standard
	U	238	1422510.1	0.7	**50.3914**	0.892	1.8	ug/L	78	Standard
>	Bi	209	718924.0	1.1				ug/L	791817	Standard

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	Na	23	6.7	43.3	**1.6804**	0.893	53.1	mg/L	5	Standard
	Mg	24	2290.2	7.4	**4.9635**	0.302	6.1	mg/L	48	Standard
	K	39	283.3	1.0	**4.6640**	0.072	1.5	mg/L	3	Standard
	Ca	43	71.7	20.1	**10.4688**	5.816	55.6	mg/L	62	Standard
	Fe	54	4870.1	1.6	**5.2678**	0.149	2.8	mg/L	139	Standard
	Fe	57	1448.4	10.5	**5.2505**	0.639	12.2	mg/L	83	Standard
>	**Sc-1**	45	20927.8	1.4				mg/L	23513	Standard
	Cl	35	2.0	100.0				ug/L	3	Standard
	Kr	83	2.7	57.3				ug/L	2	Standard
	Br	81	1003.4	6.0				ug/L	910	Standard
	P	31	66.7	22.9				ug/L	85	Standard
	S	34	40.0	33.1				ug/L	48	Standard
	Sr	88	106.7	39.9				ug/L	72	Standard
	C	12	273.3	29.6				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	20.0	50.0				mg/L	7	Standard
	Dy	164	12.4	46.8				mg/L	22	Standard
	Ho-1	165	15.0	0.0				mg/L	22	Standard
	Er	166	20.0	50.0				mg/L	23	Standard
	I	127	5044.2	3.3				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	101.025		
	Al	27	99.286		
	Sc	45			
	Ti	47	99.255		
	V	51	101.377		
	Cr	52	101.182		
	Cr	53			
	Mn	55	99.591		
	Co	59	99.914		
	Ni	60	100.714		
	Cu	65	100.514		
	Zn	66	98.316		
>	Ge	72		88.611	
	As	75	99.420		
	Se	82	100.166		
	Se-1	77			
>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	96.778		
Ag	107	97.732		
Cd	111	101.193		
Cd	114			
In	115			95.269
Sn	118	100.480		
Sb	123	103.982		
Ba	135	101.390		
Ce	140			
Tb	159			
Ho	165			
Tl	203	101.198		
Tl	205			
Pb	206			
Pb	207			
Pb	208	100.001		
U	238	100.783		
Bi	209			90.794
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: Wednesday, October 12, 2016 17:23:09
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: BKT 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	63203.3	2.7				ug/L	72553	Standard
	Be	9	3.3	86.6	**-0.0125**	0.004	29.7	ug/L	10	Standard
	Al	27	305.0	14.2	**-0.0001**	0.001	780.8	ug/L	232	Standard
	Sc	45	21567.0	4.2				ug/L	23513	Standard
	Ti	47	22.7	10.2	**-0.0906**	0.014	15.5	ug/L	36	Standard
	V	51	937.5	11.9	**-0.0372**	0.021	55.9	ug/L	1387	Standard
	Cr	52	5648.1	3.6	**-0.1901**	0.036	19.1	ug/L	7813	Standard
	Cr	53	801.7	11.4	**-0.6684**	0.136	20.4	ug/L	1410	Standard
	Mn	55	975.7	4.2	**-0.0447**	0.005	11.0	ug/L	1043	Standard
	Co	59	112.0	7.3	**-0.0043**	0.001	26.5	ug/L	198	Standard
	Ni	60	41.3	22.5	**-0.0140**	0.005	38.3	ug/L	64	Standard
	Cu	65	113.3	8.2	**-0.0399**	0.005	13.5	ug/L	122	Standard
	Zn	66	161.3	2.0	**-0.6442**	0.002	0.4	ug/L	209	Standard
>	Ge	72	548939.1	0.8				ug/L	618040	Standard
	As	75	-46.3	96.0	**-0.0051**	0.044	877.0	ug/L	11	Standard
	Se	82	16.6	26.8	**0.0429**	0.049	114.2	ug/L	21	Standard
	Se-1	77	77.7	8.6	**-0.0814**	0.100	123.3	ug/L	86	Standard
>	Ga	71	13.3	21.7				mg/L	13	Standard
	Rb	85	35.0	37.8				ug/L	18	Standard
	Y	89	417019.7	3.8				ug/L	463757	Standard
>	Rh	103	10.0	100.0				ug/L	12	Standard
	Mo	98	170.4	18.5	**0.0424**	0.009	21.6	ug/L	29	Standard
	Ag	107	96.7	7.6	**0.0002**	0.001	652.8	ug/L	101	Standard
	Cd	111	6.1	18.9	**-0.0016**	0.001	37.9	mg/L	9	Standard
	Cd	114	57.3	16.3	**0.0104**	0.002	15.7	ug/L	47	Standard
>	In	115	738090.3	1.9				ug/L	765457	Standard
	Sn	118	163.3	29.5	**-0.0106**	0.041	389.6	ug/L	168	Standard
	Sb	123	516.9	50.5	**0.0975**	0.048	49.4	ug/L	332	Standard
	Ba	135	31.3	4.9	**-0.0123**	0.000	3.3	ug/L	37	Standard
	Ce	140	21.7	35.3				ug/L	895	Standard
>	Tb	159	1408336.3	2.5				ug/L	1511047	Standard
	Ho	165	20.0	50.0				ug/L	22	Standard
	Tl	203	23.3	6.5	**0.0021**	0.000	5.2	ug/L	14	Standard
	Tl	205	63.3	9.1	**-0.0003**	0.000	58.7	ug/L	27	Standard
	Pb	206	496.0	2.9	**-0.0143**	0.001	5.2	ug/L	557	Standard
	Pb	207	394.3	2.9	**-0.0159**	0.002	15.0	ug/L	432	Standard
	Pb	208	1872.0	0.9	**-0.0161**	0.001	4.5	ug/L	2118	Standard
	U	238	76.0	27.6	**0.0029**	0.001	24.2	ug/L	78	Standard
>	Bi	209	727987.5	1.8				ug/L	791817	Standard

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⌈	**Na**	23	6.7	43.3	**1.6068**	0.815	50.7	mg/L	5	Standard
|	**Mg**	24	51.7	45.7	**0.0291**	0.048	165.7	mg/L	48	Standard
|	**K**	39	1.7	173.2	**-0.0170**	0.045	263.7	mg/L	3	Standard
|	**Ca**	43	40.0	21.7	**-2.8215**	4.116	145.9	mg/L	62	Standard
|	**Fe**	54	106.2	27.5	**-0.0049**	0.027	562.3	mg/L	139	Standard
|	**Fe**	57	118.3	19.1	**-0.0073**	0.078	1063.2	mg/L	83	Standard
⌊>	**Sc-1**	45	21567.0	4.2				mg/L	23513	Standard
	Cl	35	3.3	91.7				ug/L	3	Standard
	Kr	83	4.3	35.3				ug/L	2	Standard
	Br	81	953.4	1.2				ug/L	910	Standard
	P	31	90.0	38.9				ug/L	85	Standard
	S	34	43.3	46.6				ug/L	48	Standard
	Sr	88	91.7	22.7				ug/L	72	Standard
	C	12	176.7	23.6				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	12.2	45.2				mg/L	22	Standard
	Ho-1	165	20.0	50.0				mg/L	22	Standard
	Er	166	23.3	49.5				mg/L	23	Standard
	I	127	5622.7	2.6				mg/L	4241	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		88.819	
|	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	96.425
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	91.939
⌈	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: L1610000201
Sample Date/Time: Wednesday, October 12, 2016 17:26:10
Number of Replicates: 3
Autosampler Position: 332
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	63985.0	4.8				ug/L	72553	Standard
	Be	9	68.3	15.2	**0.0692**	0.016	22.7	ug/L	10	Standard
	Al	27	6979.9	4.7	**0.0748**	0.005	6.8	ug/L	232	Standard
	Sc	45	21815.7	2.8				ug/L	23513	Standard
	Ti	47	32.3	10.9	**-0.0282**	0.015	54.8	ug/L	36	Standard
	V	51	2090.5	6.3	**0.1721**	0.016	9.1	ug/L	1387	Standard
	Cr	52	9960.3	2.3	**0.6431**	0.025	3.9	ug/L	7813	Standard
	Cr	53	1310.1	7.7	**0.0933**	0.084	90.0	ug/L	1410	Standard
	Mn	55	5036.2	1.2	**0.4155**	0.014	3.3	ug/L	1043	Standard
	Co	59	1546.7	2.9	**0.1785**	0.002	1.3	ug/L	198	Standard
	Ni	60	1420.1	2.0	**0.7922**	0.042	5.3	ug/L	64	Standard
	Cu	65	810.0	5.2	**0.3562**	0.041	11.5	ug/L	122	Standard
	Zn	66	5559.4	1.2	**5.1106**	0.209	4.1	ug/L	209	Standard
>	Ge	72	547768.3	3.6				ug/L	618040	Standard
	As	75	154.1	19.6	**0.1954**	0.030	15.4	ug/L	11	Standard
	Se	82	34.0	4.6	**0.2283**	0.011	4.6	ug/L	21	Standard
	Se-1	77	85.3	12.3	**0.0445**	0.145	326.3	ug/L	86	Standard
>	Ga	71	23.3	32.7				mg/L	13	Standard
	Rb	85	60.0	22.0				ug/L	18	Standard
	Y	89	418367.0	2.8				ug/L	463757	Standard
>	Rh	103	15.0	66.7				ug/L	12	Standard
	Mo	98	59.5	36.6	**0.0115**	0.007	57.2	ug/L	29	Standard
	Ag	107	1229.7	1.8	**0.1799**	0.005	3.0	ug/L	101	Standard
	Cd	111	238.3	5.3	**0.1133**	0.004	3.4	mg/L	9	Standard
	Cd	114	543.0	7.0	**0.1026**	0.010	9.6	ug/L	47	Standard
>	In	115	730166.8	2.9				ug/L	765457	Standard
	Sn	118	138.0	9.6	**-0.0307**	0.014	45.1	ug/L	168	Standard
	Sb	123	1249.4	9.3	**0.2335**	0.027	11.5	ug/L	332	Standard
	Ba	135	1462.4	3.7	**0.5532**	0.018	3.3	ug/L	37	Standard
	Ce	140	91.7	31.5				ug/L	895	Standard
>	Tb	159	1386616.9	3.4				ug/L	1511047	Standard
	Ho	165	20.0	25.0				ug/L	22	Standard
	Tl	203	414.7	2.9	**0.0399**	0.003	6.8	ug/L	14	Standard
	Tl	205	931.7	9.7	**0.0360**	0.004	9.8	ug/L	27	Standard
	Pb	206	2018.8	1.9	**0.1803**	0.006	3.4	ug/L	557	Standard
	Pb	207	1707.1	2.4	**0.1744**	0.008	4.5	ug/L	432	Standard
	Pb	208	7868.1	3.4	**0.1756**	0.002	1.1	ug/L	2118	Standard
	U	238	4871.1	0.6	**0.1719**	0.007	4.3	ug/L	78	Standard
>	Bi	209	723536.9	4.1				ug/L	791817	Standard

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	Na	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
	Mg	24	51.7	20.1	**0.0292**	0.024	81.9	mg/L	48	Standard
	K	39	5.0	100.0	**0.0354**	0.078	218.8	mg/L	3	Standard
	Ca	43	28.3	10.2	**-7.6676**	1.185	15.5	mg/L	62	Standard
	Fe	54	105.7	14.3	**-0.0059**	0.019	322.6	mg/L	139	Standard
	Fe	57	125.0	20.0	**0.0148**	0.100	675.6	mg/L	83	Standard
>	**Sc-1**	45	21815.7	2.8				mg/L	23513	Standard
	Cl	35	2.0	100.0				ug/L	3	Standard
	Kr	83	4.3	13.3				ug/L	2	Standard
	Br	81	1036.7	17.2				ug/L	910	Standard
	P	31	98.3	21.2				ug/L	85	Standard
	S	34	50.0	45.8				ug/L	48	Standard
	Sr	88	88.3	8.6				ug/L	72	Standard
	C	12	273.3	11.8				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	28.7	35.0				mg/L	22	Standard
	Ho-1	165	20.0	25.0				mg/L	22	Standard
	Er	166	26.7	86.6				mg/L	23	Standard
	I	127	4855.8	7.5				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		88.190	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		88.630	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	95.390
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	91.377
⌈	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: L1610000201
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Method 6020 - Summary Report

Sample ID: L1610000401
Sample Date/Time: Wednesday, October 12, 2016 17:29:10
Number of Replicates: 3
Autosampler Position: 333
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	67146.8	2.4				ug/L	72553	Standard
	Be	9	183.3	20.1	**0.2029**	0.049	24.2	ug/L	10	Standard
	Al	27	9326.2	0.4	**0.0961**	0.002	2.1	ug/L	232	Standard
	Sc	45	22878.9	3.7				ug/L	23513	Standard
	Ti	47	34.0	10.2	**-0.0269**	0.021	78.9	ug/L	36	Standard
	V	51	3231.8	1.6	**0.3529**	0.003	0.7	ug/L	1387	Standard
	Cr	52	12544.9	1.2	**1.0322**	0.033	3.2	ug/L	7813	Standard
	Cr	53	1746.8	3.1	**0.6328**	0.106	16.7	ug/L	1410	Standard
	Mn	55	8584.4	2.5	**0.7737**	0.035	4.5	ug/L	1043	Standard
	Co	59	3424.7	1.9	**0.3983**	0.011	2.9	ug/L	198	Standard
	Ni	60	2975.3	1.3	**1.6220**	0.042	2.6	ug/L	64	Standard
	Cu	65	1597.1	1.1	**0.7611**	0.008	1.0	ug/L	122	Standard
	Zn	66	10612.4	0.6	**9.9831**	0.141	1.4	ug/L	209	Standard
>	Ge	72	573435.6	1.3				ug/L	618040	Standard
	As	75	391.7	5.8	**0.4154**	0.021	5.0	ug/L	11	Standard
	Se	82	65.8	8.0	**0.5369**	0.050	9.3	ug/L	21	Standard
	Se-1	77	104.3	2.9	**0.2782**	0.040	14.4	ug/L	86	Standard
>	Ga	71	16.7	96.4				mg/L	13	Standard
	Rb	85	36.7	15.7				ug/L	18	Standard
	Y	89	433525.8	2.6				ug/L	463757	Standard
>	Rh	103	8.3	91.7				ug/L	12	Standard
	Mo	98	31.9	45.5	**0.0032**	0.004	125.7	ug/L	29	Standard
	Ag	107	2614.6	1.7	**0.3809**	0.007	1.9	ug/L	101	Standard
	Cd	111	498.3	4.0	**0.2311**	0.010	4.3	mg/L	9	Standard
	Cd	114	1356.8	6.1	**0.2451**	0.014	5.7	ug/L	47	Standard
>	In	115	763966.0	0.5				ug/L	765457	Standard
	Sn	118	121.7	10.7	**-0.0495**	0.011	22.1	ug/L	168	Standard
	Sb	123	2522.8	3.3	**0.4465**	0.017	3.7	ug/L	332	Standard
	Ba	135	3229.7	1.2	**1.1946**	0.017	1.5	ug/L	37	Standard
	Ce	140	83.3	19.3				ug/L	895	Standard
>	Tb	159	1458375.6	2.0				ug/L	1511047	Standard
	Ho	165	20.0	66.1				ug/L	22	Standard
	Tl	203	916.4	4.8	**0.0850**	0.004	4.2	ug/L	14	Standard
	Tl	205	2098.5	0.1	**0.0816**	0.001	0.7	ug/L	27	Standard
	Pb	206	3695.1	2.8	**0.3768**	0.013	3.4	ug/L	557	Standard
	Pb	207	3308.7	2.2	**0.3887**	0.012	3.2	ug/L	432	Standard
	Pb	208	14900.5	1.5	**0.3830**	0.008	2.1	ug/L	2118	Standard
	U	238	10981.0	1.9	**0.3729**	0.006	1.7	ug/L	78	Standard
>	Bi	209	750381.9	0.7				ug/L	791817	Standard

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⌈	**Na**	23	1.7	173.2	**0.0545**	0.887	1628.9	mg/L	5	Standard
|	**Mg**	24	31.7	65.7	**-0.0166**	0.041	247.2	mg/L	48	Standard
|	**K**	39	13.3	94.4	**0.1553**	0.186	119.9	mg/L	3	Standard
|	**Ca**	43	51.7	14.8	**0.4766**	2.255	473.2	mg/L	62	Standard
|	**Fe**	54	114.1	15.7	**-0.0032**	0.015	455.3	mg/L	139	Standard
|	**Fe**	57	110.0	40.4	**-0.0641**	0.153	238.4	mg/L	83	Standard
⌊>	**Sc-1**	45	22878.9	3.7				mg/L	23513	Standard
	Cl	35	2.7	114.6				ug/L	3	Standard
	Kr	83	3.7	68.6				ug/L	2	Standard
	Br	81	3737.1	7.5				ug/L	910	Standard
	P	31	56.7	45.3				ug/L	85	Standard
	S	34	31.7	63.8				ug/L	48	Standard
	Sr	88	105.0	25.2				ug/L	72	Standard
	C	12	216.7	2.7				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	7	Standard
	Dy	164	18.7	54.8				mg/L	22	Standard
	Ho-1	165	20.0	66.1				mg/L	22	Standard
	Er	166	26.7	57.3				mg/L	23	Standard
	I	127	4809.1	3.8				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		92.548	
|	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		92.783	
|	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	99.805
|	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	94.767
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1610000409
Sample Date/Time: Wednesday, October 12, 2016 17:32:08
Number of Replicates: 3
Autosampler Position: 334
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	67647.5	3.4				ug/L	72553	Standard
	Be	9	141.7	20.1	**0.1507**	0.029	19.3	ug/L	10	Standard
	Al	27	8243.9	1.9	**0.0840**	0.004	4.6	ug/L	232	Standard
	Sc	45	23267.9	3.8				ug/L	23513	Standard
	Ti	47	32.7	17.4	**-0.0350**	0.035	99.3	ug/L	36	Standard
	V	51	3362.9	4.4	**0.3761**	0.024	6.4	ug/L	1387	Standard
	Cr	52	12983.6	1.4	**1.1148**	0.032	2.9	ug/L	7813	Standard
	Cr	53	1766.8	4.3	**0.6628**	0.106	16.0	ug/L	1410	Standard
	Mn	55	9112.1	0.2	**0.8313**	0.005	0.6	ug/L	1043	Standard
	Co	59	3386.7	1.0	**0.3939**	0.005	1.3	ug/L	198	Standard
	Ni	60	3035.6	0.5	**1.6569**	0.014	0.8	ug/L	64	Standard
	Cu	65	1662.8	3.1	**0.7975**	0.031	3.8	ug/L	122	Standard
	Zn	66	10765.8	2.2	**10.1481**	0.248	2.4	ug/L	209	Standard
>	Ge	72	572922.0	0.3				ug/L	618040	Standard
	As	75	401.3	12.0	**0.4251**	0.047	11.1	ug/L	11	Standard
	Se	82	57.6	20.5	**0.4548**	0.123	27.0	ug/L	21	Standard
	Se-1	77	102.7	9.8	**0.2536**	0.151	59.4	ug/L	86	Standard
>	Ga	71	28.3	36.7				mg/L	13	Standard
	Rb	85	41.7	34.6				ug/L	18	Standard
	Y	89	435237.9	0.7				ug/L	463757	Standard
>	Rh	103	8.3	91.7				ug/L	12	Standard
	Mo	98	26.7	15.6	**0.0017**	0.001	63.5	ug/L	29	Standard
	Ag	107	2564.9	3.1	**0.3727**	0.011	2.8	ug/L	101	Standard
	Cd	111	491.0	3.6	**0.2272**	0.007	3.3	mg/L	9	Standard
	Cd	114	1316.4	3.5	**0.2375**	0.009	3.7	ug/L	47	Standard
>	In	115	765262.0	0.4				ug/L	765457	Standard
	Sn	118	135.3	5.4	**-0.0385**	0.006	15.3	ug/L	168	Standard
	Sb	123	2486.2	1.5	**0.4393**	0.007	1.6	ug/L	332	Standard
	Ba	135	3233.0	2.3	**1.1939**	0.032	2.7	ug/L	37	Standard
	Ce	140	86.7	21.8				ug/L	895	Standard
>	Tb	159	1459992.4	1.9				ug/L	1511047	Standard
	Ho	165	35.0	49.5				ug/L	22	Standard
	Tl	203	943.4	2.1	**0.0870**	0.002	2.6	ug/L	14	Standard
	Tl	205	2100.1	1.1	**0.0812**	0.001	1.5	ug/L	27	Standard
	Pb	206	3778.5	2.1	**0.3845**	0.009	2.3	ug/L	557	Standard
	Pb	207	3373.7	0.4	**0.3952**	0.002	0.4	ug/L	432	Standard
	Pb	208	15182.0	0.5	**0.3891**	0.001	0.3	ug/L	2118	Standard
	U	238	10832.2	0.9	**0.3659**	0.005	1.5	ug/L	78	Standard
>	Bi	209	754507.0	0.6				ug/L	791817	Standard

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⌈	**Na**	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	45.0	29.4	**0.0082**	0.023	283.9	mg/L	48	Standard
|	**K**	39	6.7	114.6	**0.0592**	0.120	202.1	mg/L	3	Standard
|	**Ca**	43	53.3	47.2	**1.0637**	10.084	948.0	mg/L	62	Standard
|	**Fe**	54	128.4	15.6	**0.0096**	0.022	224.3	mg/L	139	Standard
|	**Fe**	57	128.3	33.1	**-0.0010**	0.165	16077.5	mg/L	83	Standard
⌊>	**Sc-1**	45	23267.9	3.8				mg/L	23513	Standard
	Cl	35	3.3	69.3				ug/L	3	Standard
	Kr	83	3.3	45.8				ug/L	2	Standard
	Br	81	1323.4	8.3				ug/L	910	Standard
	P	31	65.0	13.3				ug/L	85	Standard
	S	34	41.7	27.7				ug/L	48	Standard
	Sr	88	103.3	14.8				ug/L	72	Standard
	C	12	303.3	16.3				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	15.1	102.2				mg/L	22	Standard
	Ho-1	165	35.0	49.5				mg/L	22	Standard
	Er	166	33.3	45.8				mg/L	23	Standard
	I	127	4775.8	0.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		93.238	
|	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		92.700	
|	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	99.974
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	95.288
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: L1610000409
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Method 6020 - Summary Report

Sample ID: L1610010106
Sample Date/Time: Wednesday, October 12, 2016 17:35:08
Number of Replicates: 3
Autosampler Position: 335
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	68858.0	4.2				ug/L	72553	Standard
	Be	9	8.3	91.7	**-0.0072**	0.009	119.2	ug/L	10	Standard
	Al	27	10675885.8	1.0	**111.3094**	3.510	3.2	ug/L	232	Standard
	Sc	45	22980.8	3.0				ug/L	23513	Standard
	Ti	47	84.7	2.5	**0.2782**	0.016	5.7	ug/L	36	Standard
	V	51	955.6	9.9	**-0.0437**	0.014	32.8	ug/L	1387	Standard
	Cr	52	8968.7	1.2	**0.3516**	0.013	3.7	ug/L	7813	Standard
	Cr	53	2445.2	9.9	**1.5858**	0.383	24.2	ug/L	1410	Standard
	Mn	55	18084291.9	0.7	**1928.7693**	35.669	1.8	ug/L	1043	Standard
	Co	59	4491.7	1.7	**0.5205**	0.002	0.5	ug/L	198	Standard
	Ni	60	3180.3	2.2	**1.7115**	0.022	1.3	ug/L	64	Standard
	Cu	65	541.3	2.8	**0.1852**	0.011	6.1	ug/L	122	Standard
	Zn	66	3818.8	2.1	**3.0162**	0.059	1.9	ug/L	209	Standard
>	Ge	72	581454.8	1.3				ug/L	618040	Standard
	As	75	204.7	5.4	**0.2341**	0.013	5.4	ug/L	11	Standard
	Se	82	62.4	8.6	**0.4936**	0.060	12.1	ug/L	21	Standard
	Se-1	77	251.0	1.4	**2.4963**	0.017	0.7	ug/L	86	Standard
>	Ga	71	106.7	28.6				mg/L	13	Standard
	Rb	85	15960.1	1.2				ug/L	18	Standard
	Y	89	439095.3	0.8				ug/L	463757	Standard
>	Rh	103	35.0	28.6				ug/L	12	Standard
	Mo	98	382.8	6.3	**0.0996**	0.006	6.4	ug/L	29	Standard
	Ag	107	99.0	5.6	**0.0002**	0.001	415.3	ug/L	101	Standard
	Cd	111	124.8	10.3	**0.0551**	0.006	11.0	mg/L	9	Standard
	Cd	114	334.1	5.4	**0.0609**	0.003	5.7	ug/L	47	Standard
>	In	115	755039.2	0.2				ug/L	765457	Standard
	Sn	118	96.7	25.7	**-0.0690**	0.020	29.6	ug/L	168	Standard
	Sb	123	166.2	25.7	**0.0330**	0.008	22.9	ug/L	332	Standard
	Ba	135	692955.3	1.3	**264.6475**	3.569	1.3	ug/L	37	Standard
	Ce	140	2168.5	5.0				ug/L	895	Standard
>	Tb	159	1475881.2	2.2				ug/L	1511047	Standard
	Ho	165	238.3	15.5				ug/L	22	Standard
	Tl	203	405.7	3.0	**0.0383**	0.002	4.2	ug/L	14	Standard
	Tl	205	976.7	1.6	**0.0371**	0.001	2.8	ug/L	27	Standard
	Pb	206	578.7	6.0	**-0.0046**	0.004	85.1	ug/L	557	Standard
	Pb	207	445.0	8.7	**-0.0094**	0.006	59.8	ug/L	432	Standard
	Pb	208	2175.7	1.5	**-0.0073**	0.000	4.9	ug/L	2118	Standard
	U	238	2856.9	1.1	**0.0990**	0.000	0.4	ug/L	78	Standard
>	Bi	209	736484.8	1.2				ug/L	791817	Standard

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⌈	**Na**	23	51.7	68.7	**14.8433**	10.904	73.5	mg/L	5	Standard
|	**Mg**	24	18861.7	0.3	**37.7908**	1.029	2.7	mg/L	48	Standard
|	**K**	39	103.3	17.0	**1.5240**	0.288	18.9	mg/L	3	Standard
|	**Ca**	43	73.3	27.6	**8.3539**	6.677	79.9	mg/L	62	Standard
|	**Fe**	54	127.2	22.1	**0.0094**	0.027	281.5	mg/L	139	Standard
|	**Fe**	57	198.3	8.9	**0.2528**	0.058	23.0	mg/L	83	Standard
⌊>	**Sc-1**	45	22980.8	3.0				mg/L	23513	Standard
	Cl	35	0.7	173.2				ug/L	3	Standard
	Kr	83	2.7	57.3				ug/L	2	Standard
	Br	81	3607.1	2.4				ug/L	910	Standard
	P	31	111.7	21.2				ug/L	85	Standard
	S	34	48.3	48.9				ug/L	48	Standard
	Sr	88	128.3	14.8				ug/L	72	Standard
	C	12	340.0	22.2				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	300.9	23.1				mg/L	22	Standard
	Ho-1	165	238.3	15.5				mg/L	22	Standard
	Er	166	260.0	44.4				mg/L	23	Standard
	I	127	148359.9	6.7				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		94.907	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		94.080	
|	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		98.639
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		93.012
Na	23		
Mg	24		
K	39		
Ca	43		
Fe	54		
Fe	57		
Sc-1	45		
Cl	35		
Kr	83		
Br	81		
P	31		
S	34		
Sr	88		
C	12		
N	14		
Hg	202		
Dy	164		
Ho-1	165		
Er	166		
I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610010110
Sample Date/Time: Wednesday, October 12, 2016 17:38:07
Number of Replicates: 3
Autosampler Position: 336
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	69966.2	1.6				ug/L	72553	Standard
	Be	9	110.0	20.8	**0.1091**	0.024	22.4	ug/L	10	Standard
	Al	27	7200143.0	1.4	**73.8386**	2.215	3.0	ug/L	232	Standard
	Sc	45	23720.2	1.8				ug/L	23513	Standard
	Ti	47	572.3	7.8	**3.1666**	0.275	8.7	ug/L	36	Standard
	V	51	3693.5	4.2	**0.4103**	0.024	5.8	ug/L	1387	Standard
	Cr	52	10878.2	3.2	**0.6552**	0.065	10.0	ug/L	7813	Standard
	Cr	53	3908.8	5.2	**3.5269**	0.269	7.6	ug/L	1410	Standard
	Mn	55	36929568.8	1.1	**3852.9947**	55.125	1.4	ug/L	1043	Standard
	Co	59	31162.4	1.4	**3.6405**	0.066	1.8	ug/L	198	Standard
	Ni	60	23687.2	1.6	**12.7110**	0.238	1.9	ug/L	64	Standard
	Cu	65	3679.1	1.6	**1.8187**	0.024	1.3	ug/L	122	Standard
	Zn	66	24775.9	1.3	**23.5057**	0.223	0.9	ug/L	209	Standard
>	Ge	72	594337.7	0.4				ug/L	618040	Standard
	As	75	196.4	34.0	**0.2223**	0.062	28.0	ug/L	11	Standard
	Se	82	42.0	31.1	**0.2790**	0.131	46.8	ug/L	21	Standard
	Se-1	77	397.0	3.3	**4.5947**	0.173	3.8	ug/L	86	Standard
>	Ga	71	370.0	21.2				mg/L	13	Standard
	Rb	85	19731.2	0.4				ug/L	18	Standard
	Y	89	477217.9	2.3				ug/L	463757	Standard
>	Rh	103	46.7	16.4				ug/L	12	Standard
	Mo	98	599.4	6.8	**0.1578**	0.010	6.4	ug/L	29	Standard
	Ag	107	1217.4	1.4	**0.1701**	0.004	2.1	ug/L	101	Standard
	Cd	111	3422.3	2.3	**1.6206**	0.028	1.7	mg/L	9	Standard
	Cd	114	8477.3	1.1	**1.5397**	0.021	1.4	ug/L	47	Standard
>	In	115	760896.6	0.7				ug/L	765457	Standard
	Sn	118	189.3	9.1	**0.0065**	0.013	202.4	ug/L	168	Standard
	Sb	123	539.1	8.0	**0.0985**	0.007	7.2	ug/L	332	Standard
	Ba	135	285779.0	2.0	**108.2876**	2.094	1.9	ug/L	37	Standard
	Ce	140	36326.8	1.1				ug/L	895	Standard
>	Tb	159	1505330.2	0.9				ug/L	1511047	Standard
	Ho	165	2741.9	5.8				ug/L	22	Standard
	Tl	203	379.7	2.9	**0.0353**	0.001	2.9	ug/L	14	Standard
	Tl	205	791.7	11.1	**0.0290**	0.003	11.2	ug/L	27	Standard
	Pb	206	4163.2	4.8	**0.4362**	0.021	4.9	ug/L	557	Standard
	Pb	207	3155.7	1.9	**0.3691**	0.005	1.3	ug/L	432	Standard
	Pb	208	15260.0	2.7	**0.3959**	0.010	2.6	ug/L	2118	Standard
	U	238	5141.5	2.5	**0.1755**	0.006	3.1	ug/L	78	Standard
>	Bi	209	747396.0	0.9				ug/L	791817	Standard

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⌈	**Na**	23	53.3	28.6	**14.6538**	4.089	27.9	mg/L	5	Standard
|	**Mg**	24	39514.8	0.7	**76.7632**	1.712	2.2	mg/L	48	Standard
|	**K**	39	93.3	13.5	**1.3241**	0.171	12.9	mg/L	3	Standard
|	**Ca**	43	96.7	11.9	**15.9971**	3.532	22.1	mg/L	62	Standard
|	**Fe**	54	567.2	8.3	**0.4346**	0.039	9.0	mg/L	139	Standard
|	**Fe**	57	350.0	14.5	**0.7565**	0.159	21.0	mg/L	83	Standard
⌊>	**Sc-1**	45	23720.2	1.8				mg/L	23513	Standard
	Cl	35	2.7	43.3				ug/L	3	Standard
	Kr	83	4.3	35.3				ug/L	2	Standard
	Br	81	4530.7	5.1				ug/L	910	Standard
	P	31	83.3	12.5				ug/L	85	Standard
	S	34	55.0	63.6				ug/L	48	Standard
	Sr	88	110.0	12.0				ug/L	72	Standard
	C	12	543.3	10.8				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	20.0	0.0				mg/L	7	Standard
	Dy	164	3472.5	5.4				mg/L	22	Standard
	Ho-1	165	2741.9	5.8				mg/L	22	Standard
	Er	166	2810.3	1.3				mg/L	23	Standard
	I	127	30567.5	1.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		96.434	
|	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		96.165	
|	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		99.404
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		94.390
Na	23		
Mg	24		
K	39		
Ca	43		
Fe	54		
Fe	57		
Sc-1	45		
Cl	35		
Kr	83		
Br	81		
P	31		
S	34		
Sr	88		
C	12		
N	14		
Hg	202		
Dy	164		
Ho-1	165		
Er	166		
I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610019402
Sample Date/Time: Wednesday, October 12, 2016 17:41:07
Number of Replicates: 3
Autosampler Position: 337
Sample Description: 10
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	63881.1	2.6				ug/L	72553	Standard
	Be	9	15.0	0.0	**0.0021**	0.001	24.4	ug/L	10	Standard
	Al	27	9713402.0	1.7	**109.1456**	4.532	4.2	ug/L	232	Standard
	Sc	45	22496.7	2.6				ug/L	23513	Standard
	Ti	47	1564.7	3.5	**9.7275**	0.476	4.9	ug/L	36	Standard
	V	51	42579.3	1.4	**7.4118**	0.077	1.0	ug/L	1387	Standard
	Cr	52	25665.7	0.2	**3.6017**	0.066	1.8	ug/L	7813	Standard
	Cr	53	4330.6	2.5	**4.5328**	0.201	4.4	ug/L	1410	Standard
	Mn	55	2907346.3	0.3	**324.6807**	5.110	1.6	ug/L	1043	Standard
	Co	59	14598.0	0.4	**1.8169**	0.030	1.7	ug/L	198	Standard
	Ni	60	8907.3	1.9	**5.0960**	0.139	2.7	ug/L	64	Standard
	Cu	65	3974.2	2.1	**2.1201**	0.052	2.5	ug/L	122	Standard
	Zn	66	2797.9	2.3	**2.1255**	0.071	3.3	ug/L	209	Standard
>	Ge	72	555077.9	1.3				ug/L	618040	Standard
	As	75	6570.2	2.1	**6.5283**	0.062	0.9	ug/L	11	Standard
	Se	82	150.0	1.8	**1.4486**	0.044	3.0	ug/L	21	Standard
	Se-1	77	230.7	15.2	**2.3513**	0.539	22.9	ug/L	86	Standard
>	Ga	71	146.7	32.2				mg/L	13	Standard
	Rb	85	673.3	15.0				ug/L	18	Standard
	Y	89	420281.6	1.4				ug/L	463757	Standard
>	Rh	103	118.3	28.1				ug/L	12	Standard
	Mo	98	735.2	1.6	**0.2089**	0.002	0.8	ug/L	29	Standard
	Ag	107	144.7	7.1	**0.0086**	0.001	13.6	ug/L	101	Standard
	Cd	111	56.0	19.9	**0.0240**	0.006	26.2	mg/L	9	Standard
	Cd	114	156.8	24.3	**0.0302**	0.008	25.3	ug/L	47	Standard
>	In	115	710922.3	2.3				ug/L	765457	Standard
	Sn	118	242.3	10.7	**0.0640**	0.019	29.9	ug/L	168	Standard
	Sb	123	701.7	8.6	**0.1358**	0.008	6.2	ug/L	332	Standard
	Ba	135	38318.1	0.7	**15.5233**	0.288	1.9	ug/L	37	Standard
	Ce	140	2735.2	2.2				ug/L	895	Standard
>	Tb	159	1393691.1	1.7				ug/L	1511047	Standard
	Ho	165	420.0	9.4				ug/L	22	Standard
	Tl	203	45.0	17.6	**0.0044**	0.001	17.6	ug/L	14	Standard
	Tl	205	110.0	24.1	**0.0018**	0.001	61.3	ug/L	27	Standard
	Pb	206	4221.9	2.5	**0.4866**	0.010	2.0	ug/L	557	Standard
	Pb	207	3402.4	2.8	**0.4429**	0.011	2.5	ug/L	432	Standard
	Pb	208	15934.6	1.7	**0.4575**	0.006	1.3	ug/L	2118	Standard
	U	238	7758.0	2.1	**0.2864**	0.006	2.0	ug/L	78	Standard
>	Bi	209	690323.1	0.8				ug/L	791817	Standard

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⌈	**Na**	23	38.3	32.8	**10.9891**	3.574	32.5	mg/L	5	Standard
|	**Mg**	24	50995.7	1.4	**104.4875**	2.132	2.0	mg/L	48	Standard
|	**K**	39	6.7	43.3	**0.0608**	0.047	77.4	mg/L	3	Standard
|	**Ca**	43	81.7	3.5	**12.2631**	1.778	14.5	mg/L	62	Standard
|	**Fe**	54	1360.9	3.9	**1.2826**	0.080	6.2	mg/L	139	Standard
|	**Fe**	57	553.3	9.2	**1.5733**	0.237	15.1	mg/L	83	Standard
⌊>	**Sc-1**	45	22496.7	2.6				mg/L	23513	Standard
	Cl	35	4.7	49.5				ug/L	3	Standard
	Kr	83	1.3	114.6				ug/L	2	Standard
	Br	81	31993.7	1.0				ug/L	910	Standard
	P	31	75.0	35.3				ug/L	85	Standard
	S	34	45.0	50.9				ug/L	48	Standard
	Sr	88	253.3	22.9				ug/L	72	Standard
	C	12	1080.0	16.7				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	69.3				mg/L	7	Standard
	Dy	164	429.0	16.5				mg/L	22	Standard
	Ho-1	165	420.0	9.4				mg/L	22	Standard
	Er	166	576.7	2.0				mg/L	23	Standard
	I	127	907589.5	10.5				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		88.047	
|	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		89.813	
|	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		92.875
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		87.182
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: L1610019404
Sample Date/Time: Wednesday, October 12, 2016 17:44:07
Number of Replicates: 3
Autosampler Position: 338
Sample Description: 10
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	62344.7	0.8				ug/L	72553	Standard
	Be	9	10.0		-0.0039	0.000	2.6	ug/L	10	Standard
	Al	27	5251761.6	1.1	60.4255	0.971	1.6	ug/L	232	Standard
	Sc	45	22044.4	2.0				ug/L	23513	Standard
	Ti	47	546.0	2.5	3.2302	0.090	2.8	ug/L	36	Standard
	V	51	12594.7	0.7	2.0409	0.011	0.5	ug/L	1387	Standard
	Cr	52	10421.2	0.8	0.6997	0.012	1.7	ug/L	7813	Standard
	Cr	53	1790.1	7.1	0.7715	0.181	23.4	ug/L	1410	Standard
	Mn	55	3047183.7	0.8	339.3875	3.194	0.9	ug/L	1043	Standard
	Co	59	10927.6	1.1	1.3517	0.012	0.9	ug/L	198	Standard
	Ni	60	3792.8	0.6	2.1421	0.017	0.8	ug/L	64	Standard
	Cu	65	1708.1	2.1	0.8493	0.020	2.3	ug/L	122	Standard
	Zn	66	3984.9	0.4	3.3621	0.020	0.6	ug/L	209	Standard
>	Ge	72	556506.8	0.3				ug/L	618040	Standard
	As	75	2068.3	2.3	2.0781	0.046	2.2	ug/L	11	Standard
	Se	82	71.7	14.7	0.6204	0.112	18.1	ug/L	21	Standard
	Se-1	77	116.0	17.7	0.5130	0.322	62.8	ug/L	86	Standard
>	Ga	71	60.0	25.0				mg/L	13	Standard
	Rb	85	275.0	1.8				ug/L	18	Standard
	Y	89	421664.0	1.1				ug/L	463757	Standard
>	Rh	103	85.0	5.9				ug/L	12	Standard
	Mo	98	1073.8	3.2	0.3083	0.010	3.3	ug/L	29	Standard
	Ag	107	87.7	3.7	-0.0007	0.001	94.4	ug/L	101	Standard
	Cd	111	38.3	14.4	0.0149	0.003	21.1	mg/L	9	Standard
	Cd	114	113.9	25.9	0.0219	0.006	27.7	ug/L	47	Standard
>	In	115	709510.9	1.7				ug/L	765457	Standard
	Sn	118	166.3	9.3	-0.0024	0.013	548.0	ug/L	168	Standard
	Sb	123	319.3	9.0	0.0638	0.005	7.1	ug/L	332	Standard
	Ba	135	15531.3	0.3	6.2897	0.126	2.0	ug/L	37	Standard
	Ce	140	1375.1	3.3				ug/L	895	Standard
>	Tb	159	1369458.2	1.8				ug/L	1511047	Standard
	Ho	165	185.0	17.7				ug/L	22	Standard
	Tl	203	66.7	11.7	0.0066	0.001	12.3	ug/L	14	Standard
	Tl	205	126.7	26.3	0.0026	0.001	56.5	ug/L	27	Standard
	Pb	206	1707.4	1.8	0.1520	0.002	1.0	ug/L	557	Standard
	Pb	207	1321.7	1.4	0.1287	0.004	3.1	ug/L	432	Standard
	Pb	208	6375.2	1.1	0.1387	0.002	1.6	ug/L	2118	Standard
	U	238	3841.2	1.2	0.1426	0.003	1.9	ug/L	78	Standard
>	Bi	209	687090.4	1.2				ug/L	791817	Standard

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⌈	**Na**	23	26.7	65.8	**7.6254**	5.213	68.4	mg/L	5	Standard
|	**Mg**	24	23291.2	1.7	**48.6683**	1.806	3.7	mg/L	48	Standard
|	**K**	39	10.0	132.3	**0.1149**	0.207	180.4	mg/L	3	Standard
|	**Ca**	43	63.3	27.7	**5.7551**	6.641	115.4	mg/L	62	Standard
|	**Fe**	54	1890.9	3.9	**1.8662**	0.047	2.5	mg/L	139	Standard
|	**Fe**	57	676.7	11.9	**2.0765**	0.351	16.9	mg/L	83	Standard
⌊>	**Sc-1**	45	22044.4	2.0				mg/L	23513	Standard
	Cl	35	4.7	107.9				ug/L	3	Standard
	Kr	83	2.3	99.0				ug/L	2	Standard
	Br	81	13459.3	1.8				ug/L	910	Standard
	P	31	93.3	53.9				ug/L	85	Standard
	S	34	55.0	27.3				ug/L	48	Standard
	Sr	88	203.3	17.8				ug/L	72	Standard
	C	12	426.7	5.4				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	91.7				mg/L	7	Standard
	Dy	164	152.1	15.8				mg/L	22	Standard
	Ho-1	165	185.0	17.7				mg/L	22	Standard
	Er	166	303.3	14.9				mg/L	23	Standard
	I	127	820344.5	8.3				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		85.929	
|	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		90.044	
|	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	92.691
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	86.774
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1610019404
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Method 6020 - Summary Report

Sample ID: L1610019405
Sample Date/Time: Wednesday, October 12, 2016 17:47:05
Number of Replicates: 3
Autosampler Position: 339
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	74997.3	6.6				ug/L	72553	Standard
	Be	9	26.7	21.7	**0.0116**	0.005	43.4	ug/L	10	Standard
	Al	27	95618410.2	3.3	**915.9940**	36.060	3.9	ug/L	232	Standard
	Sc	45	19856.3	2.5				ug/L	23513	Standard
	Ti	47	296.7	5.2	**1.8915**	0.093	4.9	ug/L	36	Standard
	V	51	-797.8	99.7	**-0.3699**	0.164	44.3	ug/L	1387	Standard
	Cr	52	10200.8	0.6	**0.9095**	0.038	4.2	ug/L	7813	Standard
	Cr	53	15084.2	6.1	**23.2651**	1.845	7.9	ug/L	1410	Standard
	Mn	55	6227203.1	0.5	**784.0423**	14.310	1.8	ug/L	1043	Standard
	Co	59	14189.6	1.6	**1.9920**	0.015	0.7	ug/L	198	Standard
	Ni	60	15180.3	1.4	**9.8220**	0.112	1.1	ug/L	64	Standard
	Cu	65	1798.1	1.0	**1.0302**	0.024	2.3	ug/L	122	Standard
	Zn	66	3618.1	1.7	**3.4708**	0.064	1.9	ug/L	209	Standard
>	Ge	72	492534.3	2.1				ug/L	618040	Standard
	As	75	3121.4	12.1	**3.5141**	0.403	11.5	ug/L	11	Standard
	Se	82	1162.5	5.4	**13.6930**	0.718	5.2	ug/L	21	Standard
	Se-1	77	1946.5	4.3	**33.7805**	1.926	5.7	ug/L	86	Standard
>	Ga	71	140.0	31.7				mg/L	13	Standard
	Rb	85	17378.3	3.5				ug/L	18	Standard
	Y	89	373032.9	2.4				ug/L	463757	Standard
>	Rh	103	1413.4	4.4				ug/L	12	Standard
	Mo	98	732.2	3.6	**0.2468**	0.001	0.6	ug/L	29	Standard
	Ag	107	138.7	6.1	**0.0118**	0.003	21.9	ug/L	101	Standard
	Cd	111	176.0	12.2	**0.1009**	0.009	9.1	mg/L	9	Standard
	Cd	114	474.9	20.1	**0.1087**	0.020	18.8	ug/L	47	Standard
>	In	115	601559.8	3.7				ug/L	765457	Standard
	Sn	118	127.0	5.7	**-0.0171**	0.004	23.0	ug/L	168	Standard
	Sb	123	957.5	7.4	**0.2169**	0.010	4.6	ug/L	332	Standard
	Ba	135	24622.0	2.3	**11.7842**	0.247	2.1	ug/L	37	Standard
	Ce	140	33799.4	3.4				ug/L	895	Standard
>	Tb	159	1170090.6	3.1				ug/L	1511047	Standard
	Ho	165	230.0	21.7				ug/L	22	Standard
	Tl	203	217.0	7.6	**0.0298**	0.002	5.3	ug/L	14	Standard
	Tl	205	518.3	15.9	**0.0281**	0.005	19.0	ug/L	27	Standard
	Pb	206	863.7	3.9	**0.0805**	0.002	2.5	ug/L	557	Standard
	Pb	207	709.0	1.9	**0.0743**	0.002	2.4	ug/L	432	Standard
	Pb	208	3283.8	1.6	**0.0746**	0.002	3.0	ug/L	2118	Standard
	U	238	345883.2	2.4	**17.4363**	0.093	0.5	ug/L	78	Standard
>	Bi	209	505175.3	2.8				ug/L	791817	Standard

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⌈	**Na**	23	611.7	11.3	**207.3771**	26.747	12.9	mg/L	5	Standard
|	**Mg**	24	181526.2	1.8	**421.6241**	9.065	2.2	mg/L	48	Standard
|	**K**	39	45.0	33.3	**0.7423**	0.252	34.0	mg/L	3	Standard
|	**Ca**	43	551.7	17.3	**218.0032**	36.767	16.9	mg/L	62	Standard
|	**Fe**	54	215.8	1.2	**0.1332**	0.007	5.0	mg/L	139	Standard
|	**Fe**	57	728.4	1.4	**2.5674**	0.117	4.6	mg/L	83	Standard
⌊>	**Sc-1**	45	19856.3	2.5				mg/L	23513	Standard
	Cl	35	8.0	66.1				ug/L	3	Standard
	Kr	83	3.0	33.3				ug/L	2	Standard
	Br	81	323259.4	4.3				ug/L	910	Standard
	P	31	101.7	24.3				ug/L	85	Standard
	S	34	50.0	20.0				ug/L	48	Standard
	Sr	88	2553.5	5.2				ug/L	72	Standard
	C	12	896.7	29.9				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	16.7	124.9				mg/L	7	Standard
	Dy	164	299.3	31.8				mg/L	22	Standard
	Ho-1	165	230.0	21.7				mg/L	22	Standard
	Er	166	223.3	47.9				mg/L	23	Standard
	I	127	27962116.5	12.4				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		103.369	
|	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		79.693	
|	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	78.588
|	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	63.800
⌈	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: L1610019406
Sample Date/Time: Wednesday, October 12, 2016 17:50:05
Number of Replicates: 3
Autosampler Position: 340
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	86521.3	0.9				ug/L	72553	Standard
	Be	9	38.3	27.2	**0.0188**	0.010	51.6	ug/L	10	Standard
	Al	27	162169697.4	0.4	**1344.5723**	14.651	1.1	ug/L	232	Standard
	Sc	45	19424.1	0.8				ug/L	23513	Standard
	Ti	47	208.3	7.6	**1.2826**	0.119	9.3	ug/L	36	Standard
	V	51	3230.4	9.3	**0.4553**	0.065	14.2	ug/L	1387	Standard
	Cr	52	128374.3	1.8	**26.6593**	0.498	1.9	ug/L	7813	Standard
	Cr	53	31638.0	3.1	**51.6572**	1.253	2.4	ug/L	1410	Standard
	Mn	55	429006.2	1.1	**54.7335**	0.124	0.2	ug/L	1043	Standard
	Co	59	5674.7	2.1	**0.7984**	0.010	1.2	ug/L	198	Standard
	Ni	60	21944.2	3.5	**14.4425**	0.367	2.5	ug/L	64	Standard
	Cu	65	4197.2	1.5	**2.5859**	0.012	0.5	ug/L	122	Standard
	Zn	66	4550.3	1.3	**4.6626**	0.099	2.1	ug/L	209	Standard
>	Ge	72	484666.9	1.0				ug/L	618040	Standard
	As	75	2315.2	3.9	**2.6591**	0.091	3.4	ug/L	11	Standard
	Se	82	1004.9	3.9	**12.0130**	0.508	4.2	ug/L	21	Standard
	Se-1	77	2710.9	2.9	**48.3364**	1.080	2.2	ug/L	86	Standard
>	Ga	71	126.7	6.0				mg/L	13	Standard
	Rb	85	8620.8	4.8				ug/L	18	Standard
	Y	89	387991.7	0.4				ug/L	463757	Standard
>	Rh	103	2006.8	13.0				ug/L	12	Standard
	Mo	98	1230.1	3.2	**0.4049**	0.015	3.7	ug/L	29	Standard
	Ag	107	407.3	3.5	**0.0609**	0.003	5.0	ug/L	101	Standard
	Cd	111	2653.3	2.3	**1.5381**	0.034	2.2	mg/L	9	Standard
	Cd	114	6653.4	2.1	**1.4795**	0.038	2.6	ug/L	47	Standard
>	In	115	621502.2	0.5				ug/L	765457	Standard
	Sn	118	114.0	4.6	**-0.0343**	0.005	16.0	ug/L	168	Standard
	Sb	123	673.0	1.7	**0.1488**	0.003	2.1	ug/L	332	Standard
	Ba	135	13490.0	0.7	**6.2350**	0.043	0.7	ug/L	37	Standard
	Ce	140	29184.7	0.4				ug/L	895	Standard
>	Tb	159	1161868.0	0.8				ug/L	1511047	Standard
	Ho	165	1341.7	8.3				ug/L	22	Standard
	Tl	203	143.0	2.8	**0.0207**	0.001	2.9	ug/L	14	Standard
	Tl	205	311.7	8.1	**0.0168**	0.002	11.3	ug/L	27	Standard
	Pb	206	989.4	1.7	**0.1137**	0.006	4.9	ug/L	557	Standard
	Pb	207	809.7	2.7	**0.1046**	0.007	7.2	ug/L	432	Standard
	Pb	208	3730.2	1.7	**0.1046**	0.004	4.2	ug/L	2118	Standard
	U	238	546875.7	0.6	**29.1275**	0.337	1.2	ug/L	78	Standard
>	Bi	209	478155.3	1.6				ug/L	791817	Standard

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⌈	**Na**	23	951.7	10.8	**329.7848**	37.659	11.4	mg/L	5	Standard
|	**Mg**	24	212869.0	2.7	**505.3852**	16.942	3.4	mg/L	48	Standard
|	**K**	39	73.3	3.9	**1.2695**	0.048	3.8	mg/L	3	Standard
|	**Ca**	43	701.7	19.1	**289.4231**	56.345	19.5	mg/L	62	Standard
|	**Fe**	54	480.8	9.4	**0.4545**	0.056	12.4	mg/L	139	Standard
|	**Fe**	57	1000.0	6.9	**3.7851**	0.277	7.3	mg/L	83	Standard
⌊>	**Sc-1**	45	19424.1	0.8				mg/L	23513	Standard
	Cl	35	13.3	69.3				ug/L	3	Standard
	Kr	83	4.0	25.0				ug/L	2	Standard
	Br	81	281623.5	1.3				ug/L	910	Standard
	P	31	78.3	30.2				ug/L	85	Standard
	S	34	53.3	30.1				ug/L	48	Standard
	Sr	88	3577.1	3.9				ug/L	72	Standard
	C	12	1300.1	4.3				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	303.3	28.0				mg/L	7	Standard
	Dy	164	1762.9	12.0				mg/L	22	Standard
	Ho-1	165	1341.7	8.3				mg/L	22	Standard
	Er	166	1333.4	1.7				mg/L	23	Standard
	I	127	6094190.8	4.1				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		119.252	
|	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		78.420	
|	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	81.194
|	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	60.387
⌈	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: L1610019406
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Method 6020 - Summary Report

Sample ID: L1610019413
Sample Date/Time: Wednesday, October 12, 2016 17:53:05
Number of Replicates: 3
Autosampler Position: 341
Sample Description: 10
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	73414.2	2.3				ug/L	72553	Standard
	Be	9	8.3	69.3	**-0.0076**	0.007	86.6	ug/L	10	Standard
	Al	27	10364135.3	1.0	**101.2904**	2.062	2.0	ug/L	232	Standard
	Sc	45	20133.4	0.8				ug/L	23513	Standard
	Ti	47	1569.7	1.7	**10.1843**	0.160	1.6	ug/L	36	Standard
	V	51	42233.4	1.4	**7.6744**	0.128	1.7	ug/L	1387	Standard
	Cr	52	26363.9	0.8	**3.9490**	0.063	1.6	ug/L	7813	Standard
	Cr	53	6979.9	3.1	**8.8893**	0.373	4.2	ug/L	1410	Standard
	Mn	55	3282860.4	0.4	**382.3382**	2.266	0.6	ug/L	1043	Standard
	Co	59	13292.2	2.0	**1.7243**	0.040	2.3	ug/L	198	Standard
	Ni	60	8283.9	1.1	**4.9409**	0.071	1.4	ug/L	64	Standard
	Cu	65	4043.5	3.3	**2.2561**	0.086	3.8	ug/L	122	Standard
	Zn	66	2749.9	2.5	**2.1992**	0.089	4.1	ug/L	209	Standard
>	Ge	72	532226.2	0.4				ug/L	618040	Standard
	As	75	5848.9	0.5	**6.0646**	0.025	0.4	ug/L	11	Standard
	Se	82	155.0	7.7	**1.5706**	0.126	8.0	ug/L	21	Standard
	Se-1	77	401.3	5.5	**5.3609**	0.397	7.4	ug/L	86	Standard
>	Ga	71	135.0	12.8				mg/L	13	Standard
	Rb	85	820.0	2.8				ug/L	18	Standard
	Y	89	398294.5	1.4				ug/L	463757	Standard
>	Rh	103	170.0	5.1				ug/L	12	Standard
	Mo	98	666.3	2.6	**0.1831**	0.003	1.8	ug/L	29	Standard
	Ag	107	165.3	9.0	**0.0112**	0.003	23.8	ug/L	101	Standard
	Cd	111	68.1	9.6	**0.0290**	0.003	10.9	mg/L	9	Standard
	Cd	114	156.4	20.6	**0.0292**	0.006	21.2	ug/L	47	Standard
>	In	115	732395.1	1.2				ug/L	765457	Standard
	Sn	118	259.7	5.9	**0.0727**	0.012	17.2	ug/L	168	Standard
	Sb	123	647.9	0.5	**0.1222**	0.001	1.2	ug/L	332	Standard
	Ba	135	43663.2	0.3	**17.1699**	0.231	1.3	ug/L	37	Standard
	Ce	140	3778.8	0.9				ug/L	895	Standard
>	Tb	159	1413163.5	1.3				ug/L	1511047	Standard
	Ho	165	501.7	8.3				ug/L	22	Standard
	Tl	203	52.7	17.2	**0.0051**	0.001	18.0	ug/L	14	Standard
	Tl	205	115.0	26.4	**0.0020**	0.001	63.0	ug/L	27	Standard
	Pb	206	4726.7	1.3	**0.5503**	0.013	2.3	ug/L	557	Standard
	Pb	207	3757.1	2.4	**0.4934**	0.019	3.8	ug/L	432	Standard
	Pb	208	17745.4	1.0	**0.5145**	0.009	1.7	ug/L	2118	Standard
	U	238	7252.1	3.2	**0.2662**	0.009	3.5	ug/L	78	Standard
>	Bi	209	694503.7	1.4				ug/L	791817	Standard

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⌈	**Na**	23	35.0	51.5	**11.2721**	6.057	53.7	mg/L	5	Standard
|	**Mg**	24	50134.5	1.7	**114.7492**	1.182	1.0	mg/L	48	Standard
|	**K**	39	13.3	108.3	**0.1865**	0.247	132.5	mg/L	3	Standard
|	**Ca**	43	71.7	26.4	**11.6356**	8.029	69.0	mg/L	62	Standard
|	**Fe**	54	1033.3	5.2	**1.0694**	0.065	6.1	mg/L	139	Standard
|	**Fe**	57	485.0	17.0	**1.5270**	0.335	21.9	mg/L	83	Standard
⌊>	**Sc-1**	45	20133.4	0.8				mg/L	23513	Standard
	Cl	35	4.7	89.2				ug/L	3	Standard
	Kr	83	1.3	43.3				ug/L	2	Standard
	Br	81	34265.4	2.4				ug/L	910	Standard
	P	31	68.3	11.2				ug/L	85	Standard
	S	34	43.3	58.1				ug/L	48	Standard
	Sr	88	236.7	10.0				ug/L	72	Standard
	C	12	1630.1	19.7				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	23.3	65.5				mg/L	7	Standard
	Dy	164	446.7	26.9				mg/L	22	Standard
	Ho-1	165	501.7	8.3				mg/L	22	Standard
	Er	166	626.7	15.3				mg/L	23	Standard
	I	127	1294194.1	2.3				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		101.186	
|	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		86.115	
|	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	95.681
|	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	87.710
⌈	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: QC Std 6
Sample Date/Time: Wednesday, October 12, 2016 17:56:05
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	69057.1	2.9				ug/L	72553	Standard
	Be	9	40813.2	1.8	**47.4223**	1.420	3.0	ug/L	10	Standard
	Al	27	4492750.4	0.5	**46.6905**	1.391	3.0	ug/L	232	Standard
	Sc	45	19679.5	5.2				ug/L	23513	Standard
	Ti	47	14977.1	1.3	**99.2375**	3.709	3.7	ug/L	36	Standard
	V	51	280521.5	0.6	**52.1542**	1.273	2.4	ug/L	1387	Standard
	Cr	52	266430.2	1.7	**51.5228**	0.938	1.8	ug/L	7813	Standard
	Cr	53	34260.4	1.1	**50.9302**	1.113	2.2	ug/L	1410	Standard
	Mn	55	437480.5	1.5	**50.8259**	1.180	2.3	ug/L	1043	Standard
	Co	59	387307.2	2.1	**50.7758**	1.498	2.9	ug/L	198	Standard
	Ni	60	85598.2	2.1	**51.4134**	1.167	2.3	ug/L	64	Standard
	Cu	65	87675.3	1.6	**51.0733**	0.998	2.0	ug/L	122	Standard
	Zn	66	46342.1	1.8	**49.9883**	0.662	1.3	ug/L	209	Standard
>	Ge	72	532340.9	3.0				ug/L	618040	Standard
	As	75	48168.3	0.9	**49.6568**	1.030	2.1	ug/L	11	Standard
	Se	82	4501.6	0.8	**49.4401**	1.836	3.7	ug/L	21	Standard
	Se-1	77	3188.7	3.5	**51.8669**	1.245	2.4	ug/L	86	Standard
>	Ga	71	30.0	16.7				mg/L	13	Standard
	Rb	85	723.4	8.1				ug/L	18	Standard
	Y	89	404338.2	3.4				ug/L	463757	Standard
>	Rh	103	86.7	27.3				ug/L	12	Standard
	Mo	98	328809.9	0.6	**88.2872**	1.307	1.5	ug/L	29	Standard
	Ag	107	308997.1	1.4	**46.2809**	0.909	2.0	ug/L	101	Standard
	Cd	111	107455.5	0.9	**50.2941**	1.036	2.1	mg/L	9	Standard
	Cd	114	277131.2	2.2	**49.6119**	1.224	2.5	ug/L	47	Standard
>	In	115	772140.8	1.2				ug/L	765457	Standard
	Sn	118	60596.0	2.1	**48.9561**	1.622	3.3	ug/L	168	Standard
	Sb	123	297343.2	0.8	**51.6710**	1.007	1.9	ug/L	332	Standard
	Ba	135	129816.1	0.8	**48.4683**	0.998	2.1	ug/L	37	Standard
	Ce	140	101.7	22.2				ug/L	895	Standard
>	Tb	159	1435701.0	1.9				ug/L	1511047	Standard
	Ho	165	15.0	33.3				ug/L	22	Standard
	Tl	203	538697.7	1.2	**49.9093**	0.756	1.5	ug/L	14	Standard
	Tl	205	1273420.4	2.3	**51.1657**	1.834	3.6	ug/L	27	Standard
	Pb	206	404973.9	2.0	**49.5083**	1.653	3.3	ug/L	557	Standard
	Pb	207	356640.3	1.7	**49.4894**	1.432	2.9	ug/L	432	Standard
	Pb	208	1618600.5	1.2	**49.5755**	1.091	2.2	ug/L	2118	Standard
	U	238	1493122.9	1.0	**50.5040**	0.731	1.4	ug/L	78	Standard
>	Bi	209	752936.2	1.7				ug/L	791817	Standard

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	Na	23	20.0	25.0	**6.3551**	1.428	22.5	mg/L	5	Standard
	Mg	24	2323.5	6.8	**5.3618**	0.116	2.2	mg/L	48	Standard
	K	39	183.3	18.6	**3.1893**	0.527	16.5	mg/L	3	Standard
	Ca	43	48.3	26.0	**2.0856**	4.572	219.2	mg/L	62	Standard
	Fe	54	4063.1	3.5	**4.6717**	0.381	8.2	mg/L	139	Standard
	Fe	57	1383.4	3.3	**5.3505**	0.425	7.9	mg/L	83	Standard
>	**Sc-1**	45	19679.5	5.2				mg/L	23513	Standard
	Cl	35	3.3	69.3				ug/L	3	Standard
	Kr	83	7.0	37.8				ug/L	2	Standard
	Br	81	2123.5	3.1				ug/L	910	Standard
	P	31	60.0					ug/L	85	Standard
	S	34	46.7	16.4				ug/L	48	Standard
	Sr	88	118.3	10.6				ug/L	72	Standard
	C	12	386.7	34.7				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	21.7	72.7				mg/L	22	Standard
	Ho-1	165	15.0	33.3				mg/L	22	Standard
	Er	166	33.3	34.6				mg/L	23	Standard
	I	127	166934.9	18.4				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	94.845		
	Al	27	93.381		
	Sc	45			
	Ti	47	99.237		
	V	51	104.308		
	Cr	52	103.046		
	Cr	53			
	Mn	55	101.652		
	Co	59	101.552		
	Ni	60	102.827		
	Cu	65	102.147		
	Zn	66	99.977		
>	Ge	72		86.134	
	As	75	99.314		
	Se	82	98.880		
	Se-1	77			
>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	88.287	
|	Ag	107	92.562	
|	Cd	111	100.588	
|	Cd	114		
|>	In	115		100.873
|	Sn	118	97.912	
|	Sb	123	103.342	
⌊	Ba	135	96.937	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	99.819	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	99.151	
|	U	238	101.008	
⌊>	Bi	209		95.090
⌈	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 6	Mo	98	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, October 12, 2016 17:59:05
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: BKT 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	72071.1	3.0				ug/L	72553	Standard
	Be	9	6.7	43.3	**-0.0094**	0.003	33.5	ug/L	10	Standard
	Al	27	380.0	11.4	**0.0003**	0.000	164.3	ug/L	232	Standard
	Sc	45	20260.2	3.0				ug/L	23513	Standard
	Ti	47	23.0	17.4	**-0.0921**	0.029	31.6	ug/L	36	Standard
	V	51	964.4	11.5	**-0.0377**	0.015	39.6	ug/L	1387	Standard
	Cr	52	5951.8	2.1	**-0.1646**	0.027	16.4	ug/L	7813	Standard
	Cr	53	1008.4	11.4	**-0.4028**	0.168	41.7	ug/L	1410	Standard
	Mn	55	1237.1	1.7	**-0.0191**	0.005	25.1	ug/L	1043	Standard
	Co	59	132.3	4.2	**-0.0022**	0.001	45.8	ug/L	198	Standard
	Ni	60	45.0	7.7	**-0.0126**	0.002	18.4	ug/L	64	Standard
	Cu	65	157.3	7.0	**-0.0175**	0.008	48.3	ug/L	122	Standard
	Zn	66	208.7	4.2	**-0.6002**	0.013	2.1	ug/L	209	Standard
>	Ge	72	565390.5	2.9				ug/L	618040	Standard
	As	75	-25.4	164.8	**0.0172**	0.040	235.3	ug/L	11	Standard
	Se	82	22.4	18.8	**0.0981**	0.049	50.3	ug/L	21	Standard
	Se-1	77	77.3	8.2	**-0.1215**	0.117	95.9	ug/L	86	Standard
>	Ga	71	23.3	24.7				mg/L	13	Standard
	Rb	85	16.7	75.5				ug/L	18	Standard
	Y	89	431222.3	3.7				ug/L	463757	Standard
>	Rh	103	43.3	17.6				ug/L	12	Standard
	Mo	98	184.6	24.5	**0.0407**	0.010	24.3	ug/L	29	Standard
	Ag	107	102.7	6.0	**-0.0006**	0.000	65.7	ug/L	101	Standard
	Cd	111	5.1	29.0	**-0.0024**	0.001	24.4	mg/L	9	Standard
	Cd	114	75.2	24.4	**0.0123**	0.003	24.4	ug/L	47	Standard
>	In	115	824537.7	3.7				ug/L	765457	Standard
	Sn	118	178.0	33.0	**-0.0150**	0.041	270.4	ug/L	168	Standard
	Sb	123	545.9	45.2	**0.0914**	0.038	41.1	ug/L	332	Standard
	Ba	135	30.0	29.6	**-0.0140**	0.004	25.5	ug/L	37	Standard
	Ce	140	30.0	28.9				ug/L	895	Standard
>	Tb	159	1508520.8	1.2				ug/L	1511047	Standard
	Ho	165	16.7	45.8				ug/L	22	Standard
	Tl	203	42.3	13.4	**0.0036**	0.001	15.2	ug/L	14	Standard
	Tl	205	86.7	21.8	**0.0003**	0.001	201.9	ug/L	27	Standard
	Pb	206	532.7	1.6	**-0.0149**	0.001	4.7	ug/L	557	Standard
	Pb	207	469.0	6.1	**-0.0105**	0.003	29.5	ug/L	432	Standard
	Pb	208	2092.1	3.2	**-0.0144**	0.001	9.2	ug/L	2118	Standard
	U	238	80.7	18.6	**0.0029**	0.000	15.9	ug/L	78	Standard
>	Bi	209	790552.1	1.2				ug/L	791817	Standard

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⌈	**Na**	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	35.0	37.8	**-0.0010**	0.029	2955.8	mg/L	48	Standard
|	**K**	39	6.7	43.3	**0.0710**	0.047	65.8	mg/L	3	Standard
|	**Ca**	43	31.7	45.6	**-5.3705**	6.201	115.5	mg/L	62	Standard
|	**Fe**	54	121.0	14.3	**0.0202**	0.024	116.8	mg/L	139	Standard
|	**Fe**	57	105.0	29.7	**-0.0290**	0.138	475.0	mg/L	83	Standard
⌊>	**Sc-1**	45	20260.2	3.0				mg/L	23513	Standard
	Cl	35	2.7	114.6				ug/L	3	Standard
	Kr	83	4.0	90.1				ug/L	2	Standard
	Br	81	1580.1	16.5				ug/L	910	Standard
	P	31	60.0	54.6				ug/L	85	Standard
	S	34	33.3	45.8				ug/L	48	Standard
	Sr	88	133.3	5.7				ug/L	72	Standard
	C	12	273.3	11.8				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	16.7	91.7				mg/L	7	Standard
	Dy	164	29.0	0.0				mg/L	22	Standard
	Ho-1	165	16.7	45.8				mg/L	22	Standard
	Er	166	20.0	0.0				mg/L	23	Standard
	I	127	99497.9	5.2				mg/L	4241	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		91.481	
|	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	107.718
|	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	99.840
⌈	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: L1610019415
Sample Date/Time: Wednesday, October 12, 2016 18:02:05
Number of Replicates: 3
Autosampler Position: 342
Sample Description: 10
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	69961.3	3.2				ug/L	72553	Standard
	Be	9	10.0	50.0	**-0.0052**	0.006	114.4	ug/L	10	Standard
	Al	27	5692021.9	0.9	**58.3995**	2.029	3.5	ug/L	232	Standard
	Sc	45	20502.2	2.3				ug/L	23513	Standard
	Ti	47	498.3	3.1	**2.9499**	0.095	3.2	ug/L	36	Standard
	V	51	13218.1	2.0	**2.1686**	0.019	0.9	ug/L	1387	Standard
	Cr	52	10397.2	1.3	**0.7094**	0.041	5.8	ug/L	7813	Standard
	Cr	53	1878.4	3.6	**0.9208**	0.054	5.8	ug/L	1410	Standard
	Mn	55	3066758.0	1.7	**344.0787**	11.091	3.2	ug/L	1043	Standard
	Co	59	13039.6	1.0	**1.6285**	0.043	2.6	ug/L	198	Standard
	Ni	60	4170.2	4.2	**2.3752**	0.065	2.8	ug/L	64	Standard
	Cu	65	1739.1	3.2	**0.8734**	0.022	2.5	ug/L	122	Standard
	Zn	66	2944.0	1.8	**2.2940**	0.122	5.3	ug/L	209	Standard
>	Ge	72	552667.6	2.2				ug/L	618040	Standard
	As	75	2509.1	1.7	**2.5302**	0.067	2.6	ug/L	11	Standard
	Se	82	61.3	4.2	**0.5153**	0.026	5.0	ug/L	21	Standard
	Se-1	77	144.3	14.8	**0.9871**	0.394	39.9	ug/L	86	Standard
>	Ga	71	65.0	26.6				mg/L	13	Standard
	Rb	85	326.7	12.8				ug/L	18	Standard
	Y	89	435292.7	0.4				ug/L	463757	Standard
>	Rh	103	145.0	6.0				ug/L	12	Standard
	Mo	98	1495.2	3.6	**0.3771**	0.012	3.1	ug/L	29	Standard
	Ag	107	118.7	5.5	**0.0020**	0.001	47.4	ug/L	101	Standard
	Cd	111	57.1	9.9	**0.0208**	0.003	12.0	mg/L	9	Standard
	Cd	114	139.4	22.5	**0.0235**	0.005	22.5	ug/L	47	Standard
>	In	115	810241.1	1.5				ug/L	765457	Standard
	Sn	118	207.0	10.1	**0.0109**	0.019	170.5	ug/L	168	Standard
	Sb	123	520.3	19.8	**0.0898**	0.018	20.3	ug/L	332	Standard
	Ba	135	18364.8	2.6	**6.5121**	0.147	2.3	ug/L	37	Standard
	Ce	140	1300.1	13.7				ug/L	895	Standard
>	Tb	159	1486475.5	3.3				ug/L	1511047	Standard
	Ho	165	185.0	18.9				ug/L	22	Standard
	Tl	203	97.7	8.5	**0.0089**	0.001	9.1	ug/L	14	Standard
	Tl	205	211.7	20.1	**0.0056**	0.002	31.3	ug/L	27	Standard
	Pb	206	1591.1	3.6	**0.1187**	0.008	6.4	ug/L	557	Standard
	Pb	207	1257.1	1.0	**0.1029**	0.001	0.9	ug/L	432	Standard
	Pb	208	6010.5	0.6	**0.1097**	0.001	1.3	ug/L	2118	Standard
	U	238	6562.4	1.0	**0.2233**	0.001	0.7	ug/L	78	Standard
>	Bi	209	749161.0	0.4				ug/L	791817	Standard

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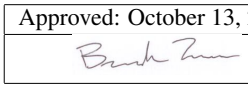

⌈	**Na**	23	26.7	10.8	**8.3048**	0.913	11.0	mg/L	5	Standard
|	**Mg**	24	23269.5	3.1	**52.2676**	1.514	2.9	mg/L	48	Standard
|	**K**	39	6.7	86.6	**0.0707**	0.098	139.2	mg/L	3	Standard
|	**Ca**	43	56.7	13.5	**4.8026**	2.700	56.2	mg/L	62	Standard
|	**Fe**	54	2044.2	2.1	**2.1903**	0.101	4.6	mg/L	139	Standard
|	**Fe**	57	751.7	5.5	**2.5664**	0.210	8.2	mg/L	83	Standard
⌊>	**Sc-1**	45	20502.2	2.3				mg/L	23513	Standard
	Cl	35	2.7	43.3				ug/L	3	Standard
	Kr	83	4.0	50.0				ug/L	2	Standard
	Br	81	14413.5	1.8				ug/L	910	Standard
	P	31	71.7	38.4				ug/L	85	Standard
	S	34	26.7	47.2				ug/L	48	Standard
	Sr	88	213.3	30.2				ug/L	72	Standard
	C	12	760.0	8.2				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	69.3				mg/L	7	Standard
	Dy	164	202.6	29.1				mg/L	22	Standard
	Ho-1	165	185.0	18.9				mg/L	22	Standard
	Er	166	293.3	15.7				mg/L	23	Standard
	I	127	966378.0	9.2				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		96.427	
|	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		89.423	
|	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	105.851
|	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	94.613
⌈	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: L1610019416
Sample Date/Time: Wednesday, October 12, 2016 18:05:05
Number of Replicates: 3
Autosampler Position: 343
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	75856.2	2.8				ug/L	72553	Standard
	Be	9	31.7	55.5	**0.0165**	0.018	107.4	ug/L	10	Standard
	Al	27	97355001.4	2.4	**921.1956**	37.670	4.1	ug/L	232	Standard
	Sc	45	18901.8	2.3				ug/L	23513	Standard
	Ti	47	111.7	6.7	**0.5611**	0.061	10.8	ug/L	36	Standard
	V	51	-270.0	43.2	**-0.2611**	0.024	9.1	ug/L	1387	Standard
	Cr	52	9228.1	0.8	**0.6914**	0.028	4.1	ug/L	7813	Standard
	Cr	53	11959.7	2.4	**17.9489**	0.417	2.3	ug/L	1410	Standard
	Mn	55	6026566.5	0.2	**754.9547**	7.161	0.9	ug/L	1043	Standard
	Co	59	13050.0	1.0	**1.8216**	0.033	1.8	ug/L	198	Standard
	Ni	60	15258.7	1.6	**9.8243**	0.181	1.8	ug/L	64	Standard
	Cu	65	1950.8	0.5	**1.1203**	0.006	0.5	ug/L	122	Standard
	Zn	66	3532.7	1.1	**3.3491**	0.058	1.7	ug/L	209	Standard
>	Ge	72	494932.5	0.9				ug/L	618040	Standard
	As	75	3192.0	1.5	**3.5760**	0.036	1.0	ug/L	11	Standard
	Se	82	1234.8	1.3	**14.4817**	0.256	1.8	ug/L	21	Standard
	Se-1	77	1739.1	1.9	**29.8691**	0.338	1.1	ug/L	86	Standard
>	Ga	71	78.3	28.8				mg/L	13	Standard
	Rb	85	17480.1	3.1				ug/L	18	Standard
	Y	89	380612.3	1.8				ug/L	463757	Standard
>	Rh	103	1463.4	5.2				ug/L	12	Standard
	Mo	98	727.3	1.5	**0.2288**	0.004	1.9	ug/L	29	Standard
	Ag	107	114.7	12.3	**0.0056**	0.002	43.5	ug/L	101	Standard
	Cd	111	180.7	5.6	**0.0969**	0.006	6.0	mg/L	9	Standard
	Cd	114	433.4	5.9	**0.0928**	0.006	5.9	ug/L	47	Standard
>	In	115	643532.1	0.5				ug/L	765457	Standard
	Sn	118	122.3	3.3	**-0.0302**	0.004	14.6	ug/L	168	Standard
	Sb	123	942.5	4.5	**0.2000**	0.010	4.9	ug/L	332	Standard
	Ba	135	24242.0	1.7	**10.8386**	0.139	1.3	ug/L	37	Standard
	Ce	140	27047.5	2.1				ug/L	895	Standard
>	Tb	159	1184504.3	1.8				ug/L	1511047	Standard
	Ho	165	165.0	13.2				ug/L	22	Standard
	Tl	203	228.3	8.3	**0.0307**	0.003	9.6	ug/L	14	Standard
	Tl	205	510.0	11.6	**0.0270**	0.004	14.3	ug/L	27	Standard
	Pb	206	589.3	2.2	**0.0283**	0.002	5.5	ug/L	557	Standard
	Pb	207	495.3	1.5	**0.0279**	0.000	0.2	ug/L	432	Standard
	Pb	208	2305.1	1.9	**0.0277**	0.002	8.9	ug/L	2118	Standard
	U	238	366680.0	0.6	**18.1043**	0.279	1.5	ug/L	78	Standard
>	Bi	209	515824.7	1.5				ug/L	791817	Standard

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⌈	**Na**	23	633.3	14.2	**224.9640**	28.114	12.5	mg/L	5	Standard
|	**Mg**	24	179556.3	2.0	**438.2393**	17.089	3.9	mg/L	48	Standard
|	**K**	39	58.3	13.1	**1.0294**	0.131	12.7	mg/L	3	Standard
|	**Ca**	43	508.3	10.0	**211.2752**	27.365	13.0	mg/L	62	Standard
|	**Fe**	54	203.5	17.3	**0.1306**	0.042	32.0	mg/L	139	Standard
|	**Fe**	57	725.0	8.4	**2.7086**	0.335	12.4	mg/L	83	Standard
⌊>	**Sc-1**	45	18901.8	2.3				mg/L	23513	Standard
	Cl	35	5.3	94.4				ug/L	3	Standard
	Kr	83	5.3	28.6				ug/L	2	Standard
	Br	81	336262.3	2.8				ug/L	910	Standard
	P	31	75.0	6.7				ug/L	85	Standard
	S	34	33.3	31.2				ug/L	48	Standard
	Sr	88	2728.6	2.6				ug/L	72	Standard
	C	12	1176.7	9.0				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	114.6				mg/L	7	Standard
	Dy	164	188.4	11.8				mg/L	22	Standard
	Ho-1	165	165.0	13.2				mg/L	22	Standard
	Er	166	173.3	18.5				mg/L	23	Standard
	I	127	29019407.2	6.9				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		104.552	
|	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		80.081	
|	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	84.072
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	65.144
⌈	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: L1610019417
Sample Date/Time: Wednesday, October 12, 2016 18:08:04
Number of Replicates: 3
Autosampler Position: 344
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	81875.7	1.6				ug/L	72553	Standard
	Be	9	21.7	81.0	**0.0044**	0.017	387.7	ug/L	10	Standard
	Al	27	160729597.8	0.9	**1408.2868**	11.882	0.8	ug/L	232	Standard
	Sc	45	18147.5	1.1				ug/L	23513	Standard
	Ti	47	91.0	16.6	**0.4444**	0.108	24.3	ug/L	36	Standard
	V	51	116.5	406.9	**-0.1816**	0.101	55.4	ug/L	1387	Standard
	Cr	52	11238.8	1.3	**1.2374**	0.060	4.8	ug/L	7813	Standard
	Cr	53	13909.7	1.7	**22.3083**	0.263	1.2	ug/L	1410	Standard
	Mn	55	438612.6	0.8	**57.4917**	0.268	0.5	ug/L	1043	Standard
	Co	59	5397.3	1.1	**0.7797**	0.008	1.1	ug/L	198	Standard
	Ni	60	21176.8	0.9	**14.3211**	0.292	2.0	ug/L	64	Standard
	Cu	65	2796.6	0.6	**1.7372**	0.018	1.0	ug/L	122	Standard
	Zn	66	4538.7	1.3	**4.7967**	0.022	0.5	ug/L	209	Standard
>	Ge	72	471829.3	1.2				ug/L	618040	Standard
	As	75	2296.2	10.6	**2.7094**	0.294	10.8	ug/L	11	Standard
	Se	82	1071.1	2.4	**13.1670**	0.454	3.4	ug/L	21	Standard
	Se-1	77	2544.2	1.7	**46.5529**	0.400	0.9	ug/L	86	Standard
>	Ga	71	76.7	21.0				mg/L	13	Standard
	Rb	85	8442.4	4.9				ug/L	18	Standard
	Y	89	374088.6	2.5				ug/L	463757	Standard
>	Rh	103	2081.8	11.9				ug/L	12	Standard
	Mo	98	977.7	1.3	**0.3203**	0.002	0.6	ug/L	29	Standard
	Ag	107	147.7	10.9	**0.0125**	0.003	22.5	ug/L	101	Standard
	Cd	111	2259.2	5.4	**1.3075**	0.062	4.8	mg/L	9	Standard
	Cd	114	5706.3	3.4	**1.2674**	0.038	3.0	ug/L	47	Standard
>	In	115	622100.3	0.7				ug/L	765457	Standard
	Sn	118	115.3	17.4	**-0.0332**	0.020	59.2	ug/L	168	Standard
	Sb	123	523.8	9.0	**0.1164**	0.010	8.2	ug/L	332	Standard
	Ba	135	13477.3	1.1	**6.2232**	0.072	1.2	ug/L	37	Standard
	Ce	140	10006.6	2.3				ug/L	895	Standard
>	Tb	159	1137399.6	2.2				ug/L	1511047	Standard
	Ho	165	576.7	9.5				ug/L	22	Standard
	Tl	203	124.3	3.3	**0.0184**	0.001	4.5	ug/L	14	Standard
	Tl	205	315.0	11.1	**0.0175**	0.002	11.4	ug/L	27	Standard
	Pb	206	446.0	5.4	**0.0111**	0.005	40.5	ug/L	557	Standard
	Pb	207	363.0	5.9	**0.0089**	0.006	63.4	ug/L	432	Standard
	Pb	208	1694.0	0.4	**0.0084**	0.001	14.5	ug/L	2118	Standard
	U	238	550147.3	1.2	**30.0622**	0.538	1.8	ug/L	78	Standard
>	Bi	209	466058.5	1.3				ug/L	791817	Standard

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⌈	**Na**	23	841.7	6.5	**312.0897**	21.620	6.9	mg/L	5	Standard
|	**Mg**	24	206127.7	0.5	**523.7761**	7.213	1.4	mg/L	48	Standard
|	**K**	39	78.3	19.5	**1.4558**	0.277	19.0	mg/L	3	Standard
|	**Ca**	43	603.3	19.9	**265.1875**	56.590	21.3	mg/L	62	Standard
|	**Fe**	54	215.4	16.8	**0.1563**	0.047	29.8	mg/L	139	Standard
|	**Fe**	57	956.7	7.9	**3.8894**	0.374	9.6	mg/L	83	Standard
⌊>	**Sc-1**	45	18147.5	1.1				mg/L	23513	Standard
	Cl	35	6.0	57.7				ug/L	3	Standard
	Kr	83	2.3	99.0				ug/L	2	Standard
	Br	81	295913.8	3.4				ug/L	910	Standard
	P	31	90.0	33.3				ug/L	85	Standard
	S	34	36.7	31.5				ug/L	48	Standard
	Sr	88	3733.8	6.2				ug/L	72	Standard
	C	12	1146.7	7.9				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	56.7	20.4				mg/L	7	Standard
	Dy	164	598.8	6.6				mg/L	22	Standard
	Ho-1	165	576.7	9.5				mg/L	22	Standard
	Er	166	513.3	16.2				mg/L	23	Standard
	I	127	6436609.8	3.2				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		112.849	
|	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		76.343	
|	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	81.272
|	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	58.859
⌈	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: L1610031902
Sample Date/Time: Wednesday, October 12, 2016 18:11:04
Number of Replicates: 3
Autosampler Position: 345
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	83444.8	6.7				ug/L	72553	Standard
	Be	9	7550.2	2.3	**7.2564**	0.311	4.3	ug/L	10	Standard
	Al	27	27599909.4	4.0	**237.5392**	6.921	2.9	ug/L	232	Standard
	Sc	45	42969.2	2.8				ug/L	23513	Standard
	Ti	47	35831.0	2.7	**245.6178**	2.895	1.2	ug/L	36	Standard
	V	51	815345.6	3.2	**157.0339**	1.158	0.7	ug/L	1387	Standard
	Cr	52	754317.9	3.4	**153.1848**	0.694	0.5	ug/L	7813	Standard
	Cr	53	99712.2	3.1	**156.9092**	0.788	0.5	ug/L	1410	Standard
	Mn	55	32783105.4	3.5	**3947.0226**	29.891	0.8	ug/L	1043	Standard
	Co	59	551349.7	2.7	**74.6997**	0.530	0.7	ug/L	198	Standard
	Ni	60	201183.1	1.7	**124.9632**	2.001	1.6	ug/L	64	Standard
	Cu	65	222741.1	2.7	**134.2632**	0.983	0.7	ug/L	122	Standard
	Zn	66	486702.2	2.8	**550.6316**	2.985	0.5	ug/L	209	Standard
>	Ge	72	515002.4	3.2				ug/L	618040	Standard
	As	75	49362.1	3.1	**52.5795**	0.549	1.0	ug/L	11	Standard
	Se	82	382.6	4.5	**4.2164**	0.086	2.0	ug/L	21	Standard
	Se-1	77	868.7	7.7	**13.6304**	0.689	5.1	ug/L	86	Standard
>	Ga	71	121147.9	3.9				mg/L	13	Standard
	Rb	85	989597.5	3.1				ug/L	18	Standard
	Y	89	2364362.5	2.2				ug/L	463757	Standard
>	Rh	103	258.3	19.9				ug/L	12	Standard
	Mo	98	27094.3	3.0	**8.1531**	0.072	0.9	ug/L	29	Standard
	Ag	107	4490.3	3.6	**0.7395**	0.020	2.7	ug/L	101	Standard
	Cd	111	2010.5	5.2	**1.0501**	0.021	2.0	mg/L	9	Standard
	Cd	114	5213.5	6.3	**1.0460**	0.048	4.6	ug/L	47	Standard
>	In	115	688598.4	3.7				ug/L	765457	Standard
	Sn	118	275.3	10.5	**0.1007**	0.019	19.1	ug/L	168	Standard
	Sb	123	1351.5	2.2	**0.2669**	0.006	2.1	ug/L	332	Standard
	Ba	135	1747128.7	1.3	**732.1231**	19.025	2.6	ug/L	37	Standard
	Ce	140	14564509.9	3.2				ug/L	895	Standard
>	Tb	159	1472549.6	1.8				ug/L	1511047	Standard
	Ho	165	265033.8	4.1				ug/L	22	Standard
	Tl	203	15475.9	1.5	**1.4977**	0.012	0.8	ug/L	14	Standard
	Tl	205	35299.4	1.2	**1.4786**	0.015	1.0	ug/L	27	Standard
	Pb	206	1360265.8	3.2	**173.8433**	2.139	1.2	ug/L	557	Standard
	Pb	207	1070910.3	2.8	**155.3505**	1.326	0.9	ug/L	432	Standard
	Pb	208	5127618.8	2.6	**164.2079**	1.180	0.7	ug/L	2118	Standard
	U	238	992261.9	1.6	**35.0618**	0.183	0.5	ug/L	78	Standard
>	Bi	209	720699.0	2.1				ug/L	791817	Standard

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⌈	**Na**	23	265.0	10.5	**41.0337**	3.168	7.7	mg/L	5	Standard
|	**Mg**	24	10783.8	0.7	**11.5003**	0.380	3.3	mg/L	48	Standard
|	**K**	39	425.0	14.7	**3.3886**	0.423	12.5	mg/L	3	Standard
|	**Ca**	43	225.0	7.7	**25.9667**	3.536	13.6	mg/L	62	Standard
|	**Fe**	54	126923.7	1.8	**68.2650**	2.107	3.1	mg/L	139	Standard
|	**Fe**	57	34808.3	1.8	**66.3434**	1.168	1.8	mg/L	83	Standard
⌊>	**Sc-1**	45	42969.2	2.8				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	2.7	57.3				ug/L	2	Standard
	Br	81	10370.3	12.6				ug/L	910	Standard
	P	31	566.7	7.5				ug/L	85	Standard
	S	34	21.7	58.1				ug/L	48	Standard
	Sr	88	388.3	5.8				ug/L	72	Standard
	C	12	900.0	1.1				mg/L	227	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	390.0	11.8				mg/L	7	Standard
	Dy	164	407827.7	2.9				mg/L	22	Standard
	Ho-1	165	265033.8	4.1				mg/L	22	Standard
	Er	166	235753.4	0.9				mg/L	23	Standard
	I	127	392099.9	22.8				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		115.012	
|	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		83.328	
|	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		89.959
Sn	118		
Sb	123		
Ba	135		
Ce	140		
Tb	159		
Ho	165		
Tl	203		
Tl	205		
Pb	206		
Pb	207		
Pb	208		
U	238		
Bi	209		91.018
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	
Ti 47 Upper, S, EEE	Ti	47	
V 51 Upper, S, EEE	V	51	

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Cr 52 Upper, S, EEE	Cr	52
Cr 53 Upper, S, EEE	Cr	53
Mn 55 Upper, S, EEE	Mn	55
Ni 60 Upper, S, EEE	Ni	60
Cu 65 Upper, S, EEE	Cu	65
Zn 66 Upper, S, EEE	Zn	66
Ba 135 Upper, S, EEE	Ba	135
Pb 206 Upper, S, EEE	Pb	206
Pb 207 Upper, S, EEE	Pb	207
Pb 208 Upper, S, EEE	Pb	208

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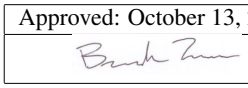

Method 6020 - Summary Report

Sample ID: L1610012306
Sample Date/Time: Wednesday, October 12, 2016 18:14:04
Number of Replicates: 3
Autosampler Position: 346
Sample Description: 10
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	63846.0	3.1				ug/L	72553	Standard
	Be	9	10.0	100.0	**-0.0040**	0.013	327.3	ug/L	10	Standard
	Al	27	16132333.6	4.1	**181.2075**	1.946	1.1	ug/L	232	Standard
	Sc	45	17248.1	1.3				ug/L	23513	Standard
	Ti	47	50.0	13.9	**0.1265**	0.052	40.8	ug/L	36	Standard
	V	51	604.8	76.1	**-0.0838**	0.094	111.6	ug/L	1387	Standard
	Cr	52	5953.8	3.7	**0.0141**	0.039	273.2	ug/L	7813	Standard
	Cr	53	4334.0	4.8	**5.4330**	0.370	6.8	ug/L	1410	Standard
	Mn	55	166168.6	1.2	**21.0073**	0.430	2.0	ug/L	1043	Standard
	Co	59	913.7	2.8	**0.1124**	0.004	3.4	ug/L	198	Standard
	Ni	60	2519.5	3.9	**1.6169**	0.061	3.8	ug/L	64	Standard
	Cu	65	419.7	4.7	**0.1637**	0.014	8.5	ug/L	122	Standard
	Zn	66	1672.8	2.0	**1.1885**	0.034	2.9	ug/L	209	Standard
>	Ge	72	486966.1	0.8				ug/L	618040	Standard
	As	75	184.4	38.6	**0.2490**	0.081	32.7	ug/L	11	Standard
	Se	82	109.6	13.2	**1.1841**	0.184	15.5	ug/L	21	Standard
	Se-1	77	359.0	8.3	**5.2094**	0.530	10.2	ug/L	86	Standard
>	Ga	71	15.0	57.7				mg/L	13	Standard
	Rb	85	1205.0	9.5				ug/L	18	Standard
	Y	89	356358.8	0.6				ug/L	463757	Standard
>	Rh	103	156.7	4.9				ug/L	12	Standard
	Mo	98	77.4	11.2	**0.0185**	0.002	12.1	ug/L	29	Standard
	Ag	107	95.3	11.6	**0.0016**	0.002	111.8	ug/L	101	Standard
	Cd	111	137.6	16.4	**0.0699**	0.011	15.8	mg/L	9	Standard
	Cd	114	401.9	4.7	**0.0830**	0.003	3.0	ug/L	47	Standard
>	In	115	666456.7	2.0				ug/L	765457	Standard
	Sn	118	53.0	15.0	**-0.0992**	0.008	8.5	ug/L	168	Standard
	Sb	123	141.4	38.1	**0.0318**	0.010	32.4	ug/L	332	Standard
	Ba	135	2906.6	3.1	**1.2330**	0.017	1.4	ug/L	37	Standard
	Ce	140	1195.0	14.1				ug/L	895	Standard
>	Tb	159	1262860.7	2.7				ug/L	1511047	Standard
	Ho	165	66.7	22.9				ug/L	22	Standard
	Tl	203	68.0	7.8	**0.0071**	0.001	9.4	ug/L	14	Standard
	Tl	205	123.3	20.4	**0.0027**	0.001	44.5	ug/L	27	Standard
	Pb	206	589.7	8.2	**0.0061**	0.008	136.4	ug/L	557	Standard
	Pb	207	495.0	7.1	**0.0066**	0.007	106.3	ug/L	432	Standard
	Pb	208	2308.7	6.5	**0.0059**	0.006	104.6	ug/L	2118	Standard
	U	238	13304.2	2.4	**0.5177**	0.006	1.2	ug/L	78	Standard
>	Bi	209	654719.7	1.9				ug/L	791817	Standard

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⌈	**Na**	23	41.7	25.0	**15.7843**	3.881	24.6	mg/L	5	Standard
|	**Mg**	24	11212.5	7.3	**29.9035**	2.231	7.5	mg/L	48	Standard
|	**K**	39	16.7	34.6	**0.2921**	0.113	38.6	mg/L	3	Standard
|	**Ca**	43	116.7	13.1	**39.0180**	7.706	19.7	mg/L	62	Standard
|	**Fe**	54	54.4	32.0	**-0.0451**	0.025	54.5	mg/L	139	Standard
|	**Fe**	57	158.3	21.5	**0.2992**	0.170	56.7	mg/L	83	Standard
⌊>	**Sc-1**	45	17248.1	1.3				mg/L	23513	Standard
	Cl	35	6.7	62.4				ug/L	3	Standard
	Kr	83	4.0	50.0				ug/L	2	Standard
	Br	81	27161.0	4.7				ug/L	910	Standard
	P	31	31.7	48.2				ug/L	85	Standard
	S	34	33.3	8.7				ug/L	48	Standard
	Sr	88	338.3	5.2				ug/L	72	Standard
	C	12	323.3	28.1				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	77.8	12.6				mg/L	22	Standard
	Ho-1	165	66.7	22.9				mg/L	22	Standard
	Er	166	46.7	12.4				mg/L	23	Standard
	I	127	246196.6	5.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		87.999	
|	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		78.792	
|	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	87.066
|	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	82.686
⌈	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: L1610012307
Sample Date/Time: Wednesday, October 12, 2016 18:17:03
Number of Replicates: 3
Autosampler Position: 347
Sample Description: 10
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	65493.0	2.8				ug/L	72553	Standard
	Be	9	3.3	86.6	**-0.0127**	0.004	28.3	ug/L	10	Standard
	Al	27	7611350.6	2.3	**83.3909**	2.404	2.9	ug/L	232	Standard
	Sc	45	17339.9	0.8				ug/L	23513	Standard
	Ti	47	33.7	20.2	**0.0053**	0.049	930.0	ug/L	36	Standard
	V	51	817.4	15.8	**-0.0418**	0.028	66.9	ug/L	1387	Standard
	Cr	52	6109.6	0.9	**0.0336**	0.003	9.1	ug/L	7813	Standard
	Cr	53	2380.2	1.6	**2.0984**	0.051	2.4	ug/L	1410	Standard
	Mn	55	111039.1	0.6	**13.8313**	0.136	1.0	ug/L	1043	Standard
	Co	59	939.7	3.5	**0.1147**	0.006	5.3	ug/L	198	Standard
	Ni	60	1160.7	2.2	**0.7160**	0.009	1.2	ug/L	64	Standard
	Cu	65	370.7	4.9	**0.1297**	0.010	7.3	ug/L	122	Standard
	Zn	66	1128.7	1.9	**0.5219**	0.022	4.2	ug/L	209	Standard
>	Ge	72	492337.4	1.1				ug/L	618040	Standard
	As	75	92.0	44.2	**0.1438**	0.046	32.2	ug/L	11	Standard
	Se	82	68.3	14.4	**0.6777**	0.116	17.1	ug/L	21	Standard
	Se-1	77	202.7	5.1	**2.3186**	0.187	8.1	ug/L	86	Standard
>	Ga	71	16.7	62.4				mg/L	13	Standard
	Rb	85	511.7	3.4				ug/L	18	Standard
	Y	89	363296.0	1.3				ug/L	463757	Standard
>	Rh	103	115.0	8.7				ug/L	12	Standard
	Mo	98	79.9	3.5	**0.0186**	0.001	5.1	ug/L	29	Standard
	Ag	107	96.0	13.1	**0.0012**	0.002	153.5	ug/L	101	Standard
	Cd	111	22.9	37.3	**0.0075**	0.005	60.9	mg/L	9	Standard
	Cd	114	77.0	7.4	**0.0152**	0.001	7.3	ug/L	47	Standard
>	In	115	686557.7	1.9				ug/L	765457	Standard
	Sn	118	48.0	5.5	**-0.1054**	0.002	1.7	ug/L	168	Standard
	Sb	123	140.3	22.9	**0.0308**	0.006	18.9	ug/L	332	Standard
	Ba	135	2304.2	0.0	**0.9435**	0.018	1.9	ug/L	37	Standard
	Ce	140	3533.7	2.5				ug/L	895	Standard
>	Tb	159	1297920.2	1.9				ug/L	1511047	Standard
	Ho	165	53.3	43.3				ug/L	22	Standard
	Tl	203	62.0	8.1	**0.0062**	0.000	7.7	ug/L	14	Standard
	Tl	205	163.3	31.3	**0.0043**	0.002	49.7	ug/L	27	Standard
	Pb	206	546.0	4.8	**-0.0027**	0.002	70.2	ug/L	557	Standard
	Pb	207	452.3	10.6	**-0.0027**	0.007	248.2	ug/L	432	Standard
	Pb	208	2091.1	4.2	**-0.0042**	0.002	48.0	ug/L	2118	Standard
	U	238	30372.4	2.1	**1.1436**	0.022	1.9	ug/L	78	Standard
>	Bi	209	676535.0	2.4				ug/L	791817	Standard

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⌈	**Na**	23	63.3	16.4	**24.1726**	4.255	17.6	mg/L	5	Standard
|	**Mg**	24	11938.0	2.7	**31.6660**	0.599	1.9	mg/L	48	Standard
|	**K**	39	15.0	115.5	**0.2572**	0.346	134.4	mg/L	3	Standard
|	**Ca**	43	78.3	16.1	**19.8228**	6.251	31.5	mg/L	62	Standard
|	**Fe**	54	37.8	55.0	**-0.0679**	0.028	41.3	mg/L	139	Standard
|	**Fe**	57	165.0	6.1	**0.3261**	0.054	16.5	mg/L	83	Standard
⌊>	**Sc-1**	45	17339.9	0.8				mg/L	23513	Standard
	Cl	35	2.7	114.6				ug/L	3	Standard
	Kr	83	4.0	66.1				ug/L	2	Standard
	Br	81	13282.5	6.4				ug/L	910	Standard
	P	31	43.3	13.3				ug/L	85	Standard
	S	34	23.3	12.4				ug/L	48	Standard
	Sr	88	260.0	5.1				ug/L	72	Standard
	C	12	416.7	19.5				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	77.4	21.5				mg/L	22	Standard
	Ho-1	165	53.3	43.3				mg/L	22	Standard
	Er	166	53.3	28.6				mg/L	23	Standard
	I	127	111588.0	3.1				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		90.269	
|	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		79.661	
|	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	89.692
|	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	85.441
⌈	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: L1610012314
Sample Date/Time: Wednesday, October 12, 2016 18:20:02
Number of Replicates: 3
Autosampler Position: 348
Sample Description: 10
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	66989.6	4.1				ug/L	72553	Standard
	Be	9	3.3	173.2	**-0.0127**	0.007	56.3	ug/L	10	Standard
	Al	27	15258724.7	2.7	**163.4500**	2.796	1.7	ug/L	232	Standard
	Sc	45	17323.2	0.3				ug/L	23513	Standard
	Ti	47	60.7	18.1	**0.2011**	0.082	41.0	ug/L	36	Standard
	V	51	590.7	81.7	**-0.0866**	0.098	113.7	ug/L	1387	Standard
	Cr	52	6135.9	2.1	**0.0444**	0.015	33.5	ug/L	7813	Standard
	Cr	53	3773.8	2.2	**4.4447**	0.106	2.4	ug/L	1410	Standard
	Mn	55	155313.7	1.4	**19.4873**	0.354	1.8	ug/L	1043	Standard
	Co	59	846.7	5.1	**0.1019**	0.005	4.8	ug/L	198	Standard
	Ni	60	2488.2	3.4	**1.5848**	0.040	2.5	ug/L	64	Standard
	Cu	65	1714.8	1.6	**0.9822**	0.012	1.2	ug/L	122	Standard
	Zn	66	1839.4	4.6	**1.3727**	0.092	6.7	ug/L	209	Standard
>	Ge	72	490363.2	1.0				ug/L	618040	Standard
	As	75	171.3	22.8	**0.2322**	0.042	17.9	ug/L	11	Standard
	Se	82	95.6	10.7	**1.0068**	0.112	11.2	ug/L	21	Standard
	Se-1	77	338.0	2.7	**4.7850**	0.190	4.0	ug/L	86	Standard
>	Ga	71	20.0	86.6				mg/L	13	Standard
	Rb	85	1173.4	7.9				ug/L	18	Standard
	Y	89	359800.3	0.3				ug/L	463757	Standard
>	Rh	103	110.0	7.9				ug/L	12	Standard
	Mo	98	45.0	9.0	**0.0082**	0.001	12.9	ug/L	29	Standard
	Ag	107	79.7	9.3	**-0.0014**	0.001	106.6	ug/L	101	Standard
	Cd	111	141.3	7.6	**0.0704**	0.005	6.7	mg/L	9	Standard
	Cd	114	355.3	12.7	**0.0718**	0.008	11.5	ug/L	47	Standard
>	In	115	680100.6	1.9				ug/L	765457	Standard
	Sn	118	50.3	18.0	**-0.1029**	0.008	7.4	ug/L	168	Standard
	Sb	123	95.5	18.9	**0.0223**	0.003	14.4	ug/L	332	Standard
	Ba	135	2709.9	1.5	**1.1246**	0.006	0.6	ug/L	37	Standard
	Ce	140	830.0	4.3				ug/L	895	Standard
>	Tb	159	1305074.0	1.4				ug/L	1511047	Standard
	Ho	165	38.3	39.8				ug/L	22	Standard
	Tl	203	64.3	10.1	**0.0064**	0.001	8.7	ug/L	14	Standard
	Tl	205	173.3	24.2	**0.0047**	0.002	37.6	ug/L	27	Standard
	Pb	206	1152.4	4.5	**0.0796**	0.009	11.4	ug/L	557	Standard
	Pb	207	973.7	3.9	**0.0776**	0.004	4.9	ug/L	432	Standard
	Pb	208	4527.3	1.1	**0.0786**	0.003	4.0	ug/L	2118	Standard
	U	238	12685.6	1.6	**0.4766**	0.010	2.1	ug/L	78	Standard
>	Bi	209	678201.4	1.6				ug/L	791817	Standard

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⌈	**Na**	23	73.3	15.7	**28.0690**	4.539	16.2	mg/L	5	Standard
|	**Mg**	24	10690.4	2.2	**28.3795**	0.667	2.4	mg/L	48	Standard
|	**K**	39	16.7	34.6	**0.2918**	0.116	39.9	mg/L	3	Standard
|	**Ca**	43	96.7	20.9	**28.9015**	10.065	34.8	mg/L	62	Standard
|	**Fe**	54	65.8	35.6	**-0.0304**	0.031	103.3	mg/L	139	Standard
|	**Fe**	57	205.0	0.0	**0.5170**	0.003	0.6	mg/L	83	Standard
⌊>	**Sc-1**	45	17323.2	0.3				mg/L	23513	Standard
	Cl	35	4.7	49.5				ug/L	3	Standard
	Kr	83	6.7	34.6				ug/L	2	Standard
	Br	81	24917.2	4.5				ug/L	910	Standard
	P	31	46.7	32.7				ug/L	85	Standard
	S	34	48.3	6.0				ug/L	48	Standard
	Sr	88	261.7	5.5				ug/L	72	Standard
	C	12	330.0	10.9				mg/L	227	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	7	Standard
	Dy	164	64.6	38.6				mg/L	22	Standard
	Ho-1	165	38.3	39.8				mg/L	22	Standard
	Er	166	43.3	13.3				mg/L	23	Standard
	I	127	140341.0	7.5				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		92.331	
|	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		79.342	
|	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	88.849
	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	85.651
	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: L1610012315
Sample Date/Time: Wednesday, October 12, 2016 18:23:02
Number of Replicates: 3
Autosampler Position: 349
Sample Description: 10
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	67696.0	2.5				ug/L	72553	Standard
	Be	9	6.7	114.6	**-0.0090**	0.009	97.2	ug/L	10	Standard
	Al	27	8103529.8	2.4	**85.9205**	3.795	4.4	ug/L	232	Standard
	Sc	45	17558.5	1.3				ug/L	23513	Standard
	Ti	47	32.7	12.7	**-0.0003**	0.031	9235.3	ug/L	36	Standard
	V	51	1083.2	15.8	**0.0131**	0.035	263.9	ug/L	1387	Standard
	Cr	52	6079.9	2.7	**0.0360**	0.033	92.1	ug/L	7813	Standard
	Cr	53	2241.8	9.8	**1.8933**	0.369	19.5	ug/L	1410	Standard
	Mn	55	108799.9	0.8	**13.6409**	0.092	0.7	ug/L	1043	Standard
	Co	59	760.0	2.6	**0.0899**	0.003	3.2	ug/L	198	Standard
	Ni	60	1171.7	2.4	**0.7284**	0.017	2.4	ug/L	64	Standard
	Cu	65	570.3	3.7	**0.2582**	0.012	4.8	ug/L	122	Standard
	Zn	66	1146.0	2.9	**0.5517**	0.043	7.7	ug/L	209	Standard
>	Ge	72	489036.5	0.2				ug/L	618040	Standard
	As	75	101.3	27.7	**0.1546**	0.031	20.3	ug/L	11	Standard
	Se	82	65.0	16.9	**0.6442**	0.131	20.3	ug/L	21	Standard
	Se-1	77	191.3	7.3	**2.1372**	0.254	11.9	ug/L	86	Standard
>	Ga	71	26.7	65.8				mg/L	13	Standard
	Rb	85	463.3	10.8				ug/L	18	Standard
	Y	89	362736.3	1.5				ug/L	463757	Standard
>	Rh	103	128.3	31.3				ug/L	12	Standard
	Mo	98	46.2	18.4	**0.0086**	0.003	29.7	ug/L	29	Standard
	Ag	107	89.0	6.8	**0.0002**	0.001	606.9	ug/L	101	Standard
	Cd	111	25.3	21.8	**0.0088**	0.003	33.5	mg/L	9	Standard
	Cd	114	45.3	54.4	**0.0089**	0.005	55.9	ug/L	47	Standard
>	In	115	679741.3	0.5				ug/L	765457	Standard
	Sn	118	50.7	5.0	**-0.1025**	0.002	2.1	ug/L	168	Standard
	Sb	123	109.8	20.6	**0.0252**	0.004	17.4	ug/L	332	Standard
	Ba	135	2350.8	1.8	**0.9728**	0.014	1.5	ug/L	37	Standard
	Ce	140	2033.5	5.9				ug/L	895	Standard
>	Tb	159	1294023.2	2.1				ug/L	1511047	Standard
	Ho	165	30.0	28.9				ug/L	22	Standard
	Tl	203	71.0	15.9	**0.0071**	0.001	17.5	ug/L	14	Standard
	Tl	205	135.0	13.4	**0.0030**	0.001	28.7	ug/L	27	Standard
	Pb	206	487.7	6.0	**-0.0109**	0.005	41.3	ug/L	557	Standard
	Pb	207	439.0	6.7	**-0.0051**	0.004	75.2	ug/L	432	Standard
	Pb	208	1993.4	1.4	**-0.0078**	0.000	5.3	ug/L	2118	Standard
	U	238	31814.4	0.6	**1.1920**	0.012	1.0	ug/L	78	Standard
>	Bi	209	679842.0	1.1				ug/L	791817	Standard

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⌈	**Na**	23	33.3	8.7	**12.3318**	1.083	8.8	mg/L	5	Standard
|	**Mg**	24	12209.9	7.3	**31.9847**	2.220	6.9	mg/L	48	Standard
|	**K**	39	8.3	91.7	**0.1232**	0.152	123.3	mg/L	3	Standard
|	**Ca**	43	68.3	15.2	**14.4303**	4.618	32.0	mg/L	62	Standard
|	**Fe**	54	64.5	0.6	**-0.0334**	0.002	4.5	mg/L	139	Standard
|	**Fe**	57	191.7	22.5	**0.4416**	0.205	46.5	mg/L	83	Standard
⌊>	**Sc-1**	45	17558.5	1.3				mg/L	23513	Standard
	Cl	35	5.3	43.3				ug/L	3	Standard
	Kr	83	5.0	40.0				ug/L	2	Standard
	Br	81	13993.1	1.7				ug/L	910	Standard
	P	31	21.7	35.3				ug/L	85	Standard
	S	34	35.0	28.6				ug/L	48	Standard
	Sr	88	273.3	13.2				ug/L	72	Standard
	C	12	366.7	20.8				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	63.6	19.0				mg/L	22	Standard
	Ho-1	165	30.0	28.9				mg/L	22	Standard
	Er	166	63.3	24.1				mg/L	23	Standard
	I	127	67903.5	2.5				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		93.305	
|	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		79.127	
|	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	88.802
|	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	85.858
⌈	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: Wednesday, October 12, 2016 18:26:02
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	71071.4	3.3				ug/L	72553	Standard
	Be	9	41730.7	1.0	**47.1335**	1.910	4.1	ug/L	10	Standard
	Al	27	4433668.1	2.2	**44.7975**	2.408	5.4	ug/L	232	Standard
	Sc	45	18544.7	2.4				ug/L	23513	Standard
	Ti	47	14484.9	1.7	**98.0707**	1.199	1.2	ug/L	36	Standard
	V	51	268822.9	0.2	**51.0850**	0.775	1.5	ug/L	1387	Standard
	Cr	52	258310.2	1.2	**51.0535**	0.305	0.6	ug/L	7813	Standard
	Cr	53	33376.7	1.8	**50.7056**	0.244	0.5	ug/L	1410	Standard
	Mn	55	419232.7	1.8	**49.7793**	0.073	0.1	ug/L	1043	Standard
	Co	59	379107.1	2.5	**50.7942**	0.526	1.0	ug/L	198	Standard
	Ni	60	82147.1	1.6	**50.4356**	0.110	0.2	ug/L	64	Standard
	Cu	65	84770.5	1.1	**50.4786**	0.304	0.6	ug/L	122	Standard
	Zn	66	45181.6	0.2	**49.8280**	0.784	1.6	ug/L	209	Standard
>	Ge	72	520613.9	1.7				ug/L	618040	Standard
	As	75	47041.2	2.4	**49.5632**	0.371	0.7	ug/L	11	Standard
	Se	82	4431.0	4.6	**49.7094**	1.430	2.9	ug/L	21	Standard
	Se-1	77	2993.6	3.5	**49.7247**	1.016	2.0	ug/L	86	Standard
>	Ga	71	18.3	31.5				mg/L	13	Standard
	Rb	85	698.3	5.1				ug/L	18	Standard
	Y	89	397595.4	5.4				ug/L	463757	Standard
>	Rh	103	28.3	36.7				ug/L	12	Standard
	Mo	98	331550.7	3.2	**86.9767**	1.308	1.5	ug/L	29	Standard
	Ag	107	313131.1	3.9	**45.8118**	0.302	0.7	ug/L	101	Standard
	Cd	111	110202.4	3.4	**50.3881**	0.595	1.2	mg/L	9	Standard
	Cd	114	289829.2	2.3	**50.7035**	0.870	1.7	ug/L	47	Standard
>	In	115	790382.5	3.8				ug/L	765457	Standard
	Sn	118	63928.3	6.6	**50.4129**	1.475	2.9	ug/L	168	Standard
	Sb	123	311501.1	3.9	**52.8726**	0.268	0.5	ug/L	332	Standard
	Ba	135	131449.6	2.4	**47.9537**	0.674	1.4	ug/L	37	Standard
	Ce	140	143.3	5.3				ug/L	895	Standard
>	Tb	159	1412809.5	1.4				ug/L	1511047	Standard
	Ho	165	21.7	35.3				ug/L	22	Standard
	Tl	203	542270.5	2.4	**49.9321**	0.283	0.6	ug/L	14	Standard
	Tl	205	1252587.1	3.2	**50.0020**	0.296	0.6	ug/L	27	Standard
	Pb	206	411100.4	2.5	**49.9383**	0.207	0.4	ug/L	557	Standard
	Pb	207	363612.5	2.8	**50.1371**	0.125	0.2	ug/L	432	Standard
	Pb	208	1640037.6	2.1	**49.9228**	0.423	0.8	ug/L	2118	Standard
	U	238	1520012.2	3.1	**51.0904**	0.098	0.2	ug/L	78	Standard
>	Bi	209	757570.8	3.0				ug/L	791817	Standard

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	Na	23	21.7	81.0	**7.4792**	6.581	88.0	mg/L	5	Standard
	Mg	24	2188.5	5.9	**5.3594**	0.215	4.0	mg/L	48	Standard
	K	39	173.3	7.3	**3.2092**	0.282	8.8	mg/L	3	Standard
	Ca	43	60.0	25.0	**8.8153**	6.651	75.5	mg/L	62	Standard
	Fe	54	3957.2	2.8	**4.8208**	0.166	3.4	mg/L	139	Standard
	Fe	57	1163.4	6.8	**4.7098**	0.231	4.9	mg/L	83	Standard
>	**Sc-1**	45	18544.7	2.4				mg/L	23513	Standard
	Cl	35	2.0	100.0				ug/L	3	Standard
	Kr	83	6.3	45.6				ug/L	2	Standard
	Br	81	1490.1	20.0				ug/L	910	Standard
	P	31	46.7	30.9				ug/L	85	Standard
	S	34	38.3	32.8				ug/L	48	Standard
	Sr	88	113.3	9.2				ug/L	72	Standard
	C	12	310.0	16.8				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	10.0	173.2				mg/L	7	Standard
	Dy	164	19.4	52.9				mg/L	22	Standard
	Ho-1	165	21.7	35.3				mg/L	22	Standard
	Er	166	13.3	43.3				mg/L	23	Standard
	I	127	39042.1	6.9				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	94.267		
	Al	27	89.595		
	Sc	45			
	Ti	47	98.071		
	V	51	102.170		
	Cr	52	102.107		
	Cr	53			
	Mn	55	99.559		
	Co	59	101.588		
	Ni	60	100.871		
	Cu	65	100.957		
	Zn	66	99.656		
>	Ge	72		84.236	
	As	75	99.126		
	Se	82	99.419		
	Se-1	77			
>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	86.977	
|	Ag	107	91.624	
|	Cd	111	100.776	
|	Cd	114		
|>	In	115		103.256
|	Sn	118	100.826	
|	Sb	123	105.745	
⌊	Ba	135	95.907	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	99.864	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	99.846	
|	U	238	102.181	
⌊>	Bi	209		95.675
⌈	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 6	Al	27	
QC Std 6	Mo	98	

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, October 12, 2016 18:29:01
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: BKT 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	71838.3	2.5				ug/L	72553	Standard
	Be	9	6.7	43.3	**-0.0093**	0.003	36.8	ug/L	10	Standard
	Al	27	1381.7	26.7	**0.0103**	0.004	37.5	ug/L	232	Standard
	Sc	45	19734.5	1.0				ug/L	23513	Standard
	Ti	47	20.0	15.0	**-0.1044**	0.021	20.5	ug/L	36	Standard
	V	51	920.2	6.3	**-0.0364**	0.008	22.8	ug/L	1387	Standard
	Cr	52	5635.0	1.3	**-0.1661**	0.020	12.0	ug/L	7813	Standard
	Cr	53	888.4	5.6	**-0.5072**	0.059	11.7	ug/L	1410	Standard
	Mn	55	1059.4	5.4	**-0.0324**	0.005	14.9	ug/L	1043	Standard
	Co	59	134.0	5.2	**-0.0011**	0.001	85.1	ug/L	198	Standard
	Ni	60	42.0	18.0	**-0.0130**	0.004	32.4	ug/L	64	Standard
	Cu	65	128.7	4.3	**-0.0295**	0.002	7.1	ug/L	122	Standard
	Zn	66	203.3	5.7	**-0.5942**	0.016	2.6	ug/L	209	Standard
>	Ge	72	535936.7	1.4				ug/L	618040	Standard
	As	75	-32.9	81.7	**0.0075**	0.027	364.9	ug/L	11	Standard
	Se	82	15.8	27.3	**0.0378**	0.048	127.4	ug/L	21	Standard
	Se-1	77	74.7	4.1	**-0.1000**	0.057	57.4	ug/L	86	Standard
>	Ga	71	11.7	65.5				mg/L	13	Standard
	Rb	85	11.7	49.5				ug/L	18	Standard
	Y	89	422073.2	3.0				ug/L	463757	Standard
>	Rh	103	8.3	124.9				ug/L	12	Standard
	Mo	98	180.9	9.1	**0.0392**	0.003	8.6	ug/L	29	Standard
	Ag	107	101.7	6.0	**-0.0009**	0.001	85.2	ug/L	101	Standard
	Cd	111	8.4	41.7	**-0.0010**	0.002	159.3	mg/L	9	Standard
	Cd	114	60.0	51.3	**0.0096**	0.005	51.5	ug/L	47	Standard
>	In	115	837339.7	1.6				ug/L	765457	Standard
	Sn	118	187.7	8.8	**-0.0090**	0.011	119.7	ug/L	168	Standard
	Sb	123	509.4	42.0	**0.0848**	0.033	39.1	ug/L	332	Standard
	Ba	135	40.7	18.5	**-0.0105**	0.003	26.7	ug/L	37	Standard
	Ce	140	43.3	46.6				ug/L	895	Standard
>	Tb	159	1443816.1	0.5				ug/L	1511047	Standard
	Ho	165	25.0	60.0				ug/L	22	Standard
	Tl	203	42.0	10.9	**0.0036**	0.000	11.8	ug/L	14	Standard
	Tl	205	103.3	24.8	**0.0011**	0.001	93.6	ug/L	27	Standard
	Pb	206	532.3	1.4	**-0.0136**	0.001	5.0	ug/L	557	Standard
	Pb	207	455.7	6.2	**-0.0109**	0.004	35.8	ug/L	432	Standard
	Pb	208	2053.4	1.3	**-0.0142**	0.001	6.6	ug/L	2118	Standard
	U	238	93.7	18.0	**0.0033**	0.001	16.9	ug/L	78	Standard
>	Bi	209	773151.4	0.5				ug/L	791817	Standard

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⌈	**Na**	23	1.7	173.2	**0.1174**	0.996	848.7	mg/L	5	Standard
|	**Mg**	24	48.3	33.3	**0.0327**	0.038	116.4	mg/L	48	Standard
|	**K**	39	5.0	100.0	**0.0455**	0.088	193.3	mg/L	3	Standard
|	**Ca**	43	30.0	44.1	**-5.7505**	5.865	102.0	mg/L	62	Standard
|	**Fe**	54	104.1	45.9	**0.0033**	0.055	1645.7	mg/L	139	Standard
|	**Fe**	57	136.7	7.6	**0.1121**	0.039	35.0	mg/L	83	Standard
⌊>	**Sc-1**	45	19734.5	1.0				mg/L	23513	Standard
	Cl	35	0.7	173.2				ug/L	3	Standard
	Kr	83	2.0	50.0				ug/L	2	Standard
	Br	81	1343.4	4.8				ug/L	910	Standard
	P	31	55.0	45.5				ug/L	85	Standard
	S	34	28.3	27.0				ug/L	48	Standard
	Sr	88	115.0	38.6				ug/L	72	Standard
	C	12	343.3	20.5				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0					mg/L	7	Standard
	Dy	164	32.7	65.6				mg/L	22	Standard
	Ho-1	165	25.0	60.0				mg/L	22	Standard
	Er	166	13.3	114.6				mg/L	23	Standard
	I	127	33057.7	2.1				mg/L	4241	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		86.715	
|	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	109.391
|	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	97.643
⌈	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 8
Sample Date/Time: Wednesday, October 12, 2016 18:32:02
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: BKT 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	64478.7	4.4				ug/L	72553	Standard
	Be	9	131.7	38.2	**0.1454**	0.055	37.9	ug/L	10	Standard
	Al	27	430.0	11.2	**0.0013**	0.001	42.1	ug/L	232	Standard
	Sc	45	18215.9	2.8				ug/L	23513	Standard
	Ti	47	21.3	17.7	**-0.0901**	0.023	26.1	ug/L	36	Standard
	V	51	2916.4	4.3	**0.3564**	0.016	4.4	ug/L	1387	Standard
	Cr	52	8958.0	4.4	**0.5621**	0.054	9.6	ug/L	7813	Standard
	Cr	53	1333.4	4.0	**0.2606**	0.058	22.2	ug/L	1410	Standard
	Mn	55	4665.4	1.1	**0.4079**	0.006	1.6	ug/L	1043	Standard
	Co	59	2738.9	2.2	**0.3534**	0.014	4.1	ug/L	198	Standard
	Ni	60	2409.2	1.1	**1.4613**	0.023	1.6	ug/L	64	Standard
	Cu	65	1382.4	4.1	**0.7310**	0.022	3.0	ug/L	122	Standard
	Zn	66	5781.8	1.6	**5.7482**	0.188	3.3	ug/L	209	Standard
>	Ge	72	514087.7	1.9				ug/L	618040	Standard
	As	75	362.8	1.6	**0.4279**	0.009	2.0	ug/L	11	Standard
	Se	82	56.5	10.3	**0.5091**	0.066	12.9	ug/L	21	Standard
	Se-1	77	91.7	11.5	**0.2443**	0.156	63.8	ug/L	86	Standard
>	Ga	71	20.0	25.0				mg/L	13	Standard
	Rb	85	25.0	40.0				ug/L	18	Standard
	Y	89	389410.8	2.4				ug/L	463757	Standard
>	Rh	103	21.7	13.3				ug/L	12	Standard
	Mo	98	48.0	12.1	**0.0073**	0.001	18.9	ug/L	29	Standard
	Ag	107	2385.9	1.6	**0.3418**	0.010	3.0	ug/L	101	Standard
	Cd	111	524.9	2.4	**0.2405**	0.003	1.2	mg/L	9	Standard
	Cd	114	1335.4	4.5	**0.2383**	0.013	5.6	ug/L	47	Standard
>	In	115	773853.5	1.3				ug/L	765457	Standard
	Sn	118	111.3	16.4	**-0.0592**	0.014	22.9	ug/L	168	Standard
	Sb	123	2442.3	2.9	**0.4268**	0.008	1.8	ug/L	332	Standard
	Ba	135	1784.1	3.8	**0.6402**	0.018	2.8	ug/L	37	Standard
	Ce	140	38.3	52.7				ug/L	895	Standard
>	Tb	159	1359427.9	1.9				ug/L	1511047	Standard
	Ho	165	16.7	45.8				ug/L	22	Standard
	Tl	203	815.0	1.2	**0.0783**	0.001	1.4	ug/L	14	Standard
	Tl	205	1856.8	6.0	**0.0746**	0.005	7.3	ug/L	27	Standard
	Pb	206	2082.1	1.2	**0.1879**	0.006	3.2	ug/L	557	Standard
	Pb	207	1685.8	4.1	**0.1708**	0.009	5.1	ug/L	432	Standard
	Pb	208	7948.1	0.9	**0.1779**	0.004	2.1	ug/L	2118	Standard
	U	238	10971.6	1.0	**0.3860**	0.005	1.4	ug/L	78	Standard
>	Bi	209	724369.2	1.1				ug/L	791817	Standard

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	Na	23	3.3	173.2	**0.8140**	2.203	270.6	mg/L	5	Standard
	Mg	24	55.0	24.1	**0.0587**	0.032	55.1	mg/L	48	Standard
	K	39	0.0		**-0.0428**	0.000	0.0	mg/L	3	Standard
	Ca	43	38.3	52.7	**-0.6498**	10.012	1540.9	mg/L	62	Standard
	Fe	54	97.6	15.0	**0.0060**	0.022	369.2	mg/L	139	Standard
	Fe	57	146.7	7.1	**0.2063**	0.064	31.2	mg/L	83	Standard
>	**Sc-1**	45	18215.9	2.8				mg/L	23513	Standard
	Cl	35	4.0	86.6				ug/L	3	Standard
	Kr	83	3.0	57.7				ug/L	2	Standard
	Br	81	1200.0	10.1				ug/L	910	Standard
	P	31	46.7	16.4				ug/L	85	Standard
	S	34	26.7	71.0				ug/L	48	Standard
	Sr	88	96.7	3.0				ug/L	72	Standard
	C	12	423.3	34.3				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	13.3	86.6				mg/L	7	Standard
	Dy	164	12.5	45.0				mg/L	22	Standard
	Ho-1	165	16.7	45.8				mg/L	22	Standard
	Er	166	16.7	34.6				mg/L	23	Standard
	I	127	24563.2	2.8				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	72.716		
	Al	27			
	Sc	45			
	Ti	47			
	V	51	89.111		
	Cr	52	70.262		
	Cr	53			
	Mn	55	81.582		
	Co	59	88.345		
	Ni	60	91.329		
	Cu	65	91.379		
	Zn	66	91.972		
>	Ge	72		83.180	
	As	75	106.987		
	Se	82	127.271		
	Se-1	77			
>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98			
Ag	107	85.438		
Cd	111	100.206		
Cd	114			
In	115		101.097	
Sn	118			
Sb	123	106.708		
Ba	135	85.361		
Ce	140			
Tb	159			
Ho	165			
Tl	203	97.890		
Tl	205			
Pb	206			
Pb	207			
Pb	208	88.929		
U	238	96.493		
Bi	209		91.482	
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

Sample ID: QC Std 8
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Method 6020 - Summary Report

Sample ID: PBS M1 WG586863-02
Sample Date/Time: Wednesday, October 12, 2016 18:35:03
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: BKT 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	69889.2	2.3				ug/L	72553	Standard
	Be	9	3.3	86.6	**-0.0129**	0.003	25.7	ug/L	10	Standard
	Al	27	8717.5	4.2	**0.0859**	0.002	2.1	ug/L	232	Standard
	Sc	45	19943.1	2.7				ug/L	23513	Standard
	Ti	47	26.7	12.1	**-0.0618**	0.021	33.9	ug/L	36	Standard
	V	51	1093.3	5.2	**-0.0056**	0.009	167.6	ug/L	1387	Standard
	Cr	52	8132.5	2.2	**0.3146**	0.039	12.4	ug/L	7813	Standard
	Cr	53	1055.0	5.3	**-0.2625**	0.081	30.8	ug/L	1410	Standard
	Mn	55	1720.4	3.4	**0.0429**	0.008	17.8	ug/L	1043	Standard
	Co	59	191.0	10.3	**0.0061**	0.003	41.9	ug/L	198	Standard
	Ni	60	883.0	2.6	**0.4855**	0.016	3.3	ug/L	64	Standard
	Cu	65	270.0	4.3	**0.0514**	0.006	11.8	ug/L	122	Standard
	Zn	66	1244.1	1.7	**0.5296**	0.017	3.3	ug/L	209	Standard
>	Ge	72	539519.1	0.5				ug/L	618040	Standard
	As	75	-29.8	69.9	**0.0107**	0.021	199.3	ug/L	11	Standard
	Se	82	15.3	29.0	**0.0308**	0.049	157.7	ug/L	21	Standard
	Se-1	77	71.7	16.8	**-0.1574**	0.202	128.4	ug/L	86	Standard
>	Ga	71	26.7	28.6				mg/L	13	Standard
	Rb	85	41.7	56.7				ug/L	18	Standard
	Y	89	425378.7	0.5				ug/L	463757	Standard
>	Rh	103	11.7	49.5				ug/L	12	Standard
	Mo	98	78.1	3.7	**0.0144**	0.001	5.1	ug/L	29	Standard
	Ag	107	101.7	12.8	**-0.0005**	0.002	392.6	ug/L	101	Standard
	Cd	111	11.9	36.7	**0.0007**	0.002	292.0	mg/L	9	Standard
	Cd	114	28.1	20.4	**0.0045**	0.001	21.3	ug/L	47	Standard
>	In	115	813478.1	0.8				ug/L	765457	Standard
	Sn	118	134.7	2.8	**-0.0455**	0.003	6.9	ug/L	168	Standard
	Sb	123	173.1	41.0	**0.0321**	0.012	37.1	ug/L	332	Standard
	Ba	135	99.7	8.4	**0.0108**	0.003	27.6	ug/L	37	Standard
	Ce	140	110.0	4.5				ug/L	895	Standard
>	Tb	159	1445310.0	1.6				ug/L	1511047	Standard
	Ho	165	16.7	17.3				ug/L	22	Standard
	Tl	203	23.7	9.8	**0.0020**	0.000	10.1	ug/L	14	Standard
	Tl	205	53.3	37.9	**-0.0009**	0.001	95.9	ug/L	27	Standard
	Pb	206	628.3	0.7	**-0.0011**	0.001	121.2	ug/L	557	Standard
	Pb	207	552.3	4.2	**0.0031**	0.003	96.2	ug/L	432	Standard
	Pb	208	2506.7	2.0	**0.0003**	0.001	413.6	ug/L	2118	Standard
	U	238	34.7	8.8	**0.0014**	0.000	8.3	ug/L	78	Standard
>	Bi	209	763175.2	1.6				ug/L	791817	Standard

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	Na	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
	Mg	24	43.3	13.3	**0.0197**	0.011	56.2	mg/L	48	Standard
	K	39	3.3	173.2	**0.0152**	0.100	660.9	mg/L	3	Standard
	Ca	43	33.3	17.3	**-4.4449**	2.857	64.3	mg/L	62	Standard
	Fe	54	89.0	17.3	**-0.0149**	0.019	127.1	mg/L	139	Standard
	Fe	57	133.3	26.6	**0.0939**	0.155	165.1	mg/L	83	Standard
>	**Sc-1**	45	19943.1	2.7				mg/L	23513	Standard
	Cl	35	3.3	34.6				ug/L	3	Standard
	Kr	83	5.0	20.0				ug/L	2	Standard
	Br	81	1133.4	15.1				ug/L	910	Standard
	P	31	55.0	48.1				ug/L	85	Standard
	S	34	38.3	19.9				ug/L	48	Standard
	Sr	88	70.0	18.9				ug/L	72	Standard
	C	12	366.7	27.5				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	22.5	51.9				mg/L	22	Standard
	Ho-1	165	16.7	17.3				mg/L	22	Standard
	Er	166	16.7	34.6				mg/L	23	Standard
	I	127	22134.5	1.9				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		96.328	
	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		87.295	
	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	106.273	
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	96.383	
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: PBS M1 WG586863-02
Report Date/Time: Wednesday, October 12, 2016 18:37:08
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Method 6020 - Summary Report

Sample ID: LCSS M1 WG586863-03
Sample Date/Time: Wednesday, October 12, 2016 18:38:02
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: BKT 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	69977.9	1.2				ug/L	72553	Standard
	Be	9	19929.8	1.2	**22.8366**	0.495	2.2	ug/L	10	Standard
	Al	27	8425.7	1.5	**0.0829**	0.002	2.6	ug/L	232	Standard
	Sc	45	19549.3	3.6				ug/L	23513	Standard
	Ti	47	27.7	10.4	**-0.0546**	0.017	30.6	ug/L	36	Standard
	V	51	132141.9	1.2	**24.2185**	0.117	0.5	ug/L	1387	Standard
	Cr	52	133789.6	2.0	**24.9822**	0.124	0.5	ug/L	7813	Standard
	Cr	53	16904.4	2.6	**23.9336**	0.633	2.6	ug/L	1410	Standard
	Mn	55	210064.6	1.2	**24.0897**	0.325	1.4	ug/L	1043	Standard
	Co	59	184222.4	1.8	**23.9070**	0.263	1.1	ug/L	198	Standard
	Ni	60	41430.9	1.6	**24.6261**	0.058	0.2	ug/L	64	Standard
	Cu	65	43005.6	1.4	**24.7585**	0.207	0.8	ug/L	122	Standard
	Zn	66	23068.6	3.1	**24.2292**	0.404	1.7	ug/L	209	Standard
>	Ge	72	537335.0	1.6				ug/L	618040	Standard
	As	75	23777.5	2.1	**24.2941**	0.132	0.5	ug/L	11	Standard
	Se	82	2283.2	0.3	**24.7613**	0.348	1.4	ug/L	21	Standard
	Se-1	77	1530.1	2.7	**23.9529**	0.510	2.1	ug/L	86	Standard
>	Ga	71	21.7	26.6				mg/L	13	Standard
	Rb	85	33.3	34.6				ug/L	18	Standard
	Y	89	418494.4	2.3				ug/L	463757	Standard
>	Rh	103	36.7	20.8				ug/L	12	Standard
	Mo	98	67.1	30.3	**0.0114**	0.005	46.5	ug/L	29	Standard
	Ag	107	155816.0	1.9	**21.8961**	0.386	1.8	ug/L	101	Standard
	Cd	111	55717.2	1.7	**24.4741**	0.516	2.1	mg/L	9	Standard
	Cd	114	139485.8	1.9	**23.4382**	0.491	2.1	ug/L	47	Standard
>	In	115	822601.7	1.0				ug/L	765457	Standard
	Sn	118	131.7	16.9	**-0.0489**	0.018	36.1	ug/L	168	Standard
	Sb	123	161352.9	2.3	**26.3194**	0.701	2.7	ug/L	332	Standard
	Ba	135	64726.0	1.7	**22.6696**	0.535	2.4	ug/L	37	Standard
	Ce	140	136.7	23.2				ug/L	895	Standard
>	Tb	159	1450217.3	0.3				ug/L	1511047	Standard
	Ho	165	15.0	88.2				ug/L	22	Standard
	Tl	203	273274.3	1.3	**24.9308**	0.345	1.4	ug/L	14	Standard
	Tl	205	624500.7	1.7	**24.6994**	0.152	0.6	ug/L	27	Standard
	Pb	206	205771.0	2.2	**24.7233**	0.188	0.8	ug/L	557	Standard
	Pb	207	174398.6	2.3	**23.7849**	0.151	0.6	ug/L	432	Standard
	Pb	208	805608.0	2.6	**24.2513**	0.224	0.9	ug/L	2118	Standard
	U	238	712825.2	3.0	**23.7362**	0.340	1.4	ug/L	78	Standard
>	Bi	209	764629.4	1.8				ug/L	791817	Standard

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⌈	**Na**	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	61.7	32.8	**0.0641**	0.043	67.5	mg/L	48	Standard
|	**K**	39	8.3	124.9	**0.1039**	0.180	173.1	mg/L	3	Standard
|	**Ca**	43	48.3	26.0	**2.4670**	6.154	249.5	mg/L	62	Standard
|	**Fe**	54	105.9	27.3	**0.0063**	0.030	485.3	mg/L	139	Standard
|	**Fe**	57	158.3	23.3	**0.2081**	0.144	69.4	mg/L	83	Standard
⌊>	**Sc-1**	45	19549.3	3.6				mg/L	23513	Standard
	Cl	35	2.0	100.0				ug/L	3	Standard
	Kr	83	2.3	65.5				ug/L	2	Standard
	Br	81	1250.1	18.9				ug/L	910	Standard
	P	31	36.7	28.4				ug/L	85	Standard
	S	34	31.7	39.7				ug/L	48	Standard
	Sr	88	93.3	18.8				ug/L	72	Standard
	C	12	313.3	17.6				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	19.0	50.0				mg/L	22	Standard
	Ho-1	165	15.0	88.2				mg/L	22	Standard
	Er	166	20.0	50.0				mg/L	23	Standard
	I	127	20852.7	6.0				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		96.450	
|	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		86.942	
|	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	107.465
|	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	96.566
⌈	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: LCSS M1 WG586863-03
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Method 6020 - Summary Report

Sample ID: L1610031903 WG586863-01
Sample Date/Time: Wednesday, October 12, 2016 18:41:01
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: BKT 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	71446.7	5.1				ug/L	72553	Standard
	Be	9	511.7	13.3	**0.5614**	0.105	18.7	ug/L	10	Standard
	Al	27	1240818.4	1.4	**12.4702**	0.469	3.8	ug/L	232	Standard
	Sc	45	22381.5	0.2				ug/L	23513	Standard
	Ti	47	7325.1	1.8	**46.9314**	0.520	1.1	ug/L	36	Standard
	V	51	79383.0	1.4	**14.1626**	0.184	1.3	ug/L	1387	Standard
	Cr	52	65577.0	1.7	**11.3289**	0.135	1.2	ug/L	7813	Standard
	Cr	53	8634.1	3.5	**11.0367**	0.366	3.3	ug/L	1410	Standard
	Mn	55	3006593.8	0.5	**339.6535**	2.249	0.7	ug/L	1043	Standard
	Co	59	106151.6	0.7	**13.4827**	0.040	0.3	ug/L	198	Standard
	Ni	60	21694.2	0.8	**12.6097**	0.015	0.1	ug/L	64	Standard
	Cu	65	16862.4	0.5	**9.4427**	0.026	0.3	ug/L	122	Standard
	Zn	66	41537.9	0.6	**43.3559**	0.267	0.6	ug/L	209	Standard
>	Ge	72	548671.3	0.7				ug/L	618040	Standard
	As	75	2380.8	2.1	**2.4194**	0.045	1.9	ug/L	11	Standard
	Se	82	38.3	28.4	**0.2733**	0.116	42.3	ug/L	21	Standard
	Se-1	77	96.7	5.3	**0.2268**	0.074	32.5	ug/L	86	Standard
>	Ga	71	8025.5	1.5				mg/L	13	Standard
	Rb	85	71578.7	2.4				ug/L	18	Standard
	Y	89	568967.4	1.4				ug/L	463757	Standard
>	Rh	103	11.7	24.7				ug/L	12	Standard
	Mo	98	1021.7	2.2	**0.2532**	0.011	4.5	ug/L	29	Standard
	Ag	107	239.0	10.9	**0.0187**	0.003	15.4	ug/L	101	Standard
	Cd	111	336.7	3.0	**0.1440**	0.008	5.3	mg/L	9	Standard
	Cd	114	914.4	11.3	**0.1543**	0.021	13.8	ug/L	47	Standard
>	In	115	819276.0	2.5				ug/L	765457	Standard
	Sn	118	146.0	1.8	**-0.0376**	0.002	5.4	ug/L	168	Standard
	Sb	123	278.6	16.1	**0.0492**	0.008	17.2	ug/L	332	Standard
	Ba	135	120376.4	1.4	**42.3647**	1.178	2.8	ug/L	37	Standard
	Ce	140	680146.3	2.8				ug/L	895	Standard
>	Tb	159	1451165.5	0.4				ug/L	1511047	Standard
	Ho	165	18024.1	3.2				ug/L	22	Standard
	Tl	203	925.4	1.8	**0.0851**	0.003	3.4	ug/L	14	Standard
	Tl	205	2136.8	5.0	**0.0824**	0.004	5.0	ug/L	27	Standard
	Pb	206	94478.3	1.1	**11.4254**	0.346	3.0	ug/L	557	Standard
	Pb	207	76576.7	0.8	**10.5110**	0.381	3.6	ug/L	432	Standard
	Pb	208	362996.2	0.7	**10.9970**	0.287	2.6	ug/L	2118	Standard
	U	238	19378.4	1.7	**0.6520**	0.016	2.4	ug/L	78	Standard
>	Bi	209	757414.5	3.0				ug/L	791817	Standard

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⌈	**Na**	23	1.7	173.2	**0.0449**	0.871	1937.6	mg/L	5	Standard
|	**Mg**	24	78.3	25.8	**0.0810**	0.042	51.4	mg/L	48	Standard
|	**K**	39	31.7	9.1	**0.4490**	0.045	9.9	mg/L	3	Standard
|	**Ca**	43	46.7	50.6	**-0.9687**	8.995	928.6	mg/L	62	Standard
|	**Fe**	54	12631.2	2.5	**12.9405**	0.315	2.4	mg/L	139	Standard
|	**Fe**	57	3438.7	4.1	**12.2076**	0.510	4.2	mg/L	83	Standard
⌊>	**Sc-1**	45	22381.5	0.2				mg/L	23513	Standard
	Cl	35	2.7	43.3				ug/L	3	Standard
	Kr	83	2.7	21.7				ug/L	2	Standard
	Br	81	1536.7	10.0				ug/L	910	Standard
	P	31	70.0	7.1				ug/L	85	Standard
	S	34	20.0	50.0				ug/L	48	Standard
	Sr	88	106.7	10.8				ug/L	72	Standard
	C	12	293.3	29.8				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	36.7	15.7				mg/L	7	Standard
	Dy	164	27201.9	2.5				mg/L	22	Standard
	Ho-1	165	18024.1	3.2				mg/L	22	Standard
	Er	166	16782.6	4.5				mg/L	23	Standard
	I	127	29749.2	3.0				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		98.475	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		88.776	
|	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	107.031
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	95.655
⌈	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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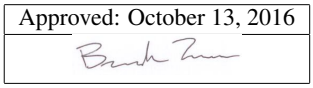

Method 6020 - Summary Report

Sample ID: L1610031903S WG586863-04
Sample Date/Time: Wednesday, October 12, 2016 18:44:01
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: BKT 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	69224.5	2.6				ug/L	72553	Standard
	Be	9	19891.4	2.9	**23.0387**	0.440	1.9	ug/L	10	Standard
	Al	27	1645644.1	3.4	**17.0477**	0.264	1.6	ug/L	232	Standard
	Sc	45	22376.6	6.5				ug/L	23513	Standard
	Ti	47	7024.3	6.9	**46.0798**	2.803	6.1	ug/L	36	Standard
	V	51	222108.3	3.2	**40.9685**	0.942	2.3	ug/L	1387	Standard
	Cr	52	197022.1	2.2	**37.5117**	0.534	1.4	ug/L	7813	Standard
	Cr	53	25389.6	3.6	**36.9955**	1.064	2.9	ug/L	1410	Standard
	Mn	55	2744087.1	2.1	**317.4917**	4.340	1.4	ug/L	1043	Standard
	Co	59	257173.9	3.5	**33.4805**	0.887	2.7	ug/L	198	Standard
	Ni	60	65586.7	2.2	**39.1250**	0.480	1.2	ug/L	64	Standard
	Cu	65	58958.2	2.0	**34.0835**	0.375	1.1	ug/L	122	Standard
	Zn	66	67802.1	2.4	**73.0283**	1.081	1.5	ug/L	209	Standard
>	Ge	72	535661.2	0.9				ug/L	618040	Standard
	As	75	23690.4	1.9	**24.2807**	0.233	1.0	ug/L	11	Standard
	Se	82	1734.3	3.7	**18.8291**	0.551	2.9	ug/L	21	Standard
	Se-1	77	1230.4	4.9	**19.0579**	0.815	4.3	ug/L	86	Standard
>	Ga	71	9874.9	3.1				mg/L	13	Standard
	Rb	85	93313.3	2.7				ug/L	18	Standard
	Y	89	585838.0	0.7				ug/L	463757	Standard
>	Rh	103	38.3	49.4				ug/L	12	Standard
	Mo	98	1519.8	6.0	**0.3874**	0.022	5.7	ug/L	29	Standard
	Ag	107	150344.5	2.1	**21.6718**	0.286	1.3	ug/L	101	Standard
	Cd	111	54003.2	2.6	**24.3301**	0.394	1.6	mg/L	9	Standard
	Cd	114	135281.7	1.0	**23.3209**	0.431	1.8	ug/L	47	Standard
>	In	115	801862.4	1.0				ug/L	765457	Standard
	Sn	118	171.7	17.5	**-0.0152**	0.023	149.2	ug/L	168	Standard
	Sb	123	44096.7	1.1	**7.3809**	0.060	0.8	ug/L	332	Standard
	Ba	135	215731.1	1.0	**77.5615**	0.121	0.2	ug/L	37	Standard
	Ce	140	892643.5	2.4				ug/L	895	Standard
>	Tb	159	1469207.2	2.9				ug/L	1511047	Standard
	Ho	165	20388.7	2.0				ug/L	22	Standard
	Tl	203	257004.2	1.2	**23.9468**	0.130	0.5	ug/L	14	Standard
	Tl	205	593777.6	1.3	**23.9877**	0.222	0.9	ug/L	27	Standard
	Pb	206	291341.9	1.7	**35.7924**	0.545	1.5	ug/L	557	Standard
	Pb	207	244755.7	1.6	**34.1291**	0.275	0.8	ug/L	432	Standard
	Pb	208	1133589.2	2.3	**34.8905**	0.447	1.3	ug/L	2118	Standard
	U	238	714578.2	1.3	**24.3080**	0.160	0.7	ug/L	78	Standard
>	Bi	209	748568.4	1.1				ug/L	791817	Standard

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⌈	**Na**	23	6.7	43.3	**1.5240**	0.739	48.5	mg/L	5	Standard
|	**Mg**	24	88.3	8.6	**0.1015**	0.005	4.6	mg/L	48	Standard
|	**K**	39	40.0	12.5	**0.5770**	0.038	6.5	mg/L	3	Standard
|	**Ca**	43	36.7	31.5	**-4.5597**	5.401	118.4	mg/L	62	Standard
|	**Fe**	54	14175.0	1.4	**14.5729**	0.764	5.2	mg/L	139	Standard
|	**Fe**	57	4070.5	3.3	**14.5709**	0.874	6.0	mg/L	83	Standard
⌊>	**Sc-1**	45	22376.6	6.5				mg/L	23513	Standard
	Cl	35	3.3	69.3				ug/L	3	Standard
	Kr	83	5.3	10.8				ug/L	2	Standard
	Br	81	1633.4	11.9				ug/L	910	Standard
	P	31	55.0	15.7				ug/L	85	Standard
	S	34	21.7	48.0				ug/L	48	Standard
	Sr	88	108.3	22.8				ug/L	72	Standard
	C	12	423.3	1.4				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	53.3	71.0				mg/L	7	Standard
	Dy	164	33276.7	0.4				mg/L	22	Standard
	Ho-1	165	20388.7	2.0				mg/L	22	Standard
	Er	166	19035.3	4.5				mg/L	23	Standard
	I	127	33513.0	32.7				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		95.412	
|	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		86.671	
|	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	104.756	
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	94.538	
Na	23		
Mg	24		
K	39		
Ca	43		
Fe	54		
Fe	57		
Sc-1	45		
Cl	35		
Kr	83		
Br	81		
P	31		
S	34		
Sr	88		
C	12		
N	14		
Hg	202		
Dy	164		
Ho-1	165		
Er	166		
I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1610031903S WG586863-04
Report Date/Time: Wednesday, October 12, 2016 18:46:05
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Method 6020 - Summary Report

Sample ID: L1610031903SD WG586863-05
Sample Date/Time: Wednesday, October 12, 2016 18:47:00
Number of Replicates: 3
Autosampler Position: 209
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	70003.1	2.3				ug/L	72553	Standard
	Be	9	19100.4	3.5	**21.8742**	0.593	2.7	ug/L	10	Standard
	Al	27	1500691.3	1.4	**15.3770**	0.235	1.5	ug/L	232	Standard
	Sc	45	22117.8	1.2				ug/L	23513	Standard
	Ti	47	6815.2	2.3	**45.0854**	0.702	1.6	ug/L	36	Standard
	V	51	222918.8	1.9	**41.4643**	0.310	0.7	ug/L	1387	Standard
	Cr	52	198402.3	1.1	**38.1102**	0.318	0.8	ug/L	7813	Standard
	Cr	53	25364.6	2.4	**37.2807**	0.411	1.1	ug/L	1410	Standard
	Mn	55	2294521.9	1.8	**267.6501**	1.174	0.4	ug/L	1043	Standard
	Co	59	275611.2	2.2	**36.1812**	0.343	0.9	ug/L	198	Standard
	Ni	60	68850.1	0.6	**41.4191**	0.318	0.8	ug/L	64	Standard
	Cu	65	60515.6	1.7	**35.2783**	0.276	0.8	ug/L	122	Standard
	Zn	66	83723.0	1.1	**91.1313**	0.237	0.3	ug/L	209	Standard
>	**Ge**	72	531273.5	1.3				ug/L	618040	Standard
	As	75	24191.6	0.9	**25.0003**	0.105	0.4	ug/L	11	Standard
	Se	82	1792.2	0.9	**19.6298**	0.345	1.8	ug/L	21	Standard
	Se-1	77	1239.4	1.9	**19.3825**	0.341	1.8	ug/L	86	Standard
>	**Ga**	71	10093.4	1.3				mg/L	13	Standard
	Rb	85	87916.2	3.6				ug/L	18	Standard
	Y	89	526631.9	2.1				ug/L	463757	Standard
>	**Rh**	103	26.7	54.1				ug/L	12	Standard
	Mo	98	1380.5	1.5	**0.3570**	0.001	0.3	ug/L	29	Standard
	Ag	107	147925.7	1.7	**21.6583**	0.160	0.7	ug/L	101	Standard
	Cd	111	52483.4	2.9	**24.0159**	0.464	1.9	mg/L	9	Standard
	Cd	114	131884.4	1.8	**23.0882**	0.174	0.8	ug/L	47	Standard
>	**In**	115	789478.2	1.2				ug/L	765457	Standard
	Sn	118	144.7	10.4	**-0.0345**	0.012	34.9	ug/L	168	Standard
	Sb	123	45293.6	3.0	**7.6988**	0.149	1.9	ug/L	332	Standard
	Ba	135	190926.3	2.6	**69.7117**	1.170	1.7	ug/L	37	Standard
	Ce	140	755510.7	2.6				ug/L	895	Standard
>	**Tb**	159	1431647.7	1.3				ug/L	1511047	Standard
	Ho	165	17463.4	4.9				ug/L	22	Standard
	Tl	203	253183.6	0.9	**23.9133**	0.168	0.7	ug/L	14	Standard
	Tl	205	589636.7	2.8	**24.1443**	0.587	2.4	ug/L	27	Standard
	Pb	206	306233.9	2.0	**38.1396**	0.642	1.7	ug/L	557	Standard
	Pb	207	254772.9	0.7	**36.0165**	0.123	0.3	ug/L	432	Standard
	Pb	208	1190743.8	1.2	**37.1571**	0.139	0.4	ug/L	2118	Standard
	U	238	699274.4	1.7	**24.1112**	0.198	0.8	ug/L	78	Standard
>	**Bi**	209	738489.4	1.0				ug/L	791817	Standard

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⌈	**Na**	23	8.3	124.9	**2.0578**	3.123	151.8	mg/L	5	Standard
|	**Mg**	24	73.3	27.6	**0.0724**	0.042	57.4	mg/L	48	Standard
|	**K**	39	55.0	18.2	**0.8227**	0.165	20.0	mg/L	3	Standard
|	**Ca**	43	43.3	35.3	**-2.0287**	5.952	293.4	mg/L	62	Standard
|	**Fe**	54	13433.4	0.9	**13.9378**	0.280	2.0	mg/L	139	Standard
|	**Fe**	57	3923.8	4.8	**14.1644**	0.575	4.1	mg/L	83	Standard
⌊>	**Sc-1**	45	22117.8	1.2				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	2.0	0.0				ug/L	2	Standard
	Br	81	1663.4	2.5				ug/L	910	Standard
	P	31	53.3	27.1				ug/L	85	Standard
	S	34	33.3	22.9				ug/L	48	Standard
	Sr	88	100.0	13.2				ug/L	72	Standard
	C	12	440.0	12.0				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	60.0	88.2				mg/L	7	Standard
	Dy	164	27113.7	3.5				mg/L	22	Standard
	Ho-1	165	17463.4	4.9				mg/L	22	Standard
	Er	166	15487.9	3.1				mg/L	23	Standard
	I	127	24913.8	3.4				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		96.485	
|	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		85.961	
|	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	103.138
|	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	93.265
⌈	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: L1610038902
Sample Date/Time: Wednesday, October 12, 2016 18:50:00
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: BKT 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	65347.3	1.9				ug/L	72553	Standard
	Be	9	370.0	2.3	**0.4377**	0.018	4.0	ug/L	10	Standard
	Al	27	172891064.1	2.0	**1898.4859**	62.103	3.3	ug/L	232	Standard
	Sc	45	26140.9	0.7				ug/L	23513	Standard
	Ti	47	10500.0	1.4	**74.7637**	1.457	1.9	ug/L	36	Standard
	V	51	623914.3	1.1	**125.0592**	1.469	1.2	ug/L	1387	Standard
	Cr	52	614225.6	0.5	**129.6763**	1.375	1.1	ug/L	7813	Standard
	Cr	53	78102.5	0.6	**127.6046**	0.683	0.5	ug/L	1410	Standard
	Mn	55	2073731.1	1.0	**259.7984**	2.372	0.9	ug/L	1043	Standard
	Co	59	14233.4	1.7	**1.9894**	0.037	1.8	ug/L	198	Standard
	Ni	60	96138.5	2.9	**62.1304**	1.859	3.0	ug/L	64	Standard
	Cu	65	13922.4	2.3	**8.6392**	0.246	2.8	ug/L	122	Standard
	Zn	66	285354.2	0.9	**335.7555**	3.849	1.1	ug/L	209	Standard
>	Ge	72	494677.4	0.6				ug/L	618040	Standard
	As	75	8440.3	1.8	**9.3930**	0.164	1.7	ug/L	11	Standard
	Se	82	345.7	6.1	**3.9589**	0.245	6.2	ug/L	21	Standard
	Se-1	77	324.3	3.1	**4.4850**	0.148	3.3	ug/L	86	Standard
>	Ga	71	5854.5	4.3				mg/L	13	Standard
	Rb	85	26888.8	1.1				ug/L	18	Standard
	Y	89	2016573.1	3.1				ug/L	463757	Standard
>	Rh	103	101.7	15.0				ug/L	12	Standard
	Mo	98	45718.7	0.8	**13.4106**	0.036	0.3	ug/L	29	Standard
	Ag	107	1177.4	2.8	**0.1778**	0.007	3.9	ug/L	101	Standard
	Cd	111	17134.1	3.2	**8.7585**	0.200	2.3	mg/L	9	Standard
	Cd	114	43585.0	0.1	**8.5272**	0.067	0.8	ug/L	47	Standard
>	In	115	706477.6	0.9				ug/L	765457	Standard
	Sn	118	594.7	4.6	**0.3776**	0.028	7.4	ug/L	168	Standard
	Sb	123	3855.4	3.3	**0.7356**	0.025	3.4	ug/L	332	Standard
	Ba	135	51867.3	1.7	**21.1467**	0.178	0.8	ug/L	37	Standard
	Ce	140	1290566.0	1.7				ug/L	895	Standard
>	Tb	159	1384242.6	3.3				ug/L	1511047	Standard
	Ho	165	102015.9	3.4				ug/L	22	Standard
	Tl	203	4071.9	0.9	**0.4490**	0.003	0.8	ug/L	14	Standard
	Tl	205	9496.3	2.2	**0.4515**	0.018	3.9	ug/L	27	Standard
	Pb	206	75590.5	2.7	**10.9394**	0.114	1.0	ug/L	557	Standard
	Pb	207	21791.7	2.9	**3.5325**	0.083	2.4	ug/L	432	Standard
	Pb	208	146346.2	2.0	**5.2689**	0.032	0.6	ug/L	2118	Standard
	U	238	865463.9	2.6	**34.8518**	0.440	1.3	ug/L	78	Standard
>	Bi	209	632296.1	1.7				ug/L	791817	Standard

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	Na	23	1131.7	11.5	**291.1562**	32.484	11.2	mg/L	5	Standard
	Mg	24	631.7	5.6	**1.0340**	0.062	6.0	mg/L	48	Standard
	K	39	28.3	81.5	**0.3342**	0.308	92.1	mg/L	3	Standard
	Ca	43	1183.4	3.4	**367.7871**	11.383	3.1	mg/L	62	Standard
	Fe	54	5131.6	3.1	**4.4236**	0.109	2.5	mg/L	139	Standard
	Fe	57	2716.9	4.0	**8.1090**	0.301	3.7	mg/L	83	Standard
>	**Sc-1**	45	26140.9	0.7				mg/L	23513	Standard
	Cl	35	3.3	69.3				ug/L	3	Standard
	Kr	83	5.3	54.1				ug/L	2	Standard
	Br	81	1346.7	11.3				ug/L	910	Standard
	P	31	90.0	19.2				ug/L	85	Standard
	S	34	25.0	20.0				ug/L	48	Standard
	Sr	88	311.7	5.6				ug/L	72	Standard
	C	12	1590.1	17.1				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	123.3	67.5				mg/L	7	Standard
	Dy	164	130361.9	3.0				mg/L	22	Standard
	Ho-1	165	102015.9	3.4				mg/L	22	Standard
	Er	166	100596.3	2.2				mg/L	23	Standard
	I	127	29801.0	3.0				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		90.068	
	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		80.040	
	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	92.295	
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	79.854	
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 Upper, S, EEE	V	51	
Cr 52 Upper, S, EEE	Cr	52	

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Cr 53 Upper, S, EEE	Cr	53
Mn 55 Upper, S, EEE	Mn	55
Zn 66 Upper, S, EEE	Zn	66

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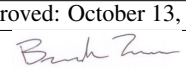

Method 6020 - Summary Report

Sample ID: L1610038904
Sample Date/Time: Wednesday, October 12, 2016 18:52:59
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: BKT 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	63061.1	4.3				ug/L	72553	Standard
	Be	9	633.3	7.1	**0.7884**	0.023	3.0	ug/L	10	Standard
	Al	27	145033942.9	1.1	**1651.3697**	57.619	3.5	ug/L	232	Standard
	Sc	45	25605.0	1.4				ug/L	23513	Standard
	Ti	47	6712.8	1.0	**47.6313**	0.967	2.0	ug/L	36	Standard
	V	51	320546.9	0.8	**64.0536**	1.788	2.8	ug/L	1387	Standard
	Cr	52	338978.4	0.7	**70.8832**	1.963	2.8	ug/L	7813	Standard
	Cr	53	43718.0	1.1	**70.4963**	2.041	2.9	ug/L	1410	Standard
	Mn	55	3770705.6	1.5	**471.7330**	9.682	2.1	ug/L	1043	Standard
	Co	59	25064.4	1.0	**3.5120**	0.099	2.8	ug/L	198	Standard
	Ni	60	118540.6	0.5	**76.4952**	1.737	2.3	ug/L	64	Standard
	Cu	65	20977.8	1.1	**13.0472**	0.256	2.0	ug/L	122	Standard
	Zn	66	264429.6	1.0	**310.5653**	6.643	2.1	ug/L	209	Standard
>	**Ge**	72	495645.6	2.6				ug/L	618040	Standard
	As	75	6111.1	1.9	**6.7999**	0.053	0.8	ug/L	11	Standard
	Se	82	257.1	6.9	**2.9021**	0.132	4.5	ug/L	21	Standard
	Se-1	77	252.7	7.4	**3.1866**	0.229	7.2	ug/L	86	Standard
>	**Ga**	71	6828.2	1.4				mg/L	13	Standard
	Rb	85	57872.0	1.4				ug/L	18	Standard
	Y	89	1509129.7	0.6				ug/L	463757	Standard
>	**Rh**	103	60.0	8.3				ug/L	12	Standard
	Mo	98	19332.0	1.1	**5.8862**	0.049	0.8	ug/L	29	Standard
	Ag	107	1806.8	5.3	**0.2923**	0.017	5.7	ug/L	101	Standard
	Cd	111	19459.9	1.1	**10.3335**	0.134	1.3	mg/L	9	Standard
	Cd	114	48986.9	2.7	**9.9538**	0.293	2.9	ug/L	47	Standard
>	**In**	115	680235.1	0.3				ug/L	765457	Standard
	Sn	118	330.7	6.5	**0.1550**	0.019	12.3	ug/L	168	Standard
	Sb	123	923.0	6.4	**0.1855**	0.011	6.0	ug/L	332	Standard
	Ba	135	92670.6	1.1	**39.2636**	0.514	1.3	ug/L	37	Standard
	Ce	140	1399825.0	1.1				ug/L	895	Standard
>	**Tb**	159	1355613.9	0.3				ug/L	1511047	Standard
	Ho	165	85386.6	1.4				ug/L	22	Standard
	Tl	203	10314.2	1.2	**1.1450**	0.001	0.1	ug/L	14	Standard
	Tl	205	24196.0	2.1	**1.1619**	0.015	1.3	ug/L	27	Standard
	Pb	206	63070.3	0.8	**9.1762**	0.091	1.0	ug/L	557	Standard
	Pb	207	34949.9	1.0	**5.7474**	0.053	0.9	ug/L	432	Standard
	Pb	208	184013.3	1.0	**6.6886**	0.026	0.4	ug/L	2118	Standard
	U	238	324800.6	0.8	**13.1667**	0.120	0.9	ug/L	78	Standard
>	**Bi**	209	628208.6	1.3				ug/L	791817	Standard

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⌈	**Na**	23	926.7	13.4	**243.6480**	35.609	14.6	mg/L	5	Standard
|	**Mg**	24	351.7	3.6	**0.5532**	0.028	5.1	mg/L	48	Standard
|	**K**	39	51.7	5.6	**0.6584**	0.031	4.7	mg/L	3	Standard
|	**Ca**	43	941.7	0.8	**295.3507**	5.737	1.9	mg/L	62	Standard
|	**Fe**	54	4988.6	6.6	**4.3931**	0.359	8.2	mg/L	139	Standard
|	**Fe**	57	2501.9	5.4	**7.5959**	0.395	5.2	mg/L	83	Standard
⌊>	**Sc-1**	45	25605.0	1.4				mg/L	23513	Standard
	Cl	35	3.3	91.7				ug/L	3	Standard
	Kr	83	2.0	50.0				ug/L	2	Standard
	Br	81	1303.4	2.9				ug/L	910	Standard
	P	31	68.3	18.4				ug/L	85	Standard
	S	34	30.0	57.7				ug/L	48	Standard
	Sr	88	220.0	17.2				ug/L	72	Standard
	C	12	1370.1	16.6				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	106.7	30.1				mg/L	7	Standard
	Dy	164	114131.4	1.8				mg/L	22	Standard
	Ho-1	165	85386.6	1.4				mg/L	22	Standard
	Er	166	82608.0	1.6				mg/L	23	Standard
	I	127	23523.2	1.4				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		86.917	
|	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		80.196	
|	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	88.866
|	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	79.338
⌈	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	
Zn 66 Upper, S, EEE	Zn	66	

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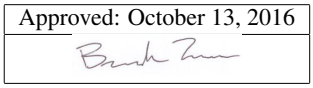

Method 6020 - Summary Report

Sample ID: L1610038904PS WG587381-01
Sample Date/Time: Wednesday, October 12, 2016 18:55:58
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: BKT 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	59946.8	3.0				ug/L	72553	Standard
	Be	9	36123.0	2.8	**48.3857**	2.816	5.8	ug/L	10	Standard
	Al	27	146000970.3	2.3	**1748.2596**	73.127	4.2	ug/L	232	Standard
	Sc	45	26302.9	5.4				ug/L	23513	Standard
	Ti	47	6747.2	1.8	**46.1919**	0.825	1.8	ug/L	36	Standard
	V	51	588145.6	2.9	**113.5393**	2.233	2.0	ug/L	1387	Standard
	Cr	52	581997.6	1.7	**118.2544**	1.078	0.9	ug/L	7813	Standard
	Cr	53	74531.4	3.6	**117.1704**	4.480	3.8	ug/L	1410	Standard
	Mn	55	4183706.9	1.6	**505.0812**	4.378	0.9	ug/L	1043	Standard
	Co	59	371350.2	1.0	**50.4520**	0.484	1.0	ug/L	198	Standard
	Ni	60	196485.6	1.1	**122.3671**	0.801	0.7	ug/L	64	Standard
	Cu	65	97531.3	1.5	**58.8977**	0.559	0.9	ug/L	122	Standard
	Zn	66	311769.2	1.2	**353.4634**	5.381	1.5	ug/L	209	Standard
>	**Ge**	72	513505.3	1.7				ug/L	618040	Standard
	As	75	53726.8	0.5	**57.4019**	1.186	2.1	ug/L	11	Standard
	Se	82	4624.2	1.2	**52.6236**	0.405	0.8	ug/L	21	Standard
	Se-1	77	3150.3	1.7	**53.1694**	1.735	3.3	ug/L	86	Standard
>	**Ga**	71	7068.3	4.0				mg/L	13	Standard
	Rb	85	57649.5	3.1				ug/L	18	Standard
	Y	89	1541747.4	1.0				ug/L	463757	Standard
>	**Rh**	103	98.3	28.0				ug/L	12	Standard
	Mo	98	19412.7	2.7	**6.0702**	0.128	2.1	ug/L	29	Standard
	Ag	107	262584.1	1.3	**45.8426**	0.318	0.7	ug/L	101	Standard
	Cd	111	110964.0	0.8	**60.5372**	0.290	0.5	mg/L	9	Standard
	Cd	114	279792.5	1.7	**58.3858**	0.790	1.4	ug/L	47	Standard
>	**In**	115	662336.0	0.6				ug/L	765457	Standard
	Sn	118	358.0	4.8	**0.1890**	0.014	7.6	ug/L	168	Standard
	Sb	123	257126.4	0.7	**52.0820**	0.276	0.5	ug/L	332	Standard
	Ba	135	208313.9	1.8	**90.6768**	1.555	1.7	ug/L	37	Standard
	Ce	140	1416433.1	1.0				ug/L	895	Standard
>	**Tb**	159	1379213.7	1.3				ug/L	1511047	Standard
	Ho	165	84681.1	2.4				ug/L	22	Standard
	Tl	203	466735.9	1.0	**52.4059**	0.315	0.6	ug/L	14	Standard
	Tl	205	1093678.4	2.0	**53.2416**	0.639	1.2	ug/L	27	Standard
	Pb	206	401194.7	1.6	**59.4413**	0.497	0.8	ug/L	557	Standard
	Pb	207	323991.4	0.4	**54.4866**	0.231	0.4	ug/L	432	Standard
	Pb	208	1520831.3	0.7	**56.4592**	0.430	0.8	ug/L	2118	Standard
	U	238	1584691.6	0.6	**64.9606**	0.262	0.4	ug/L	78	Standard
>	**Bi**	209	621201.5	0.9				ug/L	791817	Standard

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⌈	**Na**	23	890.0	3.5	**227.6891**	5.261	2.3	mg/L	5	Standard
|	**Mg**	24	378.3	19.6	**0.5888**	0.169	28.7	mg/L	48	Standard
|	**K**	39	43.3	26.6	**0.5341**	0.170	31.9	mg/L	3	Standard
|	**Ca**	43	943.4	4.8	**287.6533**	8.216	2.9	mg/L	62	Standard
|	**Fe**	54	4951.2	3.4	**4.2510**	0.385	9.1	mg/L	139	Standard
|	**Fe**	57	2666.9	7.2	**7.8986**	0.326	4.1	mg/L	83	Standard
⌊>	**Sc-1**	45	26302.9	5.4				mg/L	23513	Standard
	Cl	35	2.7	114.6				ug/L	3	Standard
	Kr	83	5.7	62.0				ug/L	2	Standard
	Br	81	1330.1	9.9				ug/L	910	Standard
	P	31	66.7	26.3				ug/L	85	Standard
	S	34	38.3	86.8				ug/L	48	Standard
	Sr	88	221.7	10.2				ug/L	72	Standard
	C	12	1053.4	6.3				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	136.7	15.2				mg/L	7	Standard
	Dy	164	112530.4	1.5				mg/L	22	Standard
	Ho-1	165	84681.1	2.4				mg/L	22	Standard
	Er	166	84193.3	1.4				mg/L	23	Standard
	I	127	21748.9	3.5				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		82.624	
|	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		83.086	
|	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	86.528
|	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	78.453
⌈	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 Upper, S, EEE	V	51	
Cr 52 Upper, S, EEE	Cr	52	

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Cr 53 Upper, S, EEE	Cr	53
Mn 55 Upper, S, EEE	Mn	55
Ni 60 Upper, S, EEE	Ni	60
Zn 66 Upper, S, EEE	Zn	66

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Method 6020 - Summary Report

Sample ID: L1610038904SDL WG587381-02
Sample Date/Time: Wednesday, October 12, 2016 18:58:58
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: BKT 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	60053.8	2.9				ug/L	72553	Standard
	Be	9	135.0	24.3	**0.1637**	0.045	27.4	ug/L	10	Standard
	Al	27	30964118.2	2.6	**369.9068**	6.277	1.7	ug/L	232	Standard
	Sc	45	22465.0	0.6				ug/L	23513	Standard
	Ti	47	1443.1	3.0	**9.1113**	0.033	0.4	ug/L	36	Standard
	V	51	69955.0	1.6	**12.5344**	0.172	1.4	ug/L	1387	Standard
	Cr	52	79340.2	1.3	**14.0704**	0.268	1.9	ug/L	7813	Standard
	Cr	53	10113.4	1.1	**13.3440**	0.269	2.0	ug/L	1410	Standard
	Mn	55	824760.4	2.1	**93.6438**	2.390	2.6	ug/L	1043	Standard
	Co	59	5639.0	1.5	**0.7031**	0.012	1.6	ug/L	198	Standard
	Ni	60	27295.2	1.9	**15.9748**	0.364	2.3	ug/L	64	Standard
	Cu	65	5386.6	1.7	**2.9644**	0.039	1.3	ug/L	122	Standard
	Zn	66	62018.4	2.0	**65.5410**	1.087	1.7	ug/L	209	Standard
>	Ge	72	545409.4	2.7				ug/L	618040	Standard
	As	75	1274.2	1.4	**1.3225**	0.051	3.9	ug/L	11	Standard
	Se	82	75.5	5.2	**0.6764**	0.058	8.5	ug/L	21	Standard
	Se-1	77	110.0	14.6	**0.4522**	0.243	53.7	ug/L	86	Standard
>	Ga	71	1550.1	1.8				mg/L	13	Standard
	Rb	85	12323.3	3.9				ug/L	18	Standard
	Y	89	641006.1	3.3				ug/L	463757	Standard
>	Rh	103	20.0	25.0				ug/L	12	Standard
	Mo	98	4031.8	1.5	**1.1844**	0.012	1.0	ug/L	29	Standard
	Ag	107	443.7	4.1	**0.0581**	0.004	7.5	ug/L	101	Standard
	Cd	111	4117.0	0.7	**2.1140**	0.057	2.7	mg/L	9	Standard
	Cd	114	10258.8	2.7	**2.0196**	0.101	5.0	ug/L	47	Standard
>	In	115	702509.8	2.3				ug/L	765457	Standard
	Sn	118	175.0	6.7	**0.0068**	0.012	177.0	ug/L	168	Standard
	Sb	123	1979.0	38.2	**0.3796**	0.138	36.5	ug/L	332	Standard
	Ba	135	19761.2	0.3	**8.0907**	0.210	2.6	ug/L	37	Standard
	Ce	140	305526.9	1.6				ug/L	895	Standard
>	Tb	159	1355046.8	3.2				ug/L	1511047	Standard
	Ho	165	18356.1	4.6				ug/L	22	Standard
	Tl	203	2214.2	1.0	**0.2341**	0.004	1.9	ug/L	14	Standard
	Tl	205	5054.2	4.6	**0.2291**	0.016	7.0	ug/L	27	Standard
	Pb	206	13761.9	1.7	**1.8465**	0.024	1.3	ug/L	557	Standard
	Pb	207	7732.6	1.6	**1.1545**	0.035	3.0	ug/L	432	Standard
	Pb	208	40542.5	1.5	**1.3445**	0.030	2.2	ug/L	2118	Standard
	U	238	66332.6	1.3	**2.5621**	0.032	1.2	ug/L	78	Standard
>	Bi	209	659473.4	2.5				ug/L	791817	Standard

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⌈	**Na**	23	196.7	25.5	**58.5579**	15.168	25.9	mg/L	5	Standard
|	**Mg**	24	123.3	12.4	**0.1727**	0.031	17.7	mg/L	48	Standard
|	**K**	39	15.0	57.7	**0.1889**	0.133	70.3	mg/L	3	Standard
|	**Ca**	43	235.0	18.5	**70.5053**	16.110	22.8	mg/L	62	Standard
|	**Fe**	54	1171.7	8.6	**1.0883**	0.101	9.3	mg/L	139	Standard
|	**Fe**	57	646.7	8.1	**1.9153**	0.206	10.8	mg/L	83	Standard
⌊>	**Sc-1**	45	22465.0	0.6				mg/L	23513	Standard
	Cl	35	2.7	114.6				ug/L	3	Standard
	Kr	83	3.3	17.3				ug/L	2	Standard
	Br	81	1143.4	7.3				ug/L	910	Standard
	P	31	58.3	19.8				ug/L	85	Standard
	S	34	38.3	45.8				ug/L	48	Standard
	Sr	88	125.0	17.4				ug/L	72	Standard
	C	12	336.7	12.0				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	43.3	48.0				mg/L	7	Standard
	Dy	164	24364.4	4.8				mg/L	22	Standard
	Ho-1	165	18356.1	4.6				mg/L	22	Standard
	Er	166	17603.6	6.4				mg/L	23	Standard
	I	127	15096.0	14.4				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		82.772	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		88.248	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	91.776
|	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	83.286
⌈	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: L1610038904SDL WG587381-02
Sample Date/Time: Wednesday, October 12, 2016 19:01:57
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: BKT 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	61017.9	5.4				ug/L	72553	Standard
	Be	9	21.7	26.6	**0.0119**	0.009	72.0	ug/L	10	Standard
	Al	27	6509034.9	2.4	**76.6018**	2.443	3.2	ug/L	232	Standard
	Sc	45	22545.1	4.0				ug/L	23513	Standard
	Ti	47	300.0	2.7	**1.6592**	0.109	6.6	ug/L	36	Standard
	V	51	15647.8	2.1	**2.5698**	0.042	1.6	ug/L	1387	Standard
	Cr	52	22539.4	2.9	**2.9712**	0.060	2.0	ug/L	7813	Standard
	Cr	53	2576.9	4.4	**1.9076**	0.053	2.8	ug/L	1410	Standard
	Mn	55	173586.6	3.0	**19.0736**	0.255	1.3	ug/L	1043	Standard
	Co	59	1308.1	4.4	**0.1446**	0.009	6.1	ug/L	198	Standard
	Ni	60	5821.5	3.7	**3.2882**	0.071	2.2	ug/L	64	Standard
	Cu	65	1136.0	1.1	**0.5267**	0.022	4.1	ug/L	122	Standard
	Zn	66	13742.6	3.1	**13.5119**	0.477	3.5	ug/L	209	Standard
>	Ge	72	559904.2	3.6				ug/L	618040	Standard
	As	75	239.7	12.4	**0.2764**	0.037	13.3	ug/L	11	Standard
	Se	82	31.3	35.1	**0.1954**	0.128	65.7	ug/L	21	Standard
	Se-1	77	73.0	13.2	**-0.1755**	0.194	110.6	ug/L	86	Standard
>	Ga	71	276.7	30.0				mg/L	13	Standard
	Rb	85	2505.2	2.0				ug/L	18	Standard
	Y	89	467956.8	3.9				ug/L	463757	Standard
>	Rh	103	11.7	65.5				ug/L	12	Standard
	Mo	98	894.7	4.3	**0.2505**	0.007	2.8	ug/L	29	Standard
	Ag	107	167.0	3.6	**0.0117**	0.001	11.3	ug/L	101	Standard
	Cd	111	820.5	2.7	**0.4048**	0.006	1.4	mg/L	9	Standard
	Cd	114	2181.4	2.3	**0.4160**	0.005	1.2	ug/L	47	Standard
>	In	115	724419.9	3.5				ug/L	765457	Standard
	Sn	118	141.3	4.5	**-0.0271**	0.002	8.0	ug/L	168	Standard
	Sb	123	535.6	43.3	**0.1018**	0.040	39.1	ug/L	332	Standard
	Ba	135	4080.5	2.5	**1.6012**	0.070	4.3	ug/L	37	Standard
	Ce	140	64030.1	3.1				ug/L	895	Standard
>	Tb	159	1384230.3	2.2				ug/L	1511047	Standard
	Ho	165	3823.8	1.5				ug/L	22	Standard
	Tl	203	471.0	2.4	**0.0466**	0.001	1.3	ug/L	14	Standard
	Tl	205	1130.0	3.1	**0.0457**	0.001	2.4	ug/L	27	Standard
	Pb	206	3371.0	0.4	**0.3653**	0.014	3.7	ug/L	557	Standard
	Pb	207	2081.1	3.0	**0.2372**	0.002	0.7	ug/L	432	Standard
	Pb	208	10486.0	2.8	**0.2691**	0.005	1.8	ug/L	2118	Standard
	U	238	13747.6	0.9	**0.4987**	0.016	3.2	ug/L	78	Standard
>	Bi	209	702780.4	3.4				ug/L	791817	Standard

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⌈	**Na**	23	43.3	26.6	**12.5005**	3.480	27.8	mg/L	5	Standard
|	**Mg**	24	58.3	13.1	**0.0386**	0.011	29.0	mg/L	48	Standard
|	**K**	39	8.3	69.3	**0.0878**	0.095	108.4	mg/L	3	Standard
|	**Ca**	43	91.7	11.4	**15.9226**	3.261	20.5	mg/L	62	Standard
|	**Fe**	54	335.3	2.3	**0.2259**	0.006	2.7	mg/L	139	Standard
|	**Fe**	57	266.7	12.1	**0.5201**	0.149	28.6	mg/L	83	Standard
⌊>	**Sc-1**	45	22545.1	4.0				mg/L	23513	Standard
	Cl	35	2.7	114.6				ug/L	3	Standard
	Kr	83	2.0	86.6				ug/L	2	Standard
	Br	81	1170.0	7.8				ug/L	910	Standard
	P	31	70.0	14.3				ug/L	85	Standard
	S	34	35.0	14.3				ug/L	48	Standard
	Sr	88	81.7	7.1				ug/L	72	Standard
	C	12	186.7	29.5				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	26.7	21.7				mg/L	7	Standard
	Dy	164	5032.6	3.9				mg/L	22	Standard
	Ho-1	165	3823.8	1.5				mg/L	22	Standard
	Er	166	3513.7	2.1				mg/L	23	Standard
	I	127	12368.4	1.8				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		84.101	
|	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		90.593	
|	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	94.639
	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	88.755
	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: L1610038904SDL WG587381-02
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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, October 12, 2016 19:04:58
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	59331.1	4.3				ug/L	72553	Standard
	Be	9	35257.7	4.0	**47.6780**	1.354	2.8	ug/L	10	Standard
	Al	27	4079071.2	2.5	**49.3404**	1.030	2.1	ug/L	232	Standard
	Sc	45	21064.6	3.4				ug/L	23513	Standard
	Ti	47	15222.6	1.9	**98.9541**	0.906	0.9	ug/L	36	Standard
	V	51	271872.5	1.5	**49.5955**	0.795	1.6	ug/L	1387	Standard
	Cr	52	260898.1	1.6	**49.4762**	1.101	2.2	ug/L	7813	Standard
	Cr	53	33766.0	4.0	**49.2045**	2.046	4.2	ug/L	1410	Standard
	Mn	55	429787.5	1.4	**49.0063**	1.130	2.3	ug/L	1043	Standard
	Co	59	377687.8	1.8	**48.6004**	1.321	2.7	ug/L	198	Standard
	Ni	60	83208.2	1.4	**49.0586**	1.106	2.3	ug/L	64	Standard
	Cu	65	86460.7	1.3	**49.4313**	0.578	1.2	ug/L	122	Standard
	Zn	66	45772.0	1.7	**48.4381**	0.601	1.2	ug/L	209	Standard
>	Ge	72	542287.9	2.5				ug/L	618040	Standard
	As	75	48157.5	1.8	**48.7264**	0.961	2.0	ug/L	11	Standard
	Se	82	4520.7	2.2	**48.7042**	0.394	0.8	ug/L	21	Standard
	Se-1	77	3006.6	1.9	**47.9288**	1.695	3.5	ug/L	86	Standard
>	Ga	71	18.3	15.7				mg/L	13	Standard
	Rb	85	710.0	10.5				ug/L	18	Standard
	Y	89	407427.8	2.7				ug/L	463757	Standard
>	Rh	103	21.7	35.3				ug/L	12	Standard
	Mo	98	328706.7	0.7	**96.6313**	1.950	2.0	ug/L	29	Standard
	Ag	107	297245.8	0.6	**48.7459**	1.077	2.2	ug/L	101	Standard
	Cd	111	97484.6	0.7	**49.9513**	0.952	1.9	mg/L	9	Standard
	Cd	114	256480.5	0.3	**50.2791**	1.453	2.9	ug/L	47	Standard
>	In	115	705410.8	2.6				ug/L	765457	Standard
	Sn	118	57517.6	1.4	**50.8680**	0.713	1.4	ug/L	168	Standard
	Sb	123	273713.5	0.5	**52.0779**	1.292	2.5	ug/L	332	Standard
	Ba	135	123016.0	0.6	**50.2945**	1.624	3.2	ug/L	37	Standard
	Ce	140	135.0	42.1				ug/L	895	Standard
>	Tb	159	1334118.5	1.5				ug/L	1511047	Standard
	Ho	165	11.7	49.5				ug/L	22	Standard
	Tl	203	493416.0	0.6	**50.4098**	0.951	1.9	ug/L	14	Standard
	Tl	205	1159396.7	3.1	**51.3649**	2.090	4.1	ug/L	27	Standard
	Pb	206	367165.3	0.7	**49.4910**	1.226	2.5	ug/L	557	Standard
	Pb	207	324539.4	1.8	**49.6663**	1.885	3.8	ug/L	432	Standard
	Pb	208	1469132.0	1.0	**49.6231**	1.489	3.0	ug/L	2118	Standard
	U	238	1340072.3	1.3	**49.9901**	1.527	3.1	ug/L	78	Standard
>	Bi	209	682871.5	1.9				ug/L	791817	Standard

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⌈	**Na**	23	13.3	57.3	**3.8399**	2.477	64.5	mg/L	5	Standard
|	**Mg**	24	2251.8	2.4	**4.8512**	0.108	2.2	mg/L	48	Standard
|	**K**	39	261.7	16.3	**4.2894**	0.821	19.1	mg/L	3	Standard
|	**Ca**	43	56.7	31.0	**4.3404**	7.828	180.3	mg/L	62	Standard
|	**Fe**	54	4634.5	0.9	**4.9767**	0.178	3.6	mg/L	139	Standard
|	**Fe**	57	1428.4	3.1	**5.1399**	0.358	7.0	mg/L	83	Standard
⌊>	**Sc-1**	45	21064.6	3.4				mg/L	23513	Standard
	Cl	35	4.7	65.5				ug/L	3	Standard
	Kr	83	2.0	0.0				ug/L	2	Standard
	Br	81	976.7	4.1				ug/L	910	Standard
	P	31	55.0	48.1				ug/L	85	Standard
	S	34	38.3	7.5				ug/L	48	Standard
	Sr	88	96.7	3.0				ug/L	72	Standard
	C	12	186.7	15.5				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	25.5	20.4				mg/L	22	Standard
	Ho-1	165	11.7	49.5				mg/L	22	Standard
	Er	166	23.3	49.5				mg/L	23	Standard
	I	127	10395.2	1.4				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	95.356		
⌊	Al	27	98.681		
⌈	Sc	45			
|	Ti	47	98.954		
|	V	51	99.191		
|	Cr	52	98.952		
|	Cr	53			
|	Mn	55	98.013		
|	Co	59	97.201		
|	Ni	60	98.117		
|	Cu	65	98.863		
|	Zn	66	96.876		
|>	Ge	72		87.743	
|	As	75	97.453		
|	Se	82	97.408		
⌊	Se-1	77			
⌈>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	96.631		
Ag	107	97.492		
Cd	111	99.903		
Cd	114			
In	115			92.155
Sn	118	101.736		
Sb	123	104.156		
Ba	135	100.589		
Ce	140			
Tb	159			
Ho	165			
Tl	203	100.820		
Tl	205			
Pb	206			
Pb	207			
Pb	208	99.246		
U	238	99.980		
Bi	209			86.241
Na	23			
Mg	24			
K	39			
Ca	43			
Fe	54			
Fe	57			
Sc-1	45			
Cl	35			
Kr	83			
Br	81			
P	31			
S	34			
Sr	88			
C	12			
N	14			
Hg	202			
Dy	164			
Ho-1	165			
Er	166			
I	127			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, October 12, 2016 19:07:58
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: BKT 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	61558.2	3.6				ug/L	72553	Standard
	Be	9	3.3	173.2	**-0.0126**	0.007	57.3	ug/L	10	Standard
	Al	27	1293.4	57.8	**0.0115**	0.009	77.0	ug/L	232	Standard
	Sc	45	21790.7	2.7				ug/L	23513	Standard
	Ti	47	20.7	12.2	**-0.1040**	0.015	14.3	ug/L	36	Standard
	V	51	998.7	7.4	**-0.0268**	0.015	55.2	ug/L	1387	Standard
	Cr	52	5895.8	0.5	**-0.1469**	0.029	20.0	ug/L	7813	Standard
	Cr	53	763.4	9.4	**-0.7316**	0.085	11.6	ug/L	1410	Standard
	Mn	55	941.0	6.5	**-0.0490**	0.008	15.5	ug/L	1043	Standard
	Co	59	130.0	4.0	**-0.0021**	0.001	48.2	ug/L	198	Standard
	Ni	60	51.3	19.9	**-0.0082**	0.007	80.1	ug/L	64	Standard
	Cu	65	113.7	16.3	**-0.0401**	0.010	25.0	ug/L	122	Standard
	Zn	66	190.7	7.5	**-0.6141**	0.010	1.7	ug/L	209	Standard
>	Ge	72	551354.1	2.4				ug/L	618040	Standard
	As	75	-22.4	138.8	**0.0183**	0.031	170.5	ug/L	11	Standard
	Se	82	20.7	4.6	**0.0848**	0.010	11.7	ug/L	21	Standard
	Se-1	77	62.0	8.5	**-0.3389**	0.083	24.4	ug/L	86	Standard
>	Ga	71	11.7	49.5				mg/L	13	Standard
	Rb	85	15.0	57.7				ug/L	18	Standard
	Y	89	407543.2	2.1				ug/L	463757	Standard
>	Rh	103	8.3	69.3				ug/L	12	Standard
	Mo	98	161.6	10.5	**0.0407**	0.005	12.0	ug/L	29	Standard
	Ag	107	100.3	15.9	**0.0011**	0.003	252.0	ug/L	101	Standard
	Cd	111	9.1	35.3	**-0.0001**	0.002	1922.5	mg/L	9	Standard
	Cd	114	24.5	58.0	**0.0044**	0.003	60.9	ug/L	47	Standard
>	In	115	724568.0	1.0				ug/L	765457	Standard
	Sn	118	142.0	18.0	**-0.0266**	0.022	81.5	ug/L	168	Standard
	Sb	123	477.6	39.6	**0.0919**	0.035	38.2	ug/L	332	Standard
	Ba	135	35.7	21.0	**-0.0103**	0.003	29.2	ug/L	37	Standard
	Ce	140	55.0	24.1				ug/L	895	Standard
>	Tb	159	1366569.7	1.5				ug/L	1511047	Standard
	Ho	165	25.0	40.0				ug/L	22	Standard
	Tl	203	21.0	21.8	**0.0019**	0.000	24.0	ug/L	14	Standard
	Tl	205	50.0	30.0	**-0.0008**	0.001	76.2	ug/L	27	Standard
	Pb	206	480.3	4.9	**-0.0147**	0.003	21.8	ug/L	557	Standard
	Pb	207	409.3	5.6	**-0.0123**	0.003	27.2	ug/L	432	Standard
	Pb	208	1883.0	1.6	**-0.0143**	0.001	10.0	ug/L	2118	Standard
	U	238	51.7	33.4	**0.0021**	0.001	29.9	ug/L	78	Standard
>	Bi	209	709967.8	0.9				ug/L	791817	Standard

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⌈	**Na**	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	55.0	39.6	**0.0364**	0.047	130.4	mg/L	48	Standard
|	**K**	39	6.7	114.6	**0.0626**	0.119	189.6	mg/L	3	Standard
|	**Ca**	43	36.7	41.7	**-4.3285**	6.257	144.5	mg/L	62	Standard
|	**Fe**	54	154.1	3.4	**0.0454**	0.010	20.9	mg/L	139	Standard
|	**Fe**	57	145.0	6.9	**0.0900**	0.036	40.3	mg/L	83	Standard
⌊>	**Sc-1**	45	21790.7	2.7				mg/L	23513	Standard
	Cl	35	0.7	173.2				ug/L	3	Standard
	Kr	83	1.7	34.6				ug/L	2	Standard
	Br	81	1086.7	5.6				ug/L	910	Standard
	P	31	78.3	9.8				ug/L	85	Standard
	S	34	36.7	56.8				ug/L	48	Standard
	Sr	88	110.0	9.1				ug/L	72	Standard
	C	12	233.3	13.1				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	25.2	78.9				mg/L	22	Standard
	Ho-1	165	25.0	40.0				mg/L	22	Standard
	Er	166	30.0	66.7				mg/L	23	Standard
	I	127	10678.8	1.8				mg/L	4241	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		89.210	
|	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	94.658
|	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	89.663
⌈	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

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Method 6020 - Summary Report

Sample ID: L1610000301
Sample Date/Time: Wednesday, October 12, 2016 19:10:59
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: BKT 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	60514.0	2.2				ug/L	72553	Standard
	Be	9	6.7	43.3	**-0.0079**	0.004	51.5	ug/L	10	Standard
	Al	27	12275.0	4.4	**0.1421**	0.010	6.8	ug/L	232	Standard
	Sc	45	21328.3	2.1				ug/L	23513	Standard
	Ti	47	30.3	14.9	**-0.0423**	0.031	74.2	ug/L	36	Standard
	V	51	4728.8	2.4	**0.6426**	0.017	2.6	ug/L	1387	Standard
	Cr	52	10767.8	1.6	**0.7791**	0.045	5.8	ug/L	7813	Standard
	Cr	53	1323.4	6.3	**0.0975**	0.134	137.8	ug/L	1410	Standard
	Mn	55	4152.9	2.7	**0.3108**	0.005	1.5	ug/L	1043	Standard
	Co	59	5189.2	2.4	**0.6363**	0.006	1.0	ug/L	198	Standard
	Ni	60	2537.9	1.8	**1.4307**	0.048	3.3	ug/L	64	Standard
	Cu	65	1600.1	2.1	**0.7948**	0.006	0.7	ug/L	122	Standard
	Zn	66	4100.6	2.5	**3.5112**	0.060	1.7	ug/L	209	Standard
>	Ge	72	552902.8	1.7				ug/L	618040	Standard
	As	75	337.7	10.2	**0.3756**	0.030	8.1	ug/L	11	Standard
	Se	82	33.6	18.3	**0.2207**	0.063	28.6	ug/L	21	Standard
	Se-1	77	77.3	9.7	**-0.0943**	0.136	144.5	ug/L	86	Standard
>	Ga	71	10.0	50.0				mg/L	13	Standard
	Rb	85	70.0	35.7				ug/L	18	Standard
	Y	89	409663.1	1.1				ug/L	463757	Standard
>	Rh	103	13.3	21.7				ug/L	12	Standard
	Mo	98	81.1	25.2	**0.0179**	0.005	30.1	ug/L	29	Standard
	Ag	107	1673.1	2.7	**0.2556**	0.002	0.7	ug/L	101	Standard
	Cd	111	246.6	9.1	**0.1201**	0.014	11.5	mg/L	9	Standard
	Cd	114	660.1	7.5	**0.1272**	0.007	5.7	ug/L	47	Standard
>	In	115	715321.9	2.0				ug/L	765457	Standard
	Sn	118	121.7	20.0	**-0.0429**	0.020	46.1	ug/L	168	Standard
	Sb	123	909.3	10.3	**0.1739**	0.015	8.3	ug/L	332	Standard
	Ba	135	1050.4	2.7	**0.3989**	0.009	2.2	ug/L	37	Standard
	Ce	140	160.0	21.9				ug/L	895	Standard
>	Tb	159	1363251.3	1.1				ug/L	1511047	Standard
	Ho	165	15.0	33.3				ug/L	22	Standard
	Tl	203	527.3	3.2	**0.0518**	0.002	3.3	ug/L	14	Standard
	Tl	205	1241.7	7.6	**0.0501**	0.004	8.3	ug/L	27	Standard
	Pb	206	2823.9	3.1	**0.2904**	0.010	3.5	ug/L	557	Standard
	Pb	207	2425.5	1.8	**0.2857**	0.008	2.7	ug/L	432	Standard
	Pb	208	11111.3	1.4	**0.2867**	0.004	1.6	ug/L	2118	Standard
	U	238	14292.4	1.3	**0.5141**	0.006	1.1	ug/L	78	Standard
>	Bi	209	708256.3	0.6				ug/L	791817	Standard

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⌈	**Na**	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	56.7	45.3	**0.0426**	0.057	133.4	mg/L	48	Standard
|	**K**	39	15.0	33.3	**0.2015**	0.082	40.5	mg/L	3	Standard
|	**Ca**	43	28.3	79.6	**-7.3184**	9.137	124.9	mg/L	62	Standard
|	**Fe**	54	122.4	12.5	**0.0145**	0.018	123.3	mg/L	139	Standard
|	**Fe**	57	141.7	15.9	**0.0890**	0.088	98.4	mg/L	83	Standard
⌊>	**Sc-1**	45	21328.3	2.1				mg/L	23513	Standard
	Cl	35	4.0	0.0				ug/L	3	Standard
	Kr	83	2.3	49.5				ug/L	2	Standard
	Br	81	1136.7	6.4				ug/L	910	Standard
	P	31	51.7	53.3				ug/L	85	Standard
	S	34	38.3	15.1				ug/L	48	Standard
	Sr	88	86.7	6.7				ug/L	72	Standard
	C	12	210.0	26.5				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	Standard
	Dy	164	25.5	59.6				mg/L	22	Standard
	Ho-1	165	15.0	33.3				mg/L	22	Standard
	Er	166	23.3	24.7				mg/L	23	Standard
	I	127	8287.3	3.7				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		83.406	
|	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		89.461	
|	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	93.450
|	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	89.447
⌈	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: L1610000501
Sample Date/Time: Wednesday, October 12, 2016 19:13:58
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: BKT 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	60815.2	1.9				ug/L	72553	Standard
	Be	9	5.0	100.0	**-0.0101**	0.007	65.1	ug/L	10	Standard
	Al	27	20325.3	2.8	**0.2362**	0.003	1.2	ug/L	232	Standard
	Sc	45	21990.9	0.7				ug/L	23513	Standard
	Ti	47	35.7	8.6	**-0.0067**	0.021	313.6	ug/L	36	Standard
	V	51	8358.3	1.0	**1.3059**	0.003	0.3	ug/L	1387	Standard
	Cr	52	14025.5	2.4	**1.4202**	0.045	3.1	ug/L	7813	Standard
	Cr	53	1853.4	4.3	**0.9031**	0.091	10.1	ug/L	1410	Standard
	Mn	55	7093.0	1.4	**0.6466**	0.007	1.1	ug/L	1043	Standard
	Co	59	10176.1	1.1	**1.2757**	0.028	2.2	ug/L	198	Standard
	Ni	60	4903.5	1.9	**2.8204**	0.051	1.8	ug/L	64	Standard
	Cu	65	3032.6	1.4	**1.6128**	0.036	2.2	ug/L	122	Standard
	Zn	66	7251.4	0.7	**6.8953**	0.136	2.0	ug/L	209	Standard
>	Ge	72	548749.3	1.2				ug/L	618040	Standard
	As	75	789.4	4.3	**0.8293**	0.025	3.0	ug/L	11	Standard
	Se	82	66.9	7.1	**0.5795**	0.049	8.4	ug/L	21	Standard
	Se-1	77	87.0	18.1	**0.0701**	0.252	359.8	ug/L	86	Standard
>	Ga	71	16.7	62.4				mg/L	13	Standard
	Rb	85	53.3	19.5				ug/L	18	Standard
	Y	89	411216.2	2.5				ug/L	463757	Standard
>	Rh	103	8.3	91.7				ug/L	12	Standard
	Mo	98	97.4	14.6	**0.0227**	0.004	17.4	ug/L	29	Standard
	Ag	107	3254.3	1.5	**0.5111**	0.011	2.2	ug/L	101	Standard
	Cd	111	519.9	6.8	**0.2578**	0.017	6.5	mg/L	9	Standard
	Cd	114	1280.2	7.2	**0.2470**	0.020	8.1	ug/L	47	Standard
>	In	115	715716.6	1.0				ug/L	765457	Standard
	Sn	118	119.7	11.5	**-0.0444**	0.013	28.6	ug/L	168	Standard
	Sb	123	1507.6	4.2	**0.2860**	0.010	3.6	ug/L	332	Standard
	Ba	135	2097.8	2.1	**0.8207**	0.009	1.2	ug/L	37	Standard
	Ce	140	216.7	16.7				ug/L	895	Standard
>	Tb	159	1384500.1	2.8				ug/L	1511047	Standard
	Ho	165	25.0	40.0				ug/L	22	Standard
	Tl	203	1013.7	1.3	**0.0999**	0.002	2.5	ug/L	14	Standard
	Tl	205	2376.9	1.7	**0.0988**	0.002	2.4	ug/L	27	Standard
	Pb	206	4823.1	2.1	**0.5518**	0.007	1.3	ug/L	557	Standard
	Pb	207	4220.9	1.2	**0.5522**	0.005	0.9	ug/L	432	Standard
	Pb	208	19102.0	1.5	**0.5486**	0.009	1.6	ug/L	2118	Standard
	U	238	28250.6	0.9	**1.0182**	0.018	1.8	ug/L	78	Standard
>	Bi	209	706798.5	1.8				ug/L	791817	Standard

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⌈	**Na**	23	1.7	173.2	**0.0528**	0.884	1673.9	mg/L	5	Standard
|	**Mg**	24	73.3	7.9	**0.0733**	0.011	15.2	mg/L	48	Standard
|	**K**	39	8.3	69.3	**0.0886**	0.090	101.8	mg/L	3	Standard
|	**Ca**	43	38.3	27.2	**-3.8921**	3.951	101.5	mg/L	62	Standard
|	**Fe**	54	115.7	6.7	**0.0033**	0.008	229.6	mg/L	139	Standard
|	**Fe**	57	141.7	12.4	**0.0727**	0.068	94.2	mg/L	83	Standard
⌊>	**Sc-1**	45	21990.9	0.7				mg/L	23513	Standard
	Cl	35	3.3	91.7				ug/L	3	Standard
	Kr	83	2.7	57.3				ug/L	2	Standard
	Br	81	1036.7	6.8				ug/L	910	Standard
	P	31	68.3	8.4				ug/L	85	Standard
	S	34	46.7	16.4				ug/L	48	Standard
	Sr	88	86.7	27.3				ug/L	72	Standard
	C	12	270.0	22.5				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	32.1	18.0				mg/L	22	Standard
	Ho-1	165	25.0	40.0				mg/L	22	Standard
	Er	166	26.7	94.4				mg/L	23	Standard
	I	127	10143.4	3.9				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		83.821	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		88.789	
|	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	93.502
|	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	89.263
⌈	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: L1610000510
Sample Date/Time: Wednesday, October 12, 2016 19:16:57
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: BKT 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	59695.7	1.6				ug/L	72553	Standard
	Be	9	3.3	173.2	**-0.0122**	0.008	64.4	ug/L	10	Standard
	Al	27	10463.6	4.3	**0.1222**	0.006	5.0	ug/L	232	Standard
	Sc	45	21248.2	3.5				ug/L	23513	Standard
	Ti	47	26.7	14.2	**-0.0657**	0.025	37.6	ug/L	36	Standard
	V	51	8446.5	3.1	**1.3122**	0.048	3.6	ug/L	1387	Standard
	Cr	52	14067.9	2.1	**1.4112**	0.038	2.7	ug/L	7813	Standard
	Cr	53	1690.1	9.2	**0.6414**	0.188	29.3	ug/L	1410	Standard
	Mn	55	6805.5	1.3	**0.6093**	0.008	1.2	ug/L	1043	Standard
	Co	59	10521.0	1.9	**1.3108**	0.009	0.7	ug/L	198	Standard
	Ni	60	4315.6	3.6	**2.4609**	0.047	1.9	ug/L	64	Standard
	Cu	65	2967.6	2.9	**1.5654**	0.060	3.8	ug/L	122	Standard
	Zn	66	7016.6	2.0	**6.5966**	0.052	0.8	ug/L	209	Standard
>	Ge	72	552295.4	1.7				ug/L	618040	Standard
	As	75	788.5	9.2	**0.8229**	0.058	7.0	ug/L	11	Standard
	Se	82	60.0	11.9	**0.5013**	0.066	13.2	ug/L	21	Standard
	Se-1	77	95.3	0.6	**0.1958**	0.034	17.4	ug/L	86	Standard
>	Ga	71	15.0	88.2				mg/L	13	Standard
	Rb	85	45.0	19.2				ug/L	18	Standard
	Y	89	417026.0	2.0				ug/L	463757	Standard
>	Rh	103	20.0	50.0				ug/L	12	Standard
	Mo	98	131.1	7.3	**0.0319**	0.003	8.1	ug/L	29	Standard
	Ag	107	3349.7	3.8	**0.5188**	0.014	2.7	ug/L	101	Standard
	Cd	111	548.5	3.4	**0.2686**	0.013	5.0	mg/L	9	Standard
	Cd	114	1267.3	9.1	**0.2408**	0.018	7.5	ug/L	47	Standard
>	In	115	725842.9	1.7				ug/L	765457	Standard
	Sn	118	102.3	12.4	**-0.0609**	0.010	17.1	ug/L	168	Standard
	Sb	123	1484.2	3.3	**0.2778**	0.005	1.6	ug/L	332	Standard
	Ba	135	2146.5	0.9	**0.8284**	0.008	1.0	ug/L	37	Standard
	Ce	140	113.3	6.7				ug/L	895	Standard
>	Tb	159	1368175.3	1.1				ug/L	1511047	Standard
	Ho	165	23.3	65.5				ug/L	22	Standard
	Tl	203	1070.0	2.3	**0.1056**	0.002	1.9	ug/L	14	Standard
	Tl	205	2316.8	6.9	**0.0964**	0.008	8.0	ug/L	27	Standard
	Pb	206	4903.5	0.8	**0.5634**	0.011	2.0	ug/L	557	Standard
	Pb	207	4307.6	1.2	**0.5659**	0.003	0.5	ug/L	432	Standard
	Pb	208	19732.4	1.0	**0.5702**	0.004	0.6	ug/L	2118	Standard
	U	238	29363.4	0.5	**1.0599**	0.015	1.5	ug/L	78	Standard
>	Bi	209	705680.8	1.0				ug/L	791817	Standard

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⌈	**Na**	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	58.3	34.6	**0.0472**	0.048	101.1	mg/L	48	Standard
|	**K**	39	6.7	114.6	**0.0639**	0.120	187.3	mg/L	3	Standard
|	**Ca**	43	41.7	30.2	**-2.1185**	4.452	210.2	mg/L	62	Standard
|	**Fe**	54	138.4	29.5	**0.0316**	0.039	124.8	mg/L	139	Standard
|	**Fe**	57	136.7	10.6	**0.0712**	0.047	66.4	mg/L	83	Standard
⌊>	**Sc-1**	45	21248.2	3.5				mg/L	23513	Standard
	Cl	35	0.7	173.2				ug/L	3	Standard
	Kr	83	3.3	124.9				ug/L	2	Standard
	Br	81	1206.7	14.6				ug/L	910	Standard
	P	31	38.3	7.5				ug/L	85	Standard
	S	34	36.7	20.8				ug/L	48	Standard
	Sr	88	96.7	29.9				ug/L	72	Standard
	C	12	200.0	22.9				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	5.2	103.4				mg/L	22	Standard
	Ho-1	165	23.3	65.5				mg/L	22	Standard
	Er	166	30.0	57.7				mg/L	23	Standard
	I	127	9986.6	0.3				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		82.278	
|	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		89.362	
|	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	94.825
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	89.122
⌈	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: L1610038906
Sample Date/Time: Wednesday, October 12, 2016 19:19:57
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: BKT 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	58339.0	5.9				ug/L	72553	Standard
	Be	9	688.3	12.7	**0.9274**	0.063	6.8	ug/L	10	Standard
	Al	27	155248389.4	2.6	**1911.3627**	62.705	3.3	ug/L	232	Standard
	Sc	45	27646.9	1.9				ug/L	23513	Standard
	Ti	47	7791.0	2.8	**53.5244**	2.041	3.8	ug/L	36	Standard
	V	51	258798.0	0.9	**49.9820**	0.610	1.2	ug/L	1387	Standard
	Cr	52	417083.1	1.0	**84.6115**	0.929	1.1	ug/L	7813	Standard
	Cr	53	52748.3	0.7	**82.5987**	1.281	1.6	ug/L	1410	Standard
	Mn	55	3377831.2	0.9	**408.9112**	10.348	2.5	ug/L	1043	Standard
	Co	59	18973.2	1.2	**2.5675**	0.083	3.2	ug/L	198	Standard
	Ni	60	129188.8	0.6	**80.6603**	1.462	1.8	ug/L	64	Standard
	Cu	65	20304.3	0.8	**12.2117**	0.161	1.3	ug/L	122	Standard
	Zn	66	258725.3	0.7	**293.9516**	4.269	1.5	ug/L	209	Standard
>	Ge	72	512212.1	2.1				ug/L	618040	Standard
	As	75	10343.1	1.4	**11.1103**	0.097	0.9	ug/L	11	Standard
	Se	82	477.1	3.9	**5.3258**	0.320	6.0	ug/L	21	Standard
	Se-1	77	407.7	5.8	**5.7279**	0.279	4.9	ug/L	86	Standard
>	Ga	71	11290.9	1.6				mg/L	13	Standard
	Rb	85	99089.6	0.9				ug/L	18	Standard
	Y	89	1446343.5	1.5				ug/L	463757	Standard
>	Rh	103	45.0	19.2				ug/L	12	Standard
	Mo	98	50428.8	1.9	**16.4303**	0.163	1.0	ug/L	29	Standard
	Ag	107	1583.7	3.6	**0.2731**	0.013	4.9	ug/L	101	Standard
	Cd	111	8724.2	3.1	**4.9507**	0.048	1.0	mg/L	9	Standard
	Cd	114	22334.1	5.0	**4.8506**	0.148	3.1	ug/L	47	Standard
>	In	115	636130.6	2.1				ug/L	765457	Standard
	Sn	118	212.0	5.8	**0.0596**	0.016	27.2	ug/L	168	Standard
	Sb	123	350.4	9.5	**0.0775**	0.009	11.2	ug/L	332	Standard
	Ba	135	84329.0	1.1	**38.2117**	0.484	1.3	ug/L	37	Standard
	Ce	140	1310612.8	2.0				ug/L	895	Standard
>	Tb	159	1318918.7	0.6				ug/L	1511047	Standard
	Ho	165	75112.4	1.3				ug/L	22	Standard
	Tl	203	8890.6	2.8	**1.0235**	0.018	1.8	ug/L	14	Standard
	Tl	205	20757.5	1.3	**1.0335**	0.008	0.8	ug/L	27	Standard
	Pb	206	60335.6	2.7	**9.1025**	0.169	1.9	ug/L	557	Standard
	Pb	207	32650.5	1.4	**5.5667**	0.101	1.8	ug/L	432	Standard
	Pb	208	173504.6	2.3	**6.5385**	0.080	1.2	ug/L	2118	Standard
	U	238	279140.3	2.2	**11.7342**	0.062	0.5	ug/L	78	Standard
>	Bi	209	605769.9	2.1				ug/L	791817	Standard

Sample ID: L1610038906
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⌈	**Na**	23	870.0	9.8	**211.5740**	20.729	9.8	mg/L	5	Standard
|	**Mg**	24	395.0	4.4	**0.5788**	0.035	6.1	mg/L	48	Standard
|	**K**	39	70.0	28.6	**0.8400**	0.263	31.3	mg/L	3	Standard
|	**Ca**	43	1043.4	12.4	**303.7490**	42.853	14.1	mg/L	62	Standard
|	**Fe**	54	7937.3	2.7	**6.5244**	0.093	1.4	mg/L	139	Standard
|	**Fe**	57	3500.4	6.6	**9.9770**	0.602	6.0	mg/L	83	Standard
⌊>	**Sc-1**	45	27646.9	1.9				mg/L	23513	Standard
	Cl	35	4.0	50.0				ug/L	3	Standard
	Kr	83	3.7	15.7				ug/L	2	Standard
	Br	81	1343.4	15.9				ug/L	910	Standard
	P	31	56.7	5.1				ug/L	85	Standard
	S	34	40.0	25.0				ug/L	48	Standard
	Sr	88	203.3	6.2				ug/L	72	Standard
	C	12	920.0	10.5				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	230.0	24.2				mg/L	7	Standard
	Dy	164	95409.0	0.5				mg/L	22	Standard
	Ho-1	165	75112.4	1.3				mg/L	22	Standard
	Er	166	74526.2	1.3				mg/L	23	Standard
	I	127	18608.1	2.8				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		80.408	
|	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		82.877	
|	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	83.105
|	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	76.504
⌈	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	
Zn 66 Upper, S, EEE	Zn	66	

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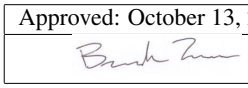

Method 6020 - Summary Report

Sample ID: L1610038908
Sample Date/Time: Wednesday, October 12, 2016 19:22:56
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: BKT 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	54839.1	1.0				ug/L	72553	Standard
	Be	9	775.0	6.5	**1.1170**	0.072	6.5	ug/L	10	Standard
	Al	27	84014687.7	1.0	**1098.9873**	10.888	1.0	ug/L	232	Standard
	Sc	45	27880.7	4.8				ug/L	23513	Standard
	Ti	47	6524.7	1.6	**43.5731**	0.827	1.9	ug/L	36	Standard
	V	51	271959.4	1.0	**51.1196**	0.305	0.6	ug/L	1387	Standard
	Cr	52	269949.0	0.9	**52.8239**	0.433	0.8	ug/L	7813	Standard
	Cr	53	33834.4	1.5	**50.8557**	0.534	1.1	ug/L	1410	Standard
	Mn	55	3091906.2	1.5	**364.1831**	4.889	1.3	ug/L	1043	Standard
	Co	59	34678.0	1.4	**4.5799**	0.027	0.6	ug/L	198	Standard
	Ni	60	135575.6	1.0	**82.3723**	0.584	0.7	ug/L	64	Standard
	Cu	65	44992.7	0.8	**26.4543**	0.051	0.2	ug/L	122	Standard
	Zn	66	302440.8	0.7	**334.5045**	0.999	0.3	ug/L	209	Standard
>	Ge	72	526247.4	1.0				ug/L	618040	Standard
	As	75	10763.3	0.3	**11.2524**	0.142	1.3	ug/L	11	Standard
	Se	82	485.6	1.5	**5.2711**	0.065	1.2	ug/L	21	Standard
	Se-1	77	430.7	3.9	**5.9296**	0.213	3.6	ug/L	86	Standard
>	Ga	71	8949.3	2.8				mg/L	13	Standard
	Rb	85	77236.4	1.0				ug/L	18	Standard
	Y	89	1620765.3	0.5				ug/L	463757	Standard
>	Rh	103	75.0	34.6				ug/L	12	Standard
	Mo	98	29359.4	0.8	**9.5789**	0.066	0.7	ug/L	29	Standard
	Ag	107	2354.2	1.3	**0.4139**	0.007	1.8	ug/L	101	Standard
	Cd	111	18678.3	1.3	**10.6238**	0.088	0.8	mg/L	9	Standard
	Cd	114	47822.5	1.8	**10.4077**	0.138	1.3	ug/L	47	Standard
>	In	115	635051.1	0.5				ug/L	765457	Standard
	Sn	118	356.7	15.4	**0.2022**	0.054	26.5	ug/L	168	Standard
	Sb	123	626.8	3.0	**0.1359**	0.005	3.4	ug/L	332	Standard
	Ba	135	130460.9	0.6	**59.2199**	0.405	0.7	ug/L	37	Standard
	Ce	140	1512535.9	1.1				ug/L	895	Standard
>	Tb	159	1349722.9	0.3				ug/L	1511047	Standard
	Ho	165	93033.1	0.6				ug/L	22	Standard
	Tl	203	5975.2	2.0	**0.6796**	0.020	2.9	ug/L	14	Standard
	Tl	205	13766.3	1.0	**0.6760**	0.011	1.7	ug/L	27	Standard
	Pb	206	75991.8	0.7	**11.3435**	0.061	0.5	ug/L	557	Standard
	Pb	207	46311.7	1.1	**7.8275**	0.099	1.3	ug/L	432	Standard
	Pb	208	236389.0	0.7	**8.8258**	0.045	0.5	ug/L	2118	Standard
	U	238	343051.1	0.1	**14.2456**	0.115	0.8	ug/L	78	Standard
>	Bi	209	613245.5	0.9				ug/L	791817	Standard

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⌈	**Na**	23	563.3	9.2	**136.2683**	18.735	13.7	mg/L	5	Standard
|	**Mg**	24	356.7	2.9	**0.5102**	0.026	5.1	mg/L	48	Standard
|	**K**	39	50.0	0.0	**0.5815**	0.029	5.0	mg/L	3	Standard
|	**Ca**	43	703.3	6.0	**196.7281**	10.334	5.3	mg/L	62	Standard
|	**Fe**	54	9506.7	3.6	**7.7794**	0.351	4.5	mg/L	139	Standard
|	**Fe**	57	3673.8	5.8	**10.4013**	0.109	1.0	mg/L	83	Standard
⌊>	**Sc-1**	45	27880.7	4.8				mg/L	23513	Standard
	Cl	35	2.7	86.6				ug/L	3	Standard
	Kr	83	3.7	41.7				ug/L	2	Standard
	Br	81	1253.4	7.2				ug/L	910	Standard
	P	31	50.0	17.3				ug/L	85	Standard
	S	34	46.7	60.9				ug/L	48	Standard
	Sr	88	205.0	25.7				ug/L	72	Standard
	C	12	593.3	12.7				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	290.0	21.5				mg/L	7	Standard
	Dy	164	123610.4	3.2				mg/L	22	Standard
	Ho-1	165	93033.1	0.6				mg/L	22	Standard
	Er	166	87890.9	1.9				mg/L	23	Standard
	I	127	20654.1	3.3				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		75.584	
|	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		85.148	
|	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	82.964
	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	77.448
	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	
Zn 66 Upper, S, EEE	Zn	66	

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Method 6020 - Summary Report

Sample ID: L1610038910
Sample Date/Time: Wednesday, October 12, 2016 19:25:56
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: BKT 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	57316.7	4.1				ug/L	72553	Standard
	Be	9	765.0	7.7	**1.0566**	0.112	10.6	ug/L	10	Standard
	Al	27	1313265.6	1.8	**16.4508**	0.740	4.5	ug/L	232	Standard
	Sc	45	30064.8	1.0				ug/L	23513	Standard
	Ti	47	4578.0	1.6	**30.7675**	0.226	0.7	ug/L	36	Standard
	V	51	86053.2	1.9	**16.1758**	0.287	1.8	ug/L	1387	Standard
	Cr	52	95476.2	0.8	**18.0259**	0.118	0.7	ug/L	7813	Standard
	Cr	53	12204.9	2.6	**17.3193**	0.521	3.0	ug/L	1410	Standard
	Mn	55	3361256.8	0.7	**399.4090**	5.595	1.4	ug/L	1043	Standard
	Co	59	20625.7	0.5	**2.7406**	0.025	0.9	ug/L	198	Standard
	Ni	60	104698.2	1.3	**64.1571**	0.221	0.3	ug/L	64	Standard
	Cu	65	23242.8	2.4	**13.7342**	0.202	1.5	ug/L	122	Standard
	Zn	66	203668.8	1.1	**226.9621**	0.545	0.2	ug/L	209	Standard
>	Ge	72	521688.8	1.0				ug/L	618040	Standard
	As	75	5404.8	1.0	**5.7196**	0.004	0.1	ug/L	11	Standard
	Se	82	157.6	7.2	**1.6337**	0.110	6.7	ug/L	21	Standard
	Se-1	77	283.7	1.7	**3.4918**	0.081	2.3	ug/L	86	Standard
>	Ga	71	10021.6	2.5				mg/L	13	Standard
	Rb	85	81190.3	1.7				ug/L	18	Standard
	Y	89	2284238.3	2.3				ug/L	463757	Standard
>	Rh	103	28.3	36.7				ug/L	12	Standard
	Mo	98	5494.8	1.0	**1.6613**	0.006	0.4	ug/L	29	Standard
	Ag	107	1294.7	2.7	**0.2042**	0.004	2.1	ug/L	101	Standard
	Cd	111	15266.3	0.8	**8.0684**	0.135	1.7	mg/L	9	Standard
	Cd	114	38724.9	1.8	**7.8314**	0.114	1.5	ug/L	47	Standard
>	In	115	683453.1	1.4				ug/L	765457	Standard
	Sn	118	418.7	3.4	**0.2340**	0.008	3.6	ug/L	168	Standard
	Sb	123	627.2	2.9	**0.1266**	0.002	1.4	ug/L	332	Standard
	Ba	135	184215.5	0.6	**77.7177**	1.401	1.8	ug/L	37	Standard
	Ce	140	2187754.2	1.6				ug/L	895	Standard
>	Tb	159	1428474.9	3.2				ug/L	1511047	Standard
	Ho	165	155201.0	1.9				ug/L	22	Standard
	Tl	203	6931.3	1.4	**0.7403**	0.016	2.1	ug/L	14	Standard
	Tl	205	15935.0	3.7	**0.7353**	0.032	4.3	ug/L	27	Standard
	Pb	206	75544.9	0.9	**10.5867**	0.145	1.4	ug/L	557	Standard
	Pb	207	52703.5	0.5	**8.3716**	0.102	1.2	ug/L	432	Standard
	Pb	208	259902.6	0.6	**9.1167**	0.095	1.0	ug/L	2118	Standard
	U	238	216126.9	1.8	**8.4291**	0.119	1.4	ug/L	78	Standard
>	Bi	209	652921.9	0.7				ug/L	791817	Standard

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	Na	23	70.0	0.0	**15.2300**	0.150	1.0	mg/L	5	Standard
	Mg	24	171.7	14.9	**0.1827**	0.037	20.4	mg/L	48	Standard
	K	39	45.0	19.2	**0.4769**	0.095	19.9	mg/L	3	Standard
	Ca	43	140.0	47.2	**20.8968**	18.504	88.6	mg/L	62	Standard
	Fe	54	6988.8	4.6	**5.2625**	0.298	5.7	mg/L	139	Standard
	Fe	57	2283.5	5.1	**5.8021**	0.283	4.9	mg/L	83	Standard
>	**Sc-1**	45	30064.8	1.0				mg/L	23513	Standard
	Cl	35	3.3	124.9				ug/L	3	Standard
	Kr	83	3.3	34.6				ug/L	2	Standard
	Br	81	1143.4	10.5				ug/L	910	Standard
	P	31	66.7	30.3				ug/L	85	Standard
	S	34	40.0	43.3				ug/L	48	Standard
	Sr	88	171.7	13.1				ug/L	72	Standard
	C	12	253.3	28.6				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	226.7	6.7				mg/L	7	Standard
	Dy	164	206167.5	1.3				mg/L	22	Standard
	Ho-1	165	155201.0	1.9				mg/L	22	Standard
	Er	166	146309.7	1.1				mg/L	23	Standard
	I	127	20844.4	5.5				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		78.999	
	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		84.410	
	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	89.287
|	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	82.459
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

Sample ID: L1610038910
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Method 6020 - Summary Report

Sample ID: L1610038912
Sample Date/Time: Wednesday, October 12, 2016 19:28:55
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: BKT 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	56813.0	2.2				ug/L	72553	Standard
	Be	9	430.0	3.1	**0.5905**	0.017	2.8	ug/L	10	Standard
	Al	27	1286471.1	1.9	**16.2417**	0.285	1.8	ug/L	232	Standard
	Sc	45	25514.8	1.2				ug/L	23513	Standard
	Ti	47	2514.9	1.2	**16.8689**	0.499	3.0	ug/L	36	Standard
	V	51	88377.4	2.5	**16.6884**	0.535	3.2	ug/L	1387	Standard
	Cr	52	113797.4	0.4	**21.8274**	0.593	2.7	ug/L	7813	Standard
	Cr	53	14618.7	2.0	**21.2094**	0.675	3.2	ug/L	1410	Standard
	Mn	55	1809143.9	1.7	**215.8465**	8.369	3.9	ug/L	1043	Standard
	Co	59	19007.9	0.9	**2.5352**	0.082	3.3	ug/L	198	Standard
	Ni	60	66418.9	1.0	**40.8657**	1.335	3.3	ug/L	64	Standard
	Cu	65	15539.6	0.6	**9.1876**	0.204	2.2	ug/L	122	Standard
	Zn	66	167146.2	0.3	**186.9034**	3.985	2.1	ug/L	209	Standard
>	Ge	72	519680.9	2.4				ug/L	618040	Standard
	As	75	6230.0	1.4	**6.6145**	0.186	2.8	ug/L	11	Standard
	Se	82	133.1	1.1	**1.3655**	0.031	2.3	ug/L	21	Standard
	Se-1	77	170.7	13.4	**1.5776**	0.371	23.5	ug/L	86	Standard
>	Ga	71	4835.8	6.6				mg/L	13	Standard
	Rb	85	57425.3	1.5				ug/L	18	Standard
	Y	89	1130556.7	2.3				ug/L	463757	Standard
>	Rh	103	43.3	35.3				ug/L	12	Standard
	Mo	98	6768.1	2.3	**2.0312**	0.043	2.1	ug/L	29	Standard
	Ag	107	1090.0	4.6	**0.1681**	0.008	4.9	ug/L	101	Standard
	Cd	111	10155.7	3.6	**5.3227**	0.192	3.6	mg/L	9	Standard
	Cd	114	26156.4	0.7	**5.2476**	0.036	0.7	ug/L	47	Standard
>	In	115	688897.6	0.1				ug/L	765457	Standard
	Sn	118	228.3	5.3	**0.0582**	0.011	18.4	ug/L	168	Standard
	Sb	123	776.8	5.4	**0.1548**	0.008	5.3	ug/L	332	Standard
	Ba	135	116467.6	0.4	**48.7307**	0.185	0.4	ug/L	37	Standard
	Ce	140	1090720.1	1.2				ug/L	895	Standard
>	Tb	159	1346989.8	0.7				ug/L	1511047	Standard
	Ho	165	60488.9	1.9				ug/L	22	Standard
	Tl	203	5683.4	1.0	**0.5954**	0.008	1.4	ug/L	14	Standard
	Tl	205	12827.1	1.3	**0.5799**	0.003	0.5	ug/L	27	Standard
	Pb	206	56983.0	1.3	**7.8127**	0.035	0.4	ug/L	557	Standard
	Pb	207	41305.9	0.6	**6.4191**	0.013	0.2	ug/L	432	Standard
	Pb	208	202070.1	0.7	**6.9349**	0.028	0.4	ug/L	2118	Standard
	U	238	91583.3	0.5	**3.5040**	0.011	0.3	ug/L	78	Standard
>	Bi	209	665605.8	0.8				ug/L	791817	Standard

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⌈	**Na**	23	83.3	42.6	**21.4818**	9.132	42.5	mg/L	5	Standard
|	**Mg**	24	163.3	40.8	**0.2154**	0.123	57.2	mg/L	48	Standard
|	**K**	39	43.3	13.3	**0.5481**	0.084	15.3	mg/L	3	Standard
|	**Ca**	43	90.0	11.1	**11.3865**	3.691	32.4	mg/L	62	Standard
|	**Fe**	54	5868.4	2.0	**5.2038**	0.091	1.7	mg/L	139	Standard
|	**Fe**	57	1828.4	2.5	**5.4505**	0.194	3.6	mg/L	83	Standard
⌊>	**Sc-1**	45	25514.8	1.2				mg/L	23513	Standard
	Cl	35	0.0					ug/L	3	Standard
	Kr	83	2.7	43.3				ug/L	2	Standard
	Br	81	2426.9	4.9				ug/L	910	Standard
	P	31	61.7	9.4				ug/L	85	Standard
	S	34	20.0	25.0				ug/L	48	Standard
	Sr	88	133.3	11.5				ug/L	72	Standard
	C	12	273.3	29.6				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	170.0	45.9				mg/L	7	Standard
	Dy	164	85552.6	1.3				mg/L	22	Standard
	Ho-1	165	60488.9	1.9				mg/L	22	Standard
	Er	166	55113.4	1.6				mg/L	23	Standard
	I	127	25309.6	9.9				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		78.305	
|	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		84.085	
|	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	89.998
|	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	84.061
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

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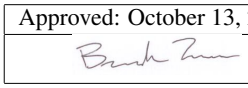

Method 6020 - Summary Report

Sample ID: L1610038914
Sample Date/Time: Wednesday, October 12, 2016 19:31:54
Number of Replicates: 3
Autosampler Position: 222
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	59121.8	1.7				ug/L	72553	Standard
	Be	9	1318.4	6.0	**1.7732**	0.124	7.0	ug/L	10	Standard
	Al	27	4213619.4	0.3	**51.1289**	0.798	1.6	ug/L	232	Standard
	Sc	45	39165.6	1.8				ug/L	23513	Standard
	Ti	47	19155.1	1.7	**134.8190**	1.742	1.3	ug/L	36	Standard
	V	51	229344.5	2.7	**45.2449**	0.939	2.1	ug/L	1387	Standard
	Cr	52	280314.6	1.4	**57.7161**	0.224	0.4	ug/L	7813	Standard
	Cr	53	36046.2	2.6	**57.1146**	1.009	1.8	ug/L	1410	Standard
	Mn	55	4221976.6	1.4	**522.2768**	2.013	0.4	ug/L	1043	Standard
	Co	59	36111.7	1.1	**5.0103**	0.004	0.1	ug/L	198	Standard
	Ni	60	173833.3	1.6	**110.9310**	1.887	1.7	ug/L	64	Standard
	Cu	65	32492.1	1.2	**20.0372**	0.146	0.7	ug/L	122	Standard
	Zn	66	422278.5	1.8	**490.8203**	3.908	0.8	ug/L	209	Standard
>	Ge	72	501113.6	1.1				ug/L	618040	Standard
	As	75	11530.3	1.1	**12.6528**	0.037	0.3	ug/L	11	Standard
	Se	82	380.6	3.9	**4.3137**	0.147	3.4	ug/L	21	Standard
	Se-1	77	525.7	1.4	**7.9807**	0.217	2.7	ug/L	86	Standard
>	Ga	71	25975.6	2.2				mg/L	13	Standard
	Rb	85	198809.3	1.2				ug/L	18	Standard
	Y	89	4837438.7	0.9				ug/L	463757	Standard
>	Rh	103	175.0	8.6				ug/L	12	Standard
	Mo	98	32198.7	0.1	**9.6679**	0.075	0.8	ug/L	29	Standard
	Ag	107	2983.6	0.5	**0.4852**	0.003	0.5	ug/L	101	Standard
	Cd	111	27635.1	2.3	**14.4659**	0.240	1.7	mg/L	9	Standard
	Cd	114	69148.9	2.9	**13.8481**	0.298	2.1	ug/L	47	Standard
>	In	115	690087.7	0.8				ug/L	765457	Standard
	Sn	118	1070.7	2.3	**0.8214**	0.015	1.8	ug/L	168	Standard
	Sb	123	2000.6	2.4	**0.3924**	0.006	1.6	ug/L	332	Standard
	Ba	135	254621.3	0.5	**106.3879**	1.373	1.3	ug/L	37	Standard
	Ce	140	4482855.1	1.1				ug/L	895	Standard
>	Tb	159	1491920.0	1.5				ug/L	1511047	Standard
	Ho	165	298195.8	0.5				ug/L	22	Standard
	Tl	203	11011.3	1.5	**1.2201**	0.011	0.9	ug/L	14	Standard
	Tl	205	26182.6	1.2	**1.2552**	0.007	0.6	ug/L	27	Standard
	Pb	206	140557.4	1.3	**20.5053**	0.202	1.0	ug/L	557	Standard
	Pb	207	73847.5	1.1	**12.2015**	0.070	0.6	ug/L	432	Standard
	Pb	208	392964.0	1.2	**14.3424**	0.102	0.7	ug/L	2118	Standard
	U	238	1447822.6	1.0	**58.5789**	0.236	0.4	ug/L	78	Standard
>	Bi	209	629357.7	0.6				ug/L	791817	Standard

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⌈	**Na**	23	350.0	7.6	**59.8111**	5.462	9.1	mg/L	5	Standard
|	**Mg**	24	455.0	1.1	**0.4554**	0.008	1.7	mg/L	48	Standard
|	**K**	39	95.0	15.8	**0.8000**	0.130	16.2	mg/L	3	Standard
|	**Ca**	43	460.0	8.9	**81.6157**	10.132	12.4	mg/L	62	Standard
|	**Fe**	54	12112.3	2.5	**7.0402**	0.260	3.7	mg/L	139	Standard
|	**Fe**	57	3888.8	6.0	**7.7232**	0.345	4.5	mg/L	83	Standard
⌊>	**Sc-1**	45	39165.6	1.8				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	3.0	0.0				ug/L	2	Standard
	Br	81	1793.4	8.9				ug/L	910	Standard
	P	31	36.7	28.4				ug/L	85	Standard
	S	34	30.0	28.9				ug/L	48	Standard
	Sr	88	443.3	3.4				ug/L	72	Standard
	C	12	266.7	26.3				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	400.0	38.8				mg/L	7	Standard
	Dy	164	393121.8	2.7				mg/L	22	Standard
	Ho-1	165	298195.8	0.5				mg/L	22	Standard
	Er	166	292143.5	1.8				mg/L	23	Standard
	I	127	30929.9	4.2				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		81.487	
|	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		81.081	
|	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	90.154
|	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	79.483
⌈	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
Ti 47 Upper, S, EEE	Ti	47	
Mn 55 Upper, S, EEE	Mn	55	
Ni 60 Upper, S, EEE	Ni	60	

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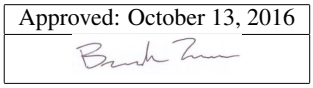

Zn 66 Upper, S, EEE	Zn	66
Ba 135 Upper, S, EEE	Ba	135

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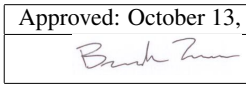

Method 6020 - Summary Report

Sample ID: L1610038916
Sample Date/Time: Wednesday, October 12, 2016 19:34:54
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: BKT 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	56931.8	2.9				ug/L	72553	Standard
	Be	9	303.3	12.5	**0.4119**	0.065	15.7	ug/L	10	Standard
	Al	27	149650984.9	2.4	**1885.7303**	11.348	0.6	ug/L	232	Standard
	Sc	45	25361.2	1.6				ug/L	23513	Standard
	Ti	47	6958.3	1.5	**49.5328**	0.644	1.3	ug/L	36	Standard
	V	51	429789.7	0.4	**86.2073**	0.477	0.6	ug/L	1387	Standard
	Cr	52	380382.3	0.3	**79.9358**	0.385	0.5	ug/L	7813	Standard
	Cr	53	48803.5	1.3	**79.1518**	1.055	1.3	ug/L	1410	Standard
	Mn	55	3383569.9	0.3	**424.6045**	2.080	0.5	ug/L	1043	Standard
	Co	59	15477.9	1.4	**2.1680**	0.026	1.2	ug/L	198	Standard
	Ni	60	145182.3	0.9	**93.9771**	0.762	0.8	ug/L	64	Standard
	Cu	65	14626.4	0.5	**9.0938**	0.064	0.7	ug/L	122	Standard
	Zn	66	351148.5	0.1	**413.9455**	1.318	0.3	ug/L	209	Standard
>	Ge	72	493966.0	0.2				ug/L	618040	Standard
	As	75	8993.9	1.7	**10.0211**	0.189	1.9	ug/L	11	Standard
	Se	82	610.3	4.7	**7.1041**	0.357	5.0	ug/L	21	Standard
	Se-1	77	461.3	4.0	**6.9570**	0.321	4.6	ug/L	86	Standard
>	Ga	71	4912.5	2.4				mg/L	13	Standard
	Rb	85	32583.3	2.2				ug/L	18	Standard
	Y	89	1369259.7	1.2				ug/L	463757	Standard
>	Rh	103	83.3	6.9				ug/L	12	Standard
	Mo	98	60825.6	1.8	**20.2770**	0.174	0.9	ug/L	29	Standard
	Ag	107	1254.4	2.8	**0.2185**	0.009	4.1	ug/L	101	Standard
	Cd	111	18676.5	1.7	**10.8511**	0.085	0.8	mg/L	9	Standard
	Cd	114	47175.1	3.1	**10.4877**	0.294	2.8	ug/L	47	Standard
>	In	115	621682.2	1.0				ug/L	765457	Standard
	Sn	118	372.0	3.2	**0.2253**	0.016	6.9	ug/L	168	Standard
	Sb	123	1978.4	0.8	**0.4304**	0.003	0.7	ug/L	332	Standard
	Ba	135	67368.4	0.8	**31.2267**	0.137	0.4	ug/L	37	Standard
	Ce	140	986448.3	2.2				ug/L	895	Standard
>	Tb	159	1277955.2	2.0				ug/L	1511047	Standard
	Ho	165	68362.2	1.4				ug/L	22	Standard
	Tl	203	6675.1	2.0	**0.7985**	0.016	2.0	ug/L	14	Standard
	Tl	205	15766.5	2.5	**0.8150**	0.019	2.4	ug/L	27	Standard
	Pb	206	59404.9	0.4	**9.3144**	0.033	0.4	ug/L	557	Standard
	Pb	207	22625.9	1.0	**3.9876**	0.053	1.3	ug/L	432	Standard
	Pb	208	135325.7	0.3	**5.2849**	0.020	0.4	ug/L	2118	Standard
	U	238	534556.7	0.4	**23.3504**	0.052	0.2	ug/L	78	Standard
>	Bi	209	582957.3	0.6				ug/L	791817	Standard

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⌈	**Na**	23	798.4	18.4	**211.3716**	37.021	17.5	mg/L	5	Standard
|	**Mg**	24	408.3	13.8	**0.6628**	0.110	16.6	mg/L	48	Standard
|	**K**	39	25.0	0.0	**0.2999**	0.005	1.8	mg/L	3	Standard
|	**Ca**	43	1000.0	4.8	**318.1713**	20.806	6.5	mg/L	62	Standard
|	**Fe**	54	4807.0	3.7	**4.2684**	0.179	4.2	mg/L	139	Standard
|	**Fe**	57	2505.2	2.4	**7.6883**	0.315	4.1	mg/L	83	Standard
⌊>	**Sc-1**	45	25361.2	1.6				mg/L	23513	Standard
	Cl	35	3.3	69.3				ug/L	3	Standard
	Kr	83	2.3	49.5				ug/L	2	Standard
	Br	81	1100.0	6.3				ug/L	910	Standard
	P	31	58.3	21.6				ug/L	85	Standard
	S	34	36.7	51.6				ug/L	48	Standard
	Sr	88	191.7	12.9				ug/L	72	Standard
	C	12	1050.0	6.9				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	106.7	23.6				mg/L	7	Standard
	Dy	164	87703.6	2.0				mg/L	22	Standard
	Ho-1	165	68362.2	1.4				mg/L	22	Standard
	Er	166	66348.3	2.3				mg/L	23	Standard
	I	127	20375.4	1.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		78.469	
|	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		79.925	
|	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	81.217
|	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	73.623
⌈	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	
Zn 66 Upper, S, EEE	Zn	66	

Sample ID: L1610038916
Report Date/Time: Wednesday, October 12, 2016 19:36:59
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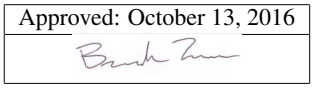

Method 6020 - Summary Report

Sample ID: L1610038918
Sample Date/Time: Wednesday, October 12, 2016 19:37:53
Number of Replicates: 3
Autosampler Position: 224
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	53914.1	2.9				ug/L	72553	Standard
	Be	9	261.7	26.8	**0.3721**	0.103	27.6	ug/L	10	Standard
	Al	27	143677464.1	1.2	**1912.7781**	64.377	3.4	ug/L	232	Standard
	Sc	45	24666.8	4.7				ug/L	23513	Standard
	Ti	47	6294.3	4.6	**44.0456**	2.873	6.5	ug/L	36	Standard
	V	51	212426.0	1.6	**41.7725**	0.460	1.1	ug/L	1387	Standard
	Cr	52	323491.9	0.2	**66.6158**	1.076	1.6	ug/L	7813	Standard
	Cr	53	41558.6	2.9	**65.9347**	1.155	1.8	ug/L	1410	Standard
	Mn	55	2912697.2	0.8	**359.2526**	3.637	1.0	ug/L	1043	Standard
	Co	59	18127.5	0.8	**2.4987**	0.034	1.4	ug/L	198	Standard
	Ni	60	96297.7	0.7	**61.2603**	0.894	1.5	ug/L	64	Standard
	Cu	65	16085.9	2.8	**9.8366**	0.113	1.1	ug/L	122	Standard
	Zn	66	220937.3	1.3	**255.6785**	1.379	0.5	ug/L	209	Standard
>	Ge	72	502599.0	1.8				ug/L	618040	Standard
	As	75	5096.6	3.3	**5.5984**	0.104	1.9	ug/L	11	Standard
	Se	82	289.0	0.9	**3.2350**	0.090	2.8	ug/L	21	Standard
	Se-1	77	263.7	9.5	**3.3279**	0.528	15.9	ug/L	86	Standard
>	Ga	71	5014.2	5.0				mg/L	13	Standard
	Rb	85	37708.6	2.8				ug/L	18	Standard
	Y	89	1193817.4	2.8				ug/L	463757	Standard
>	Rh	103	66.7	35.4				ug/L	12	Standard
	Mo	98	28928.8	2.3	**9.8651**	0.120	1.2	ug/L	29	Standard
	Ag	107	1452.1	3.7	**0.2614**	0.004	1.7	ug/L	101	Standard
	Cd	111	17477.8	2.0	**10.3905**	0.050	0.5	mg/L	9	Standard
	Cd	114	43235.3	3.2	**9.8332**	0.100	1.0	ug/L	47	Standard
>	In	115	607627.4	2.4				ug/L	765457	Standard
	Sn	118	299.0	9.1	**0.1584**	0.021	12.9	ug/L	168	Standard
	Sb	123	1132.5	3.5	**0.2537**	0.014	5.5	ug/L	332	Standard
	Ba	135	64236.6	1.8	**30.4653**	0.203	0.7	ug/L	37	Standard
	Ce	140	732321.1	2.3				ug/L	895	Standard
>	Tb	159	1292043.5	1.3				ug/L	1511047	Standard
	Ho	165	50943.9	2.2				ug/L	22	Standard
	Tl	203	4796.4	1.4	**0.5717**	0.005	0.9	ug/L	14	Standard
	Tl	205	10873.9	1.6	**0.5592**	0.007	1.3	ug/L	27	Standard
	Pb	206	34591.4	0.8	**5.3729**	0.012	0.2	ug/L	557	Standard
	Pb	207	17119.7	2.6	**2.9887**	0.062	2.1	ug/L	432	Standard
	Pb	208	92398.0	1.3	**3.5719**	0.028	0.8	ug/L	2118	Standard
	U	238	236538.5	0.9	**10.2973**	0.071	0.7	ug/L	78	Standard
>	Bi	209	584949.6	0.6				ug/L	791817	Standard

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⌈	**Na**	23	795.0	6.4	**217.1334**	19.662	9.1	mg/L	5	Standard
|	**Mg**	24	368.3	12.2	**0.6068**	0.055	9.0	mg/L	48	Standard
|	**K**	39	45.0	29.4	**0.5980**	0.212	35.4	mg/L	3	Standard
|	**Ca**	43	1045.0	17.5	**341.8086**	48.948	14.3	mg/L	62	Standard
|	**Fe**	54	3380.0	3.6	**3.0605**	0.257	8.4	mg/L	139	Standard
|	**Fe**	57	2036.8	2.4	**6.3574**	0.312	4.9	mg/L	83	Standard
⌊>	**Sc-1**	45	24666.8	4.7				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	4.0	25.0				ug/L	2	Standard
	Br	81	1293.4	10.8				ug/L	910	Standard
	P	31	63.3	24.1				ug/L	85	Standard
	S	34	46.7	22.3				ug/L	48	Standard
	Sr	88	200.0	15.6				ug/L	72	Standard
	C	12	800.0	5.7				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	196.7	15.5				mg/L	7	Standard
	Dy	164	65432.6	1.5				mg/L	22	Standard
	Ho-1	165	50943.9	2.2				mg/L	22	Standard
	Er	166	51407.1	2.1				mg/L	23	Standard
	I	127	20203.5	0.8				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		74.310	
|	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		81.321	
|	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	79.381
|	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	73.874
⌈	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	
Zn 66 Upper, S, EEE	Zn	66	

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, October 12, 2016 19:40:54
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	51649.8	6.2				ug/L	72553	Standard
	Be	9	32401.3	0.9	**50.4195**	2.572	5.1	ug/L	10	Standard
	Al	27	3640690.5	3.7	**50.6116**	1.407	2.8	ug/L	232	Standard
	Sc	45	19886.4	7.9				ug/L	23513	Standard
	Ti	47	14333.8	0.7	**100.3283**	3.448	3.4	ug/L	36	Standard
	V	51	253417.3	2.8	**49.7424**	0.706	1.4	ug/L	1387	Standard
	Cr	52	241463.8	2.8	**49.2616**	0.636	1.3	ug/L	7813	Standard
	Cr	53	30181.7	2.1	**47.2605**	0.967	2.0	ug/L	1410	Standard
	Mn	55	394942.9	1.8	**48.4629**	1.215	2.5	ug/L	1043	Standard
	Co	59	347278.1	2.0	**48.0859**	0.918	1.9	ug/L	198	Standard
	Ni	60	76341.9	1.6	**48.4398**	1.107	2.3	ug/L	64	Standard
	Cu	65	78910.7	2.9	**48.5395**	0.469	1.0	ug/L	122	Standard
	Zn	66	42207.4	1.9	**48.0680**	1.056	2.2	ug/L	209	Standard
>	Ge	72	504032.0	3.9				ug/L	618040	Standard
	As	75	44749.2	1.7	**48.7310**	1.059	2.2	ug/L	11	Standard
	Se	82	4165.7	2.0	**48.3049**	0.910	1.9	ug/L	21	Standard
	Se-1	77	2852.6	2.0	**48.9942**	2.647	5.4	ug/L	86	Standard
>	Ga	71	18.3	41.7				mg/L	13	Standard
	Rb	85	696.7	10.7				ug/L	18	Standard
	Y	89	370011.5	3.2				ug/L	463757	Standard
>	Rh	103	18.3	15.7				ug/L	12	Standard
	Mo	98	296012.2	2.3	**98.4142**	4.325	4.4	ug/L	29	Standard
	Ag	107	264895.2	2.2	**49.1318**	2.279	4.6	ug/L	101	Standard
	Cd	111	85466.8	5.3	**49.4669**	1.097	2.2	mg/L	9	Standard
	Cd	114	223593.8	3.8	**49.5324**	1.558	3.1	ug/L	47	Standard
>	In	115	624766.9	6.8				ug/L	765457	Standard
	Sn	118	49829.2	3.9	**49.8160**	1.838	3.7	ug/L	168	Standard
	Sb	123	238076.2	4.8	**51.1724**	1.329	2.6	ug/L	332	Standard
	Ba	135	111492.6	4.6	**51.4958**	1.482	2.9	ug/L	37	Standard
	Ce	140	121.7	10.3				ug/L	895	Standard
>	Tb	159	1236882.6	7.5				ug/L	1511047	Standard
	Ho	165	21.7	35.3				ug/L	22	Standard
	Tl	203	448080.2	3.8	**50.1003**	1.124	2.2	ug/L	14	Standard
	Tl	205	1024027.4	4.7	**49.6263**	0.457	0.9	ug/L	27	Standard
	Pb	206	336638.5	3.6	**49.6511**	0.238	0.5	ug/L	557	Standard
	Pb	207	298585.2	2.8	**50.0020**	0.672	1.3	ug/L	432	Standard
	Pb	208	1344166.6	2.8	**49.6871**	0.649	1.3	ug/L	2118	Standard
	U	238	1214117.3	2.5	**49.5732**	1.045	2.1	ug/L	78	Standard
>	Bi	209	623961.6	4.1				ug/L	791817	Standard

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	Na	23	8.3	34.6	**2.3939**	1.072	44.8	mg/L	5	Standard
	Mg	24	2070.1	11.7	**4.7250**	0.469	9.9	mg/L	48	Standard
	K	39	263.3	13.3	**4.5490**	0.293	6.4	mg/L	3	Standard
	Ca	43	51.7	47.7	**4.0698**	12.887	316.6	mg/L	62	Standard
	Fe	54	4417.2	2.1	**5.0412**	0.389	7.7	mg/L	139	Standard
	Fe	57	1338.4	14.7	**5.0863**	0.608	11.9	mg/L	83	Standard
>	**Sc-1**	45	19886.4	7.9				mg/L	23513	Standard
	Cl	35	2.0	173.2				ug/L	3	Standard
	Kr	83	2.3	24.7				ug/L	2	Standard
	Br	81	893.4	2.3				ug/L	910	Standard
	P	31	53.3	19.5				ug/L	85	Standard
	S	34	41.7	13.9				ug/L	48	Standard
	Sr	88	93.3	29.5				ug/L	72	Standard
	C	12	153.3	15.1				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	86.6				mg/L	7	Standard
	Dy	164	28.6	35.0				mg/L	22	Standard
	Ho-1	165	21.7	35.3				mg/L	22	Standard
	Er	166	30.0	0.0				mg/L	23	Standard
	I	127	6854.9	5.0				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	100.839		
	Al	27	101.223		
	Sc	45			
	Ti	47	100.328		
	V	51	99.485		
	Cr	52	98.523		
	Cr	53			
	Mn	55	96.926		
	Co	59	96.172		
	Ni	60	96.880		
	Cu	65	97.079		
	Zn	66	96.136		
>	Ge	72		81.553	
	As	75	97.462		
	Se	82	96.610		
	Se-1	77			
>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	98.414		
Ag	107	98.264		
Cd	111	98.934		
Cd	114			
In	115			81.620
Sn	118	99.632		
Sb	123	102.345		
Ba	135	102.992		
Ce	140			
Tb	159			
Ho	165			
Tl	203	100.201		
Tl	205			
Pb	206			
Pb	207			
Pb	208	99.374		
U	238	99.146		
Bi	209			78.801
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
Bi 209 Int Std for QC Std	Bi	209	Rerun sample

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, October 12, 2016 19:43:54
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: BKT 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	56724.4	3.6				ug/L	72553	Standard
	Be	9	1.7	173.2	**-0.0145**	0.004	27.4	ug/L	10	Standard
	Al	27	2501.9	3.1	**0.0282**	0.002	7.5	ug/L	232	Standard
	Sc	45	21154.8	1.4				ug/L	23513	Standard
	Ti	47	17.7	13.1	**-0.1187**	0.015	12.4	ug/L	36	Standard
	V	51	1036.5	6.8	**-0.0127**	0.011	85.5	ug/L	1387	Standard
	Cr	52	5707.1	0.2	**-0.1393**	0.016	11.2	ug/L	7813	Standard
	Cr	53	681.7	0.4	**-0.8110**	0.011	1.4	ug/L	1410	Standard
	Mn	55	973.0	1.9	**-0.0410**	0.004	9.2	ug/L	1043	Standard
	Co	59	136.0	7.7	**-0.0007**	0.002	248.9	ug/L	198	Standard
	Ni	60	49.7	13.4	**-0.0081**	0.004	48.0	ug/L	64	Standard
	Cu	65	96.3	2.6	**-0.0476**	0.002	3.7	ug/L	122	Standard
	Zn	66	194.0	2.2	**-0.6020**	0.007	1.1	ug/L	209	Standard
>	Ge	72	529951.0	1.5				ug/L	618040	Standard
	As	75	-1.6	1045.4	**0.0395**	0.017	42.9	ug/L	11	Standard
	Se	82	19.0	14.8	**0.0754**	0.034	44.9	ug/L	21	Standard
	Se-1	77	56.3	19.1	**-0.3917**	0.193	49.3	ug/L	86	Standard
>	Ga	71	11.7	65.5				mg/L	13	Standard
	Rb	85	15.0	33.3				ug/L	18	Standard
	Y	89	400545.4	3.2				ug/L	463757	Standard
>	Rh	103	1.7	173.2				ug/L	12	Standard
	Mo	98	169.0	9.5	**0.0466**	0.005	10.7	ug/L	29	Standard
	Ag	107	98.0	4.1	**0.0019**	0.000	19.4	ug/L	101	Standard
	Cd	111	9.4	24.3	**0.0005**	0.001	280.0	mg/L	9	Standard
	Cd	114	42.9	37.1	**0.0085**	0.003	36.6	ug/L	47	Standard
>	In	115	673039.2	1.9				ug/L	765457	Standard
	Sn	118	142.0	22.6	**-0.0173**	0.029	165.0	ug/L	168	Standard
	Sb	123	369.4	45.2	**0.0769**	0.033	42.6	ug/L	332	Standard
	Ba	135	33.0	24.2	**-0.0104**	0.003	31.6	ug/L	37	Standard
	Ce	140	71.7	22.4				ug/L	895	Standard
>	Tb	159	1330429.4	3.9				ug/L	1511047	Standard
	Ho	165	16.7	34.6				ug/L	22	Standard
	Tl	203	31.7	28.5	**0.0031**	0.001	29.6	ug/L	14	Standard
	Tl	205	65.0	48.0	**-0.0000**	0.001	3253.4	ug/L	27	Standard
	Pb	206	466.3	6.5	**-0.0131**	0.003	26.4	ug/L	557	Standard
	Pb	207	387.0	2.0	**-0.0124**	0.001	11.3	ug/L	432	Standard
	Pb	208	1824.4	3.7	**-0.0129**	0.002	12.7	ug/L	2118	Standard
	U	238	67.3	30.5	**0.0028**	0.001	27.0	ug/L	78	Standard
>	Bi	209	672283.2	1.1				ug/L	791817	Standard

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	Na	23	3.3	86.6	**0.6021**	0.918	152.5	mg/L	5	Standard
	Mg	24	55.0	9.1	**0.0396**	0.012	30.4	mg/L	48	Standard
	K	39	1.7	173.2	**-0.0153**	0.048	311.0	mg/L	3	Standard
	Ca	43	48.3	26.0	**0.7941**	5.325	670.6	mg/L	62	Standard
	Fe	54	106.1	9.7	**-0.0022**	0.013	577.1	mg/L	139	Standard
	Fe	57	138.3	19.9	**0.0802**	0.106	132.1	mg/L	83	Standard
>	**Sc-1**	45	21154.8	1.4				mg/L	23513	Standard
	Cl	35	3.3	34.6				ug/L	3	Standard
	Kr	83	2.3	24.7				ug/L	2	Standard
	Br	81	963.4	16.9				ug/L	910	Standard
	P	31	70.0	25.8				ug/L	85	Standard
	S	34	46.7	6.2				ug/L	48	Standard
	Sr	88	110.0	38.8				ug/L	72	Standard
	C	12	193.3	7.9				mg/L	227	Standard
	N	14	6.7	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	8.9	110.2				mg/L	22	Standard
	Ho-1	165	16.7	34.6				mg/L	22	Standard
	Er	166	23.3	65.5				mg/L	23	Standard
	I	127	6616.4	4.2				mg/L	4241	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		85.747	
	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	87.926
|	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	84.904
⌈	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: L1610038920
Sample Date/Time: Wednesday, October 12, 2016 19:46:54
Number of Replicates: 3
Autosampler Position: 225
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	53813.7	1.1				ug/L	72553	Standard
	Be	9	1416.7	5.1	**2.0955**	0.108	5.1	ug/L	10	Standard
	Al	27	59198199.4	0.9	**789.1037**	1.992	0.3	ug/L	232	Standard
	Sc	45	26583.3	3.0				ug/L	23513	Standard
	Ti	47	44158.3	2.0	**338.3472**	5.370	1.6	ug/L	36	Standard
	V	51	4454415.0	1.6	**959.8961**	13.120	1.4	ug/L	1387	Standard
	Cr	52	1708147.0	2.3	**389.6364**	5.855	1.5	ug/L	7813	Standard
	Cr	53	220989.2	3.0	**391.3611**	8.536	2.2	ug/L	1410	Standard
	Mn	55	1954074.7	3.9	**262.7757**	8.170	3.1	ug/L	1043	Standard
	Co	59	23654.8	3.2	**3.5639**	0.112	3.1	ug/L	198	Standard
	Ni	60	285123.4	2.4	**197.8892**	3.970	2.0	ug/L	64	Standard
	Cu	65	119146.3	0.6	**80.2179**	0.290	0.4	ug/L	122	Standard
	Zn	66	1319890.5	0.5	**1670.5109**	15.125	0.9	ug/L	209	Standard
>	Ge	72	460786.5	0.9				ug/L	618040	Standard
	As	75	14099.8	0.5	**16.8140**	0.188	1.1	ug/L	11	Standard
	Se	82	1048.8	3.4	**13.1990**	0.409	3.1	ug/L	21	Standard
	Se-1	77	766.0	5.5	**13.4303**	0.873	6.5	ug/L	86	Standard
>	Ga	71	18157.5	0.9				mg/L	13	Standard
	Rb	85	146986.4	2.1				ug/L	18	Standard
	Y	89	2399607.6	0.8				ug/L	463757	Standard
>	Rh	103	358.3	1.6				ug/L	12	Standard
	Mo	98	180884.4	1.5	**62.1090**	1.238	2.0	ug/L	29	Standard
	Ag	107	15777.9	0.5	**3.0081**	0.042	1.4	ug/L	101	Standard
	Cd	111	159854.4	1.3	**95.6709**	0.688	0.7	mg/L	9	Standard
	Cd	114	396301.6	2.4	**90.7159**	1.509	1.7	ug/L	47	Standard
>	In	115	603807.9	1.7				ug/L	765457	Standard
	Sn	118	878.0	4.1	**0.7603**	0.023	3.0	ug/L	168	Standard
	Sb	123	18111.0	2.4	**4.0272**	0.069	1.7	ug/L	332	Standard
	Ba	135	249457.9	0.8	**119.1309**	1.094	0.9	ug/L	37	Standard
	Ce	140	1233718.9	0.5				ug/L	895	Standard
>	Tb	159	1216853.7	0.6				ug/L	1511047	Standard
	Ho	165	106511.4	1.0				ug/L	22	Standard
	Tl	203	13486.7	0.8	**1.7024**	0.021	1.3	ug/L	14	Standard
	Tl	205	30779.6	2.4	**1.6819**	0.041	2.5	ug/L	27	Standard
	Pb	206	171974.9	1.4	**28.6081**	0.383	1.3	ug/L	557	Standard
	Pb	207	60458.7	0.3	**11.3754**	0.241	2.1	ug/L	432	Standard
	Pb	208	369561.4	0.9	**15.3701**	0.208	1.4	ug/L	2118	Standard
	U	238	2341759.6	0.6	**107.9300**	1.502	1.4	ug/L	78	Standard
>	Bi	209	552586.3	1.8				ug/L	791817	Standard

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⌈	**Na**	23	1190.0	10.5	**300.7041**	23.104	7.7	mg/L	5	Standard
|	**Mg**	24	2781.9	2.6	**4.7472**	0.129	2.7	mg/L	48	Standard
|	**K**	39	128.3	16.2	**1.6384**	0.298	18.2	mg/L	3	Standard
|	**Ca**	43	1405.1	1.8	**432.9257**	18.007	4.2	mg/L	62	Standard
|	**Fe**	54	8502.7	2.8	**7.2881**	0.332	4.6	mg/L	139	Standard
|	**Fe**	57	3605.4	1.6	**10.7292**	0.360	3.4	mg/L	83	Standard
⌊>	**Sc-1**	45	26583.3	3.0				mg/L	23513	Standard
	Cl	35	2.0	0.0				ug/L	3	Standard
	Kr	83	2.7	57.3				ug/L	2	Standard
	Br	81	2140.2	6.3				ug/L	910	Standard
	P	31	85.0	23.5				ug/L	85	Standard
	S	34	30.0	28.9				ug/L	48	Standard
	Sr	88	738.4	3.7				ug/L	72	Standard
	C	12	623.3	9.4				mg/L	227	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	610.0	18.9				mg/L	7	Standard
	Dy	164	125701.6	2.4				mg/L	22	Standard
	Ho-1	165	106511.4	1.0				mg/L	22	Standard
	Er	166	110904.5	1.6				mg/L	23	Standard
	I	127	46135.3	6.2				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		74.171	
|	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		74.556	
|	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	78.882
|	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	69.787
⌈	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	
Ti 47 Upper, S, EEE	Ti	47	
V 51 Upper, S, EEE	V	51	

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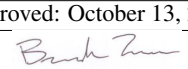

Cr 52 Upper, S, EEE	Cr	52
Cr 53 Upper, S, EEE	Cr	53
Mn 55 Upper, S, EEE	Mn	55
Ni 60 Upper, S, EEE	Ni	60
Zn 66 Upper, S, EEE	Zn	66
Ba 135 Upper, S, EEE	Ba	135
U 238 Upper, S, EEE	U	238

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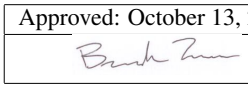

Method 6020 - Summary Report

Sample ID: L1610038922
Sample Date/Time: Wednesday, October 12, 2016 19:49:54
Number of Replicates: 3
Autosampler Position: 226
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	51653.1	6.3				ug/L	72553	Standard
	Be	9	748.4	10.8	**1.1537**	0.192	16.7	ug/L	10	Standard
	Al	27	112493622.8	2.7	**1564.6855**	61.744	3.9	ug/L	232	Standard
	Sc	45	23872.1	1.1				ug/L	23513	Standard
	Ti	47	12362.7	1.1	**93.4876**	1.373	1.5	ug/L	36	Standard
	V	51	4231979.6	0.9	**901.6656**	13.395	1.5	ug/L	1387	Standard
	Cr	52	927422.2	1.3	**208.5955**	4.042	1.9	ug/L	7813	Standard
	Cr	53	116474.5	2.4	**203.0906**	6.166	3.0	ug/L	1410	Standard
	Mn	55	2884401.6	0.3	**383.6276**	3.287	0.9	ug/L	1043	Standard
	Co	59	35606.1	1.5	**5.3130**	0.096	1.8	ug/L	198	Standard
	Ni	60	857129.7	0.5	**588.2490**	3.412	0.6	ug/L	64	Standard
	Cu	65	101952.6	1.0	**67.8493**	0.883	1.3	ug/L	122	Standard
	Zn	66	4421676.2	0.4	**5534.5507**	15.239	0.3	ug/L	209	Standard
>	Ge	72	466065.8	0.6				ug/L	618040	Standard
	As	75	29167.1	1.4	**34.3423**	0.367	1.1	ug/L	11	Standard
	Se	82	1002.8	0.7	**12.4697**	0.023	0.2	ug/L	21	Standard
	Se-1	77	738.7	3.1	**12.7383**	0.389	3.1	ug/L	86	Standard
>	Ga	71	10903.9	1.9				mg/L	13	Standard
	Rb	85	66654.7	2.9				ug/L	18	Standard
	Y	89	1393200.0	1.5				ug/L	463757	Standard
>	Rh	103	131.7	22.9				ug/L	12	Standard
	Mo	98	186865.0	1.6	**64.6436**	1.047	1.6	ug/L	29	Standard
	Ag	107	4133.2	1.5	**0.7829**	0.006	0.8	ug/L	101	Standard
	Cd	111	298887.7	1.1	**180.2364**	0.662	0.4	mg/L	9	Standard
	Cd	114	755799.2	1.1	**174.3257**	0.724	0.4	ug/L	47	Standard
>	In	115	599238.7	0.8				ug/L	765457	Standard
	Sn	118	554.0	1.4	**0.4293**	0.013	2.9	ug/L	168	Standard
	Sb	123	9582.5	0.7	**2.1488**	0.028	1.3	ug/L	332	Standard
	Ba	135	135590.0	1.1	**65.2271**	0.206	0.3	ug/L	37	Standard
	Ce	140	987904.5	2.2				ug/L	895	Standard
>	Tb	159	1237677.9	0.4				ug/L	1511047	Standard
	Ho	165	69030.2	0.5				ug/L	22	Standard
	Tl	203	15976.4	1.4	**1.9844**	0.032	1.6	ug/L	14	Standard
	Tl	205	36955.0	1.5	**1.9874**	0.023	1.2	ug/L	27	Standard
	Pb	206	114627.7	1.6	**18.7368**	0.373	2.0	ug/L	557	Standard
	Pb	207	61114.4	1.3	**11.3128**	0.198	1.8	ug/L	432	Standard
	Pb	208	321419.1	0.8	**13.1425**	0.169	1.3	ug/L	2118	Standard
	U	238	920247.4	0.8	**41.7319**	0.442	1.1	ug/L	78	Standard
>	Bi	209	561535.1	0.5				ug/L	791817	Standard

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⌈	**Na**	23	948.4	5.3	**267.2679**	15.861	5.9	mg/L	5	Standard
|	**Mg**	24	923.4	5.3	**1.7028**	0.075	4.4	mg/L	48	Standard
|	**K**	39	66.7	21.7	**0.9289**	0.216	23.2	mg/L	3	Standard
|	**Ca**	43	1063.4	8.3	**361.6630**	31.707	8.8	mg/L	62	Standard
|	**Fe**	54	10056.6	1.0	**9.6298**	0.022	0.2	mg/L	139	Standard
|	**Fe**	57	4045.5	2.8	**13.5166**	0.544	4.0	mg/L	83	Standard
⌊>	**Sc-1**	45	23872.1	1.1				mg/L	23513	Standard
	Cl	35	0.7	173.2				ug/L	3	Standard
	Kr	83	3.7	68.6				ug/L	2	Standard
	Br	81	1363.4	11.7				ug/L	910	Standard
	P	31	58.3	55.8				ug/L	85	Standard
	S	34	33.3	74.0				ug/L	48	Standard
	Sr	88	363.3	14.1				ug/L	72	Standard
	C	12	783.4	22.6				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	643.3	10.1				mg/L	7	Standard
	Dy	164	87827.5	0.4				mg/L	22	Standard
	Ho-1	165	69030.2	0.5				mg/L	22	Standard
	Er	166	70061.6	0.9				mg/L	23	Standard
	I	127	16936.1	2.3				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		71.193	
|	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		75.410	
|	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	78.285
|	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	70.917
⌈	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 Upper, S, EEE	V	51	
Cr 52 Upper, S, EEE	Cr	52	

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Cr 53 Upper, S, EEE	Cr	53
Mn 55 Upper, S, EEE	Mn	55
Ni 60 Upper, S, EEE	Ni	60
Zn 66 Upper, S, EEE	Zn	66
Cd 111 Upper, S, EEE	Cd	111
Cd 114 Upper, S, EEE	Cd	114

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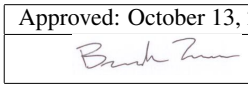

Method 6020 - Summary Report

Sample ID: L1610038924
Sample Date/Time: Wednesday, October 12, 2016 19:52:53
Number of Replicates: 3
Autosampler Position: 227
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	50171.4	4.4				ug/L	72553	Standard
	Be	9	226.7	8.4	**0.3469**	0.045	12.9	ug/L	10	Standard
	Al	27	162103792.4	1.7	**2321.2209**	126.846	5.5	ug/L	232	Standard
	Sc	45	22234.6	1.4				ug/L	23513	Standard
	Ti	47	4369.6	2.9	**31.8116**	0.933	2.9	ug/L	36	Standard
	V	51	341957.0	0.2	**70.2932**	0.387	0.6	ug/L	1387	Standard
	Cr	52	376041.6	0.2	**81.0478**	0.548	0.7	ug/L	7813	Standard
	Cr	53	46778.8	2.1	**77.7614**	1.602	2.1	ug/L	1410	Standard
	Mn	55	4340702.2	0.9	**558.5956**	5.884	1.1	ug/L	1043	Standard
	Co	59	35753.8	2.9	**5.1613**	0.178	3.5	ug/L	198	Standard
	Ni	60	162605.3	1.4	**107.9398**	2.109	2.0	ug/L	64	Standard
	Cu	65	22003.0	0.2	**14.0839**	0.089	0.6	ug/L	122	Standard
	Zn	66	596684.0	1.0	**721.8317**	3.889	0.5	ug/L	209	Standard
>	**Ge**	72	481740.4	0.5				ug/L	618040	Standard
	As	75	9759.9	2.1	**11.1464**	0.279	2.5	ug/L	11	Standard
	Se	82	342.4	3.0	**4.0294**	0.118	2.9	ug/L	21	Standard
	Se-1	77	263.7	7.7	**3.5237**	0.380	10.8	ug/L	86	Standard
>	**Ga**	71	4068.9	1.3				mg/L	13	Standard
	Rb	85	29087.9	1.7				ug/L	18	Standard
	Y	89	809294.7	1.1				ug/L	463757	Standard
>	**Rh**	103	93.3	17.2				ug/L	12	Standard
	Mo	98	45539.9	1.3	**16.0802**	0.303	1.9	ug/L	29	Standard
	Ag	107	794.7	7.0	**0.1419**	0.016	11.0	ug/L	101	Standard
	Cd	111	41629.2	1.6	**25.6253**	0.412	1.6	mg/L	9	Standard
	Cd	114	106529.5	3.1	**25.0792**	0.360	1.4	ug/L	47	Standard
>	**In**	115	587141.9	3.1				ug/L	765457	Standard
	Sn	118	148.0	14.2	**0.0088**	0.024	271.4	ug/L	168	Standard
	Sb	123	863.9	4.5	**0.2011**	0.014	6.8	ug/L	332	Standard
	Ba	135	161575.1	1.6	**79.3681**	1.836	2.3	ug/L	37	Standard
	Ce	140	439833.3	1.3				ug/L	895	Standard
>	**Tb**	159	1212843.6	1.4				ug/L	1511047	Standard
	Ho	165	27838.9	1.0				ug/L	22	Standard
	Tl	203	8696.2	1.7	**1.1122**	0.006	0.6	ug/L	14	Standard
	Tl	205	19622.7	1.2	**1.0856**	0.023	2.2	ug/L	27	Standard
	Pb	206	31479.3	1.1	**5.2438**	0.062	1.2	ug/L	557	Standard
	Pb	207	15877.6	1.1	**2.9737**	0.050	1.7	ug/L	432	Standard
	Pb	208	85657.0	0.9	**3.5523**	0.048	1.4	ug/L	2118	Standard
	U	238	158786.5	1.3	**7.4159**	0.087	1.2	ug/L	78	Standard
>	**Bi**	209	545327.8	2.2				ug/L	791817	Standard

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	Na	23	975.0	3.1	**295.0456**	10.903	3.7	mg/L	5	Standard
	Mg	24	320.0	14.9	**0.5836**	0.102	17.5	mg/L	48	Standard
	K	39	30.0	33.3	**0.4273**	0.160	37.5	mg/L	3	Standard
	Ca	43	1266.7	9.1	**467.5857**	41.478	8.9	mg/L	62	Standard
	Fe	54	4396.5	0.8	**4.4575**	0.068	1.5	mg/L	139	Standard
	Fe	57	2690.2	0.2	**9.5174**	0.117	1.2	mg/L	83	Standard
>	**Sc-1**	45	22234.6	1.4				mg/L	23513	Standard
	Cl	35	2.0	100.0				ug/L	3	Standard
	Kr	83	3.3	75.5				ug/L	2	Standard
	Br	81	1133.4	7.1				ug/L	910	Standard
	P	31	66.7	37.0				ug/L	85	Standard
	S	34	36.7	67.3				ug/L	48	Standard
	Sr	88	283.3	15.9				ug/L	72	Standard
	C	12	780.0	5.1				mg/L	227	Standard
	N	14	10.0	100.0				mg/L	0	Standard
	Hg	202	113.3	22.2				mg/L	7	Standard
	Dy	164	37233.5	2.3				mg/L	22	Standard
	Ho-1	165	27838.9	1.0				mg/L	22	Standard
	Er	166	28159.5	2.2				mg/L	23	Standard
	I	127	13028.9	0.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		69.151	
	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		77.946	
	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	76.705
|	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	68.870
⌈	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	
Ni 60 Upper, S, EEE	Ni	60	

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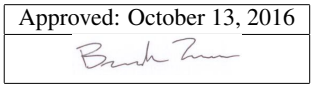

Zn 66 Upper, S, EEE	Zn	66

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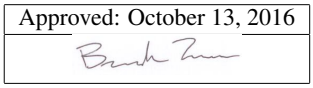

Method 6020 - Summary Report

Sample ID: L1610038926
Sample Date/Time: Wednesday, October 12, 2016 19:55:53
Number of Replicates: 3
Autosampler Position: 228
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	47616.5	4.2				ug/L	72553	Standard
	Be	9	333.3	2.3	**0.5452**	0.011	2.1	ug/L	10	Standard
	Al	27	141132799.2	1.8	**2127.7277**	60.711	2.9	ug/L	232	Standard
	Sc	45	22389.9	2.7				ug/L	23513	Standard
	Ti	47	6045.5	2.0	**45.5832**	1.303	2.9	ug/L	36	Standard
	V	51	700788.1	1.2	**149.0804**	2.532	1.7	ug/L	1387	Standard
	Cr	52	442326.9	1.8	**98.7695**	1.042	1.1	ug/L	7813	Standard
	Cr	53	56774.5	2.1	**98.0018**	2.867	2.9	ug/L	1410	Standard
	Mn	55	5066139.3	2.0	**673.6027**	10.210	1.5	ug/L	1043	Standard
	Co	59	25309.5	2.2	**3.7693**	0.059	1.6	ug/L	198	Standard
	Ni	60	347068.7	1.6	**238.0607**	1.061	0.4	ug/L	64	Standard
	Cu	65	33478.6	3.0	**22.1971**	0.431	1.9	ug/L	122	Standard
	Zn	66	1549796.5	1.9	**1938.4021**	14.412	0.7	ug/L	209	Standard
>	**Ge**	72	466262.2	1.2				ug/L	618040	Standard
	As	75	14658.7	1.7	**17.2723**	0.084	0.5	ug/L	11	Standard
	Se	82	375.9	1.8	**4.5882**	0.095	2.1	ug/L	21	Standard
	Se-1	77	286.0	9.6	**4.1069**	0.461	11.2	ug/L	86	Standard
>	**Ga**	71	4792.4	6.1				mg/L	13	Standard
	Rb	85	31823.4	1.3				ug/L	18	Standard
	Y	89	923883.8	2.4				ug/L	463757	Standard
>	**Rh**	103	118.3	19.1				ug/L	12	Standard
	Mo	98	89931.7	0.4	**34.4430**	0.696	2.0	ug/L	29	Standard
	Ag	107	1628.1	1.0	**0.3330**	0.006	1.8	ug/L	101	Standard
	Cd	111	130658.4	1.9	**87.2155**	0.580	0.7	mg/L	9	Standard
	Cd	114	326953.2	5.3	**83.4376**	2.754	3.3	ug/L	47	Standard
>	**In**	115	541382.7	2.3				ug/L	765457	Standard
	Sn	118	249.0	4.7	**0.1387**	0.015	10.5	ug/L	168	Standard
	Sb	123	2717.4	3.3	**0.6769**	0.018	2.7	ug/L	332	Standard
	Ba	135	238878.2	1.2	**127.2435**	1.461	1.1	ug/L	37	Standard
	Ce	140	476611.4	1.6				ug/L	895	Standard
>	**Tb**	159	1144785.1	3.1				ug/L	1511047	Standard
	Ho	165	35735.4	0.9				ug/L	22	Standard
	Tl	203	9982.0	2.4	**1.3153**	0.009	0.7	ug/L	14	Standard
	Tl	205	22630.2	0.8	**1.2905**	0.016	1.3	ug/L	27	Standard
	Pb	206	42694.4	1.4	**7.3583**	0.056	0.8	ug/L	557	Standard
	Pb	207	20922.8	1.8	**4.0630**	0.033	0.8	ug/L	432	Standard
	Pb	208	113125.6	1.4	**4.8607**	0.033	0.7	ug/L	2118	Standard
	U	238	345434.4	1.3	**16.6221**	0.124	0.7	ug/L	78	Standard
>	**Bi**	209	529247.5	2.1				ug/L	791817	Standard

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⌈	**Na**	23	893.4	9.5	**268.0785**	19.017	7.1	mg/L	5	Standard
|	**Mg**	24	396.7	10.6	**0.7357**	0.068	9.2	mg/L	48	Standard
|	**K**	39	23.3	32.7	**0.3175**	0.110	34.6	mg/L	3	Standard
|	**Ca**	43	1383.4	5.2	**508.6728**	16.134	3.2	mg/L	62	Standard
|	**Fe**	54	6021.1	1.4	**6.1089**	0.255	4.2	mg/L	139	Standard
|	**Fe**	57	3152.0	1.6	**11.1498**	0.129	1.2	mg/L	83	Standard
⌊>	**Sc-1**	45	22389.9	2.7				mg/L	23513	Standard
	Cl	35	1.3	173.2				ug/L	3	Standard
	Kr	83	3.0	88.2				ug/L	2	Standard
	Br	81	1213.4	8.5				ug/L	910	Standard
	P	31	58.3	47.2				ug/L	85	Standard
	S	34	18.3	41.7				ug/L	48	Standard
	Sr	88	273.3	12.2				ug/L	72	Standard
	C	12	816.7	15.5				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	126.7	12.1				mg/L	7	Standard
	Dy	164	45145.4	0.9				mg/L	22	Standard
	Ho-1	165	35735.4	0.9				mg/L	22	Standard
	Er	166	35214.2	1.3				mg/L	23	Standard
	I	127	14875.6	1.9				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		65.630	
|	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		75.442	
|	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	70.727
|	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	66.840
⌈	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 Upper, S, EEE	V	51	
Mn 55 Upper, S, EEE	Mn	55	

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Ni 60 Upper, S, EEE	Ni	60
Zn 66 Upper, S, EEE	Zn	66
Ba 135 Upper, S, EEE	Ba	135

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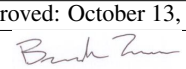

Method 6020 - Summary Report

Sample ID: L1610038928
Sample Date/Time: Wednesday, October 12, 2016 19:58:53
Number of Replicates: 3
Autosampler Position: 229
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	47561.2	1.7				ug/L	72553	Standard
	Be	9	251.7	10.0	**0.4074**	0.036	8.9	ug/L	10	Standard
	Al	27	145800221.0	3.5	**2198.6989**	52.730	2.4	ug/L	232	Standard
	Sc	45	23002.5	3.6				ug/L	23513	Standard
	Ti	47	4966.5	2.3	**37.6412**	0.632	1.7	ug/L	36	Standard
	V	51	298332.0	1.6	**63.7541**	0.745	1.2	ug/L	1387	Standard
	Cr	52	346593.8	1.7	**77.6312**	1.269	1.6	ug/L	7813	Standard
	Cr	53	44505.3	0.7	**76.9215**	0.863	1.1	ug/L	1410	Standard
	Mn	55	4636803.9	1.6	**620.5409**	8.840	1.4	ug/L	1043	Standard
	Co	59	31445.9	1.2	**4.7185**	0.024	0.5	ug/L	198	Standard
	Ni	60	185607.3	0.9	**128.1295**	0.563	0.4	ug/L	64	Standard
	Cu	65	31745.9	1.5	**21.1834**	0.242	1.1	ug/L	122	Standard
	Zn	66	817626.5	1.1	**1029.0389**	13.864	1.3	ug/L	209	Standard
>	Ge	72	463232.2	0.7				ug/L	618040	Standard
	As	75	7520.6	1.9	**8.9393**	0.119	1.3	ug/L	11	Standard
	Se	82	248.6	3.9	**3.0086**	0.124	4.1	ug/L	21	Standard
	Se-1	77	204.0	5.1	**2.5730**	0.178	6.9	ug/L	86	Standard
>	Ga	71	4010.5	1.6				mg/L	13	Standard
	Rb	85	26236.0	0.4				ug/L	18	Standard
	Y	89	997688.8	2.0				ug/L	463757	Standard
>	Rh	103	88.3	26.7				ug/L	12	Standard
	Mo	98	35797.3	1.6	**13.8358**	0.183	1.3	ug/L	29	Standard
	Ag	107	851.0	5.5	**0.1687**	0.011	6.7	ug/L	101	Standard
	Cd	111	47512.0	1.3	**32.0240**	0.812	2.5	mg/L	9	Standard
	Cd	114	120399.4	3.3	**31.0362**	0.931	3.0	ug/L	47	Standard
>	In	115	536181.9	1.4				ug/L	765457	Standard
	Sn	118	280.0	5.0	**0.1778**	0.021	11.6	ug/L	168	Standard
	Sb	123	964.1	5.5	**0.2447**	0.011	4.6	ug/L	332	Standard
	Ba	135	190276.7	0.8	**102.3239**	1.166	1.1	ug/L	37	Standard
	Ce	140	525359.0	1.4				ug/L	895	Standard
>	Tb	159	1162844.2	0.9				ug/L	1511047	Standard
	Ho	165	39195.6	0.6				ug/L	22	Standard
	Tl	203	12120.5	0.6	**1.6231**	0.018	1.1	ug/L	14	Standard
	Tl	205	28324.8	2.3	**1.6421**	0.049	3.0	ug/L	27	Standard
	Pb	206	26515.2	1.5	**4.6153**	0.103	2.2	ug/L	557	Standard
	Pb	207	12658.3	0.7	**2.4700**	0.034	1.4	ug/L	432	Standard
	Pb	208	69152.8	1.2	**2.9908**	0.057	1.9	ug/L	2118	Standard
	U	238	215154.9	0.7	**10.5203**	0.143	1.4	ug/L	78	Standard
>	Bi	209	520821.5	0.8				ug/L	791817	Standard

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⌈	**Na**	23	855.0	4.7	**250.4409**	20.310	8.1	mg/L	5	Standard
|	**Mg**	24	286.7	12.6	**0.4931**	0.053	10.8	mg/L	48	Standard
|	**K**	39	28.3	20.4	**0.3879**	0.105	27.0	mg/L	3	Standard
|	**Ca**	43	1236.7	15.1	**441.0642**	73.134	16.6	mg/L	62	Standard
|	**Fe**	54	3256.2	3.4	**3.1626**	0.229	7.2	mg/L	139	Standard
|	**Fe**	57	2215.2	1.9	**7.4911**	0.439	5.9	mg/L	83	Standard
⌊>	**Sc-1**	45	23002.5	3.6				mg/L	23513	Standard
	Cl	35	2.0	100.0				ug/L	3	Standard
	Kr	83	3.3	17.3				ug/L	2	Standard
	Br	81	1076.7	12.6				ug/L	910	Standard
	P	31	65.0	26.6				ug/L	85	Standard
	S	34	41.7	13.9				ug/L	48	Standard
	Sr	88	250.0	17.1				ug/L	72	Standard
	C	12	673.3	18.8				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	140.0	31.1				mg/L	7	Standard
	Dy	164	49057.3	2.5				mg/L	22	Standard
	Ho-1	165	39195.6	0.6				mg/L	22	Standard
	Er	166	38231.6	4.1				mg/L	23	Standard
	I	127	10085.0	1.5				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		65.553	
|	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		74.952	
|	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	70.047
|	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	65.775
⌈	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	
Ni 60 Upper, S, EEE	Ni	60	

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Zn 66 Upper, S, EEE	Zn	66
Ba 135 Upper, S, EEE	Ba	135

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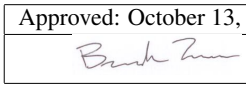

Method 6020 - Summary Report

Sample ID: L1610038930
Sample Date/Time: Wednesday, October 12, 2016 20:01:52
Number of Replicates: 3
Autosampler Position: 230
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	45168.9	3.3				ug/L	72553	Standard
	Be	9	231.7	23.1	**0.3946**	0.092	23.2	ug/L	10	Standard
	Al	27	102980008.1	2.0	**1635.8776**	21.857	1.3	ug/L	232	Standard
	Sc	45	22785.5	4.0				ug/L	23513	Standard
	Ti	47	5685.1	3.9	**43.2068**	1.290	3.0	ug/L	36	Standard
	V	51	515298.0	2.9	**110.4924**	2.380	2.2	ug/L	1387	Standard
	Cr	52	313709.9	2.3	**70.2953**	1.672	2.4	ug/L	7813	Standard
	Cr	53	39698.6	3.5	**68.5478**	1.984	2.9	ug/L	1410	Standard
	Mn	55	5997299.6	2.4	**804.2715**	12.788	1.6	ug/L	1043	Standard
	Co	59	35626.5	2.3	**5.3591**	0.069	1.3	ug/L	198	Standard
	Ni	60	780738.4	2.8	**540.1079**	6.811	1.3	ug/L	64	Standard
	Cu	65	27696.3	3.4	**18.5024**	0.341	1.8	ug/L	122	Standard
	Zn	66	3925572.9	2.7	**4953.0107**	61.700	1.2	ug/L	209	Standard
>	Ge	72	462304.3	1.8				ug/L	618040	Standard
	As	75	15090.0	2.6	**17.9303**	0.188	1.1	ug/L	11	Standard
	Se	82	354.6	4.0	**4.3577**	0.132	3.0	ug/L	21	Standard
	Se-1	77	255.7	5.5	**3.5759**	0.302	8.4	ug/L	86	Standard
>	Ga	71	6938.3	4.7				mg/L	13	Standard
	Rb	85	24372.9	1.2				ug/L	18	Standard
	Y	89	936881.8	3.4				ug/L	463757	Standard
>	Rh	103	108.3	19.2				ug/L	12	Standard
	Mo	98	76498.7	2.2	**30.3923**	0.434	1.4	ug/L	29	Standard
	Ag	107	884.4	0.7	**0.1811**	0.002	1.0	ug/L	101	Standard
	Cd	111	214691.2	2.1	**148.6983**	1.736	1.2	mg/L	9	Standard
	Cd	114	543039.9	4.2	**143.8400**	4.518	3.1	ug/L	47	Standard
>	In	115	521695.2	1.1				ug/L	765457	Standard
	Sn	118	365.3	2.7	**0.2890**	0.013	4.6	ug/L	168	Standard
	Sb	123	1547.3	4.9	**0.4013**	0.016	3.9	ug/L	332	Standard
	Ba	135	288349.9	2.3	**159.3582**	2.316	1.5	ug/L	37	Standard
	Ce	140	468362.2	2.7				ug/L	895	Standard
>	Tb	159	1143012.4	3.0				ug/L	1511047	Standard
	Ho	165	35027.1	2.2				ug/L	22	Standard
	Tl	203	10333.9	1.5	**1.3986**	0.015	1.1	ug/L	14	Standard
	Tl	205	24683.4	2.2	**1.4458**	0.031	2.2	ug/L	27	Standard
	Pb	206	34748.5	2.0	**6.1378**	0.121	2.0	ug/L	557	Standard
	Pb	207	14797.9	2.8	**2.9314**	0.083	2.8	ug/L	432	Standard
	Pb	208	84029.6	2.1	**3.6900**	0.068	1.9	ug/L	2118	Standard
	U	238	312189.3	2.0	**15.4275**	0.296	1.9	ug/L	78	Standard
>	Bi	209	515298.0	0.7				ug/L	791817	Standard

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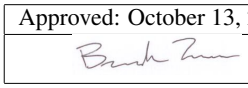

⌈	**Na**	23	856.7	7.5	**252.6316**	9.891	3.9	mg/L	5	Standard
|	**Mg**	24	268.3	22.5	**0.4655**	0.139	29.8	mg/L	48	Standard
|	**K**	39	33.3	31.2	**0.4705**	0.183	38.8	mg/L	3	Standard
|	**Ca**	43	1330.1	6.1	**479.6892**	21.264	4.4	mg/L	62	Standard
|	**Fe**	54	5291.0	2.2	**5.2574**	0.098	1.9	mg/L	139	Standard
|	**Fe**	57	2743.6	11.9	**9.4547**	0.910	9.6	mg/L	83	Standard
⌊>	**Sc-1**	45	22785.5	4.0				mg/L	23513	Standard
	Cl	35	0.7	173.2				ug/L	3	Standard
	Kr	83	2.3	49.5				ug/L	2	Standard
	Br	81	1126.7	12.1				ug/L	910	Standard
	P	31	55.0	47.2				ug/L	85	Standard
	S	34	38.3	19.9				ug/L	48	Standard
	Sr	88	270.0	25.5				ug/L	72	Standard
	C	12	633.3	10.3				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	320.0	21.9				mg/L	7	Standard
	Dy	164	44768.7	6.1				mg/L	22	Standard
	Ho-1	165	35027.1	2.2				mg/L	22	Standard
	Er	166	34008.1	2.3				mg/L	23	Standard
	I	127	12199.9	1.9				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		62.256	
|	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		74.802	
|	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	68.155
|	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	65.078
⌈	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 Upper, S, EEE	V	51	
Mn 55 Upper, S, EEE	Mn	55	

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Ni 60 Upper, S, EEE	Ni	60
Zn 66 Upper, S, EEE	Zn	66
Cd 111 Upper, S, EEE	Cd	111
Cd 114 Upper, S, EEE	Cd	114
Ba 135 Upper, S, EEE	Ba	135

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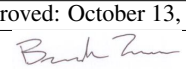

Method 6020 - Summary Report

Sample ID: L1610038932
Sample Date/Time: Wednesday, October 12, 2016 20:04:52
Number of Replicates: 3
Autosampler Position: 231
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	46777.2	3.9				ug/L	72553	Standard
	Be	9	200.0	30.3	**0.3271**	0.109	33.4	ug/L	10	Standard
	Al	27	101848180.9	2.9	**1562.2313**	16.245	1.0	ug/L	232	Standard
	Sc	45	23192.7	2.2				ug/L	23513	Standard
	Ti	47	4783.1	9.5	**35.1559**	3.504	10.0	ug/L	36	Standard
	V	51	400075.5	1.3	**82.9946**	1.766	2.1	ug/L	1387	Standard
	Cr	52	294017.1	1.5	**63.6528**	1.511	2.4	ug/L	7813	Standard
	Cr	53	37691.8	2.7	**62.8583**	2.235	3.6	ug/L	1410	Standard
	Mn	55	4865969.5	1.2	**631.6625**	12.428	2.0	ug/L	1043	Standard
	Co	59	30979.6	0.5	**4.5081**	0.060	1.3	ug/L	198	Standard
	Ni	60	565655.8	0.8	**378.8203**	4.961	1.3	ug/L	64	Standard
	Cu	65	22784.1	0.9	**14.7145**	0.161	1.1	ug/L	122	Standard
	Zn	66	2760506.6	0.0	**3371.4849**	28.073	0.8	ug/L	209	Standard
>	Ge	72	477622.6	0.8				ug/L	618040	Standard
	As	75	16607.5	1.4	**19.1019**	0.426	2.2	ug/L	11	Standard
	Se	82	386.7	5.3	**4.6101**	0.286	6.2	ug/L	21	Standard
	Se-1	77	306.0	6.8	**4.3513**	0.356	8.2	ug/L	86	Standard
>	Ga	71	4599.0	1.7				mg/L	13	Standard
	Rb	85	23785.3	3.4				ug/L	18	Standard
	Y	89	954241.5	3.7				ug/L	463757	Standard
>	Rh	103	81.7	24.7				ug/L	12	Standard
	Mo	98	114267.8	0.2	**44.1771**	0.741	1.7	ug/L	29	Standard
	Ag	107	757.7	1.5	**0.1485**	0.005	3.5	ug/L	101	Standard
	Cd	111	95640.5	1.3	**64.4499**	0.835	1.3	mg/L	9	Standard
	Cd	114	235326.8	2.0	**60.6794**	2.279	3.8	ug/L	47	Standard
>	In	115	536274.6	1.8				ug/L	765457	Standard
	Sn	118	206.7	12.0	**0.0918**	0.025	27.6	ug/L	168	Standard
	Sb	123	1216.9	3.0	**0.3081**	0.014	4.5	ug/L	332	Standard
	Ba	135	196397.5	1.1	**105.5991**	0.983	0.9	ug/L	37	Standard
	Ce	140	496610.4	2.4				ug/L	895	Standard
>	Tb	159	1180825.6	1.7				ug/L	1511047	Standard
	Ho	165	37202.3	1.4				ug/L	22	Standard
	Tl	203	9529.7	2.6	**1.2405**	0.038	3.1	ug/L	14	Standard
	Tl	205	21747.3	2.1	**1.2246**	0.028	2.3	ug/L	27	Standard
	Pb	206	31756.6	1.7	**5.3857**	0.127	2.4	ug/L	557	Standard
	Pb	207	15136.6	1.0	**2.8825**	0.014	0.5	ug/L	432	Standard
	Pb	208	83014.1	0.3	**3.5023**	0.031	0.9	ug/L	2118	Standard
	U	238	223347.5	0.6	**10.6149**	0.023	0.2	ug/L	78	Standard
>	Bi	209	535802.8	0.6				ug/L	791817	Standard

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⌈	**Na**	23	898.4	6.4	**260.3865**	12.316	4.7	mg/L	5	Standard
|	**Mg**	24	250.0	11.1	**0.4162**	0.047	11.3	mg/L	48	Standard
|	**K**	39	30.0	16.7	**0.4061**	0.067	16.6	mg/L	3	Standard
|	**Ca**	43	1328.4	7.0	**470.0375**	24.811	5.3	mg/L	62	Standard
|	**Fe**	54	5552.7	6.2	**5.4186**	0.237	4.4	mg/L	139	Standard
|	**Fe**	57	2925.3	4.3	**9.9396**	0.374	3.8	mg/L	83	Standard
⌊>	**Sc-1**	45	23192.7	2.2				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	2.0	86.6				ug/L	2	Standard
	Br	81	1096.7	5.6				ug/L	910	Standard
	P	31	71.7	28.2				ug/L	85	Standard
	S	34	46.7	16.4				ug/L	48	Standard
	Sr	88	193.3	4.0				ug/L	72	Standard
	C	12	526.7	9.0				mg/L	227	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	133.3	8.7				mg/L	7	Standard
	Dy	164	49194.6	2.7				mg/L	22	Standard
	Ho-1	165	37202.3	1.4				mg/L	22	Standard
	Er	166	36062.9	4.0				mg/L	23	Standard
	I	127	10927.3	1.0				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		64.473	
|	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		77.280	
|	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	70.059
|	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	67.668
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ni 60 Upper, S, EEE	Ni	60	

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Zn 66 Upper, S, EEE	Zn	66
Ba 135 Upper, S, EEE	Ba	135

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Method 6020 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Wednesday, October 12, 2016 20:07:52
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: BKT 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	43032.7	3.1				ug/L	72553	Standard
	Be	9	3.3	86.6	**-0.0107**	0.005	49.5	ug/L	10	Standard
	Al	27	3151131.0	3.6	**52.5341**	1.607	3.1	ug/L	232	Standard
	Sc	45	19193.8	4.1				ug/L	23513	Standard
	Ti	47	2112.8	4.3	**15.6474**	0.484	3.1	ug/L	36	Standard
	V	51	475.2	40.0	**-0.1067**	0.039	37.0	ug/L	1387	Standard
	Cr	52	4327.3	2.1	**-0.3039**	0.015	5.0	ug/L	7813	Standard
	Cr	53	2340.2	6.8	**2.2168**	0.238	10.7	ug/L	1410	Standard
	Mn	55	1217.4	2.4	**0.0058**	0.005	89.6	ug/L	1043	Standard
	Co	59	212.3	2.0	**0.0130**	0.000	3.6	ug/L	198	Standard
	Ni	60	336.3	4.9	**0.1909**	0.008	4.4	ug/L	64	Standard
	Cu	65	230.7	8.1	**0.0485**	0.013	27.7	ug/L	122	Standard
	Zn	66	1052.7	23.4	**0.4896**	0.291	59.4	ug/L	209	Standard
>	Ge	72	469851.3	1.3				ug/L	618040	Standard
	As	75	-31.3	249.7	**0.0053**	0.090	1708.4	ug/L	11	Standard
	Se	82	19.8	24.1	**0.1116**	0.058	51.8	ug/L	21	Standard
	Se-1	77	249.7	1.6	**3.3826**	0.111	3.3	ug/L	86	Standard
>	Ga	71	33.3	34.6				mg/L	13	Standard
	Rb	85	1845.1	1.0				ug/L	18	Standard
	Y	89	338796.4	1.3				ug/L	463757	Standard
>	Rh	103	5.0	0.0				ug/L	12	Standard
	Mo	98	200056.7	5.0	**80.0144**	5.213	6.5	ug/L	29	Standard
	Ag	107	111.0	14.7	**0.0098**	0.003	34.7	ug/L	101	Standard
	Cd	111	-21.4	30.1	**-0.0195**	0.004	22.7	mg/L	9	Standard
	Cd	114	560.1	14.5	**0.1489**	0.020	13.7	ug/L	47	Standard
>	In	115	518648.3	1.7				ug/L	765457	Standard
	Sn	118	58.0	20.3	**-0.0790**	0.015	19.1	ug/L	168	Standard
	Sb	123	234.4	33.5	**0.0640**	0.020	30.7	ug/L	332	Standard
	Ba	135	47.0	32.2	**0.0017**	0.009	525.9	ug/L	37	Standard
	Ce	140	1173.4	4.3				ug/L	895	Standard
>	Tb	159	1111887.6	1.9				ug/L	1511047	Standard
	Ho	165	10.0	50.0				ug/L	22	Standard
	Tl	203	59.3	12.6	**0.0072**	0.001	12.7	ug/L	14	Standard
	Tl	205	130.0	10.2	**0.0040**	0.001	18.4	ug/L	27	Standard
	Pb	206	712.7	2.6	**0.0392**	0.004	9.0	ug/L	557	Standard
	Pb	207	605.7	6.0	**0.0396**	0.007	17.8	ug/L	432	Standard
	Pb	208	2849.1	3.2	**0.0409**	0.004	10.4	ug/L	2118	Standard
	U	238	14.3	22.4	**0.0009**	0.000	16.3	ug/L	78	Standard
>	Bi	209	565047.8	0.4				ug/L	791817	Standard

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⌈	**Na**	23	23.3	75.3	**7.8754**	6.326	80.3	mg/L	5	Standard
|	**Mg**	24	4430.6	2.0	**10.5818**	0.625	5.9	mg/L	48	Standard
|	**K**	39	313.3	6.4	**5.6479**	0.585	10.4	mg/L	3	Standard
|	**Ca**	43	106.7	19.5	**28.7659**	9.746	33.9	mg/L	62	Standard
|	**Fe**	54	2834.7	2.9	**3.3012**	0.109	3.3	mg/L	139	Standard
|	**Fe**	57	990.0	7.6	**3.7968**	0.340	8.9	mg/L	83	Standard
⌊>	**Sc-1**	45	19193.8	4.1				mg/L	23513	Standard
	Cl	35	2.7	114.6				ug/L	3	Standard
	Kr	83	1.0	100.0				ug/L	2	Standard
	Br	81	793.4	12.6				ug/L	910	Standard
	P	31	33.3	45.8				ug/L	85	Standard
	S	34	35.0	49.5				ug/L	48	Standard
	Sr	88	81.7	25.5				ug/L	72	Standard
	C	12	196.7	25.6				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	26.7	43.3				mg/L	7	Standard
	Dy	164	12.5	115.3				mg/L	22	Standard
	Ho-1	165	10.0	50.0				mg/L	22	Standard
	Er	166	16.7	124.9				mg/L	23	Standard
	I	127	4809.1	9.1				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9			
⌊	Al	27	1.051		
⌈	Sc	45			
|	Ti	47	15.647		
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		76.023	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 4
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Rb	85			
Y	89			
Rh	103			
Mo	98	80.014		
Ag	107			
Cd	111			
Cd	114			
In	115			67.757
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			71.361
Na	23	63.003		
Mg	24	211.635		
K	39	112.959		
Ca	43	191.773		
Fe	54	26.410		
Fe	57	30.375		
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	Ti	47	
Ge 72 Int Std for QC Std	Ge	72	Rerun sample

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In 115 Int Std for QC Std	In	115	Rerun sample
Bi 209 Int Std for QC Std	Bi	209	Rerun sample
QC Std 4	Na	23	
QC Std 4	Mg	24	
QC Std 4	Ca	43	
QC Std 4	Fe	54	
QC Std 4	Fe	57	

Sample ID: QC Std 4
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Method 6020 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Wednesday, October 12, 2016 20:10:52
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: BKT 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	54318.9	2.5				ug/L	72553	Standard
	Be	9	70957.5	1.3	**104.8116**	1.319	1.3	ug/L	10	Standard
	Al	27	4262385.9	2.0	**56.2924**	0.756	1.3	ug/L	232	Standard
	Sc	45	21790.7	3.6				ug/L	23513	Standard
	Ti	47	17305.5	1.6	**116.7994**	2.438	2.1	ug/L	36	Standard
	V	51	528669.6	2.1	**100.2815**	1.457	1.5	ug/L	1387	Standard
	Cr	52	497309.8	1.2	**99.1165**	2.061	2.1	ug/L	7813	Standard
	Cr	53	65799.2	1.3	**101.4224**	2.515	2.5	ug/L	1410	Standard
	Mn	55	834780.8	0.5	**98.9338**	1.857	1.9	ug/L	1043	Standard
	Co	59	721767.5	0.9	**96.3905**	1.405	1.5	ug/L	198	Standard
	Ni	60	159412.2	0.7	**97.5690**	1.642	1.7	ug/L	64	Standard
	Cu	65	163751.4	2.0	**97.2514**	1.725	1.8	ug/L	122	Standard
	Zn	66	90403.6	1.7	**100.1328**	0.870	0.9	ug/L	209	Standard
>	Ge	72	522557.8	2.3				ug/L	618040	Standard
	As	75	94593.1	1.2	**99.2774**	1.153	1.2	ug/L	11	Standard
	Se	82	8594.1	1.0	**96.2370**	1.902	2.0	ug/L	21	Standard
	Se-1	77	6105.6	1.2	**102.4536**	1.168	1.1	ug/L	86	Standard
>	Ga	71	105.0	25.2				mg/L	13	Standard
	Rb	85	713.4	4.5				ug/L	18	Standard
	Y	89	383148.5	1.9				ug/L	463757	Standard
>	Rh	103	51.7	22.3				ug/L	12	Standard
	Mo	98	318617.7	1.5	**106.9249**	3.495	3.3	ug/L	29	Standard
	Ag	107	458446.7	1.2	**85.8392**	3.005	3.5	ug/L	101	Standard
	Cd	111	170618.6	1.1	**99.7812**	1.320	1.3	mg/L	9	Standard
	Cd	114	434070.6	3.1	**97.0696**	1.087	1.1	ug/L	47	Standard
>	In	115	618018.1	2.4				ug/L	765457	Standard
	Sn	118	189.3	6.0	**0.0426**	0.012	28.0	ug/L	168	Standard
	Sb	123	468607.9	0.7	**101.7548**	2.203	2.2	ug/L	332	Standard
	Ba	135	226728.3	1.4	**105.7997**	2.011	1.9	ug/L	37	Standard
	Ce	140	223.3	33.7				ug/L	895	Standard
>	Tb	159	1296858.8	3.9				ug/L	1511047	Standard
	Ho	165	31.7	55.5				ug/L	22	Standard
	Tl	203	922594.8	1.8	**99.0691**	1.217	1.2	ug/L	14	Standard
	Tl	205	2214464.8	2.5	**103.1052**	2.023	2.0	ug/L	27	Standard
	Pb	206	708397.9	1.9	**100.4331**	1.456	1.4	ug/L	557	Standard
	Pb	207	607187.2	1.6	**97.7123**	1.002	1.0	ug/L	432	Standard
	Pb	208	2788734.9	1.3	**99.0666**	0.653	0.7	ug/L	2118	Standard
	U	238	2600558.4	1.1	**101.9595**	1.639	1.6	ug/L	78	Standard
>	Bi	209	649520.1	0.6				ug/L	791817	Standard

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	Na	23	40.0	33.1	**11.8416**	3.831	32.4	mg/L	5	Standard
	Mg	24	5679.4	2.5	**11.9425**	0.155	1.3	mg/L	48	Standard
	K	39	365.0	9.9	**5.7713**	0.376	6.5	mg/L	3	Standard
	Ca	43	96.7	10.8	**19.0762**	3.242	17.0	mg/L	62	Standard
	Fe	54	11847.8	0.9	**12.4740**	0.467	3.7	mg/L	139	Standard
	Fe	57	3573.8	4.3	**13.0866**	1.049	8.0	mg/L	83	Standard
>	**Sc-1**	45	21790.7	3.6				mg/L	23513	Standard
	Cl	35	2.0	100.0				ug/L	3	Standard
	Kr	83	2.3	89.2				ug/L	2	Standard
	Br	81	986.7	7.9				ug/L	910	Standard
	P	31	68.3	33.8				ug/L	85	Standard
	S	34	40.0	25.0				ug/L	48	Standard
	Sr	88	135.0	9.8				ug/L	72	Standard
	C	12	346.7	11.7				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	43.3	53.3				mg/L	7	Standard
	Dy	164	25.7	115.2				mg/L	22	Standard
	Ho-1	165	31.7	55.5				mg/L	22	Standard
	Er	166	20.0	100.0				mg/L	23	Standard
	I	127	7336.9	27.8				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	104.812		
	Al	27	1.126		
	Sc	45			
	Ti	47	116.799		
	V	51	100.281		
	Cr	52	99.117		
	Cr	53			
	Mn	55	98.934		
	Co	59	96.390		
	Ni	60	97.569		
	Cu	65	97.251		
	Zn	66	100.133		
>	Ge	72		84.551	
	As	75	99.277		
	Se	82	96.237		
	Se-1	77			
>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	106.925	
|	Ag	107	85.839	
|	Cd	111	99.781	
|	Cd	114		
|>	In	115		80.738
|	Sn	118		
|	Sb	123	101.755	
⌊	Ba	135	105.800	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	99.069	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	99.067	
|	U	238	101.959	
⌊>	Bi	209		82.029
⌈	Na	23	94.733	
|	Mg	24	238.850	
|	K	39	115.425	
|	Ca	43	127.175	
|	Fe	54	99.792	
|	Fe	57	104.692	
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		
	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Al	27	
QC Std 5	Na	23	
QC Std 5	Mg	24	

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QC Std 5	Ca	43

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, October 12, 2016 20:13:53
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	48741.7	3.2				ug/L	72553	Standard
	Be	9	31586.3	4.5	**51.9708**	1.416	2.7	ug/L	10	Standard
	Al	27	3603468.1	1.1	**53.0517**	1.139	2.1	ug/L	232	Standard
	Sc	45	20201.8	3.9				ug/L	23513	Standard
	Ti	47	14379.8	1.8	**102.3720**	2.260	2.2	ug/L	36	Standard
	V	51	247201.6	1.9	**49.3703**	0.511	1.0	ug/L	1387	Standard
	Cr	52	237983.3	2.2	**49.4047**	0.677	1.4	ug/L	7813	Standard
	Cr	53	29979.6	2.7	**47.7782**	1.197	2.5	ug/L	1410	Standard
	Mn	55	393251.4	0.4	**49.0929**	0.518	1.1	ug/L	1043	Standard
	Co	59	340807.7	0.6	**48.0109**	0.254	0.5	ug/L	198	Standard
	Ni	60	74475.9	0.5	**48.0746**	0.593	1.2	ug/L	64	Standard
	Cu	65	78145.7	0.8	**48.9187**	0.514	1.1	ug/L	122	Standard
	Zn	66	42205.7	1.1	**48.9123**	0.188	0.4	ug/L	209	Standard
>	Ge	72	495185.8	0.8				ug/L	618040	Standard
	As	75	44356.3	0.8	**49.1386**	0.242	0.5	ug/L	11	Standard
	Se	82	4095.4	1.9	**48.3157**	0.871	1.8	ug/L	21	Standard
	Se-1	77	2859.3	2.0	**49.9543**	1.439	2.9	ug/L	86	Standard
>	Ga	71	16.7	62.4				mg/L	13	Standard
	Rb	85	618.3	5.7				ug/L	18	Standard
	Y	89	369476.0	2.6				ug/L	463757	Standard
>	Rh	103	23.3	32.7				ug/L	12	Standard
	Mo	98	297895.8	0.9	**101.7785**	0.554	0.5	ug/L	29	Standard
	Ag	107	263996.4	0.6	**50.3148**	0.193	0.4	ug/L	101	Standard
	Cd	111	85330.2	1.9	**50.8160**	0.882	1.7	mg/L	9	Standard
	Cd	114	219895.9	3.8	**50.0936**	1.946	3.9	ug/L	47	Standard
>	In	115	606755.9	0.8				ug/L	765457	Standard
	Sn	118	49222.2	1.7	**50.5951**	0.485	1.0	ug/L	168	Standard
	Sb	123	237126.0	1.3	**52.4289**	0.288	0.5	ug/L	332	Standard
	Ba	135	111548.6	2.4	**52.9895**	0.887	1.7	ug/L	37	Standard
	Ce	140	101.7	10.2				ug/L	895	Standard
>	Tb	159	1242632.8	2.7				ug/L	1511047	Standard
	Ho	165	23.3	65.5				ug/L	22	Standard
	Tl	203	446263.7	1.6	**50.4738**	0.408	0.8	ug/L	14	Standard
	Tl	205	1030034.9	1.3	**50.5152**	0.505	1.0	ug/L	27	Standard
	Pb	206	334644.9	0.4	**49.9377**	0.399	0.8	ug/L	557	Standard
	Pb	207	296509.1	1.8	**50.2221**	0.472	0.9	ug/L	432	Standard
	Pb	208	1337815.7	1.3	**50.0193**	0.289	0.6	ug/L	2118	Standard
	U	238	1203850.5	1.4	**49.7108**	0.463	0.9	ug/L	78	Standard
>	Bi	209	616667.7	1.0				ug/L	791817	Standard

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⌈	**Na**	23	6.7	43.3	**1.7623**	0.941	53.4	mg/L	5	Standard
|	**Mg**	24	1976.8	3.5	**4.4390**	0.296	6.7	mg/L	48	Standard
|	**K**	39	338.3	4.5	**5.7814**	0.240	4.1	mg/L	3	Standard
|	**Ca**	43	45.0	48.4	**0.3589**	9.522	2652.9	mg/L	62	Standard
|	**Fe**	54	4467.1	2.1	**5.0022**	0.170	3.4	mg/L	139	Standard
|	**Fe**	57	1371.7	8.6	**5.1353**	0.350	6.8	mg/L	83	Standard
⌊>	**Sc-1**	45	20201.8	3.9				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	1.7	34.6				ug/L	2	Standard
	Br	81	940.0	3.2				ug/L	910	Standard
	P	31	46.7	16.4				ug/L	85	Standard
	S	34	41.7	6.9				ug/L	48	Standard
	Sr	88	76.7	33.5				ug/L	72	Standard
	C	12	163.3	36.9				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	22.2	51.4				mg/L	22	Standard
	Ho-1	165	23.3	65.5				mg/L	22	Standard
	Er	166	23.3	24.7				mg/L	23	Standard
	I	127	5387.6	1.4				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	103.942		
⌊	Al	27	106.103		
⌈	Sc	45			
|	Ti	47	102.372		
|	V	51	98.741		
|	Cr	52	98.809		
|	Cr	53			
|	Mn	55	98.186		
|	Co	59	96.022		
|	Ni	60	96.149		
|	Cu	65	97.837		
|	Zn	66	97.825		
|>	Ge	72		80.122	
|	As	75	98.277		
|	Se	82	96.631		
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	101.778	
|	Ag	107	100.630	
|	Cd	111	101.632	
|	Cd	114		
|>	In	115		79.267
|	Sn	118	101.190	
|	Sb	123	104.858	
⌊	Ba	135	105.979	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.948	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	100.039	
|	U	238	99.422	
⌊>	Bi	209		77.880
⌈	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
In 115 Int Std for QC Std	In	115	Rerun sample
Bi 209 Int Std for QC Std	Bi	209	Rerun sample

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, October 12, 2016 20:16:53
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: BKT 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	49947.3	3.4				ug/L	72553	Standard
	Be	9	8.3	69.3	**-0.0036**	0.009	241.1	ug/L	10	Standard
	Al	27	816.7	88.4	**0.0080**	0.010	122.8	ug/L	232	Standard
	Sc	45	20096.7	6.7				ug/L	23513	Standard
	Ti	47	22.3	21.2	**-0.0731**	0.035	47.8	ug/L	36	Standard
	V	51	888.2	6.3	**-0.0243**	0.012	48.6	ug/L	1387	Standard
	Cr	52	5111.9	0.6	**-0.1596**	0.022	14.0	ug/L	7813	Standard
	Cr	53	625.0	7.1	**-0.8050**	0.086	10.7	ug/L	1410	Standard
	Mn	55	883.7	2.3	**-0.0415**	0.001	1.9	ug/L	1043	Standard
	Co	59	170.0	13.9	**0.0059**	0.003	49.2	ug/L	198	Standard
	Ni	60	49.0	11.4	**-0.0056**	0.004	72.5	ug/L	64	Standard
	Cu	65	101.0	13.1	**-0.0393**	0.007	18.2	ug/L	122	Standard
	Zn	66	186.7	6.7	**-0.5902**	0.019	3.2	ug/L	209	Standard
>	Ge	72	483381.2	2.0				ug/L	618040	Standard
	As	75	-11.5	169.0	**0.0278**	0.022	79.8	ug/L	11	Standard
	Se	82	18.4	20.0	**0.0891**	0.047	53.3	ug/L	21	Standard
	Se-1	77	68.0	7.4	**-0.0883**	0.089	100.3	ug/L	86	Standard
>	Ga	71	13.3	57.3				mg/L	13	Standard
	Rb	85	8.3	34.6				ug/L	18	Standard
	Y	89	355424.0	1.0				ug/L	463757	Standard
>	Rh	103	11.7	89.2				ug/L	12	Standard
	Mo	98	263.0	24.9	**0.0877**	0.024	27.2	ug/L	29	Standard
	Ag	107	133.7	26.7	**0.0114**	0.007	59.9	ug/L	101	Standard
	Cd	111	10.7	48.7	**0.0020**	0.003	163.4	mg/L	9	Standard
	Cd	114	36.9	60.1	**0.0084**	0.005	61.4	ug/L	47	Standard
>	In	115	585506.2	0.8				ug/L	765457	Standard
	Sn	118	114.3	24.3	**-0.0268**	0.031	114.2	ug/L	168	Standard
	Sb	123	887.2	48.0	**0.2073**	0.099	47.8	ug/L	332	Standard
	Ba	135	34.3	30.3	**-0.0076**	0.005	65.1	ug/L	37	Standard
	Ce	140	45.0	11.1				ug/L	895	Standard
>	Tb	159	1214883.4	0.7				ug/L	1511047	Standard
	Ho	165	13.3	21.7				ug/L	22	Standard
	Tl	203	48.7	67.5	**0.0053**	0.004	68.2	ug/L	14	Standard
	Tl	205	101.7	56.6	**0.0020**	0.003	136.3	ug/L	27	Standard
	Pb	206	426.7	7.8	**-0.0129**	0.004	30.2	ug/L	557	Standard
	Pb	207	357.3	13.0	**-0.0117**	0.007	57.8	ug/L	432	Standard
	Pb	208	1624.0	9.3	**-0.0144**	0.005	31.7	ug/L	2118	Standard
	U	238	97.0	71.4	**0.0043**	0.003	65.7	ug/L	78	Standard
>	Bi	209	612928.7	2.1				ug/L	791817	Standard

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⌈	**Na**	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	51.7	36.6	**0.0383**	0.045	116.3	mg/L	48	Standard
|	**K**	39	1.7	173.2	**-0.0123**	0.053	429.8	mg/L	3	Standard
|	**Ca**	43	30.0	28.9	**-6.1335**	2.767	45.1	mg/L	62	Standard
|	**Fe**	54	102.6	12.1	**0.0007**	0.022	3111.4	mg/L	139	Standard
|	**Fe**	57	170.0	10.6	**0.2437**	0.117	48.0	mg/L	83	Standard
⌊>	**Sc-1**	45	20096.7	6.7				mg/L	23513	Standard
	Cl	35	0.7	173.2				ug/L	3	Standard
	Kr	83	3.3	91.7				ug/L	2	Standard
	Br	81	883.4	12.1				ug/L	910	Standard
	P	31	61.7	57.5				ug/L	85	Standard
	S	34	36.7	43.8				ug/L	48	Standard
	Sr	88	98.3	15.5				ug/L	72	Standard
	C	12	133.3	22.9				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	6.5	86.7				mg/L	22	Standard
	Ho-1	165	13.3	21.7				mg/L	22	Standard
	Er	166	3.3	173.2				mg/L	23	Standard
	I	127	5536.0	5.5				mg/L	4241	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		78.212	
|	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	76.491
|	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	77.408
⌈	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
Ge 72 Int Std for QC Std	Ge	72	Rerun sample
In 115 Int Std for QC Std	In	115	Rerun sample
QC Std 7	Sb	123	

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Bi 209 Int Std for QC Std	Bi	209	Rerun sample

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: PBW 44 WG586713-02
Sample Date/Time: Wednesday, October 12, 2016 20:19:54
Number of Replicates: 3
Autosampler Position: 232
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	55530.0	4.0				ug/L	72553	Standard
	Be	9	1.7	173.2	**-0.0143**	0.004	30.5	ug/L	10	Standard
	Al	27	946.7	11.6	**0.0087**	0.001	10.9	ug/L	232	Standard
	Sc	45	22391.5	1.5				ug/L	23513	Standard
	Ti	47	21.3	27.5	**-0.0951**	0.040	42.2	ug/L	36	Standard
	V	51	-46.6	296.8	**-0.2153**	0.026	11.9	ug/L	1387	Standard
	Cr	52	5933.5	4.6	**-0.1045**	0.042	40.3	ug/L	7813	Standard
	Cr	53	4954.2	17.4	**5.7276**	1.251	21.8	ug/L	1410	Standard
	Mn	55	2530.9	3.4	**0.1387**	0.007	5.1	ug/L	1043	Standard
	Co	59	150.0	10.3	**0.0010**	0.002	188.5	ug/L	198	Standard
	Ni	60	74.7	4.1	**0.0067**	0.002	34.2	ug/L	64	Standard
	Cu	65	142.3	8.0	**-0.0214**	0.006	28.6	ug/L	122	Standard
	Zn	66	2086.1	2.6	**1.4616**	0.036	2.5	ug/L	209	Standard
>	Ge	72	534419.5	1.0				ug/L	618040	Standard
	As	75	-40.5	66.4	**-0.0003**	0.027	8779.3	ug/L	11	Standard
	Se	82	20.2	30.7	**0.0865**	0.067	77.1	ug/L	21	Standard
	Se-1	77	343.3	16.4	**4.3627**	0.886	20.3	ug/L	86	Standard
>	Ga	71	30.0	72.6				mg/L	13	Standard
	Rb	85	11.7	65.5				ug/L	18	Standard
	Y	89	389250.8	2.8				ug/L	463757	Standard
>	Rh	103	3.3	86.6				ug/L	12	Standard
	Mo	98	135.3	34.1	**0.0392**	0.014	36.2	ug/L	29	Standard
	Ag	107	102.0	8.0	**0.0040**	0.002	52.6	ug/L	101	Standard
	Cd	111	8.2	40.1	**0.0001**	0.002	1505.8	mg/L	9	Standard
	Cd	114	43.7	46.8	**0.0093**	0.004	45.3	ug/L	47	Standard
>	In	115	624134.1	3.0				ug/L	765457	Standard
	Sn	118	110.7	14.1	**-0.0384**	0.012	32.3	ug/L	168	Standard
	Sb	123	432.6	51.5	**0.0956**	0.045	47.1	ug/L	332	Standard
	Ba	135	44.7	15.2	**-0.0039**	0.003	70.6	ug/L	37	Standard
	Ce	140	50.0	10.0				ug/L	895	Standard
>	Tb	159	1317117.6	2.1				ug/L	1511047	Standard
	Ho	165	20.0	25.0				ug/L	22	Standard
	Tl	203	136.7	7.3	**0.0142**	0.001	9.8	ug/L	14	Standard
	Tl	205	316.7	3.3	**0.0114**	0.000	1.4	ug/L	27	Standard
	Pb	206	561.0	7.4	**0.0009**	0.008	839.4	ug/L	557	Standard
	Pb	207	478.7	5.0	**0.0028**	0.003	102.7	ug/L	432	Standard
	Pb	208	2214.7	2.6	**0.0015**	0.003	197.8	ug/L	2118	Standard
	U	238	18.3	35.1	**0.0010**	0.000	24.4	ug/L	78	Standard
>	Bi	209	664297.1	2.2				ug/L	791817	Standard

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⌈	**Na**	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	36.7	61.5	**-0.0047**	0.046	982.4	mg/L	48	Standard
|	**K**	39	8.3	34.6	**0.0867**	0.045	52.0	mg/L	3	Standard
|	**Ca**	43	33.3	37.7	**-6.0835**	4.707	77.4	mg/L	62	Standard
|	**Fe**	54	104.5	23.8	**-0.0103**	0.026	253.8	mg/L	139	Standard
|	**Fe**	57	186.7	10.8	**0.2294**	0.084	36.8	mg/L	83	Standard
⌊>	**Sc-1**	45	22391.5	1.5				mg/L	23513	Standard
	Cl	35	2.7	43.3				ug/L	3	Standard
	Kr	83	3.0	66.7				ug/L	2	Standard
	Br	81	926.7	7.8				ug/L	910	Standard
	P	31	71.7	28.2				ug/L	85	Standard
	S	34	40.0	45.1				ug/L	48	Standard
	Sr	88	116.7	30.1				ug/L	72	Standard
	C	12	183.3	17.5				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	7	Standard
	Dy	164	35.5	86.5				mg/L	22	Standard
	Ho-1	165	20.0	25.0				mg/L	22	Standard
	Er	166	23.3	24.7				mg/L	23	Standard
	I	127	5290.9	2.9				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		76.537	
|	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		86.470	
|	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	81.537
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	83.895
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 44 WG586713-03
Sample Date/Time: Wednesday, October 12, 2016 20:22:53
Number of Replicates: 3
Autosampler Position: 233
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	61466.1	1.2				ug/L	72553	Standard
	Be	9	393.3	14.8	**0.4961**	0.070	14.2	ug/L	10	Standard
	Al	27	91515.6	1.0	**1.0646**	0.018	1.7	ug/L	232	Standard
	Sc	45	23027.5	0.7				ug/L	23513	Standard
	Ti	47	1777.1	1.2	**10.9514**	0.232	2.1	ug/L	36	Standard
	V	51	56145.5	1.9	**9.7291**	0.257	2.6	ug/L	1387	Standard
	Cr	52	34275.4	0.8	**5.1655**	0.107	2.1	ug/L	7813	Standard
	Cr	53	18202.7	9.5	**24.7077**	2.173	8.8	ug/L	1410	Standard
	Mn	55	46732.6	0.9	**5.0084**	0.077	1.5	ug/L	1043	Standard
	Co	59	16085.2	0.6	**1.9813**	0.014	0.7	ug/L	198	Standard
	Ni	60	8812.6	1.5	**4.9845**	0.085	1.7	ug/L	64	Standard
	Cu	65	9194.1	0.8	**4.9842**	0.031	0.6	ug/L	122	Standard
	Zn	66	11022.7	2.3	**10.6412**	0.154	1.4	ug/L	209	Standard
>	Ge	72	561306.6	1.3				ug/L	618040	Standard
	As	75	3895.3	4.1	**3.8439**	0.110	2.9	ug/L	11	Standard
	Se	82	367.8	1.2	**3.7038**	0.039	1.1	ug/L	21	Standard
	Se-1	77	1136.0	5.8	**16.6310**	0.796	4.8	ug/L	86	Standard
>	Ga	71	26.7	71.0				mg/L	13	Standard
	Rb	85	95.0	22.9				ug/L	18	Standard
	Y	89	405418.8	3.0				ug/L	463757	Standard
>	Rh	103	28.3	36.7				ug/L	12	Standard
	Mo	98	32562.9	1.5	**10.4866**	0.226	2.2	ug/L	29	Standard
	Ag	107	23890.8	0.5	**4.2800**	0.051	1.2	ug/L	101	Standard
	Cd	111	866.7	2.1	**0.4822**	0.015	3.0	mg/L	9	Standard
	Cd	114	3476.1	6.2	**0.7460**	0.036	4.8	ug/L	47	Standard
>	In	115	643515.9	1.6				ug/L	765457	Standard
	Sn	118	10663.8	0.8	**10.2196**	0.255	2.5	ug/L	168	Standard
	Sb	123	59760.9	0.8	**12.4640**	0.256	2.1	ug/L	332	Standard
	Ba	135	24922.1	1.5	**11.1443**	0.088	0.8	ug/L	37	Standard
	Ce	140	65.0	7.7				ug/L	895	Standard
>	Tb	159	1385396.8	1.1				ug/L	1511047	Standard
	Ho	165	21.7	96.1				ug/L	22	Standard
	Tl	203	49391.7	0.7	**4.9496**	0.004	0.1	ug/L	14	Standard
	Tl	205	116934.5	0.3	**5.0786**	0.050	1.0	ug/L	27	Standard
	Pb	206	38435.4	0.7	**5.0127**	0.073	1.5	ug/L	557	Standard
	Pb	207	33879.2	0.8	**5.0197**	0.080	1.6	ug/L	432	Standard
	Pb	208	153580.6	0.9	**5.0203**	0.080	1.6	ug/L	2118	Standard
	U	238	22.7	17.8	**0.0011**	0.000	13.2	ug/L	78	Standard
>	Bi	209	695998.0	0.8				ug/L	791817	Standard

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⌈	**Na**	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	241.7	6.7	**0.4038**	0.036	8.9	mg/L	48	Standard
|	**K**	39	45.0	22.2	**0.6367**	0.152	23.8	mg/L	3	Standard
|	**Ca**	43	31.7	24.1	**-7.0272**	2.783	39.6	mg/L	62	Standard
|	**Fe**	54	190.7	15.1	**0.0733**	0.030	41.0	mg/L	139	Standard
|	**Fe**	57	215.0	34.4	**0.3120**	0.268	85.8	mg/L	83	Standard
⌊>	**Sc-1**	45	23027.5	0.7				mg/L	23513	Standard
	Cl	35	6.0	57.7				ug/L	3	Standard
	Kr	83	1.3	86.6				ug/L	2	Standard
	Br	81	983.4	11.7				ug/L	910	Standard
	P	31	68.3	25.7				ug/L	85	Standard
	S	34	48.3	33.3				ug/L	48	Standard
	Sr	88	98.3	23.5				ug/L	72	Standard
	C	12	150.0	43.7				mg/L	227	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	10.0					mg/L	7	Standard
	Dy	164	19.0	51.3				mg/L	22	Standard
	Ho-1	165	21.7	96.1				mg/L	22	Standard
	Er	166	20.0	50.0				mg/L	23	Standard
	I	127	5190.9	7.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		84.718	
|	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		90.820	
|	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	84.069
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	87.899
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	
C	12	
N	14	
Hg	202	
Dy	164	
Ho-1	165	
Er	166	
I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1610022201 WG586713-01
Sample Date/Time: Wednesday, October 12, 2016 20:25:53
Number of Replicates: 3
Autosampler Position: 234
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	57221.2	2.9				ug/L	72553	Standard
	Be	9	5.0	100.0	**-0.0097**	0.007	73.4	ug/L	10	Standard
	Al	27	1005.0	15.7	**0.0091**	0.002	22.3	ug/L	232	Standard
	Sc	45	22870.6	3.4				ug/L	23513	Standard
	Ti	47	26.7	7.8	**-0.0615**	0.007	12.0	ug/L	36	Standard
	V	51	965.8	22.5	**-0.0283**	0.042	147.8	ug/L	1387	Standard
	Cr	52	6530.1	4.7	**0.0058**	0.084	1435.8	ug/L	7813	Standard
	Cr	53	2968.6	13.7	**2.6662**	0.707	26.5	ug/L	1410	Standard
	Mn	55	2400.9	4.6	**0.1218**	0.011	9.1	ug/L	1043	Standard
	Co	59	207.7	8.2	**0.0083**	0.001	17.1	ug/L	198	Standard
	Ni	60	271.3	1.8	**0.1234**	0.008	6.7	ug/L	64	Standard
	Cu	65	221.0	7.9	**0.0234**	0.008	33.8	ug/L	122	Standard
	Zn	66	1991.8	2.5	**1.3441**	0.024	1.8	ug/L	209	Standard
>	Ge	72	538195.4	3.6				ug/L	618040	Standard
	As	75	-15.6	66.6	**0.0251**	0.011	42.8	ug/L	11	Standard
	Se	82	88.7	12.7	**0.8303**	0.118	14.3	ug/L	21	Standard
	Se-1	77	436.7	6.1	**5.8774**	0.572	9.7	ug/L	86	Standard
>	Ga	71	28.3	10.2				mg/L	13	Standard
	Rb	85	11332.6	4.0				ug/L	18	Standard
	Y	89	397874.7	3.2				ug/L	463757	Standard
>	Rh	103	20.0	25.0				ug/L	12	Standard
	Mo	98	299.8	11.1	**0.0929**	0.009	9.2	ug/L	29	Standard
	Ag	107	107.7	20.2	**0.0048**	0.004	90.7	ug/L	101	Standard
	Cd	111	6.6	66.5	**-0.0008**	0.003	321.2	mg/L	9	Standard
	Cd	114	26.6	19.1	**0.0055**	0.001	21.0	ug/L	47	Standard
>	In	115	630653.0	2.6				ug/L	765457	Standard
	Sn	118	127.7	11.3	**-0.0226**	0.011	47.7	ug/L	168	Standard
	Sb	123	307.7	35.4	**0.0690**	0.024	34.3	ug/L	332	Standard
	Ba	135	10193.4	2.3	**4.6391**	0.176	3.8	ug/L	37	Standard
	Ce	140	70.0	35.7				ug/L	895	Standard
>	Tb	159	1317466.0	3.0				ug/L	1511047	Standard
	Ho	165	20.0	75.0				ug/L	22	Standard
	Tl	203	143.3	4.2	**0.0147**	0.000	2.6	ug/L	14	Standard
	Tl	205	346.7	19.7	**0.0127**	0.003	23.6	ug/L	27	Standard
	Pb	206	3118.0	1.4	**0.3518**	0.002	0.5	ug/L	557	Standard
	Pb	207	2562.6	3.0	**0.3277**	0.019	5.7	ug/L	432	Standard
	Pb	208	11850.1	0.9	**0.3329**	0.004	1.3	ug/L	2118	Standard
	U	238	17.3	58.1	**0.0009**	0.000	43.1	ug/L	78	Standard
>	Bi	209	670030.8	1.8				ug/L	791817	Standard

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⌈	**Na**	23	13.3	94.4	**3.4123**	3.680	107.9	mg/L	5	Standard
|	**Mg**	24	2198.5	0.9	**4.3557**	0.137	3.1	mg/L	48	Standard
|	**K**	39	356.7	9.3	**5.3891**	0.621	11.5	mg/L	3	Standard
|	**Ca**	43	70.0	25.8	**7.3035**	6.124	83.9	mg/L	62	Standard
|	**Fe**	54	124.2	20.2	**0.0078**	0.029	371.7	mg/L	139	Standard
|	**Fe**	57	216.7	13.5	**0.3209**	0.082	25.5	mg/L	83	Standard
⌊>	**Sc-1**	45	22870.6	3.4				mg/L	23513	Standard
	Cl	35	2.7	114.6				ug/L	3	Standard
	Kr	83	3.7	56.8				ug/L	2	Standard
	Br	81	1406.7	5.7				ug/L	910	Standard
	P	31	63.3	48.2				ug/L	85	Standard
	S	34	31.7	39.7				ug/L	48	Standard
	Sr	88	133.3	13.2				ug/L	72	Standard
	C	12	186.7	26.4				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	7	Standard
	Dy	164	32.7	68.5				mg/L	22	Standard
	Ho-1	165	20.0	75.0				mg/L	22	Standard
	Er	166	13.3	114.6				mg/L	23	Standard
	I	127	9571.4	16.6				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		78.868	
|	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		87.081	
|	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	82.389
|	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	84.619
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1610022201 WG586713-01
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Method 6020 - Summary Report

Sample ID: L1610022201S WG586713-04
Sample Date/Time: Wednesday, October 12, 2016 20:28:52
Number of Replicates: 3
Autosampler Position: 235
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	60194.4	2.5				ug/L	72553	Standard
	Be	9	375.0	2.7	**0.4833**	0.022	4.5	ug/L	10	Standard
	Al	27	86606.9	1.7	**1.0290**	0.034	3.3	ug/L	232	Standard
	Sc	45	23007.5	3.1				ug/L	23513	Standard
	Ti	47	1703.4	2.5	**10.7075**	0.320	3.0	ug/L	36	Standard
	V	51	56452.2	1.2	**9.9872**	0.092	0.9	ug/L	1387	Standard
	Cr	52	33621.9	0.9	**5.1721**	0.078	1.5	ug/L	7813	Standard
	Cr	53	12707.0	5.9	**17.0831**	1.193	7.0	ug/L	1410	Standard
	Mn	55	45652.7	1.6	**4.9926**	0.098	2.0	ug/L	1043	Standard
	Co	59	15761.5	1.4	**1.9814**	0.032	1.6	ug/L	198	Standard
	Ni	60	8588.8	2.7	**4.9576**	0.152	3.1	ug/L	64	Standard
	Cu	65	9002.3	1.8	**4.9807**	0.114	2.3	ug/L	122	Standard
	Zn	66	11535.1	0.5	**11.4215**	0.110	1.0	ug/L	209	Standard
>	Ge	72	549984.1	0.4				ug/L	618040	Standard
	As	75	3879.8	2.2	**3.9080**	0.101	2.6	ug/L	11	Standard
	Se	82	442.1	5.1	**4.5741**	0.229	5.0	ug/L	21	Standard
	Se-1	77	1148.4	6.8	**17.2096**	1.310	7.6	ug/L	86	Standard
>	Ga	71	40.0	50.0				mg/L	13	Standard
	Rb	85	11714.5	1.4				ug/L	18	Standard
	Y	89	397405.1	1.6				ug/L	463757	Standard
>	Rh	103	45.0	33.3				ug/L	12	Standard
	Mo	98	31969.6	1.2	**10.5689**	0.222	2.1	ug/L	29	Standard
	Ag	107	22984.1	1.4	**4.2267**	0.080	1.9	ug/L	101	Standard
	Cd	111	835.1	3.5	**0.4768**	0.015	3.2	mg/L	9	Standard
	Cd	114	3411.2	4.5	**0.7521**	0.040	5.4	ug/L	47	Standard
>	In	115	626845.0	0.9				ug/L	765457	Standard
	Sn	118	10221.8	1.0	**10.0527**	0.194	1.9	ug/L	168	Standard
	Sb	123	57493.0	1.3	**12.3083**	0.215	1.7	ug/L	332	Standard
	Ba	135	34442.4	1.3	**15.8224**	0.309	2.0	ug/L	37	Standard
	Ce	140	66.7	48.2				ug/L	895	Standard
>	Tb	159	1391432.9	0.7				ug/L	1511047	Standard
	Ho	165	15.0	66.7				ug/L	22	Standard
	Tl	203	48487.8	0.5	**4.9195**	0.047	0.9	ug/L	14	Standard
	Tl	205	111863.2	2.1	**4.9185**	0.116	2.4	ug/L	27	Standard
	Pb	206	39110.4	1.8	**5.1658**	0.074	1.4	ug/L	557	Standard
	Pb	207	34546.7	2.1	**5.1835**	0.054	1.1	ug/L	432	Standard
	Pb	208	157010.4	1.5	**5.1981**	0.040	0.8	ug/L	2118	Standard
	U	238	14.7	14.2	**0.0008**	0.000	10.3	ug/L	78	Standard
>	Bi	209	687503.1	1.3				ug/L	791817	Standard

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	Na	23	16.7	17.3	**4.4090**	0.684	15.5	mg/L	5	Standard
	Mg	24	2333.5	4.5	**4.6032**	0.335	7.3	mg/L	48	Standard
	K	39	363.3	10.1	**5.4513**	0.601	11.0	mg/L	3	Standard
	Ca	43	63.3	16.4	**4.7985**	4.262	88.8	mg/L	62	Standard
	Fe	54	146.9	20.7	**0.0297**	0.033	109.5	mg/L	139	Standard
	Fe	57	213.3	22.2	**0.3046**	0.159	52.3	mg/L	83	Standard
>	**Sc-1**	45	23007.5	3.1				mg/L	23513	Standard
	Cl	35	1.3	173.2				ug/L	3	Standard
	Kr	83	4.0	25.0				ug/L	2	Standard
	Br	81	1363.4	5.5				ug/L	910	Standard
	P	31	60.0	25.0				ug/L	85	Standard
	S	34	60.0	8.3				ug/L	48	Standard
	Sr	88	106.7	21.7				ug/L	72	Standard
	C	12	166.7	18.3				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	34.6				mg/L	7	Standard
	Dy	164	25.9	47.4				mg/L	22	Standard
	Ho-1	165	15.0	66.7				mg/L	22	Standard
	Er	166	16.7	124.9				mg/L	23	Standard
	I	127	8659.1	6.5				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		82.966	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		88.988	
	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	81.892
|	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	86.826
⌈	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: L1610022201SD WG586713-05
Sample Date/Time: Wednesday, October 12, 2016 20:31:52
Number of Replicates: 3
Autosampler Position: 236
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	59163.8	4.3				ug/L	72553	Standard
	Be	9	410.0	13.9	**0.5379**	0.056	10.3	ug/L	10	Standard
	Al	27	87401.4	1.3	**1.0571**	0.034	3.2	ug/L	232	Standard
	Sc	45	22585.2	1.6				ug/L	23513	Standard
	Ti	47	1709.1	1.2	**10.7253**	0.256	2.4	ug/L	36	Standard
	V	51	55026.5	1.6	**9.7131**	0.206	2.1	ug/L	1387	Standard
	Cr	52	33750.9	0.4	**5.1859**	0.117	2.3	ug/L	7813	Standard
	Cr	53	16153.6	5.2	**22.1712**	1.089	4.9	ug/L	1410	Standard
	Mn	55	46164.6	1.7	**5.0405**	0.012	0.2	ug/L	1043	Standard
	Co	59	15904.0	0.7	**1.9959**	0.018	0.9	ug/L	198	Standard
	Ni	60	8912.3	0.8	**5.1369**	0.097	1.9	ug/L	64	Standard
	Cu	65	9180.1	0.4	**5.0723**	0.094	1.9	ug/L	122	Standard
	Zn	66	11125.4	1.2	**10.9654**	0.039	0.4	ug/L	209	Standard
>	Ge	72	550990.2	1.4				ug/L	618040	Standard
	As	75	3885.3	2.4	**3.9061**	0.078	2.0	ug/L	11	Standard
	Se	82	451.8	3.1	**4.6702**	0.184	3.9	ug/L	21	Standard
	Se-1	77	1268.1	6.1	**19.0998**	1.150	6.0	ug/L	86	Standard
>	Ga	71	45.0	40.1				mg/L	13	Standard
	Rb	85	11814.6	2.0				ug/L	18	Standard
	Y	89	393742.4	2.4				ug/L	463757	Standard
>	Rh	103	40.0	69.6				ug/L	12	Standard
	Mo	98	31824.7	0.9	**10.7789**	0.114	1.1	ug/L	29	Standard
	Ag	107	22333.8	1.3	**4.2079**	0.062	1.5	ug/L	101	Standard
	Cd	111	805.3	1.0	**0.4711**	0.005	1.0	mg/L	9	Standard
	Cd	114	3500.6	1.2	**0.7906**	0.010	1.3	ug/L	47	Standard
>	In	115	611787.9	0.3				ug/L	765457	Standard
	Sn	118	10245.1	2.3	**10.3266**	0.248	2.4	ug/L	168	Standard
	Sb	123	57058.4	0.4	**12.5149**	0.049	0.4	ug/L	332	Standard
	Ba	135	33657.0	1.8	**15.8412**	0.324	2.0	ug/L	37	Standard
	Ce	140	75.0	24.0				ug/L	895	Standard
>	Tb	159	1343187.9	2.2				ug/L	1511047	Standard
	Ho	165	20.0	86.6				ug/L	22	Standard
	Tl	203	48037.7	0.2	**4.9514**	0.087	1.8	ug/L	14	Standard
	Tl	205	112225.8	1.2	**5.0123**	0.038	0.8	ug/L	27	Standard
	Pb	206	39355.0	0.6	**5.2827**	0.084	1.6	ug/L	557	Standard
	Pb	207	34598.5	1.4	**5.2752**	0.051	1.0	ug/L	432	Standard
	Pb	208	157078.9	0.9	**5.2844**	0.073	1.4	ug/L	2118	Standard
	U	238	13.7	37.5	**0.0008**	0.000	25.9	ug/L	78	Standard
>	Bi	209	676806.7	1.6				ug/L	791817	Standard

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	Na	23	20.0	25.0	**5.5123**	1.498	27.2	mg/L	5	Standard
	Mg	24	2365.2	3.3	**4.7512**	0.226	4.8	mg/L	48	Standard
	K	39	350.0	5.2	**5.3434**	0.238	4.4	mg/L	3	Standard
	Ca	43	65.0	13.3	**5.8045**	3.151	54.3	mg/L	62	Standard
	Fe	54	160.0	32.9	**0.0461**	0.057	122.7	mg/L	139	Standard
	Fe	57	211.7	11.7	**0.3134**	0.081	25.9	mg/L	83	Standard
>	**Sc-1**	45	22585.2	1.6				mg/L	23513	Standard
	Cl	35	2.0	100.0				ug/L	3	Standard
	Kr	83	3.3	34.6				ug/L	2	Standard
	Br	81	1223.4	18.6				ug/L	910	Standard
	P	31	66.7	15.6				ug/L	85	Standard
	S	34	50.0	10.0				ug/L	48	Standard
	Sr	88	100.0	5.0				ug/L	72	Standard
	C	12	203.3	12.4				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	7	Standard
	Dy	164	26.2	57.8				mg/L	22	Standard
	Ho-1	165	20.0	86.6				mg/L	22	Standard
	Er	166	10.0	100.0				mg/L	23	Standard
	I	127	8327.3	4.8				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		81.545	
	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		89.151	
	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	79.924
|	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	85.475
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: L1610022201SD WG586713-05
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Method 6020 - Summary Report

Sample ID: L1610022201PS WG586888-01
Sample Date/Time: Wednesday, October 12, 2016 20:34:52
Number of Replicates: 3
Autosampler Position: 237
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	59053.3	2.9				ug/L	72553	Standard
	Be	9	38425.4	2.6	**52.1921**	0.411	0.8	ug/L	10	Standard
	Al	27	1311.7	16.0	**0.0124**	0.002	17.2	ug/L	232	Standard
	Sc	45	23042.5	2.7				ug/L	23513	Standard
	Ti	47	26.3	5.8	**-0.0671**	0.009	13.2	ug/L	36	Standard
	V	51	287101.9	1.7	**51.6948**	1.375	2.7	ug/L	1387	Standard
	Cr	52	275857.4	1.2	**51.6768**	1.122	2.2	ug/L	7813	Standard
	Cr	53	42178.6	2.3	**61.0872**	1.761	2.9	ug/L	1410	Standard
	Mn	55	452598.0	0.8	**50.9226**	0.126	0.2	ug/L	1043	Standard
	Co	59	388278.3	0.7	**49.2943**	0.204	0.4	ug/L	198	Standard
	Ni	60	85832.4	0.3	**49.9316**	0.369	0.7	ug/L	64	Standard
	Cu	65	89451.6	0.8	**50.4707**	0.916	1.8	ug/L	122	Standard
	Zn	66	50111.7	0.6	**52.3987**	0.740	1.4	ug/L	209	Standard
>	**Ge**	72	549477.4	1.0				ug/L	618040	Standard
	As	75	48142.9	0.5	**48.0679**	0.594	1.2	ug/L	11	Standard
	Se	82	4513.0	1.6	**47.9842**	0.978	2.0	ug/L	21	Standard
	Se-1	77	3675.1	0.6	**58.0684**	0.404	0.7	ug/L	86	Standard
>	**Ga**	71	43.3	46.6				mg/L	13	Standard
	Rb	85	11521.0	2.4				ug/L	18	Standard
	Y	89	403894.6	2.4				ug/L	463757	Standard
>	**Rh**	103	28.3	40.8				ug/L	12	Standard
	Mo	98	318.6	3.9	**0.0990**	0.004	4.2	ug/L	29	Standard
	Ag	107	272229.8	1.4	**49.8034**	0.480	1.0	ug/L	101	Standard
	Cd	111	85085.6	1.9	**48.6412**	0.979	2.0	mg/L	9	Standard
	Cd	114	214141.4	2.8	**46.8273**	1.341	2.9	ug/L	47	Standard
>	**In**	115	632081.2	0.7				ug/L	765457	Standard
	Sn	118	141.0	13.5	**-0.0096**	0.019	193.6	ug/L	168	Standard
	Sb	123	233626.6	0.8	**49.5871**	0.263	0.5	ug/L	332	Standard
	Ba	135	130937.4	0.8	**59.7181**	0.774	1.3	ug/L	37	Standard
	Ce	140	60.0	14.4				ug/L	895	Standard
>	**Tb**	159	1375839.8	1.1				ug/L	1511047	Standard
	Ho	165	20.0	50.0				ug/L	22	Standard
	Tl	203	492066.2	0.7	**49.4021**	0.702	1.4	ug/L	14	Standard
	Tl	205	1150165.5	2.5	**50.0591**	0.804	1.6	ug/L	27	Standard
	Pb	206	379188.1	1.4	**50.2234**	0.844	1.7	ug/L	557	Standard
	Pb	207	323404.6	1.6	**48.6235**	1.067	2.2	ug/L	432	Standard
	Pb	208	1499791.2	0.9	**49.7738**	0.671	1.3	ug/L	2118	Standard
	U	238	1324336.9	1.5	**48.5394**	0.786	1.6	ug/L	78	Standard
>	**Bi**	209	694789.7	0.9				ug/L	791817	Standard

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⌈	**Na**	23	16.7	62.4	**4.4539**	3.136	70.4	mg/L	5	Standard
|	**Mg**	24	2300.2	1.4	**4.5254**	0.146	3.2	mg/L	48	Standard
|	**K**	39	293.3	14.3	**4.3903**	0.699	15.9	mg/L	3	Standard
|	**Ca**	43	66.7	8.7	**5.9715**	2.510	42.0	mg/L	62	Standard
|	**Fe**	54	111.6	24.1	**-0.0063**	0.026	417.2	mg/L	139	Standard
|	**Fe**	57	175.0	4.9	**0.1675**	0.027	16.4	mg/L	83	Standard
⌊>	**Sc-1**	45	23042.5	2.7				mg/L	23513	Standard
	Cl	35	5.3	43.3				ug/L	3	Standard
	Kr	83	2.0	50.0				ug/L	2	Standard
	Br	81	1463.4	3.2				ug/L	910	Standard
	P	31	70.0	14.3				ug/L	85	Standard
	S	34	58.3	27.6				ug/L	48	Standard
	Sr	88	125.0	25.0				ug/L	72	Standard
	C	12	233.3	6.5				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	7	Standard
	Dy	164	32.2	65.1				mg/L	22	Standard
	Ho-1	165	20.0	50.0				mg/L	22	Standard
	Er	166	23.3	49.5				mg/L	23	Standard
	I	127	8288.9	5.2				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		81.393	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		88.906	
|	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	82.576
|	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	87.746
⌈	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: L1610022201PS WG586888-01
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Method 6020 - Summary Report

Sample ID: L1610022201SDL WG586888-02
Sample Date/Time: Wednesday, October 12, 2016 20:37:51
Number of Replicates: 3
Autosampler Position: 238
Sample Description: 250
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	57432.1	4.7				ug/L	72553	Standard
	Be	9	6.7	114.6	**-0.0076**	0.011	140.7	ug/L	10	Standard
	Al	27	943.4	22.1	**0.0083**	0.003	32.6	ug/L	232	Standard
	Sc	45	22032.7	1.2				ug/L	23513	Standard
	Ti	47	25.7	6.0	**-0.0641**	0.013	20.2	ug/L	36	Standard
	V	51	531.2	39.6	**-0.1063**	0.041	39.0	ug/L	1387	Standard
	Cr	52	6580.1	1.0	**0.0421**	0.011	26.2	ug/L	7813	Standard
	Cr	53	2960.3	2.1	**2.7417**	0.059	2.1	ug/L	1410	Standard
	Mn	55	1304.1	2.7	**-0.0014**	0.005	388.8	ug/L	1043	Standard
	Co	59	170.0	2.4	**0.0039**	0.001	19.4	ug/L	198	Standard
	Ni	60	110.3	3.8	**0.0289**	0.002	8.5	ug/L	64	Standard
	Cu	65	829.4	3.8	**0.3852**	0.025	6.6	ug/L	122	Standard
	Zn	66	1312.4	4.2	**0.6374**	0.039	6.1	ug/L	209	Standard
>	Ge	72	526838.8	1.6				ug/L	618040	Standard
	As	75	-15.7	192.1	**0.0250**	0.031	124.2	ug/L	11	Standard
	Se	82	32.5	14.7	**0.2272**	0.056	24.7	ug/L	21	Standard
	Se-1	77	205.7	8.8	**2.1316**	0.330	15.5	ug/L	86	Standard
>	Ga	71	21.7	48.0				mg/L	13	Standard
	Rb	85	2286.8	5.5				ug/L	18	Standard
	Y	89	392155.9	1.6				ug/L	463757	Standard
>	Rh	103	11.7	49.5				ug/L	12	Standard
	Mo	98	88.3	25.5	**0.0234**	0.007	29.4	ug/L	29	Standard
	Ag	107	112.3	14.3	**0.0057**	0.003	58.6	ug/L	101	Standard
	Cd	111	9.6	49.2	**0.0008**	0.003	312.9	mg/L	9	Standard
	Cd	114	37.3	34.7	**0.0078**	0.003	33.4	ug/L	47	Standard
>	In	115	631142.3	2.4				ug/L	765457	Standard
	Sn	118	102.0	11.9	**-0.0481**	0.010	19.9	ug/L	168	Standard
	Sb	123	1535.7	41.0	**0.3284**	0.127	38.8	ug/L	332	Standard
	Ba	135	2078.1	4.7	**0.9260**	0.064	7.0	ug/L	37	Standard
	Ce	140	45.0	11.1				ug/L	895	Standard
>	Tb	159	1327803.1	2.5				ug/L	1511047	Standard
	Ho	165	18.3	41.7				ug/L	22	Standard
	Tl	203	140.7	6.5	**0.0145**	0.001	6.1	ug/L	14	Standard
	Tl	205	333.3	20.5	**0.0121**	0.003	25.4	ug/L	27	Standard
	Pb	206	1001.4	5.2	**0.0607**	0.006	10.4	ug/L	557	Standard
	Pb	207	826.7	6.5	**0.0565**	0.007	12.0	ug/L	432	Standard
	Pb	208	3904.5	3.7	**0.0590**	0.003	5.9	ug/L	2118	Standard
	U	238	86.7	15.8	**0.0035**	0.001	14.2	ug/L	78	Standard
>	Bi	209	669887.2	1.2				ug/L	791817	Standard

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⌈	**Na**	23	3.3	86.6	**0.5617**	0.883	157.2	mg/L	5	Standard
|	**Mg**	24	468.3	9.9	**0.9000**	0.098	10.8	mg/L	48	Standard
|	**K**	39	80.0	70.4	**1.2259**	0.908	74.1	mg/L	3	Standard
|	**Ca**	43	51.7	24.4	**1.2390**	4.704	379.7	mg/L	62	Standard
|	**Fe**	54	132.7	30.3	**0.0214**	0.044	205.4	mg/L	139	Standard
|	**Fe**	57	216.7	19.4	**0.3522**	0.158	44.7	mg/L	83	Standard
⌊>	**Sc-1**	45	22032.7	1.2				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	5.0	52.9				ug/L	2	Standard
	Br	81	940.0	24.0				ug/L	910	Standard
	P	31	76.7	13.6				ug/L	85	Standard
	S	34	45.0	67.6				ug/L	48	Standard
	Sr	88	118.3	8.8				ug/L	72	Standard
	C	12	156.7	49.6				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0					mg/L	7	Standard
	Dy	164	12.5	45.0				mg/L	22	Standard
	Ho-1	165	18.3	41.7				mg/L	22	Standard
	Er	166	16.7	34.6				mg/L	23	Standard
	I	127	5421.0	5.0				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		79.158	
|	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		85.243	
|	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	82.453
|	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	84.601
⌈	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: L1610022201SDL WG586888-02
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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, October 12, 2016 20:40:52
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	51009.2	5.1				ug/L	72553	Standard
	Be	9	33258.1	1.6	**52.4141**	3.507	6.7	ug/L	10	Standard
	Al	27	3774868.8	1.2	**53.1668**	2.576	4.8	ug/L	232	Standard
	Sc	45	21089.7	0.8				ug/L	23513	Standard
	Ti	47	15186.9	1.1	**104.8563**	1.195	1.1	ug/L	36	Standard
	V	51	263032.8	1.6	**50.9540**	0.216	0.4	ug/L	1387	Standard
	Cr	52	249366.6	1.3	**50.2322**	0.761	1.5	ug/L	7813	Standard
	Cr	53	31489.4	1.1	**48.7150**	1.160	2.4	ug/L	1410	Standard
	Mn	55	404379.3	0.5	**48.9578**	0.398	0.8	ug/L	1043	Standard
	Co	59	348175.3	1.1	**47.5673**	0.146	0.3	ug/L	198	Standard
	Ni	60	76833.7	0.7	**48.0993**	0.526	1.1	ug/L	64	Standard
	Cu	65	79366.7	0.6	**48.1820**	0.343	0.7	ug/L	122	Standard
	Zn	66	43223.2	0.7	**48.5760**	0.277	0.6	ug/L	209	Standard
>	Ge	72	510607.1	1.3				ug/L	618040	Standard
	As	75	45781.9	1.3	**49.1924**	0.983	2.0	ug/L	11	Standard
	Se	82	4214.6	1.8	**48.2231**	0.900	1.9	ug/L	21	Standard
	Se-1	77	2952.6	0.6	**50.0244**	0.380	0.8	ug/L	86	Standard
>	Ga	71	16.7	17.3				mg/L	13	Standard
	Rb	85	696.7	5.8				ug/L	18	Standard
	Y	89	364941.8	2.9				ug/L	463757	Standard
>	Rh	103	36.7	15.7				ug/L	12	Standard
	Mo	98	299153.5	0.9	**102.9235**	2.198	2.1	ug/L	29	Standard
	Ag	107	269707.8	1.0	**51.7575**	0.673	1.3	ug/L	101	Standard
	Cd	111	83741.4	1.1	**50.2256**	1.514	3.0	mg/L	9	Standard
	Cd	114	221220.5	1.4	**50.7548**	1.681	3.3	ug/L	47	Standard
>	In	115	602715.8	2.3				ug/L	765457	Standard
	Sn	118	49601.7	1.6	**51.3556**	1.734	3.4	ug/L	168	Standard
	Sb	123	235230.7	0.8	**52.3820**	1.498	2.9	ug/L	332	Standard
	Ba	135	112217.1	1.3	**53.6954**	1.835	3.4	ug/L	37	Standard
	Ce	140	125.0	25.0				ug/L	895	Standard
>	Tb	159	1236930.8	0.9				ug/L	1511047	Standard
	Ho	165	20.0	75.0				ug/L	22	Standard
	Tl	203	456749.2	1.7	**50.7615**	1.300	2.6	ug/L	14	Standard
	Tl	205	1062746.9	3.6	**51.2138**	2.153	4.2	ug/L	27	Standard
	Pb	206	343560.6	1.4	**50.3713**	1.057	2.1	ug/L	557	Standard
	Pb	207	301585.8	1.1	**50.1926**	0.969	1.9	ug/L	432	Standard
	Pb	208	1373592.9	1.3	**50.4599**	0.863	1.7	ug/L	2118	Standard
	U	238	1227675.0	0.8	**49.8092**	0.841	1.7	ug/L	78	Standard
>	Bi	209	627690.2	0.8				ug/L	791817	Standard

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	Na	23	16.7	45.8	**4.8536**	2.391	49.3	mg/L	5	Standard
	Mg	24	2135.2	8.1	**4.5883**	0.375	8.2	mg/L	48	Standard
	K	39	341.7	8.8	**5.5909**	0.527	9.4	mg/L	3	Standard
	Ca	43	56.7	20.4	**4.1847**	4.704	112.4	mg/L	62	Standard
	Fe	54	4663.8	3.5	**4.9984**	0.157	3.1	mg/L	139	Standard
	Fe	57	1490.1	5.1	**5.3655**	0.269	5.0	mg/L	83	Standard
>	**Sc-1**	45	21089.7	0.8				mg/L	23513	Standard
	Cl	35	3.3	91.7				ug/L	3	Standard
	Kr	83	1.7	124.9				ug/L	2	Standard
	Br	81	903.4	7.8				ug/L	910	Standard
	P	31	75.0	23.1				ug/L	85	Standard
	S	34	46.7	34.4				ug/L	48	Standard
	Sr	88	96.7	31.2				ug/L	72	Standard
	C	12	140.0	14.3				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	7	Standard
	Dy	164	7.8	132.2				mg/L	22	Standard
	Ho-1	165	20.0	75.0				mg/L	22	Standard
	Er	166	46.7	32.7				mg/L	23	Standard
	I	127	4639.0	3.7				mg/L	4241	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	104.828		
	Al	27	106.334		
	Sc	45			
	Ti	47	104.856		
	V	51	101.908		
	Cr	52	100.464		
	Cr	53			
	Mn	55	97.916		
	Co	59	95.135		
	Ni	60	96.199		
	Cu	65	96.364		
	Zn	66	97.152		
>	Ge	72		82.617	
	As	75	98.385		
	Se	82	96.446		
	Se-1	77			
>	Ga	71			

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Rb	85			
Y	89			
> Rh	103			
Mo	98	102.924		
Ag	107	103.515		
Cd	111	100.451		
Cd	114			
> In	115			78.739
Sn	118	102.711		
Sb	123	104.764		
Ba	135	107.391		
Ce	140			
> Tb	159			
Ho	165			
Tl	203	101.523		
Tl	205			
Pb	206			
Pb	207			
Pb	208	100.920		
U	238	99.618		
> Bi	209			79.272
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
In 115 Int Std for QC Std	In	115	Rerun sample
Bi 209 Int Std for QC Std	Bi	209	Rerun sample

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, October 12, 2016 20:43:52
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: BKT 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	50985.8	5.2				ug/L	72553	Standard
	Be	9	8.3	69.3	**-0.0040**	0.008	206.5	ug/L	10	Standard
	Al	27	451.7	14.4	**0.0028**	0.001	38.6	ug/L	232	Standard
	Sc	45	21007.9	1.0				ug/L	23513	Standard
	Ti	47	21.0	14.3	**-0.0887**	0.022	24.6	ug/L	36	Standard
	V	51	988.2	8.8	**-0.0117**	0.016	136.4	ug/L	1387	Standard
	Cr	52	5335.6	3.0	**-0.1560**	0.027	17.3	ug/L	7813	Standard
	Cr	53	711.7	7.4	**-0.7048**	0.093	13.2	ug/L	1410	Standard
	Mn	55	817.4	2.7	**-0.0541**	0.003	4.8	ug/L	1043	Standard
	Co	59	159.7	3.6	**0.0036**	0.001	20.7	ug/L	198	Standard
	Ni	60	43.0	26.8	**-0.0107**	0.007	69.9	ug/L	64	Standard
	Cu	65	99.0	4.0	**-0.0429**	0.002	5.0	ug/L	122	Standard
	Zn	66	171.7	3.5	**-0.6164**	0.008	1.3	ug/L	209	Standard
>	Ge	72	502756.3	0.6				ug/L	618040	Standard
	As	75	-17.1	212.1	**0.0223**	0.040	177.5	ug/L	11	Standard
	Se	82	19.3	32.6	**0.0897**	0.072	80.5	ug/L	21	Standard
	Se-1	77	67.7	12.0	**-0.1419**	0.148	104.6	ug/L	86	Standard
>	Ga	71	11.7	65.5				mg/L	13	Standard
	Rb	85	10.0	50.0				ug/L	18	Standard
	Y	89	368390.5	1.6				ug/L	463757	Standard
>	Rh	103	8.3	69.3				ug/L	12	Standard
	Mo	98	154.1	14.8	**0.0472**	0.008	16.7	ug/L	29	Standard
	Ag	107	104.0	20.0	**0.0048**	0.004	74.3	ug/L	101	Standard
	Cd	111	10.8	9.2	**0.0018**	0.001	37.7	mg/L	9	Standard
	Cd	114	36.7	38.0	**0.0080**	0.003	38.4	ug/L	47	Standard
>	In	115	605932.8	1.7				ug/L	765457	Standard
	Sn	118	122.0	27.1	**-0.0231**	0.035	151.1	ug/L	168	Standard
	Sb	123	483.9	45.5	**0.1106**	0.049	44.5	ug/L	332	Standard
	Ba	135	25.3	8.2	**-0.0125**	0.001	9.5	ug/L	37	Standard
	Ce	140	25.0	20.0				ug/L	895	Standard
>	Tb	159	1233657.1	2.6				ug/L	1511047	Standard
	Ho	165	13.3	94.4				ug/L	22	Standard
	Tl	203	34.0	5.1	**0.0036**	0.000	6.4	ug/L	14	Standard
	Tl	205	81.7	15.4	**0.0009**	0.001	65.9	ug/L	27	Standard
	Pb	206	422.7	3.9	**-0.0157**	0.003	18.7	ug/L	557	Standard
	Pb	207	361.0	7.3	**-0.0131**	0.005	36.3	ug/L	432	Standard
	Pb	208	1651.0	1.6	**-0.0155**	0.001	8.6	ug/L	2118	Standard
	U	238	84.7	7.6	**0.0037**	0.000	7.7	ug/L	78	Standard
>	Bi	209	635249.7	1.0				ug/L	791817	Standard

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⌈	**Na**	23	0.0		**-0.4577**	0.000	0.0	mg/L	5	Standard
|	**Mg**	24	30.0	16.7	**-0.0146**	0.011	74.3	mg/L	48	Standard
|	**K**	39	3.3	86.6	**0.0126**	0.048	381.6	mg/L	3	Standard
|	**Ca**	43	23.3	65.5	**-9.3055**	6.161	66.2	mg/L	62	Standard
|	**Fe**	54	115.9	13.0	**0.0093**	0.017	183.8	mg/L	139	Standard
|	**Fe**	57	126.7	17.8	**0.0383**	0.087	226.8	mg/L	83	Standard
⌊>	**Sc-1**	45	21007.9	1.0				mg/L	23513	Standard
	Cl	35	1.3	86.6				ug/L	3	Standard
	Kr	83	3.7	31.5				ug/L	2	Standard
	Br	81	960.0	18.1				ug/L	910	Standard
	P	31	65.0	23.1				ug/L	85	Standard
	S	34	45.0	11.1				ug/L	48	Standard
	Sr	88	110.0	16.4				ug/L	72	Standard
	C	12	123.3	32.8				mg/L	227	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	7	Standard
	Dy	164	2.2	267.0				mg/L	22	Standard
	Ho-1	165	13.3	94.4				mg/L	22	Standard
	Er	166	23.3	24.7				mg/L	23	Standard
	I	127	4525.7	3.8				mg/L	4241	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		81.347	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 7
Report Date/Time: Wednesday, October 12, 2016 20:45:57
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Rb	85		
Y	89		
Rh	103		
Mo	98		
Ag	107		
Cd	111		
Cd	114		
In	115		79.160
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		80.227
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
In 115 Int Std for QC Std	In	115	Rerun sample

Sample ID: QC Std 7
Report Date/Time: Wednesday, October 12, 2016 20:45:57
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2.4 General Chemistry Data

2.4.1 Method 9056

2.4.1.1 Summary Data

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-01	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	35AWW09-100316	**Prep Method:**	9056	**Prep Date:**	10/04/2016 23:32
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586244	**Analyst:**	CAS	**Run Date:**	10/05/2016 03:23
Collect Date:	10/03/2016 08:25	**Dilution:**	10	**File ID:**	I2_100416-45
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	951		20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-01	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	35AWW09-100316	**Prep Method:**	9056	**Prep Date:**	10/04/2016 23:32
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586244	**Analyst:**	CAS	**Run Date:**	10/05/2016 03:42
Collect Date:	10/03/2016 08:25	**Dilution:**	100	**File ID:**	I2_100416-46
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1420		40.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-03	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	35AWW10-100316	**Prep Method:**	9056	**Prep Date:**	10/04/2016 23:32
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586244	**Analyst:**	CAS	**Run Date:**	10/05/2016 05:57
Collect Date:	10/03/2016 09:40	**Dilution:**	1	**File ID:**	I2_100416-53
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	6.37		0.400	0.200	0.100
Nitrate	14797-55-8	0.200	U	0.400	0.200	0.100
Nitrite	14797-65-0	0.200	U	0.400	0.200	0.100
Sulfate	14808-79-8	47.0		2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-05	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	35AWW11-100316	**Prep Method:**	9056	**Prep Date:**	10/04/2016 23:32
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586244	**Analyst:**	CAS	**Run Date:**	10/05/2016 04:01
Collect Date:	10/03/2016 10:50	**Dilution:**	20	**File ID:**	I2_100416-47
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	4.00	U	8.00	4.00	2.00
Nitrite	14797-65-0	4.00	U	8.00	4.00	2.00
Sulfate	14808-79-8	1160		40.0	20.0	10.0

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-05	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	35AWW11-100316	**Prep Method:**	9056	**Prep Date:**	10/04/2016 23:32
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586244	**Analyst:**	CAS	**Run Date:**	10/05/2016 04:21
Collect Date:	10/03/2016 10:50	**Dilution:**	200	**File ID:**	I2_100416-48
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	2380		80.0	40.0	20.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-07	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	35AWW06-100316	**Prep Method:**	9056	**Prep Date:**	10/04/2016 23:32
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586244	**Analyst:**	CAS	**Run Date:**	10/05/2016 04:40
Collect Date:	10/03/2016 13:30	**Dilution:**	20	**File ID:**	I2_100416-49
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	4.00	U	8.00	4.00	2.00
Nitrite	14797-65-0	4.00	U	8.00	4.00	2.00
Sulfate	14808-79-8	1450		40.0	20.0	10.0

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-07	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	35AWW06-100316	**Prep Method:**	9056	**Prep Date:**	10/04/2016 23:32
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586244	**Analyst:**	CAS	**Run Date:**	10/05/2016 04:59
Collect Date:	10/03/2016 13:30	**Dilution:**	200	**File ID:**	I2_100416-50
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	948		80.0	40.0	20.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.4.1.2 QC Summary Data

Example Calculations - Ion Chromatography

A. Methods 9056/300.0 (Quadratic with Offset)

1. Retrieve Curve Data from the ICAL Curve

c2 = the value of curve constant
c1= the curve slope
c0 = the curve offset

2. Obtain the area, y , from the instrument raw data

3. Calculate the concentration of the analyte, f(y), where:

$$f(y) = \frac{1}{2 * c_2} * \left(- c_1 \pm \sqrt{c_1^2 - 4 * c_2 * (c_0 - y)} \right)$$

Example Calculation:

Value of constant, c2, (curve):	0.0003
Value of curve constant, c1, (slope):	0.0869
Value of curve constant, c0, (offset):	-0.0103
Area of target analyte, y, (uS*min):	2.993
Calculated concentration, f(y), (mg/L):	31.1998864
or:	-40.1161215 *
Dilution factor (D):	1.00
Concentration of analyte in sample (mg/L):	31.200

* There are two possible solutions, but only one is valid.

B. Method 314.0 - Perchlorate (Linear)

Retrieve Curve Data from Linear Plot

c1 = the curve slope

Obtain the area, y , from the quantitation report

Calculate the concentration of the analyte, f(y), where:

f (y) = y / c1

Example Calculation:

Value of c1, slope:	0.0034
Area of target analyte, y:	0.083
Calculated concentration:	24.4117647
Dilution Factor:	1
Concentration in sample:	24.4117647

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC2 Dataset: 090716 IC2 ICAL.SEQ
Analyst1: JWR Analyst2: NA
Method: IC01 SOP: 300/9056 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160109254
Eluent ID#: RGT37803

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
ICAL and LCRV's
Internal STD: NA Surrogate STD: NA Calibration STD STD77046 (09/07/2016)
CCV STD: NA LCS STD: NA MS/MSD STD: NA

Comments:
ICAL WG583007 : Alternate Source STD77045
Guard Column : Ionpac AG14A (4x50mm)
Dionex S/N 012640
Analytical Column : Ionpac AS14A (4x250mm)
Dionex S/N 010066
Cond Suppressor : AERS 500 (4mm)
Dionex S/N 140122040
System backpressure = 1718psi

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I2_090716-01	ELUENT	1	1		09/07/16 22:24
2	I2_090716-02	DI WATER	1	1		09/07/16 22:44
3	I2_090716-03	WG583007-01 STD	1	1	STD77046	09/07/16 23:03
4	I2_090716-04	WG583007-02 STD	1	1	STD77046	09/07/16 23:22
5	I2_090716-05	WG583007-03 STD	1	1	STD77046	09/07/16 23:41
6	I2_090716-06	WG583007-04 STD-CCV	1	1	STD77046	09/08/16 00:00
7	I2_090716-07	WG583007-05 STD	1	1	STD77046	09/08/16 00:20
8	I2_090716-08	WG583007-06 STD	1	1	STD77046	09/08/16 00:39
9	I2_090716-09	WG583007-07 SSCV	1	1	STD77045	09/08/16 00:58
10	I2_090716-10	LCRV @Level-6	1	1	STD77045	09/08/16 01:17
11	I2_090716-11	LCRV @Level-3	1	1	STD77045	09/08/16 01:36
12	I2_090716-12	LCRV @Level-1	1	1	STD77045	09/08/16 01:56
13	I2_090716-13	LCRV @Level-0	1	1		09/08/16 02:15
14	I2_090716-14	END	1	1		09/08/16 02:34

Comments

Seq.	Rerun	Dil.	Reason	Analytes

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC2 Dataset: 100416 IC2.SEQ

Analyst1: CAS Analyst2: NA

Method: IC02 SOP: 300/9056 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160109254

Eluent ID#: RGT38072

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AG14A-4MM

Analytical WGs 586233, 586244

Internal STD: NA Surrogate STD: NA Calibration STD STD77046 (09/08/2016)

CCV STD: STD77046 LCS STD: STD77045 MS/MSD STD: STD77045

Comments: System backpressure: 1648 psi

Samples L16091178 (-03,07,08,09,10) and L16091359 (-03,11,12,15,20,22,23,24,25,26) were analyzed at dilutions only due to their pre-run screen results for sulfate, which were greater than the ICAL max.

Samples L16100123 (-01,05,07) and L1610025(-01,02,03,04,05,06,07) were analyzed at dilutions only due to their pre-run screen results for chloride and sulfate, which were both greater than 200 ppm.

Samples L16100040 (-04,05) were analyzed at dilutions only due to their pre-run screen results for chloride, which were greater than 200 ppm.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I2_100416-01	ELUENT	1	1		10/04/16 13:17
2	I2_100416-02	DI WATER	1	1		10/04/16 13:37
3	I2_100416-03	WG586245-01 ANION CCV	1	1	STD77046	10/04/16 13:56
4	I2_100416-04	WG586245-02 ANION CCB	1	1		10/04/16 14:15
5	I2_100416-05	WG586233-01 ANION BLANK	1	1		10/04/16 14:34
6	I2_100416-06	WG586233-02 ANION LCS	1	1	STD77045	10/04/16 14:53
7	I2_100416-07	L16091178-02 (SO4)	1	1		10/04/16 15:13
8	I2_100416-08	L16091178-03 (SO4) 2x	1	2		10/04/16 15:32
81	I2_100416-09	L16091178-04 (SO4) REF	1	1		10/04/16 15:51
10	I2_100416-10	WG586233-04 DUP 1178-04	1	1		10/04/16 16:10
82	I2_100416-11	L16091178-05 (SO4) MS	1	1		10/04/16 16:30
83	I2_100416-12	L16091178-06 (SO4) MSD	1	1		10/04/16 16:49
13	I2_100416-13	L16091178-07 (SO4) 5x	1	5		10/04/16 17:08
14	I2_100416-14	L16091178-08 (SO4) 100x	1	100		10/04/16 17:27
15	I2_100416-15	WG586245-03 ANION CCV	1	1	STD77046	10/04/16 17:46
16	I2_100416-16	WG586245-04 ANION CCB	1	1		10/04/16 18:06
17	I2_100416-17	L16091178-09 (SO4) 100x	1	100		10/04/16 18:25
18	I2_100416-18	L16091178-10 (SO4) 20x	1	20		10/04/16 18:44
19	I2_100416-19	L16091359-01 (SO4)	1	1		10/04/16 19:03
84	I2_100416-20	L16091359-02 (SO4) REF	1	1		10/04/16 19:23
21	I2_100416-21	WG586233-08 DUP 1359-02	1	1		10/04/16 19:42
22	I2_100416-22	L16091359-03 (SO4) 10x	1	10		10/04/16 20:01
23	I2_100416-23	L16091359-11 (SO4) 10x	1	10		10/04/16 20:20
24	I2_100416-24	L16091359-12 (SO4) 10x	1	10		10/04/16 20:39
25	I2_100416-25	L16091359-15 (SO4) 50x	1	50		10/04/16 20:59
26	I2_100416-26	L16091359-20 (SO4) 10x	1	10		10/04/16 21:18
27	I2_100416-27	WG586245-05 ANION CCV	1	1	STD77046	10/04/16 21:37
28	I2_100416-28	WG586245-06 ANION CCB	1	1		10/04/16 21:56

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC2 Dataset: 100416 IC2.SEQ
Analyst1: CAS Analyst2: NA
Method: IC02 SOP: 300/9056 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160109254
Eluent ID#: RGT38072
Column 1 ID: AG14A-4MM Column 2 ID: AG14A-4MM
Workgroups: Analytical WGs 586233, 586244
Internal STD: NA Surrogate STD: NA STD77046 (09/08/2016)
CCV STD: STD77046 LCS STD: STD77045 STD77045

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
29	I2_100416-29	L16091359-22 (SO4) 100x	1	100		10/04/16 22:15
30	I2_100416-30	L16091359-23 (SO4) 20x	1	20		10/04/16 22:35
31	I2_100416-31	L16091359-24 (SO4) 50x	1	50		10/04/16 22:54
32	I2_100416-32	L16091359-25 (SO4) 50x	1	50		10/04/16 23:13
33	I2_100416-33	WG586244-01 ANION BLANK	1	1		10/04/16 23:32
34	I2_100416-34	WG586244-02 ANION LCS	1	1	STD77045	10/04/16 23:52
35	I2_100416-35	L16091359-26 (SO4) 2x	1	2		10/05/16 00:11
36	I2_100416-36	L16100090-01 (CL) 10x	1	10		10/05/16 00:30
37	I2_100416-37	L16100091-01 (CL,BR,SO4)	2	1		10/05/16 00:49
38	I2_100416-38	L16100091-01 RR CL 10x	2	10		10/05/16 01:08
39	I2_100416-39	WG586245-07 ANION CCV	1	1	STD77046	10/05/16 01:28
40	I2_100416-40	WG586245-08 ANION CCB	1	1		10/05/16 01:47
85	I2_100416-41	L16091389-01 (SO4) REF	2	1		10/05/16 02:06
42	I2_100416-42	WG586244-04 DUP 1389-01	2	1		10/05/16 02:25
43	I2_100416-43	WG586244-05 MS 1389-01	2	1	STD77045	10/05/16 02:44
44	I2_100416-44	WG586244-06 MSD 1389-01	2	1	STD77045	10/05/16 03:04
45	I2_100416-45	L16100123-01 (CL,SO4,NO2,NO3) 10x	1	10		10/05/16 03:23
46	I2_100416-46	L16100123-01 RR CL 100x	1	100		10/05/16 03:42
47	I2_100416-47	L16100123-05 (CL,SO4,NO2,NO3) 20x	1	20		10/05/16 04:01
48	I2_100416-48	L16100123-05 RR CL 200x	1	200		10/05/16 04:21
49	I2_100416-49	L16100123-07 (CL,SO4,NO2,NO3) 20x	1	20		10/05/16 04:40
50	I2_100416-50	L16100123-07 RR CL 200x	1	200		10/05/16 04:59
51	I2_100416-51	WG586245-09 ANION CCV	1	1	STD77046	10/05/16 05:18
52	I2_100416-52	WG586245-10 ANION CCB	1	1		10/05/16 05:37
53	I2_100416-53	L16100123-03 (CL,SO4,NO2,NO3)	1	1		10/05/16 05:57
54	I2_100416-54	L16100025-01 (CL,SO4) 50x	2	50		10/05/16 06:16
55	I2_100416-55	L16100025-01 RR CL 250x	2	250		10/05/16 06:35
56	I2_100416-56	L16100025-02 (CL,SO4) 50x	2	50		10/05/16 06:54
57	I2_100416-57	L16100025-02 RR CL 250x	2	250		10/05/16 07:13
58	I2_100416-58	L16100025-03 (CL,SO4) 50x	2	50		10/05/16 07:33
59	I2_100416-59	L16100025-03 RR CL 500x	2	500		10/05/16 07:52
60	I2_100416-60	L16100025-04 (CL,SO4) 50x	2	50		10/05/16 08:11
61	I2_100416-61	L16100025-04 RR CL 250x	2	250		10/05/16 08:30
62	I2_100416-62	WG586245-11 ANION CCV	1	1	STD77046	10/05/16 08:50
63	I2_100416-63	WG586245-12 ANION CCB	1	1		10/05/16 09:09
64	I2_100416-64	L16100025-05 (CL,SO4) 25x	2	25		10/05/16 09:28

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC2 Dataset: 100416 IC2.SEQ
Analyst1: CAS Analyst2: NA
Method: IC02 SOP: 300/9056 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160109254
Eluent ID#: RGT38072
Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AG14A-4MM
Analytical WGs 586233, 586244
Internal STD: NA Surrogate STD: NA STD77046 (09/08/2016)
CCV STD: STD77046 LCS STD: STD77045 STD77045

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
65	I2_100416-65	L16100025-05 RR CL 250x	2	250		10/05/16 09:47
66	I2_100416-66	L16100025-06 (CL,SO4) 25x	2	25		10/05/16 10:06
67	I2_100416-67	L16100025-06 RR CL 250x	2	250		10/05/16 10:26
68	I2_100416-68	L16100025-07 (CL,SO4) 5x	2	5		10/05/16 10:45
69	I2_100416-69	L16100025-07 RR CL 25x	2	25		10/05/16 11:04
70	I2_100416-70	L16100040-01 (SO4)	2	1		10/05/16 11:23
86	I2_100416-71	L16100040-02 (SO4) REF	2	1		10/05/16 11:42
72	I2_100416-72	WG586244-08 DUP 0040-02	2	1		10/05/16 12:02
73	I2_100416-73	WG586245-13 ANION CCV	1	1	STD77046	10/05/16 12:21
74	I2_100416-74	WG586245-14 ANION CCB	1	1		10/05/16 12:40
75	I2_100416-75	L16100040-03 (SO4)	2	1		10/05/16 12:59
76	I2_100416-76	L16100040-04 (SO4) 2x	2	2		10/05/16 13:19
77	I2_100416-77	L16100040-05 (SO4) 2x	2	2		10/05/16 13:38
78	I2_100416-78	WG586245-15 ANION CCV	1	1	STD77046	10/05/16 13:57
79	I2_100416-79	WG586245-16 ANION CCB	1	1		10/05/16 14:16
80	I2_100416-80	END	1	1		10/05/16 14:35

Comments

Seq.	Rerun	Dil.	Reason	Analytes
36				
	Sample L1610090-01(10x) was analyzed at a dilution only due to its pre-run screen result for chloride, which was greater than the ICAL max.			

Page: 3 Approved: 06-OCT-16

Microbac Laboratories Inc.

Data Checklist

Date: 07-SEP-2016
Analyst: JWR
Analyst: NA
Method: 300/9056
Instrument: IC2
Curve Workgroup: WG583007
Runlog ID: 77394
Analytical Workgroups: ICAL AND LCRV'S ONLY

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	1718PSI
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
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	LCRV'S
Blanks	LCRV "LEVEL-0"
TCL hits	ND
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	INTERNAL QC-ONLY
TCL hits	X
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	JWR
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:
09-SEP-2016
John Richards

Secondary Reviewer:
12-SEP-2016

CHECKLIST1 - Modified 03/05/2008
Generated: SEP-12-2016 13:55:27

Microbac

Microbac Laboratories Inc.

Data Checklist

Date: 04-OCT-2016
Analyst: CAS
Analyst: NA
Method: 300/9056
Instrument: IC2
Curve Workgroup: NA
Runlog ID: 77889
Analytical Workgroups: L16091178,1359,1389, L16100025,0040,0090,0091,0123

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	1648PSI
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)	NA
Continuing calibration blank (CCB) (IC)	X
Special standards	NA
Blanks	X
TCL hits	ND
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
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	X
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	CAS
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:
06-OCT-2016

Secondary Reviewer:
06-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-06-2016 16:14:54

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 9056 AAB#: WG586244

Login Number: L16100123

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
35AWW09-100316	01	10/03/16					10/04/2016	1.6	2		10/05/16	1.8	2	
35AWW09-100316	01	10/03/16					10/04/2016	1.6	2		10/05/16	1.8	2	
35AWW10-100316	03	10/03/16					10/04/2016	1.6	2		10/05/16	1.8	2	
35AWW11-100316	05	10/03/16					10/04/2016	1.5	2		10/05/16	1.7	2	
35AWW11-100316	05	10/03/16					10/04/2016	1.5	2		10/05/16	1.7	2	
35AWW06-100316	07	10/03/16					10/04/2016	1.4	2		10/05/16	1.6	2	
35AWW06-100316	07	10/03/16					10/04/2016	1.4	2		10/05/16	1.6	2	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4964556
Report generated 10/06/2016 16:42

METHOD BLANK SUMMARY

Login Number: L16100123
Work Group: WG586244
Blank File ID: I2_100416-33
Blank Sample ID: WG586244-01
Prep Date: 10/04/16 23:32
Instrument ID: IC2
Analyzed Date: 10/04/16 23:32
Method: 9056
Analyst: CAS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586244-02	I2_100416-34	10/04/16 23:52	01
DUP	WG586244-04	I2_100416-42	10/05/16 02:25	01
35AWW09-100316	L16100123-01	I2_100416-45	10/05/16 03:23	DL01
35AWW09-100316	L16100123-01	I2_100416-46	10/05/16 03:42	DL02
35AWW11-100316	L16100123-05	I2_100416-47	10/05/16 04:01	DL01
35AWW11-100316	L16100123-05	I2_100416-48	10/05/16 04:21	DL02
35AWW06-100316	L16100123-07	I2_100416-49	10/05/16 04:40	DL01
35AWW06-100316	L16100123-07	I2_100416-50	10/05/16 04:59	DL02
35AWW10-100316	L16100123-03	I2_100416-53	10/05/16 05:57	01
DUP	WG586244-08	I2_100416-72	10/05/16 12:02	01

Report Name: BLANK_SUMMARY
PDF File ID: 4964557
Report generated 10/06/2016 16:42

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L16100123 Prep Date:10/04/16 23:32 Sample ID:WG586244-01
Instrument ID:IC2 Run Date:10/04/16 23:32 Prep Method:9056
File ID:I2_100416-33 Analyst:CAS Method:9056
Workgroup (AAB#):WG586244 Matrix:Water Units:mg/L
Contract #: Cal ID:IC2-08-SEP-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Chloride	0.100	0.400	0.100	1	U
Nitrate	0.100	0.400	0.100	1	U
Nitrite	0.100	0.400	0.100	1	U
Sulfate	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4964558
06-OCT-2016 16:42

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100123 Run Date: 10/04/2016 Sample ID: WG586244-02
Instrument ID: IC2 Run Time: 23:52 Prep Method: 9056
File ID: I2_100416-34 Analyst: CAS Method: 9056
Workgroup (AAB#): WG586244 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD77045 Cal ID: IC2-08-SEP-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chloride	8.00	7.99	99.9	90 - 110	
Nitrate	5.42	5.45	101	90 - 110	
Nitrite	4.87	5.18	106	90 - 110	
Sulfate	40.0	40.7	102	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 4964559
Report generated: 10/06/2016 16:42

Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L16100123
Analytical Method: 9056
ICAL Workgroup: WG583007
Instrument ID: IC2
Initial Calibration Date: 08-SEP-16 00:39
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloride		4.512	8.51		0.99700
Nitrate		1.897	11.1		0.99600
Nitrite		2.741	13.3		0.99600
Sulfate		6.097	12.8		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: 4965027
Report generated 10/06/2016 16:42

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L16100123
Analytical Method: 9056

Instrument ID: IC2
Initial Calibration Date: 08-SEP-16 00:39
Column ID: F

Analyte	WG583007-01			WG583007-02			WG583007-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	0.200	0.0430000000	4.651	1.00	0.203000000	4.926	4.00	0.841000000	4.756
Nitrate	0.134	0.0620000000	2.154	0.678	0.329000000	2.059	2.71	1.38300000	1.960
Nitrite	0.122	0.0370000000	3.292	0.609	0.197000000	3.091	2.44	0.891000000	2.734
Sulfate	1.00	0.141000000	7.092	5.00	0.744000000	6.720	20.0	3.17400000	6.301

INT_CAL - Modified 03/06/2008
PDF File ID: 4965027
Report generated 10/06/2016 16:42

Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L16100123
Analytical Method: 9056
Instrument ID: IC2
Initial Calibration Date: 08-SEP-16 00:39
Column ID: F

Analyte	WG583007-04			WG583007-05			WG583007-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	8.00	1.77100000	4.517	12.0	2.78000000	4.317	24.0	6.14600000	3.905
Nitrate	5.42	2.92900000	1.851	8.13	4.60300000	1.767	16.3	10.2070000	1.593
Nitrite	4.87	1.90800000	2.553	7.31	2.98400000	2.449	14.6	6.28400000	2.326
Sulfate	40.0	6.81500000	5.869	60.0	10.7770000	5.567	120	23.8600000	5.029

INT_CAL - Modified 03/06/2008
PDF File ID: 4965027
Report generated 10/06/2016 16:42

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16100123 Run Date: 09/08/2016 Sample ID: WG583007-07
Instrument ID: IC2 Run Time: 00:58 Method: 9056
File ID: I2_090716-09 Analyst: JWR QC Key: DOD4
ICal Workgroup: WG583007 Cal ID: IC2 - 08-SEP-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloride		8.00	8.00	mg/L	4.55	0	10	
Nitrate		5.42	5.42	mg/L	1.86	0	10	
Nitrite		4.87	5.17	mg/L	2.47	6.10	10	
Sulfate		40.0	40.2	mg/L	5.92	0.500	10	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4965028
Report generated 10/06/2016 16:42

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16100123 Run Date: 10/04/2016 Sample ID: WG586245-06
Instrument ID: IC2 Run Time: 21:56 Method: 9056
File ID: I2_100416-28 Analyst: CAS Units: mg/L
Workgroup (AAB#): WG586244 Cal ID: IC2 - 08-SEP-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	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: 4964561
Report generated 10/06/2016 16:42

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16100123 Run Date: 10/05/2016 Sample ID: WG586245-08
Instrument ID: IC2 Run Time: 01:47 Method: 9056
File ID: I2_100416-40 Analyst: CAS Units: mg/L
Workgroup (AAB#): WG586244 Cal ID: IC2 - 08-SEP-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	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: 4964561
Report generated 10/06/2016 16:42

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16100123 Run Date: 10/05/2016 Sample ID: WG586245-10
Instrument ID: IC2 Run Time: 05:37 Method: 9056
File ID: I2_100416-52 Analyst: CAS Units: mg/L
Workgroup (AAB#): WG586244 Cal ID: IC2 - 08-SEP-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	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: 4964561
Report generated 10/06/2016 16:42

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16100123 Run Date: 10/05/2016 Sample ID: WG586245-12
Instrument ID: IC2 Run Time: 09:09 Method: 9056
File ID: I2_100416-63 Analyst: CAS Units: mg/L
Workgroup (AAB#): WG586244 Cal ID: IC2 - 08-SEP-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Chloride	0.100	0.400	0.100	U
Nitrate	0.100	0.400	0.100	U
Nitrite	0.100	0.400	0.100	U
Sulfate	0.500	2.00	0.500	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: 4964561
Report generated 10/06/2016 16:42

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/04/2016 Sample ID: WG586245-05

Instrument ID: IC2 Run Time: 21:37 Method: 9056

File ID: I2_100416-27 Analyst: CAS QC Key: DOD4

Workgroup (AAB#): WG586244 Cal ID: IC2 - 08-SEP-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.09	mg/L	4.49	1.09	10	
Nitrate		5.42	5.49	mg/L	1.84	1.30	10	
Nitrite		4.87	5.22	mg/L	2.44	7.14	10	
Sulfate		40.0	40.7	mg/L	5.83	1.83	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4964560

Report generated 10/06/2016 16:42

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/05/2016 Sample ID: WG586245-07

Instrument ID: IC2 Run Time: 01:28 Method: 9056

File ID: I2_100416-39 Analyst: CAS QC Key: DOD4

Workgroup (AAB#): WG586244 Cal ID: IC2 - 08-SEP-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.08	mg/L	4.50	0.950	10	
Nitrate		5.42	5.48	mg/L	1.84	1.10	10	
Nitrite		4.87	5.22	mg/L	2.44	7.16	10	
Sulfate		40.0	40.8	mg/L	5.82	1.98	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4964560

Report generated 10/06/2016 16:42

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/05/2016 Sample ID: WG586245-09

Instrument ID: IC2 Run Time: 05:18 Method: 9056

File ID: I2_100416-51 Analyst: CAS QC Key: DOD4

Workgroup (AAB#): WG586244 Cal ID: IC2 - 08-SEP-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.03	mg/L	4.53	0.350	10	
Nitrate		5.42	5.46	mg/L	1.85	0.634	10	
Nitrite		4.87	5.18	mg/L	2.46	6.36	10	
Sulfate		40.0	40.7	mg/L	5.84	1.68	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4964560

Report generated 10/06/2016 16:42

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100123 Run Date: 10/05/2016 Sample ID: WG586245-11

Instrument ID: IC2 Run Time: 08:50 Method: 9056

File ID: I2_100416-62 Analyst: CAS QC Key: DOD4

Workgroup (AAB#): WG586244 Cal ID: IC2 - 08-SEP-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.01	mg/L	4.54	0.125	10	
Nitrate		5.42	5.44	mg/L	1.86	0.302	10	
Nitrite		4.87	5.15	mg/L	2.48	5.72	10	
Sulfate		40.0	40.5	mg/L	5.87	1.23	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4964560

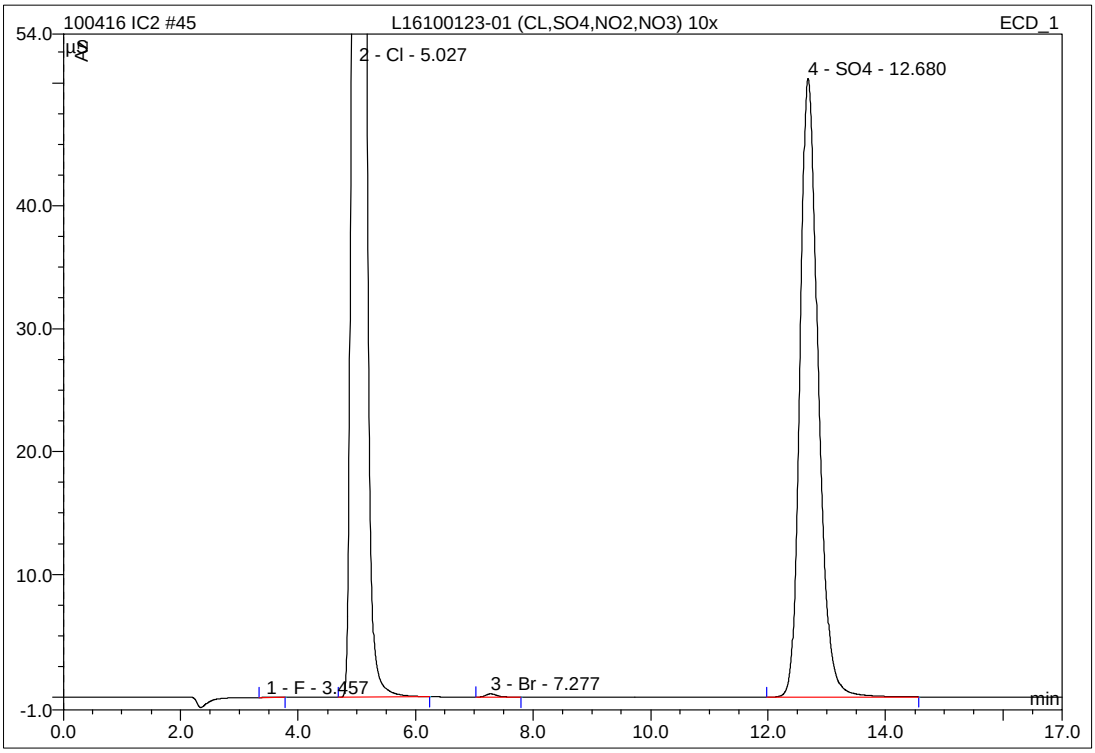
Report generated 10/06/2016 16:42

2.4.1.3 Sample Data

45 L16100123-01 (CL,SO4,NO2,NO3) 10x

1,10 CAS (CL & SO4 screens>200ppm)

Sample Name:	**L16100123-01 (CL,SO4,NO2,NO3) 10x**	*Injection Volume:*	**25.0**
Vial Number:	**45**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 3:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

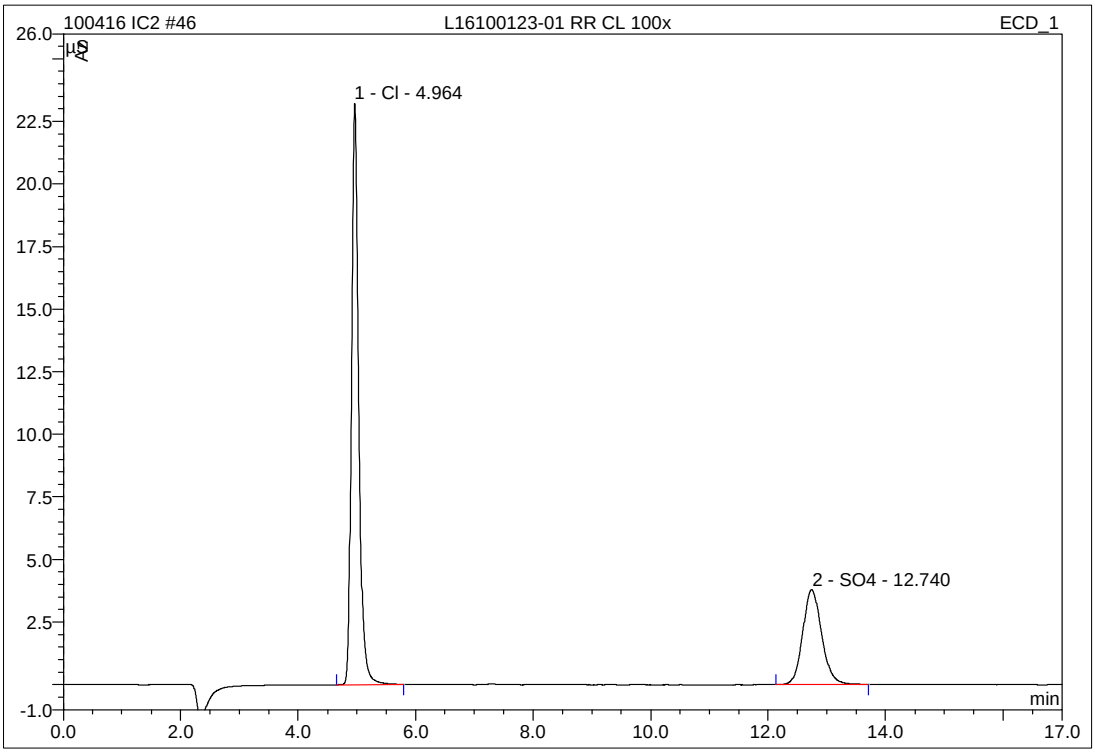


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.46	F	0.031	0.006	0.01	0.027	BMB
2	5.03	Cl	229.777	45.313	71.33	102.350	BMB
3	7.28	Br	0.269	0.061	0.10	0.747	BMB
4	12.68	SO4	50.354	18.146	28.56	95.123	BMB
Total:			280.432	63.526	100.00	198.247	

46 L16100123-01 RR CL 100x

1,100 CAS

Sample Name:	**L16100123-01 RR CL 100x**	*Injection Volume:*	**25.0**
Vial Number:	**46**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 3:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

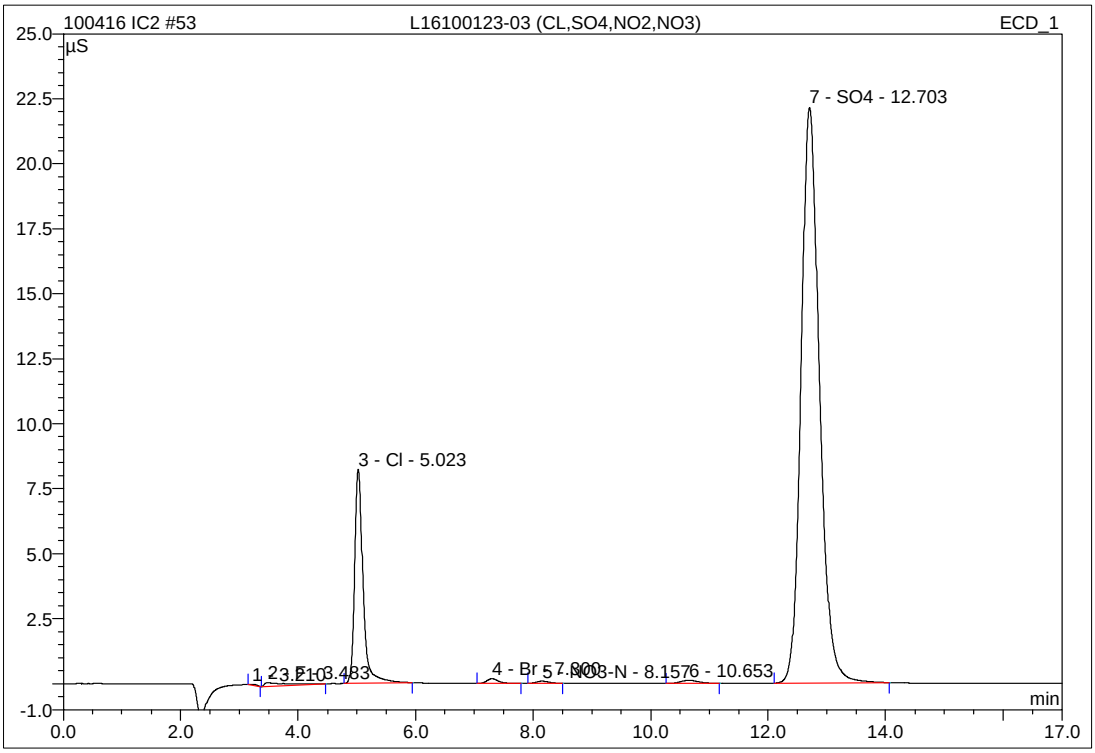


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.96	Cl	23.230	3.342	70.15	14.247	BMB
2	12.74	SO4	3.796	1.422	29.85	9.199	BMB
Total:			27.026	4.764	100.00	23.446	

53 L16100123-03 (CL,SO4,NO2,NO3)

1,1 CAS

Sample Name:	**L16100123-03 (CL,SO4,NO2,NO3)**	*Injection Volume:*	**25.0**
Vial Number:	**53**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 5:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

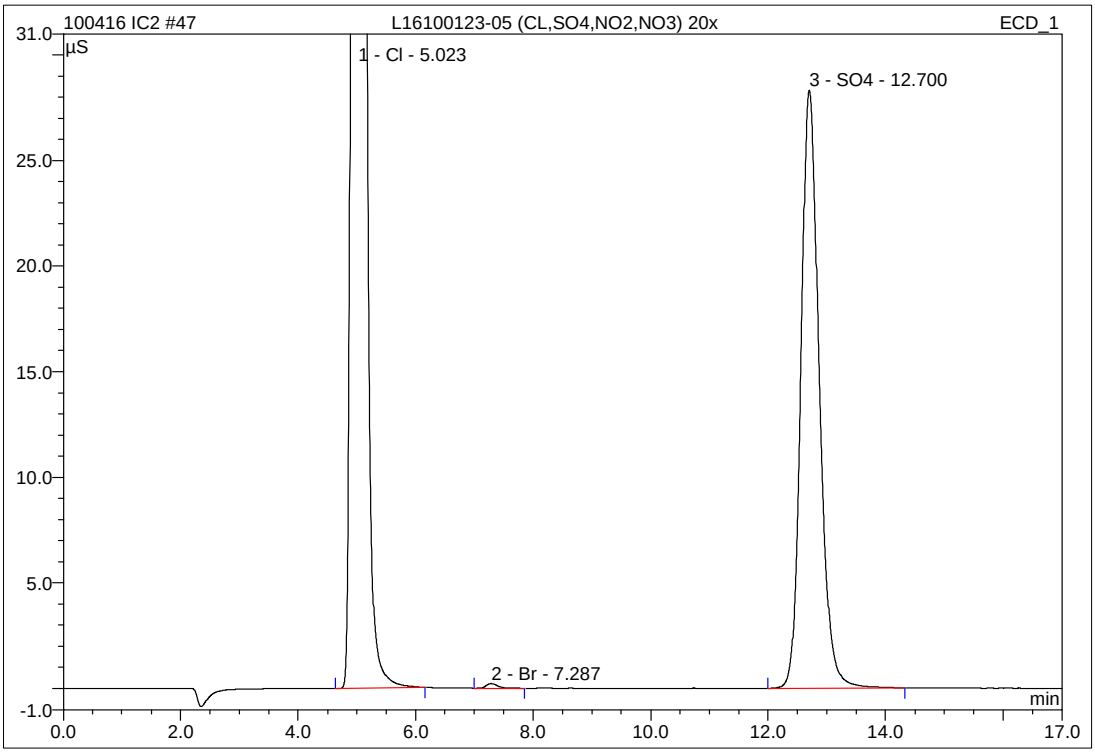


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.21	n.a.	0.027	0.005	0.05	n.a.	BMB
2	3.48	F	0.142	0.063	0.66	0.208	BMB
3	5.02	Cl	8.230	1.377	14.38	6.370	BMB
4	7.30	Br	0.175	0.039	0.41	0.484	BMB
5	8.16	NO3-N	0.083	0.020	0.21	0.052	BMB
6	10.65	n.a.	0.123	0.042	0.44	n.a.	BMB
7	12.70	SO4	22.139	8.031	83.85	46.967	BMB
Total:			30.918	9.578	100.00	54.081	

47 L16100123-05 (CL,SO4,NO2,NO3) 20x

1,20 CAS (CL & SO4 screens>200ppm)

Sample Name:	**L16100123-05 (CL,SO4,NO2,NO3) 20x**	*Injection Volume:*	**25.0**
Vial Number:	**47**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 4:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

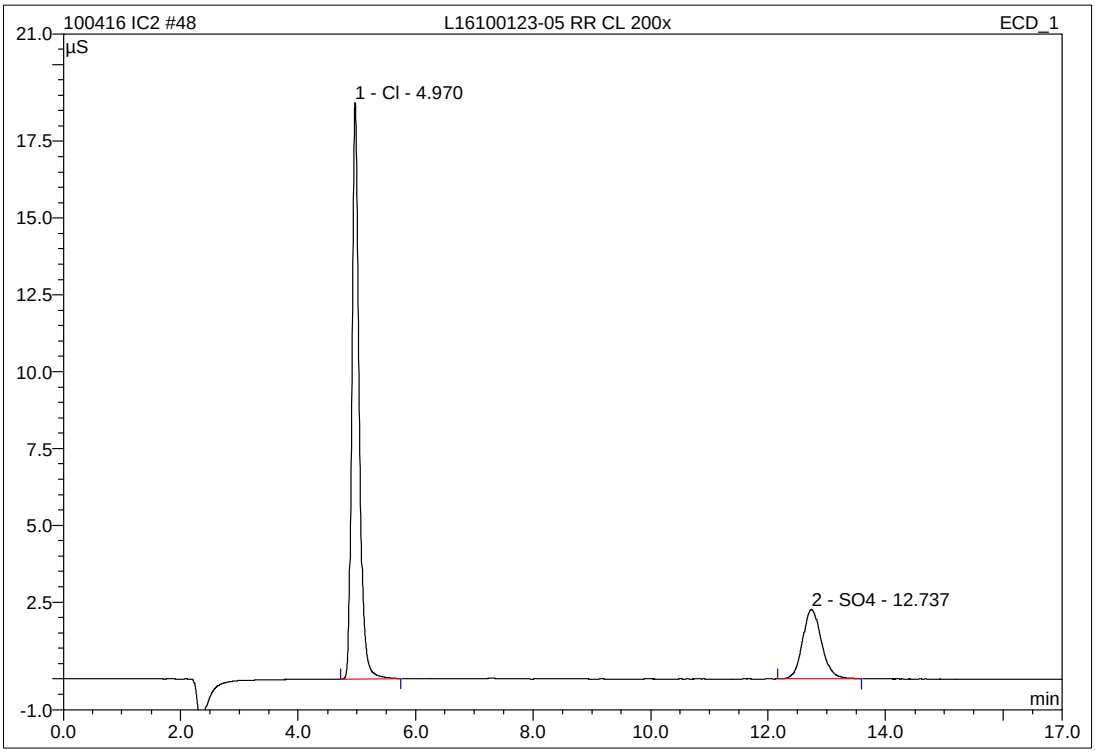


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	5.02	Cl	192.731	37.059	78.29	89.746	BMB
2	7.29	Br	0.223	0.052	0.11	0.633	BMB
3	12.70	SO4	28.307	10.223	21.60	58.208	BMB
Total:			221.261	47.333	100.00	148.587	

48 L16100123-05 RR CL 200x

1,200 CAS

Sample Name:	**L16100123-05 RR CL 200x**	*Injection Volume:*	**25.0**
Vial Number:	**48**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 4:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

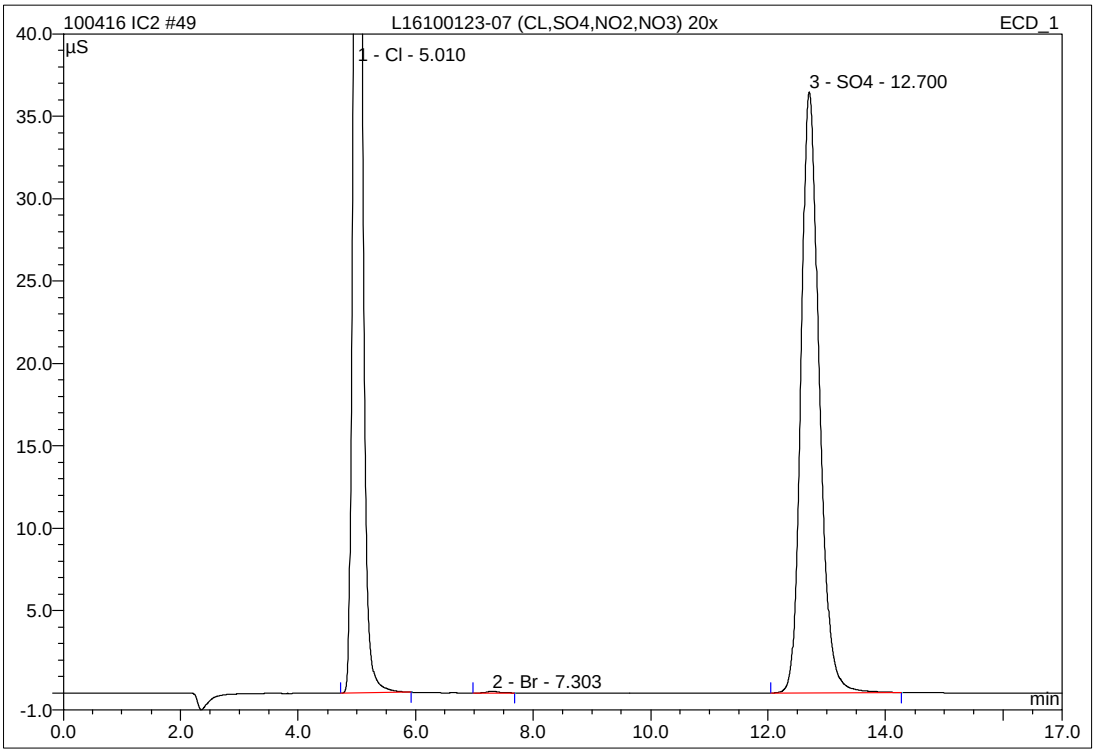


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.97	Cl	18.757	2.726	76.27	11.900	BMB
2	12.74	SO4	2.256	0.848	23.73	5.570	BMB
Total:			21.013	3.574	100.00	17.470	

49 L16100123-07 (CL,SO4,NO2,NO3) 20x

1,20 CAS (CL & SO4 screens>200ppm)

Sample Name:	**L16100123-07 (CL,SO4,NO2,NO3) 20x**	*Injection Volume:*	**25.0**
Vial Number:	**49**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 4:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

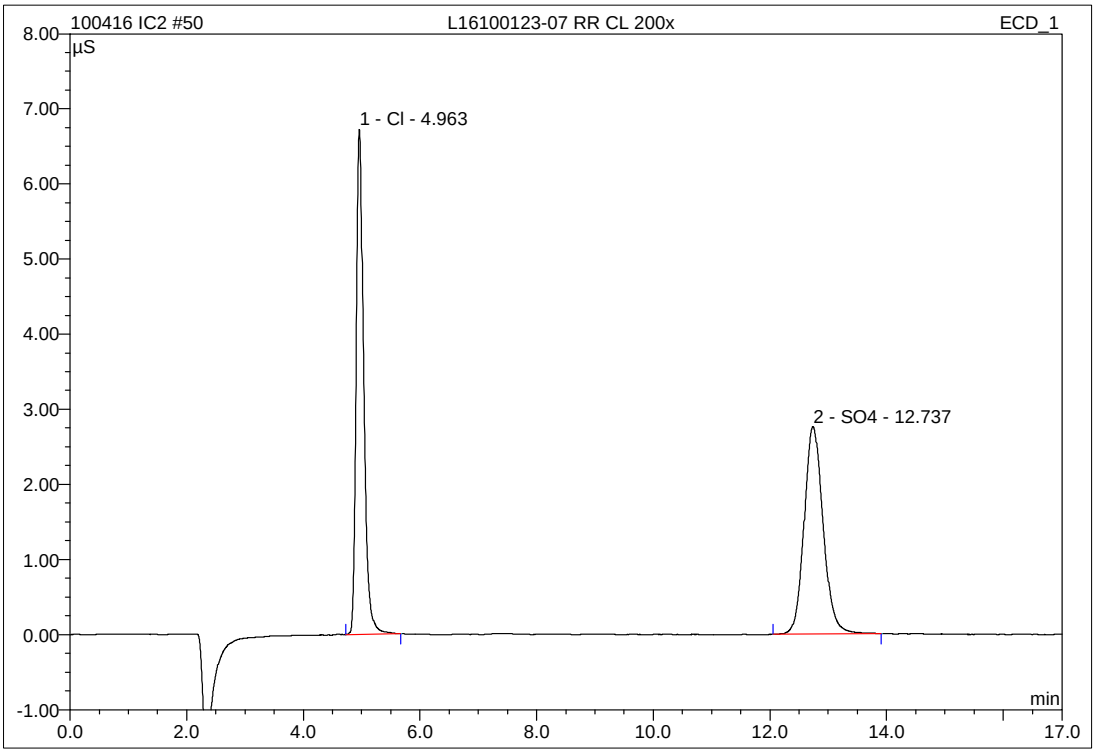


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	5.01	Cl	84.827	13.807	51.23	44.962	BMB
2	7.30	Br	0.099	0.025	0.09	0.312	BMB
3	12.70	SO4	36.448	13.119	48.68	72.316	BMB
Total:			121.374	26.951	100.00	117.589	

50 L16100123-07 RR CL 200x

1,200 CAS

Sample Name:	**L16100123-07 RR CL 200x**	*Injection Volume:*	**25.0**
Vial Number:	**50**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 4:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**



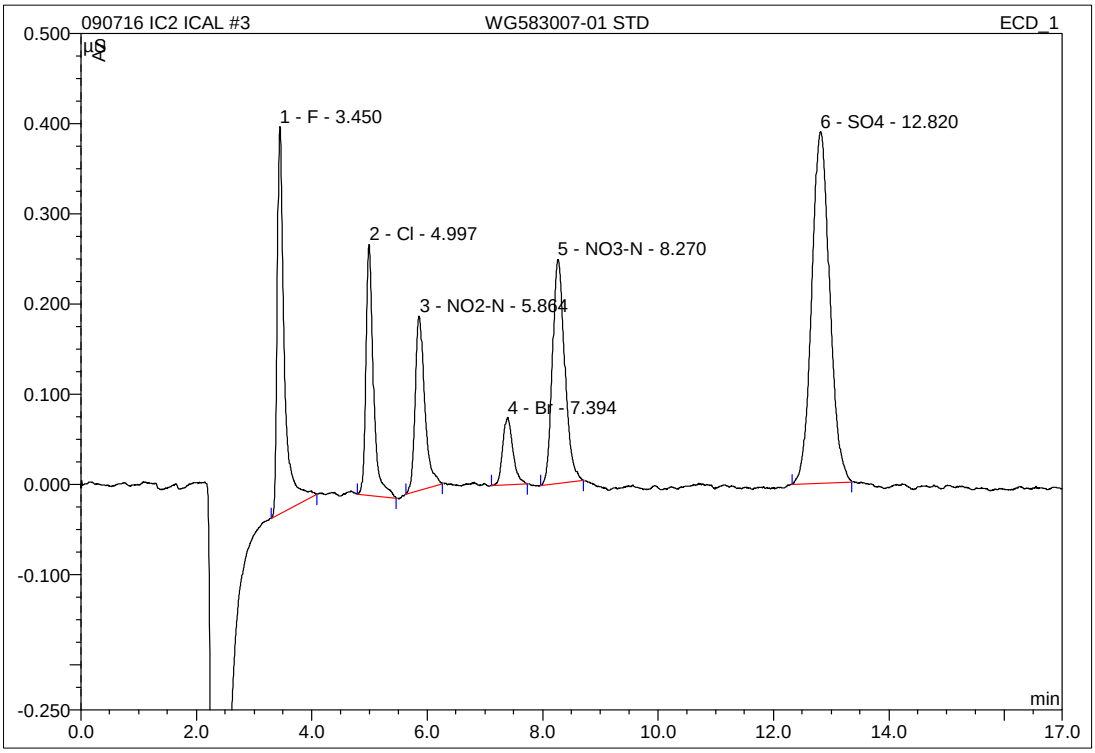
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.96	Cl	6.721	1.007	49.06	4.742	BMB
2	12.74	SO4	2.763	1.046	50.94	6.829	BMB
Total:			9.483	2.053	100.00	11.571	

2.4.1.4 Standards Data

3 WG583007-01 STD

1,1 JWR STD77046 (Level-1)

Sample Name:	**WG583007-01 STD**	*Injection Volume:*	**25.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/07/2016 23:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

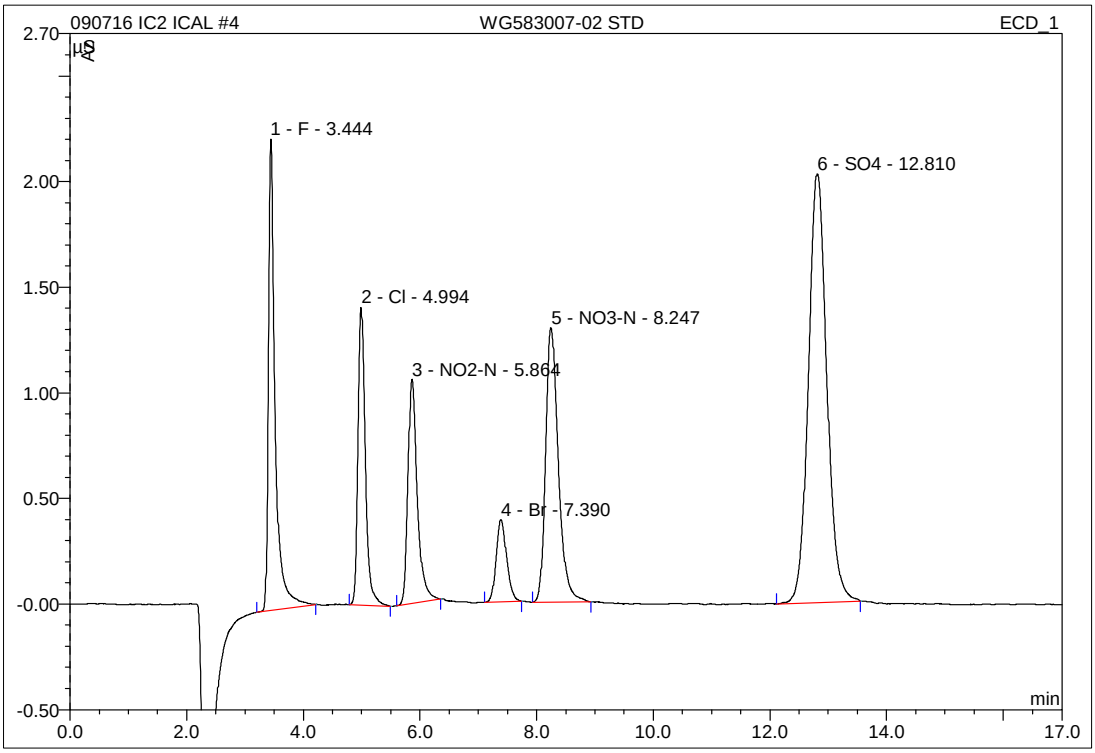


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.45	F	0.430	0.061	17.00	0.201	BMB
2	5.00	Cl	0.278	0.043	11.86	0.200	BMB
3	5.86	NO2-N	0.193	0.037	10.35	0.123	BMB
4	7.39	Br	0.075	0.015	4.27	0.201	BMB
5	8.27	NO3-N	0.248	0.062	17.19	0.136	BMB
6	12.82	SO4	0.390	0.141	39.34	1.004	BMB
Total:			1.615	0.359	100.00	1.865	

4 WG583007-02 STD

1,1 JWR STD77046 (Level-2)

Sample Name:	**WG583007-02 STD**	*Injection Volume:*	**25.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/07/2016 23:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

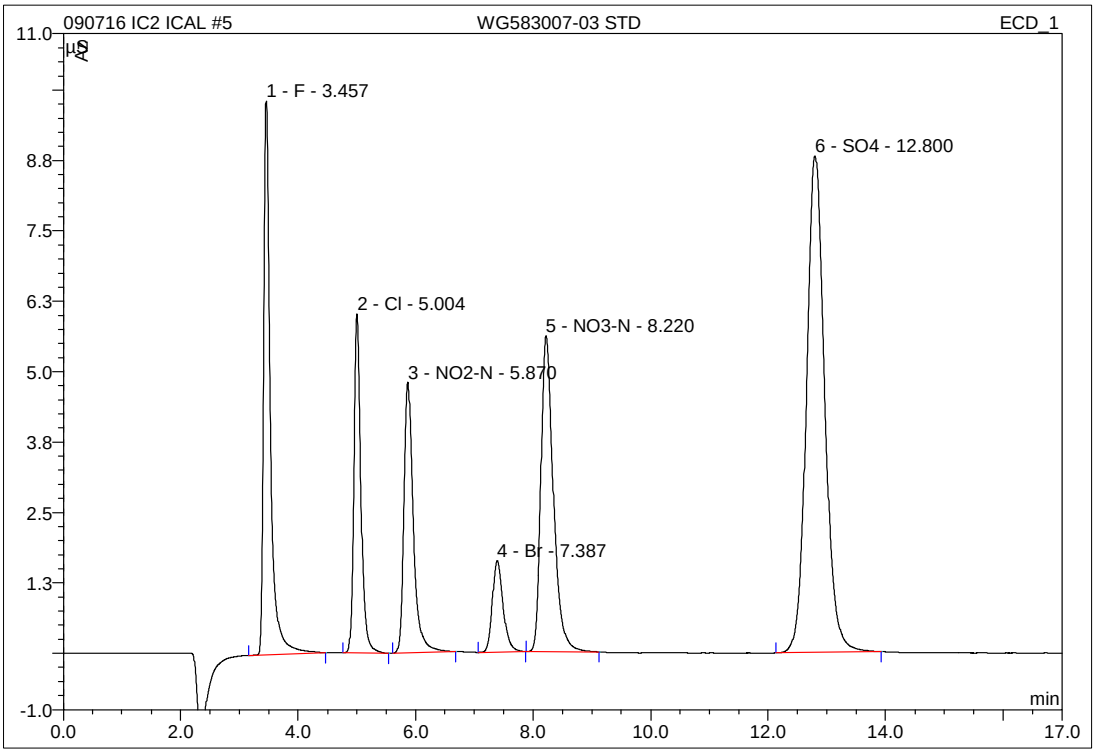


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.44	F	2.230	0.304	16.36	0.969	BMB
2	4.99	Cl	1.409	0.203	10.94	0.989	BMB
3	5.86	NO2-N	1.060	0.197	10.60	0.572	BMB
4	7.39	Br	0.389	0.081	4.37	0.978	BMB
5	8.25	NO3-N	1.300	0.329	17.70	0.672	BMB
6	12.81	SO4	2.030	0.744	40.04	4.902	BMB
Total:			8.418	1.857	100.00	9.084	

5 WG583007-03 STD

1,1 JWR STD77046 (Level-3)

Sample Name:	**WG583007-03 STD**	*Injection Volume:*	**25.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/07/2016 23:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

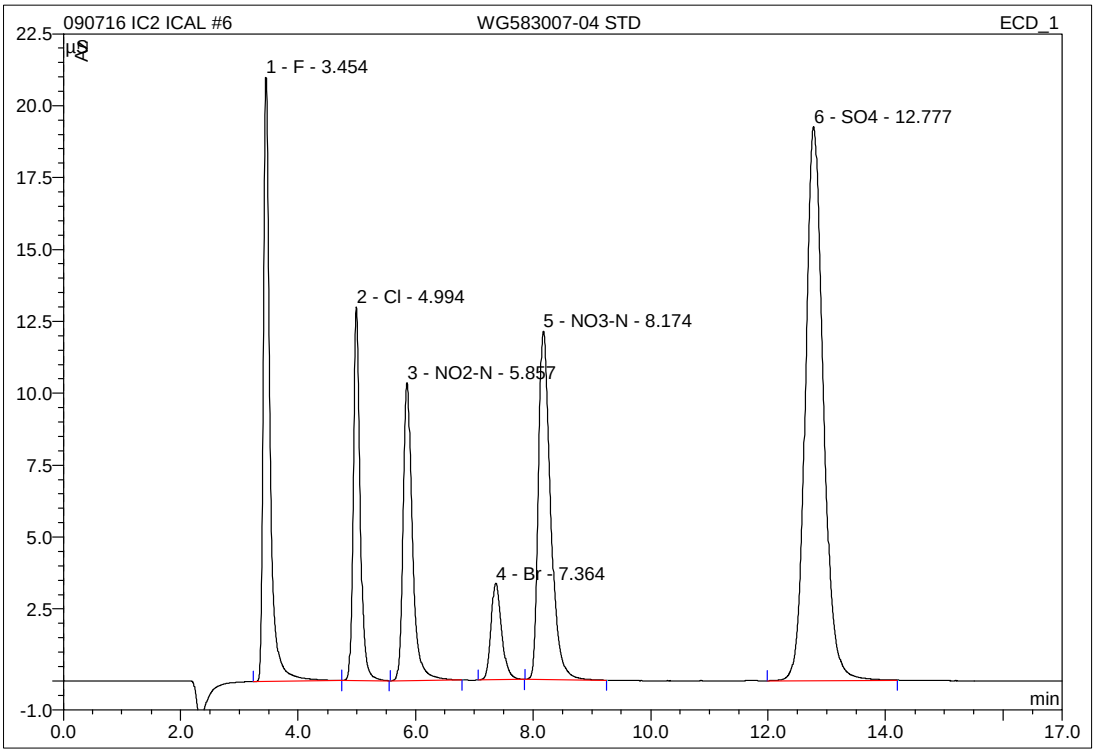


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.46	F	9.839	1.278	16.15	3.990	BMB
2	5.00	Cl	6.026	0.841	10.63	3.991	BMB
3	5.87	NO2-N	4.808	0.891	11.26	2.452	BMB
4	7.39	Br	1.626	0.346	4.37	4.040	BMB
5	8.22	NO3-N	5.610	1.383	17.48	2.699	BMB
6	12.80	SO4	8.818	3.174	40.12	19.890	BMB
Total:			36.728	7.913	100.00	37.061	

6 WG583007-04 STD

1,1 JWR STD77046 (Level-4)

Sample Name:	**WG583007-04 STD**	*Injection Volume:*	**25.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/08/2016 0:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

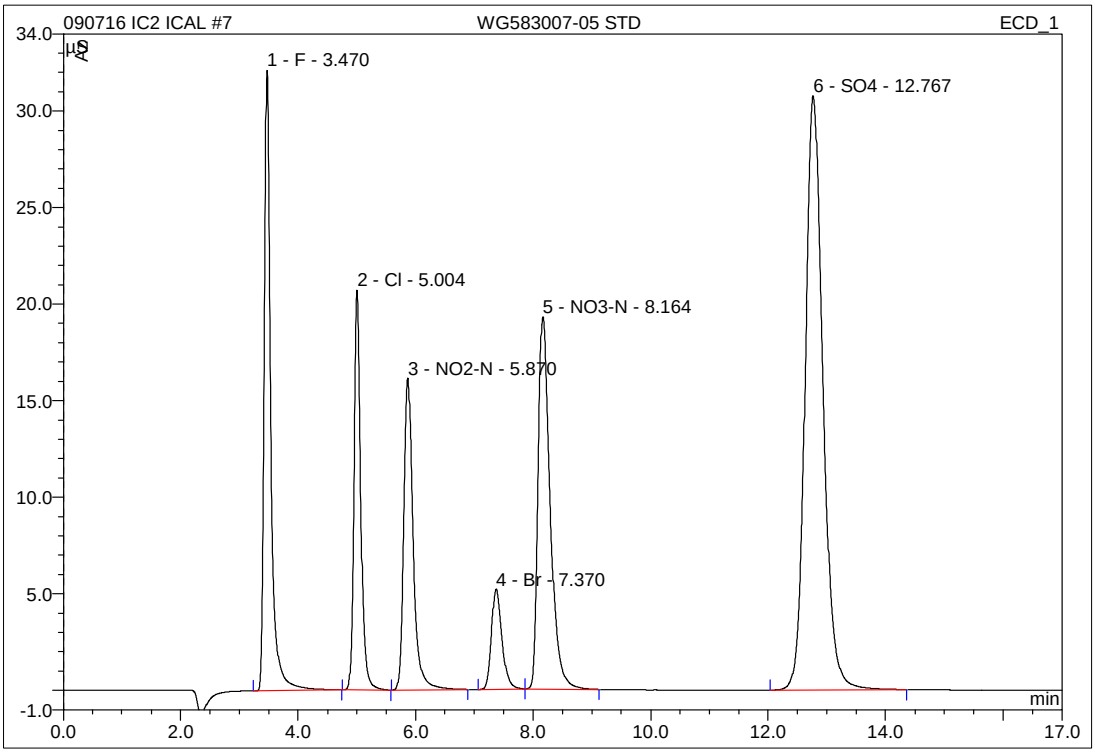


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.45	F	21.011	2.670	15.90	8.148	BMB
2	4.99	Cl	12.988	1.771	10.54	8.047	BMB
3	5.86	NO2-N	10.364	1.908	11.36	5.014	BMB
4	7.36	Br	3.365	0.707	4.21	8.072	BMB
5	8.17	NO3-N	12.122	2.929	17.44	5.454	BMB
6	12.78	SO4	19.257	6.815	40.56	40.490	BMB
Total:			79.107	16.800	100.00	75.223	

7 WG583007-05 STD

1,1 JWR STD77046 (Level-5)

Sample Name:	**WG583007-05 STD**	*Injection Volume:*	**25.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/08/2016 0:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

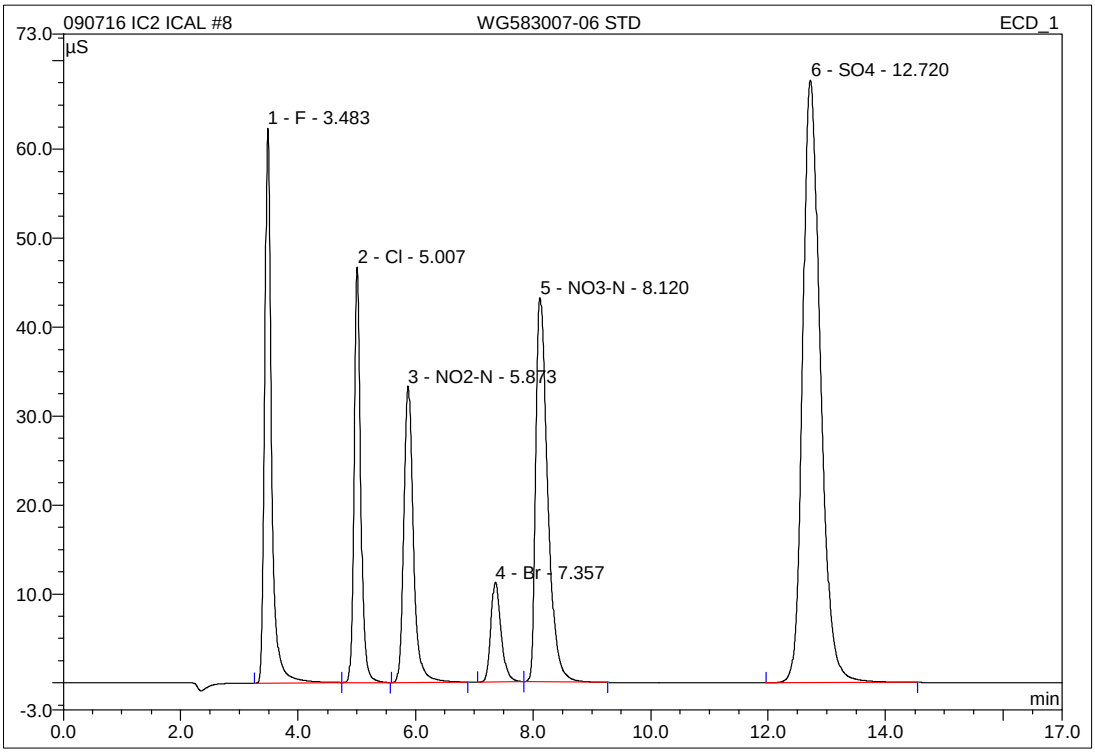


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.47	F	32.116	4.112	15.61	12.275	BMB
2	5.00	Cl	20.689	2.780	10.55	12.109	BMB
3	5.87	NO2-N	16.168	2.984	11.33	7.528	BMB
4	7.37	Br	5.193	1.079	4.10	12.056	BMB
5	8.16	NO3-N	19.280	4.603	17.48	8.203	BMB
6	12.77	SO4	30.749	10.777	40.92	60.970	BMB
Total:			124.195	26.334	100.00	113.141	

8 WG583007-06 STD

1,1 JWR STD77046 (Level-6)

Sample Name:	**WG583007-06 STD**	*Injection Volume:*	**25.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/08/2016 0:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

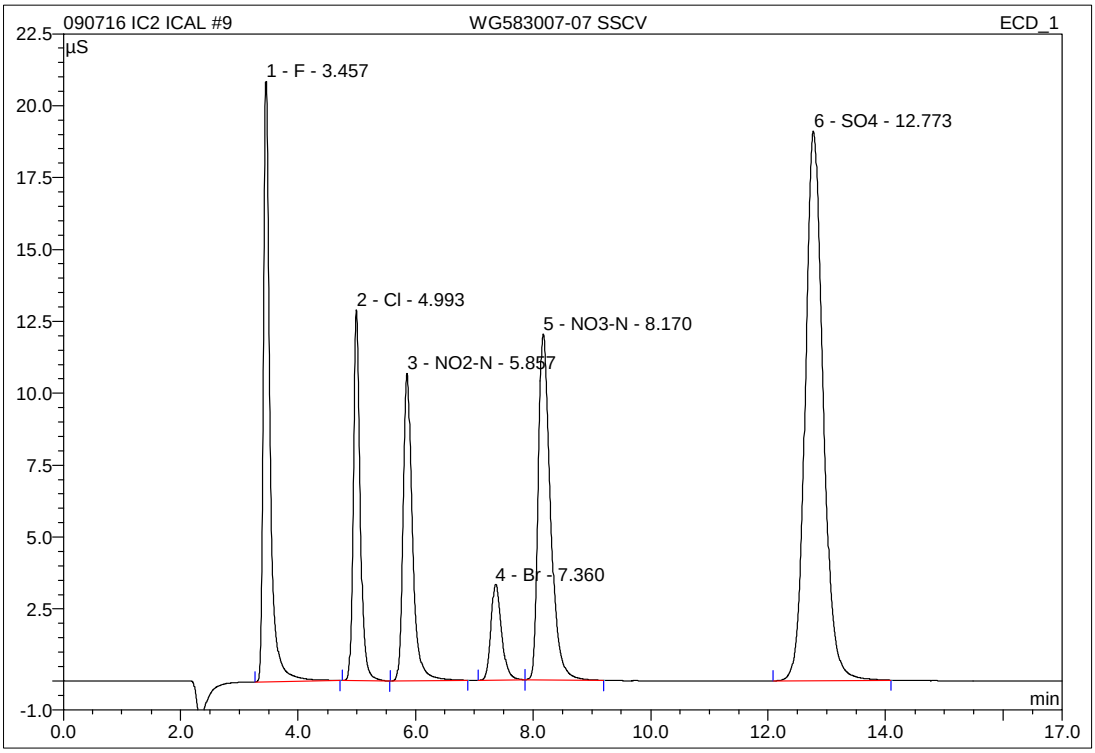


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.48	F	62.376	8.391	14.68	23.657	BMB
2	5.01	Cl	46.696	6.146	10.75	23.888	bMB
3	5.87	NO2-N	33.349	6.284	10.99	14.330	BMB
4	7.36	Br	11.209	2.269	3.97	23.872	BMb
5	8.12	NO3-N	43.169	10.207	17.86	16.194	bMB
6	12.72	SO4	67.766	23.860	41.74	118.988	BMB
Total:			264.565	57.158	100.00	220.930	

9 WG583007-07 SSCV

1,1 JWR STD77045 (@Level-4)

Sample Name:	**WG583007-07 SSCV**	*Injection Volume:*	**25.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**09/08/2016 0:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.46	F	20.866	2.657	15.86	8.110	BMB
2	4.99	Cl	12.896	1.760	10.50	8.002	BMB
3	5.86	NO2-N	10.687	1.971	11.76	5.167	BMB
4	7.36	Br	3.338	0.699	4.17	7.988	BMB
5	8.17	NO3-N	12.029	2.909	17.36	5.419	BMB
6	12.77	SO4	19.106	6.760	40.34	40.196	BMB
Total:			78.921	16.757	100.00	74.882	

9 WG583007-07 SSCV

1,1 JWR STD77045 (@Level-4)

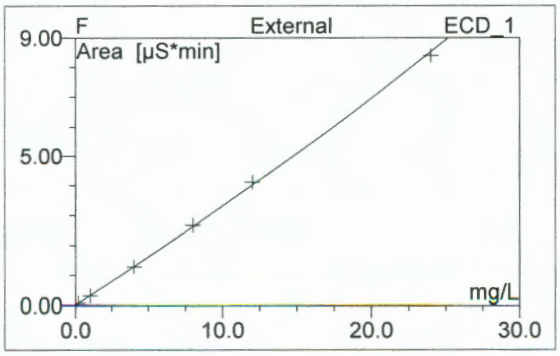
Sample Name:	**WG583007-07 SSCV**	*Injection Volume:*	**25.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/8/2016 0:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

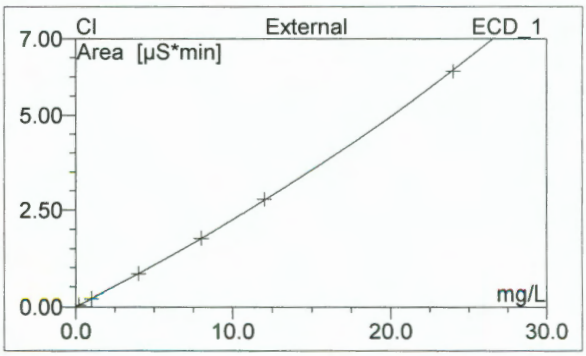
WG583007-07 SSC	Actual mg/L	Recovered mg/L	%Difference	
F	8.00	8.1099	1.37	PASS
Cl	8	8.0018	0.02	PASS
NO2-N	4.8714	5.1669	6.07	PASS
NO3-N	5.4216	5.4188	-0.05	PASS
Br	8	7.9881	-0.15	PASS
SO4	40	40.1963	0.49	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!

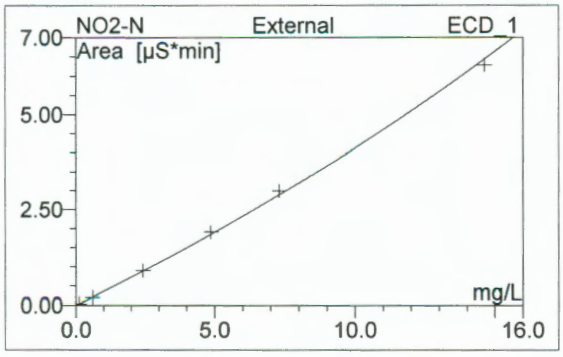
9 WG583007-07 SSCV

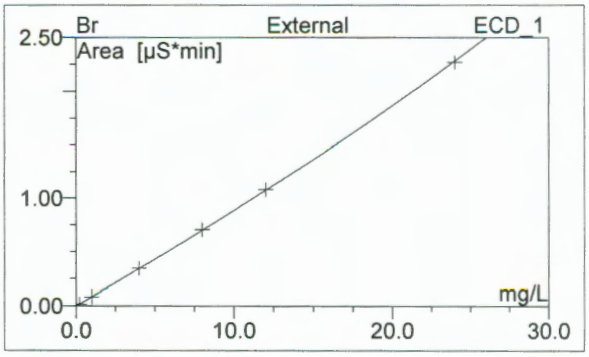
1,1 JWR STD77045 (@Level-4)

Sample Name:	**WG583007-07 SSCV**	*Injection Volume:*	**25.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/8/2016 0:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**









No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.46	F	XXQOff	6	99.8896	-0.0022	0.3139	0.0017
2	4.99	Cl	XXQOff	6	99.6502	0.0023	0.2007	0.0024
3	5.86	NO2-N	XXQOff	6	99.6426	-0.0061	0.3509	0.0061
4	7.36	Br	XXQOff	6	99.9059	-0.0016	0.0841	0.0005
5	8.17	NO3-N	XXQOff	6	99.6443	-0.0051	0.4910	0.0086
6	12.77	SO4	XXQOff	6	99.5535	-0.0118	0.1521	0.0004
Average:					99.7143	-0.0041	0.2655	0.0033

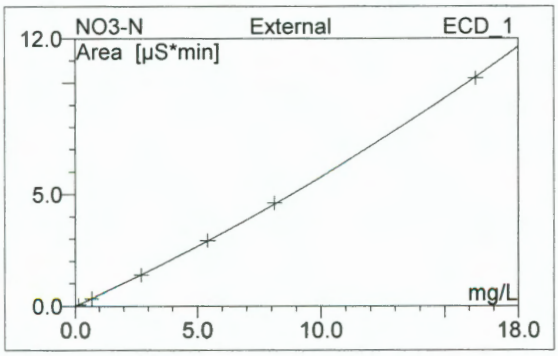
IC/Calibration(Batch)

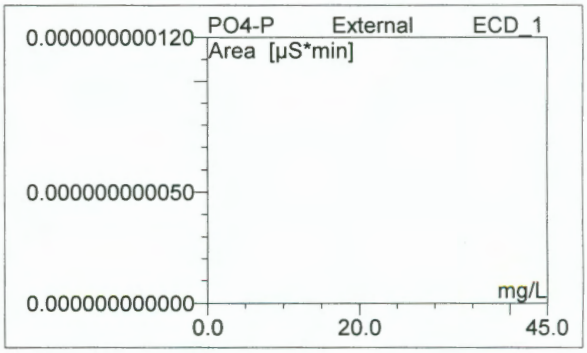
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

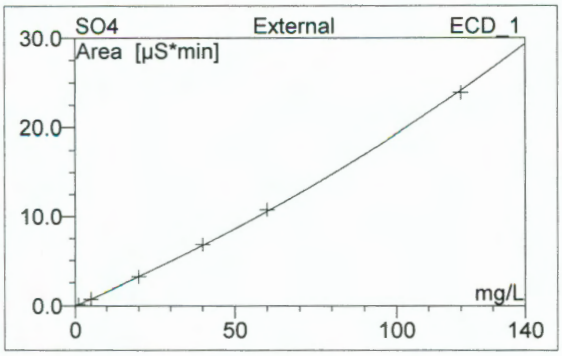
9 WG583007-07 SSCV

1,1 JWR STD77045 (@Level-4)

Sample Name:	**WG583007-07 SSCV**	*Injection Volume:*	**25.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**9/8/2016 0:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**







No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.46	F	XXQOff	6	99.8896	-0.0022	0.3139	0.0017
2	4.99	Cl	XXQOff	6	99.6502	0.0023	0.2007	0.0024
3	5.86	NO2-N	XXQOff	6	99.6426	-0.0061	0.3509	0.0061
4	7.36	Br	XXQOff	6	99.9059	-0.0016	0.0841	0.0005
5	8.17	NO3-N	XXQOff	6	99.6443	-0.0051	0.4910	0.0086
6	12.77	SO4	XXQOff	6	99.5535	-0.0118	0.1521	0.0004
Average:					99.7143	-0.0041	0.2655	0.0033

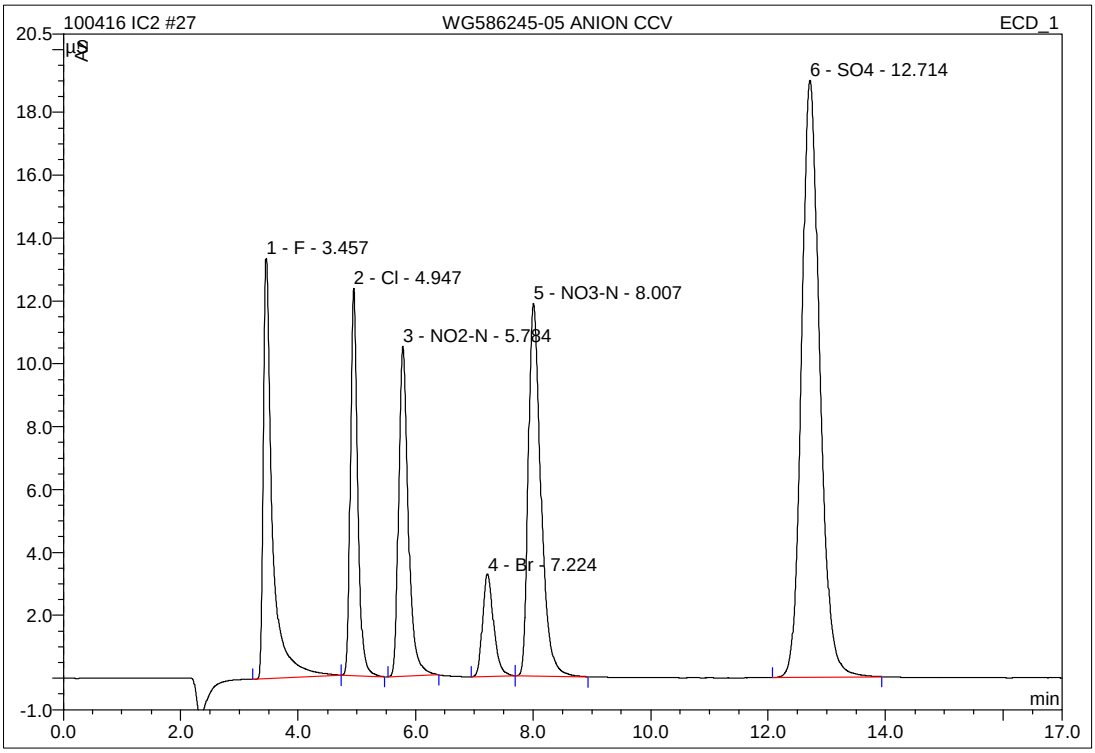
IC/Calibration(Batch)(2)

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

27 WG586245-05 ANION CCV

1,1 CAS STD77046

Sample Name:	**WG586245-05 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/04/2016 21:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.46	F	13.379	2.351	14.12	7.210	BMB
2	4.95	Cl	12.316	1.780	10.69	8.087	bMB
3	5.78	NO2-N	10.494	1.993	11.97	5.219	BMB
4	7.22	Br	3.263	0.710	4.27	8.109	BMB
5	8.01	NO3-N	11.860	2.952	17.73	5.492	bMB
6	12.71	SO4	19.001	6.859	41.21	40.732	BMB
Total:			70.313	16.646	100.00	74.849	

27 WG586245-05 ANION CCV

1,1 CAS STD77046

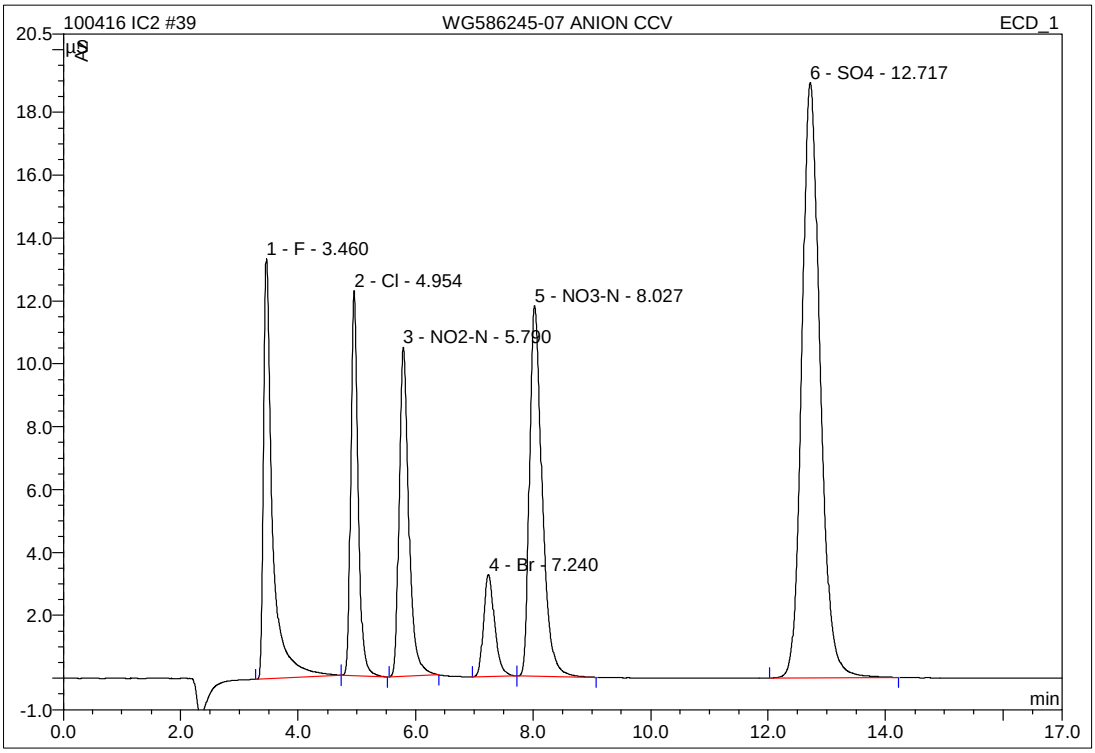
Sample Name:	**WG586245-05 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/4/2016 21:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

WG586245-05 ANI	Actual mg/L	Recovered mg/L	%Difference	
F	8.00	7.2100	-9.88	PASS
Cl	8	8.0871	1.09	PASS
NO2-N	4.8714	5.2195	7.15	PASS
NO3-N	5.4216	5.4920	1.30	PASS
Br	8	8.1088	1.36	PASS
SO4	40	40.7316	1.83	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!

39 WG586245-07 ANION CCV

1,1 CAS STD77046

Sample Name:	**WG586245-07 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**39**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 1:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.46	F	13.352	2.342	14.08	7.182	BMb
2	4.95	Cl	12.251	1.778	10.69	8.076	bMB
3	5.79	NO2-N	10.460	1.993	11.98	5.220	BMB
4	7.24	Br	3.241	0.708	4.25	8.078	BMB
5	8.03	NO3-N	11.780	2.945	17.71	5.481	bMB
6	12.72	SO4	18.937	6.870	41.30	40.790	BMB
Total:			70.022	16.636	100.00	74.828	

39 WG586245-07 ANION CCV

1,1 CAS STD77046

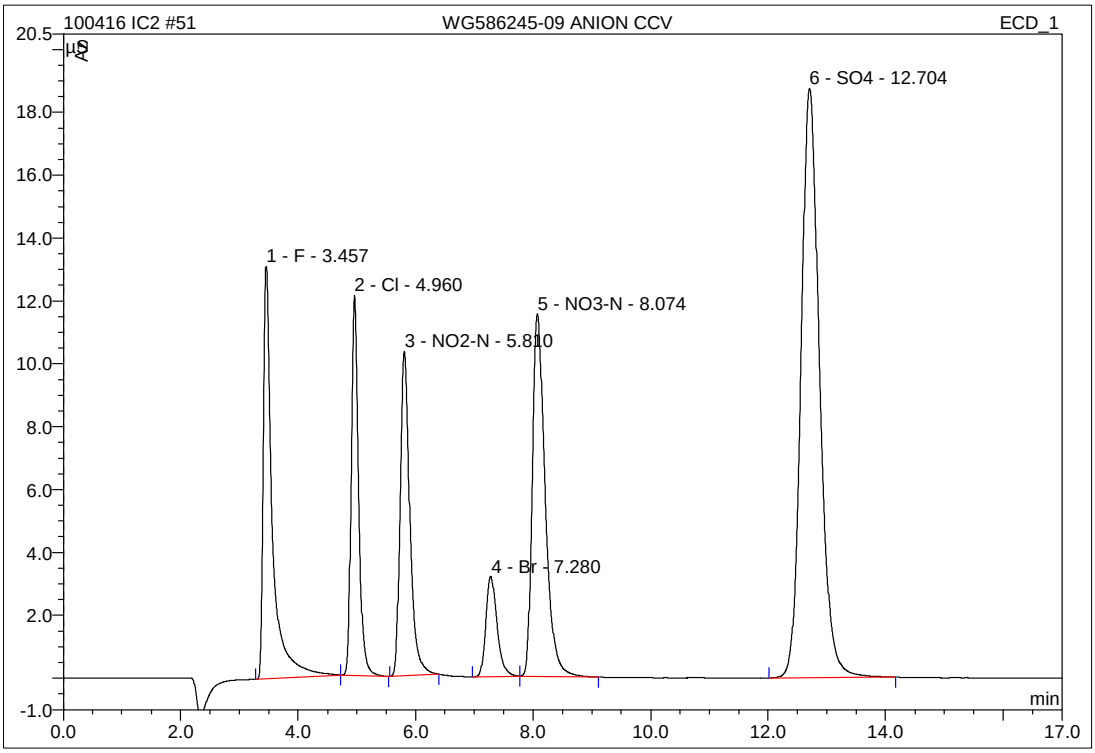
Sample Name:	**WG586245-07 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**39**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/5/2016 1:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

WG586245-07 ANI	Actual mg/L	Recovered mg/L	%Difference	
F	8.00	7.1817	-10.23	FAIL
Cl	8	8.0764	0.96	PASS
NO2-N	4.8714	5.2196	7.15	PASS
NO3-N	5.4216	5.4813	1.10	PASS
Br	8	8.0783	0.98	PASS
SO4	40	40.7904	1.98	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!

51 WG586245-09 ANION CCV

1,1 CAS STD77046

Sample Name:	**WG586245-09 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**51**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 5:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.46	F	13.123	2.320	14.02	7.118	BMb
2	4.96	Cl	12.082	1.766	10.67	8.028	bMB
3	5.81	NO2-N	10.315	1.977	11.95	5.181	BMB
4	7.28	Br	3.190	0.706	4.27	8.061	BMB
5	8.07	NO3-N	11.532	2.930	17.71	5.456	BMB
6	12.70	SO4	18.750	6.848	41.38	40.671	BMB
Total:			68.992	16.548	100.00	74.515	

51 WG586245-09 ANION CCV

1,1 CAS STD77046

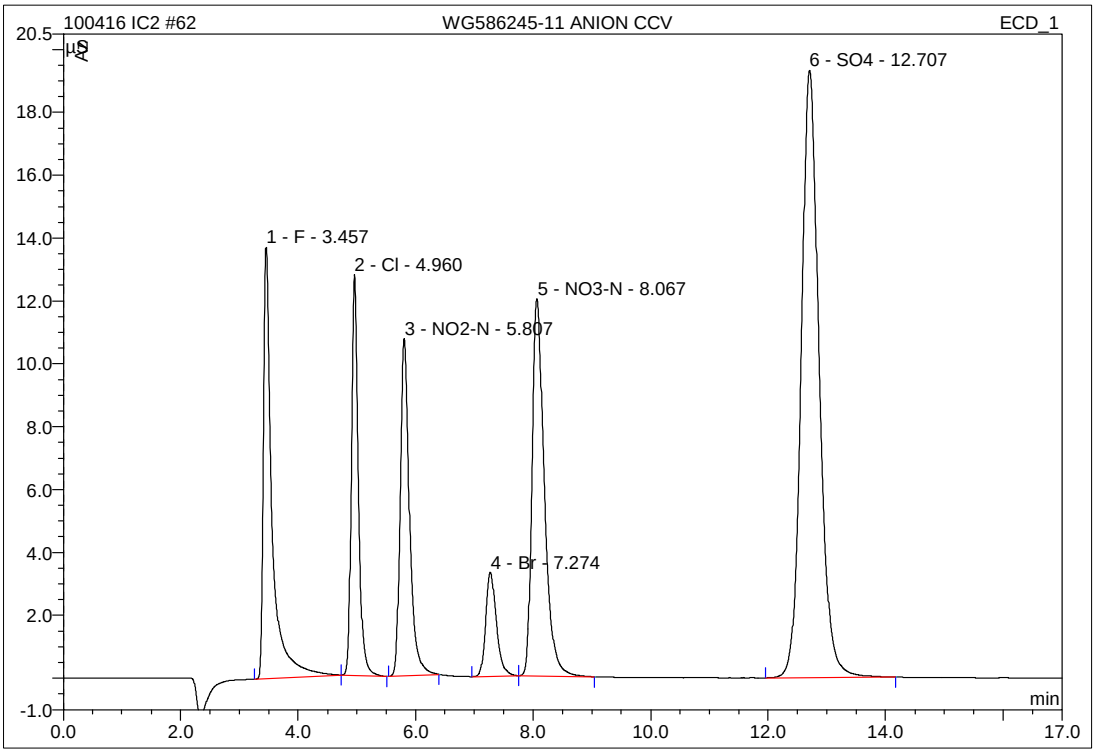
Sample Name:	**WG586245-09 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**51**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/5/2016 5:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

WG586245-09 ANI	Actual mg/L	Recovered mg/L	%Difference	
F	8.00	7.1183	-11.02	FAIL
Cl	8	8.0279	0.35	PASS
NO2-N	4.8714	5.1814	6.36	PASS
NO3-N	5.4216	5.4556	0.63	PASS
Br	8	8.0609	0.76	PASS
SO4	40	40.6711	1.68	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!

62 WG586245-11 ANION CCV

1,1 CAS STD77046

Sample Name:	**WG586245-11 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**63**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 8:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.46	F	13.712	2.314	14.05	7.099	BMb
2	4.96	Cl	12.756	1.762	10.70	8.010	bMB
3	5.81	NO2-N	10.723	1.964	11.92	5.150	BMB
4	7.27	Br	3.307	0.697	4.23	7.966	BMb
5	8.07	NO3-N	12.000	2.920	17.73	5.438	bMB
6	12.71	SO4	19.323	6.815	41.38	40.493	BMB
Total:			71.821	16.472	100.00	74.156	

62 WG586245-11 ANION CCV

1,1 CAS STD77046

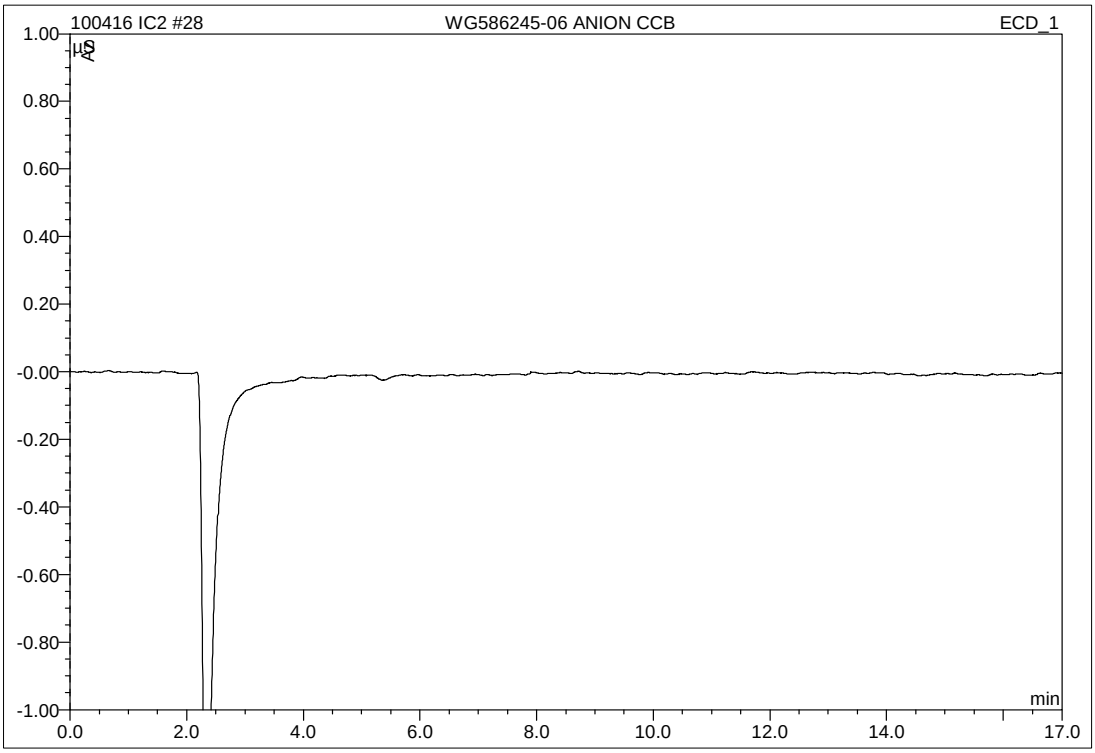
Sample Name:	**WG586245-11 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**63**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/5/2016 8:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

WG586245-11 ANI	Actual mg/L	Recovered mg/L	%Difference	
F	8.00	7.0990	-11.26	FAIL
Cl	8	8.0101	0.13	PASS
NO2-N	4.8714	5.1501	5.72	PASS
NO3-N	5.4216	5.4377	0.30	PASS
Br	8	7.9661	-0.42	PASS
SO4	40	40.4935	1.23	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!

28 WG586245-06 ANION CCB

1,1 CAS

Sample Name:	**WG586245-06 ANION CCB**	*Injection Volume:*	**25.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/04/2016 21:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

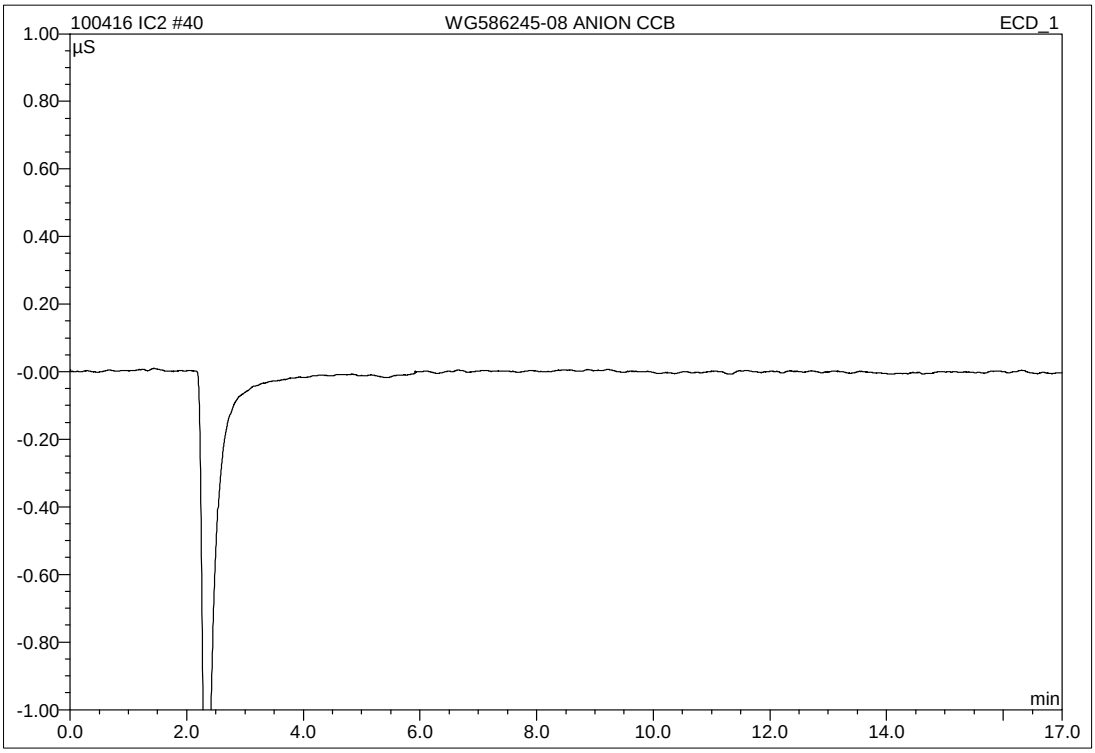


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

40 WG586245-08 ANION CCB

1,1 CAS

Sample Name:	**WG586245-08 ANION CCB**	*Injection Volume:*	**25.0**
Vial Number:	**40**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 1:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

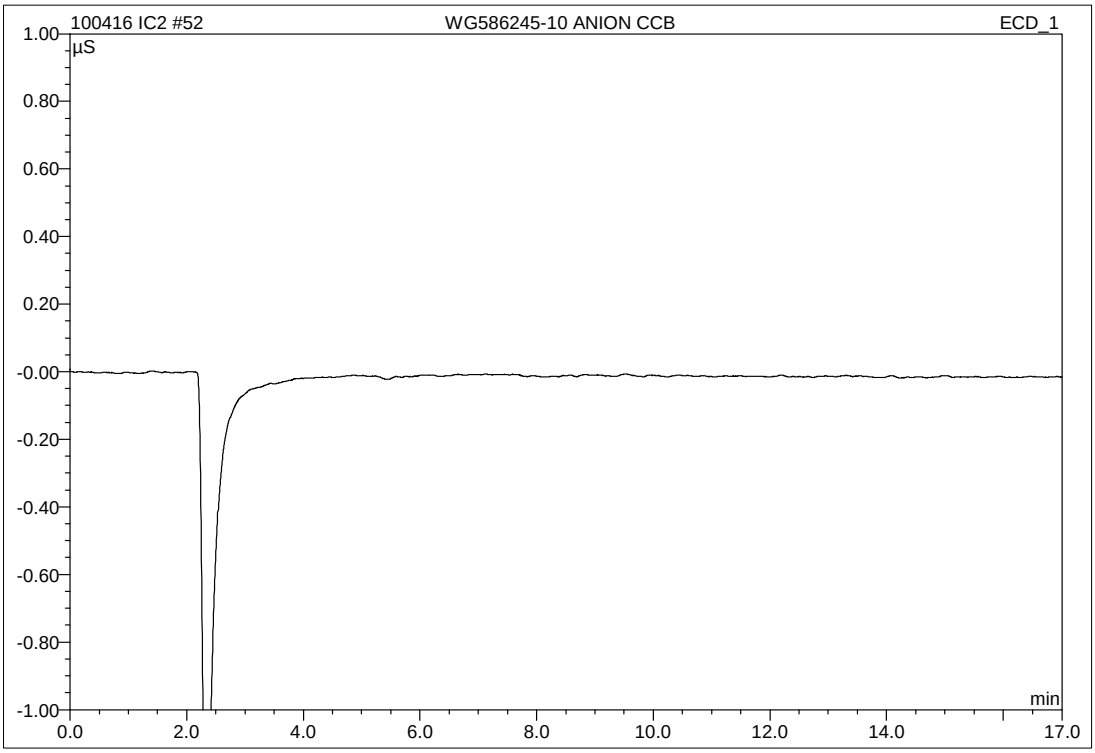


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

52 WG586245-10 ANION CCB

1,1 CAS

Sample Name:	**WG586245-10 ANION CCB**	*Injection Volume:*	**25.0**
Vial Number:	**52**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 5:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

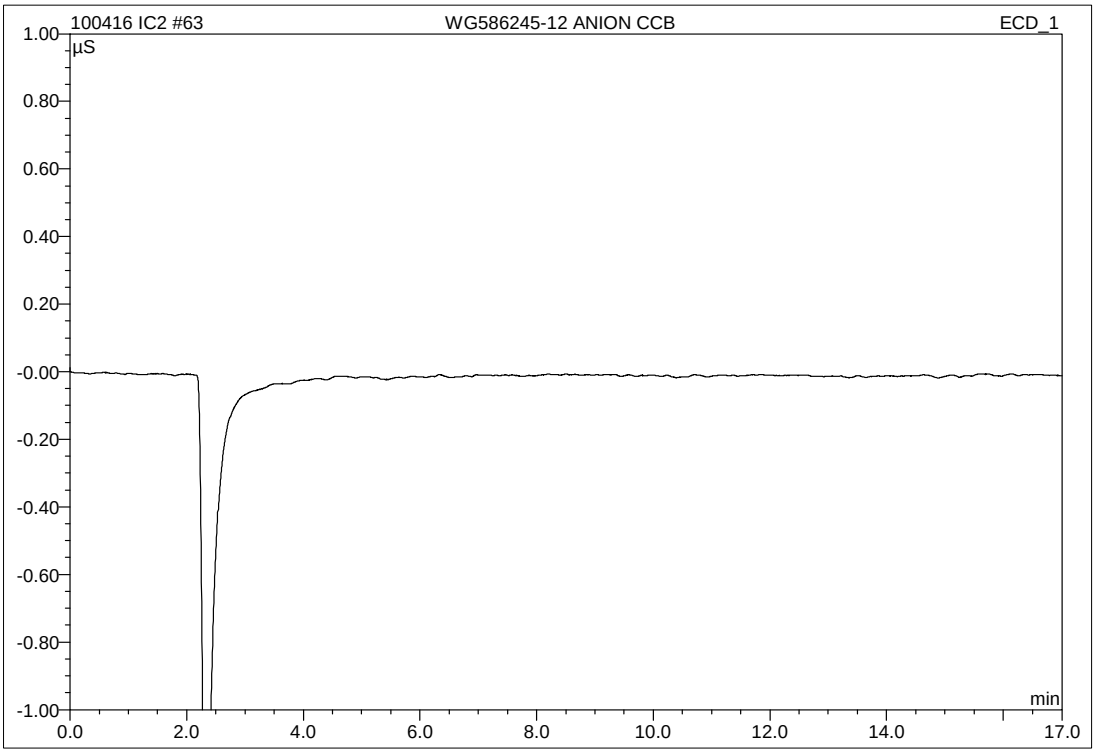


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

63 WG586245-12 ANION CCB

1,1 CAS

Sample Name:	**WG586245-12 ANION CCB**	*Injection Volume:*	**25.0**
Vial Number:	**64**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/05/2016 9:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

RETENTION TIME WINDOWS

Lab Name: MICROBAC Laboratories, Inc.

Instrument ID: IC1

IC Column: AG14A-SC/AS14A-SC

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	6/5/2013	6/5/2013	6/6/2013
File #	WG432976-05	WG432976-07	WG433275-01
Time	16:16	18:25	16:50

COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.41	3.40	3.41	0.017
Cl	4.87	4.87	4.88	0.017
NO2-N	5.67	5.66	5.67	0.017
Br	7.01	6.99	7.02	0.046
NO3-N	7.76	7.74	7.77	0.046
SO4	13.35	13.35	13.35	0.000

Instrument ID: IC2

IC Column: AS14A-4mm

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	3/2/2015	3/4/2015	3/5/2015
File #	WG514023-02	WG514341-02	WG514431-02
Time	23:15	18:47	17:41

COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.33	3.33	3.32	0.017
Cl	4.75	4.78	4.76	0.043
NO2-N	5.54	5.59	5.56	0.082
Br	6.86	6.98	6.93	0.180
NO3-N	7.59	7.73	7.67	0.222
SO4	12.42	12.38	12.34	0.116

Instrument ID: IC3

IC Column: AG14A-SC/AS14A-SC

	STANDARD #1	STANDARD #2	STANDARD #3
Date Run	5/20/2014	5/21/2014	5/21/2014
File #	WG476910-05	WG476934-01	WG476934-03
Time	12:41	9:54	13:59

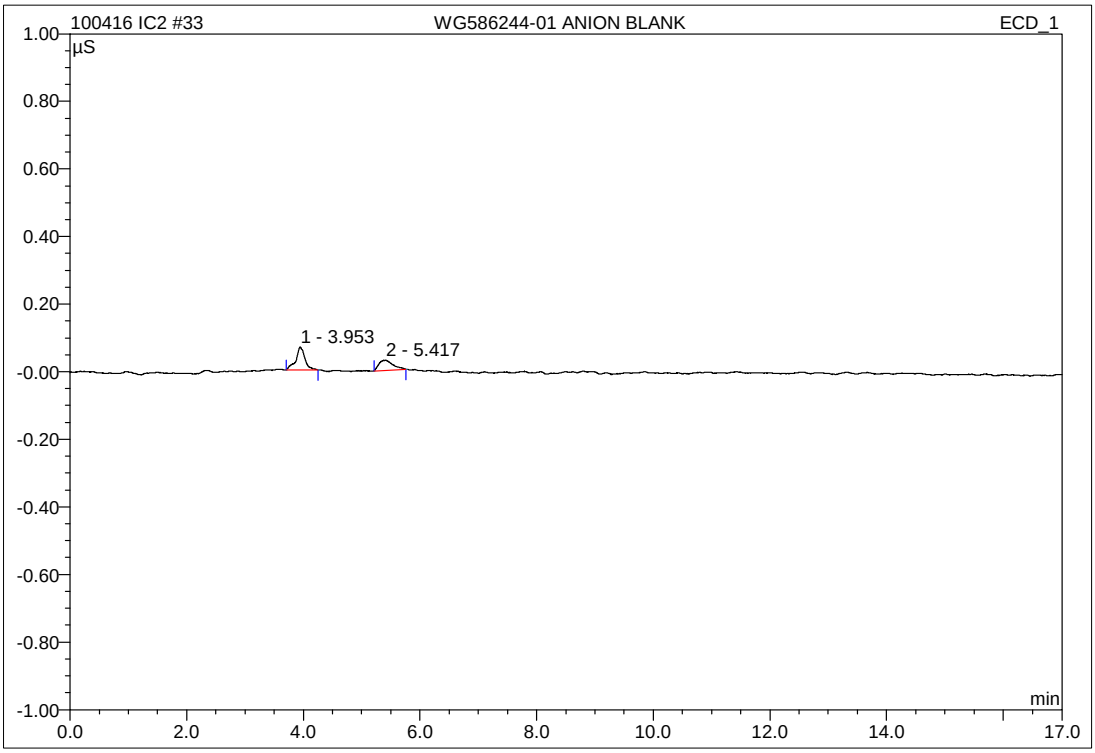
COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.41	3.41	3.41	0.000
Cl	5.11	5.09	5.07	0.050
NO2-N	6.14	6.11	6.07	0.101
Br	7.90	7.84	7.75	0.220
NO3-N	8.94	8.86	8.76	0.271
SO4	13.35	13.39	13.42	0.101

2.4.1.5 Raw QC Data

33 WG586244-01 ANION BLANK

1,1 CAS

Sample Name:	**WG586244-01 ANION BLANK**	*Injection Volume:*	**25.0**
Vial Number:	**33**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/04/2016 23:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**

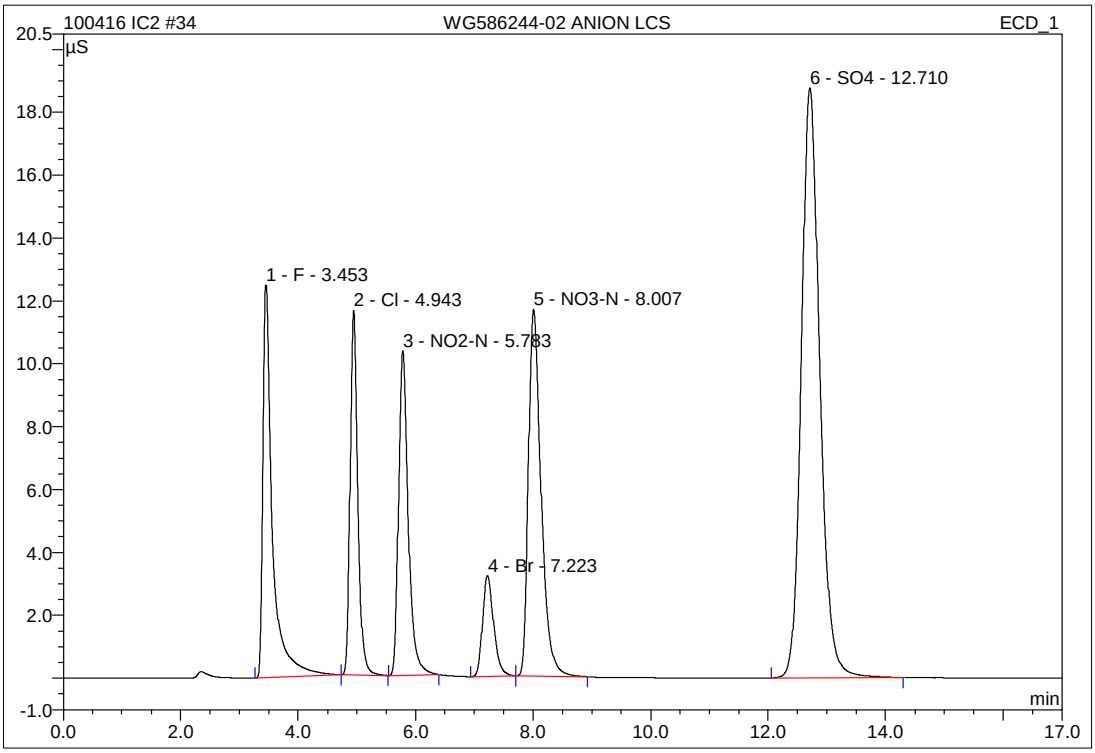


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.95	n.a.	0.068	0.012	58.85	n.a.	BMB
2	5.42	n.a.	0.030	0.009	41.15	n.a.	BMB
Total:			0.098	0.021	100.00	0.000	

34 WG586244-02 ANION LCS

1,1 CAS STD77045

Sample Name:	**WG586244-02 ANION LCS**	*Injection Volume:*	**25.0**
Vial Number:	**34**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**090716_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/04/2016 23:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**17.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.45	F	12.492	2.307	13.96	7.078	BMB
2	4.94	Cl	11.608	1.758	10.64	7.993	BMB
3	5.78	NO2-N	10.323	1.975	11.96	5.177	BMB
4	7.22	Br	3.208	0.705	4.27	8.051	BMB
5	8.01	NO3-N	11.667	2.928	17.72	5.451	BMB
6	12.71	SO4	18.762	6.849	41.45	40.674	BMB
Total:			68.060	16.522	100.00	74.425	

2.4.2 Alkalinity Data

2.4.2.1 Summary Data

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	35AWW09-100316	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	10/05/2016 10:09
Workgroup #:	WG586270	**Analyst:**	DCM	**Run Date:**	10/05/2016 10:22
Collect Date:	10/03/2016 08:25	**Dilution:**	1	**File ID:**	SC161005001.029
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	241		40.0	20.0	10.0

Certificate of Analysis

Sample #:	L16100123-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	35AWW10-100316	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	10/05/2016 10:09
Workgroup #:	WG586270	**Analyst:**	DCM	**Run Date:**	10/05/2016 10:23
Collect Date:	10/03/2016 09:40	**Dilution:**	1	**File ID:**	SC161005001.030
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	55.4		40.0	20.0	10.0

Certificate of Analysis

Sample #:	L16100123-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	35AWW11-100316	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	10/05/2016 10:09
Workgroup #:	WG586270	**Analyst:**	DCM	**Run Date:**	10/05/2016 10:23
Collect Date:	10/03/2016 10:50	**Dilution:**	2	**File ID:**	SC161005001.031
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	421		80.0	40.0	20.0

Certificate of Analysis

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L16100123-07	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	35AWW06-100316	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	10/05/2016 10:09
Workgroup #:	WG586270	**Analyst:**	DCM	**Run Date:**	10/05/2016 10:24
Collect Date:	10/03/2016 13:30	**Dilution:**	4	**File ID:**	SC161005001.032
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	621		160	80.0	40.0

2.4.2.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

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

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 05-OCT-2016
Analyst: DCM
Analyst: NA
Method: ALK
Instrument: SC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG586270

Calibration/Linearity	10-05-2016
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
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	DCM
Secondary Reviewer	SAV
Comments	

Primary Reviewer:
06-OCT-2016

David Merckle

Secondary Reviewer:
07-OCT-2016

Sarah Vandenberg

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-07-2016 10:35:47

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 310.2 AAB#: WG586270

Login Number: L16100123

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
35AWW09-100316	01	10/03/16					10/05/2016	2.1	14		10/05/16	2.1	14	
35AWW10-100316	03	10/03/16					10/05/2016	2	14		10/05/16	2	14	
35AWW11-100316	05	10/03/16					10/05/2016	2	14		10/05/16	2	14	
35AWW06-100316	07	10/03/16					10/05/2016	1.9	14		10/05/16	1.9	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4965579
Report generated 10/07/2016 09:51

METHOD BLANK SUMMARY

Login Number: L16100123
Work Group: WG586270
Blank File ID: SC161005001.012
Blank Sample ID: WG586270-01
Prep Date: 10/05/16 10:12
Instrument ID: SMARTCHEM
Analyzed Date: 10/05/16 10:12
Method: 310.2
Analyst: DCM

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586270-02	SC161005001.013	10/05/16 10:12	01
LCS2	WG586270-03	SC161005001.014	10/05/16 10:13	01
35AWW09-100316	L16100123-01	SC161005001.029	10/05/16 10:22	01
35AWW10-100316	L16100123-03	SC161005001.030	10/05/16 10:23	01
35AWW11-100316	L16100123-05	SC161005001.031	10/05/16 10:23	DL01
35AWW06-100316	L16100123-07	SC161005001.032	10/05/16 10:24	DL01
DUP	WG586270-05	SC161005001.035	10/05/16 10:25	01

Report Name: BLANK_SUMMARY
PDF File ID: 4965580
Report generated 10/07/2016 09:51

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16100123 Prep Date: 10/05/16 10:12 Sample ID: WG586270-01
Instrument ID: SMARTCHEM Run Date: 10/05/16 10:12 Prep Method: 310.2
File ID: SC161005001.012 Analyst: DCM Method: 310.2
Workgroup (AAB#): WG586270 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-05-OCT-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Alkalinity, Total (as CaCO3)	10.0	40.0	-12.3	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4965581
07-OCT-2016 09:51

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100123 Analyst: DCM Prep Method: 310.2
Instrument ID: SMARTCHEM Matrix: Water Method: 310.2
Workgroup (AAB#): WG586270 Units: mg/L
QC Key: DOD4 Lot #: STD78186

Sample ID: WG586270-02 LCS File ID: SC161005001.013 Run Date: 10/05/2016 10:12
Sample ID: WG586270-03 LCS2 File ID: SC161005001.014 Run Date: 10/05/2016 10:13

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Alkalinity, Total (as CaCO3)	200	206	103	200	203	101	1.51	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4965582
Report generated: 10/07/2016 09:51

2.4.2.3 Raw Data

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

WORKGROUP: WG586270

Daily Check

- [x] Lamp On
- [x] Probe Rinse Full
- [x] DI Water > ½ Full
- [x] Wash Solution > ½ Full
- [ ] NO3 Reagent bottle connected / purged
- [ ] NO3 pH adj to pH 5-9

Syringe filter lot # _____

- [x] WBL Run
- [x] Reagents Full
- [x] Dilution H_2O Full
- [x] Waste Container Check

1) **Workgroup** _____
Plan # 20161005a1
2) **Workgroup** _____
Plan # _____
3) **Workgroup** _____
Plan # _____

Instrument: SC1 [x] SC2 [ ]

	Analyte	1	2	3
		Dilution		
SC Prepared Curve				
Position				
1-1	ICV			
1-2	Blk			
1-3	LCS			
1-4	LCSDup			
1-5	09-1384-c2	1/4		color
1-6	C3	1/4		color
1-7	C5	1/4		color
1-8	C6	1/4		color
1-9	C8	1/4		color
1-10	C9	1/4		color
1-11	10-97-C2	1/4		color
1-12	C3	1/4		color
1-13	C5	1/4		color
1-14	C6	1/4		color
1-15	C7	1/100		color
* 1-16	09-1363-c3	1		Pst
1-17	10-123-c1			
1-18	C3			
1-19	C5	1/2		
1-20	C7	1/4		
1-21	Dup 10-123c3			
1-22				
2-1				
2-2				
2-3				

dcm 10/6/16

Position	Analyte	1	2	3
2-4				
2-5				
2-6				
2-7				
2-8				
2-9				
2-10				
2-11				
2-12				
2-13				
2-14				
2-15				
2-16				
2-17				
2-18				
2-19				
2-20				
2-21				
2-22				
2-23				
2-24				
2-25				
2-26				
3-1				
3-2				

NOTES:
*** Run NO2 std on NO3 runs**
*** LCSD must be run if no MS or Duplicate**
***MS(10% sample): NO3, TKN, NH3, PHOS**

pH < 8.3

DCN#121306

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

WORKGROUP: WG586270

Position	Analyte	1	2	3
3-3				
3-4				
3-5				
3-6				
3-7				
3-8				
3-9				
3-10				
3-11				
3-12				
3-13				
3-14				
3-15				

Position	Analyte	1	2	3
3-16				
3-17				
3-18				
3-19				
3-20				
3-21				
3-22				
3-23				
3-24				
3-25				
3-26				
3-27				
3-28				

	Chloride	EPA 325.2/SM 4500-CI E-2000
	Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F-2000
✓	Alkalinity	EPA 310.2
	Sulfate	EPA 375.4/SM 426C (15th)/ SM4500-504 E-1997

	Ammonia	EPA 350.1/SM 4500-NH3 B-1997
	TKN	EPA 351.2
	Phos	EPA 365.4

Analyte	~~IC3102 R17~~	AK	Reagents
SOP & Revision	IC3102 R17		RGT 38110
Curve Stock (SC made)	Std 76180		
NO2 STD			
ICV	Std 78187		
CCV	Std 78185		
LCS	Std 78186		
MS	NA Dilution		

Comments: _____

Analyst: David Merkle Date: 10/5/16

DCN#121306

MICROBAC (OVD)
SMARTCHEM200 INST1 (VER3.1.14)
NH3, TKN, NO3NO2 (MG/L N)
ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK -Unit [mg/L] - ALKALINITY EPA 310.2

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.0	0.4426	0.00		10:03:48 AM
DIL-1	RBL	0.0	0.4397	0.00		10:04:06 AM
DIL-1	RBL	0.0	0.4395	0.00		10:05:00 AM
DIL-1	Std-1	0.0	-0.0024	0.00		10:05:18 AM
SR5-1	Std-2	10.0	-0.0062	0.00		10:06:12 AM
SR5-2	Std-3	20.0	-0.0163	0.00		10:06:30 AM
SR5-3	Std-4	50.0	-0.0446	0.00		10:07:24 AM
SR5-4	Std-5	100.0	-0.0869	0.00		10:07:42 AM
SR5-5	Std-6	200.0	-0.1894	0.00		10:08:37 AM
SR5-6	Std-7	250.0	-0.2399	0.00	EPL	10:08:54 AM
SR5-7	Std-8	300.0	-0.2828	0.00		10:09:48 AM
ST-3	1CCV (150 mg/L)	148.3	-0.1371	98.85	EPL	10:10:06 AM
ST-2	2CCB (0 mg/L)	-15.5	0.0155	0.00	INV,><,LL	10:11:00 AM
1	ICV	259.4	-0.2455	0.00		10:11:18 AM
2	WG586270-01 BLK	-12.3	0.0126	0.00	INV,><,LL	10:12:12 AM
3	WG586270-02 LCS	205.6	-0.1925	0.00		10:12:30 AM
4	WG586270-03 LCSDUP	202.5	-0.1895	0.00		10:13:24 AM
5	L16091384-02 (4)	151.9	-0.1406	0.00		10:13:42 AM
6	L16091384-03 (4)	72.1	-0.0651	0.00		10:14:36 AM
7	L16091384-05 (4)	147.0	-0.1359	0.00		10:14:54 AM
8	L16091384-06 (4)	62.0	-0.0557	0.00		10:15:48 AM
9	L16091384-08 (4)	140.3	-0.1295	0.00		10:16:06 AM
10	L16091384-09 (4)	90.5	-0.0823	0.00		10:17:00 AM
ST-3	1CCV (150 mg/L)	150.9	-0.1396	100.60		10:17:18 AM
ST-2	2CCB (0 mg/L)	-10.0	0.0105	0.00	INV,EPL,><	10:18:12 AM
11	L16100097-02 (4)	172.0	-0.1599	0.00		10:18:30 AM
12	L16100097-03 (4)	64.1	-0.0577	0.00		10:19:24 AM
13	L16100097-05 (4)	169.4	-0.1574	0.00		10:19:42 AM
14	L16100097-06 (4)	85.1	-0.0773	0.00		10:20:36 AM
15	L16100097-07 (100)	118.9	-0.1091	0.00		10:20:54 AM
16	L16091363-03	150.8	-0.1395	0.00	EPL	10:21:48 AM
17	L16100123-01	240.7	-0.2270	0.00		10:22:06 AM
18	L16100123-03	55.4	-0.0496	0.00		10:23:01 AM
19	L16100123-05 (2)	210.5	-0.1973	0.00	EPL	10:23:18 AM
20	L16100123-07 (4)	155.2	-0.1437	0.00		10:24:12 AM
ST-3	1CCV (150 mg/L)	158.6	-0.1470	105.74		10:24:30 AM

dcm 10/6/16

Report Date :10/05/2016 **Run Date :10/05/2016** **Operator : SMARTCHEM1** **Plan # :20161005001**

Plan Description : ALK-A1-DCM/10/05/2016

MICROBAC (OVD)
SMARTCHEM200 INST1 (VER3.1.14)
NH3, TKN, NO3NO2 (MG/L N)
ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WALK -Unit [mg/L] - ALKALINITY EPA 310.2

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
ST-2	2CCB (0 mg/L)	1.5	0.0000	0.00		10:25:24 AM
21	WG586270-05 DUP	64.9	-0.0584	0.00		10:25:42 AM
22	ID 22	37.4	-0.0329	0.00	EPL	10:26:36 AM
23	ID 23	40.0	-0.0353	0.00		10:26:54 AM
24	ID 24	35.7	-0.0314	0.00		10:27:48 AM
ST-3	1CCV (150 mg/L)	160.9	-0.1492	107.27		10:28:06 AM
ST-2	2CCB (0 mg/L)	5.0	-0.0032	0.00		10:29:00 AM

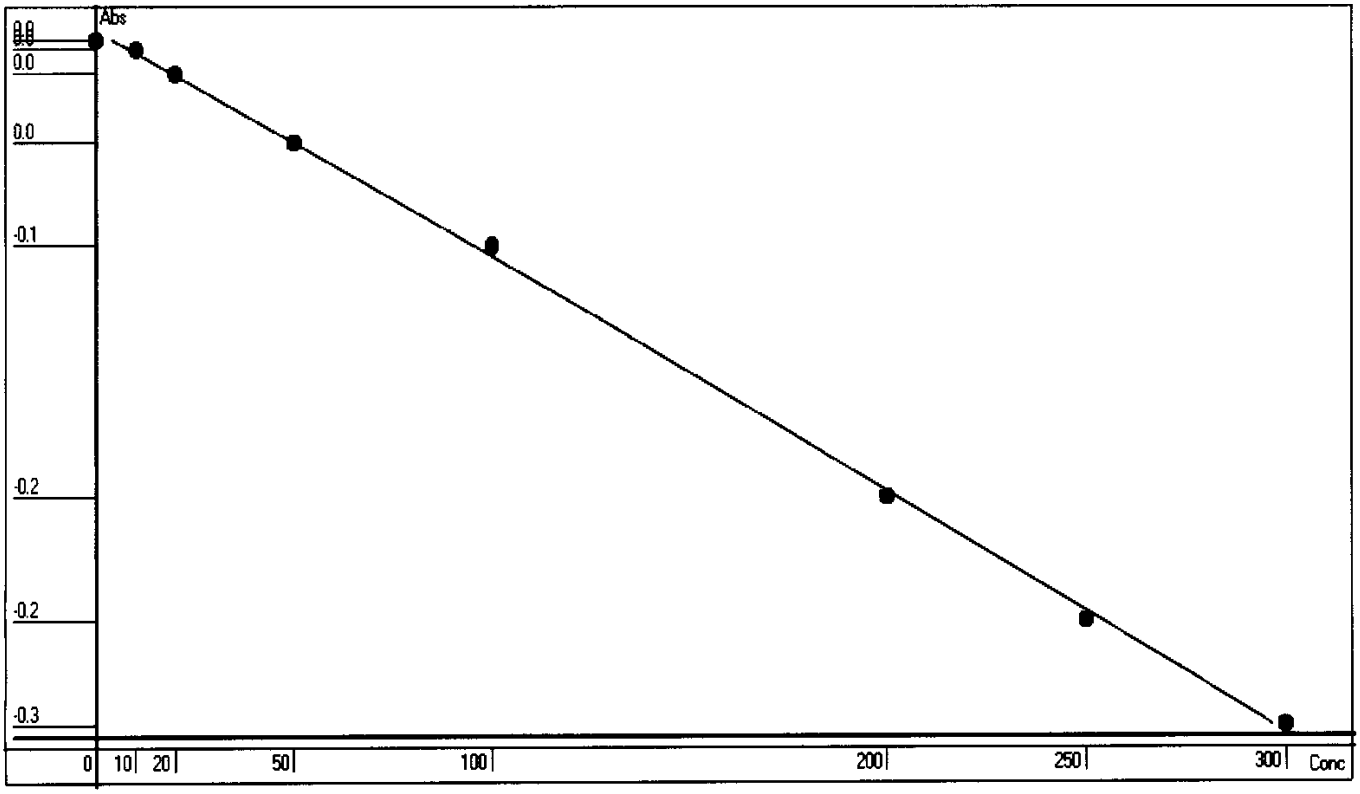
Report Date :10/05/2016 **Run Date :10/05/2016** **Operator : SMARTCHEM1** **Plan # :20161005001**

Plan Description : ALK-A1-DCM/10/05/2016

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan # : 20161005001 Description : [ALK-A1-DCM/10/05/2016] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0024	0	4.1469	414.69
2	-0.0062	10	8.3050	-16.95
3	-0.0163	20	19.3310	-3.35
4	-0.0446	50	50.0246	0.05
5	-0.0869	100	95.3502	-4.65
6	-0.1894	200	202.4378	1.22
7	-0.2399	250	253.7695	1.51
8	-0.2828	300	296.6353	-1.12

Conc= -184.8826*Abso^2 -1095.84*Abso +1.5179 R^2=0.9992

RBL
0.4396
0

Report Date 10/5/2016 Run Date 10/5/2016

2.4.3 Ferrous Iron Data

2.4.3.1 Summary Data

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-01	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	35AWW09-100316	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	08/10/2016 11:20
Workgroup #:	WG586481	**Analyst:**	TMM	**Run Date:**	10/06/2016 09:45
Collect Date:	10/03/2016 08:25	**Dilution:**	1	**File ID:**	00.1610060945-06
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0400	U	0.0400	0.0400	0.0200

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-03	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	35AWW10-100316	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	08/10/2016 11:20
Workgroup #:	WG586481	**Analyst:**	TMM	**Run Date:**	10/06/2016 09:45
Collect Date:	10/03/2016 09:40	**Dilution:**	1	**File ID:**	00.1610060945-07
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0400	U	0.0400	0.0400	0.0200

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-05	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	35AWW11-100316	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	08/10/2016 11:20
Workgroup #:	WG586481	**Analyst:**	TMM	**Run Date:**	10/06/2016 09:45
Collect Date:	10/03/2016 10:50	**Dilution:**	1	**File ID:**	00.1610060945-08
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0400	U	0.0400	0.0400	0.0200

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-07	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	35AWW06-100316	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	08/10/2016 11:20
Workgroup #:	WG586481	**Analyst:**	TMM	**Run Date:**	10/06/2016 09:45
Collect Date:	10/03/2016 13:30	**Dilution:**	1	**File ID:**	00.1610060945-09
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.0238	J	0.0400	0.0400	0.0200

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.4.3.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

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

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 06-OCT-2016
Analyst: TMM
Analyst: NA
Method: FERROUS IRON
Instrument: UV-2600
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG586481

Calibration/Linearity	8/10/16
Second Source Check	
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	X
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	TMM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
06-OCT-2016

Secondary Reviewer:
13-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-13-2016 13:58:11

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM3500Fe-B-1997 AAB#: WG586481

Login Number: L16100123

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
35AWW09-100316	01	10/03/16					10/06/2016	3.1	7		10/06/16	3.1	7	
35AWW10-100316	03	10/03/16					10/06/2016	3	7		10/06/16	3	7	
35AWW11-100316	05	10/03/16					10/06/2016	3	7		10/06/16	3	7	
35AWW06-100316	07	10/03/16					10/06/2016	2.8	7		10/06/16	2.8	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4973452
Report generated 10/13/2016 09:57

METHOD BLANK SUMMARY

Login Number: L16100123
Work Group: WG586481
Blank File ID: 00.1610060945-03
Blank Sample ID: WG586481-01
Prep Date: 10/06/16 09:45
Instrument ID: UV-2600
Analyzed Date: 10/06/16 09:45
Method: SM3500Fe-B-1997
Analyst: TMM

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586481-02	00.1610060945-04	10/06/16 09:45	
LCS2	WG586481-03	00.1610060945-05	10/06/16 09:45	
35AWW09-100316	L16100123-01	00.1610060945-06	10/06/16 09:45	
35AWW10-100316	L16100123-03	00.1610060945-07	10/06/16 09:45	
35AWW11-100316	L16100123-05	00.1610060945-08	10/06/16 09:45	
35AWW06-100316	L16100123-07	00.1610060945-09	10/06/16 09:45	
DUP	WG586481-05	00.1610060945-17	10/06/16 09:45	

Report Name: BLANK_SUMMARY
PDF File ID: 4973453
Report generated 10/13/2016 09:57

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16100123 Prep Date: 10/06/16 09:45 Sample ID: WG586481-01
Instrument ID: UV-2600 Run Date: 10/06/16 09:45 Prep Method: SM3500Fe-B-1997
File ID: 00.1610060945-03 Analyst: TMM Method: SM3500Fe-B-1997
Workgroup (AAB#): WG586481 Matrix: Water Units: mg/L
Contract #: Cal ID: UV-260-10-AUG-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Iron, Ferrous - Laboratory	0.0200	0.0400	0.0200	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4973454
13-OCT-2016 09:57

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100123 Analyst: TMM Prep Method: SM3500Fe-B-1997
Instrument ID: UV-2600 Matrix: Water Method: SM3500Fe-B-1997
Workgroup (AAB#): WG586481 Units: mg/L
QC Key: DOD4 Lot #: STD77540

Sample ID: WG586481-02 LCS File ID: 00.1610060945-04 Run Date: 10/06/2016 09:45
Sample ID: WG586481-03 LCS2 File ID: 00.1610060945-05 Run Date: 10/06/2016 09:45

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Iron, Ferrous - Laboratory	0.200	0.233	117	0.200	0.233	117	0.00	75 - 125	25	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4973455
Report generated: 10/13/2016 09:57

2.4.3.3 Raw Data

WG 579687

Curves

Parameter: Ferrous Iron

Spectrophotometer: UV-2600

Calibration (Curve) standard stock: Std 76129

Concentration: 100 mg/L

Recipe for preparation of curve standards found in:
SOP: 3500 Revision: 7 Page: 8

Second Source Stock: Std 77540 (concentration: 100 mg/L)

Daily Preparation: 2(100)/1000

concentration = 0.2

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
0	50	10cm	510	0.001
0.04	50	10cm	510	0.032
0.08	50	10cm	510	0.058
0.2	50	10cm	510	0.161
0.4	50	10cm	510	0.332
0.6	50	10cm	510	0.523
2nd Source 0.2	50	10cm	510	0.168

Analyst: David Merchlb

Date/Time: 8/10/16

DCN#120218

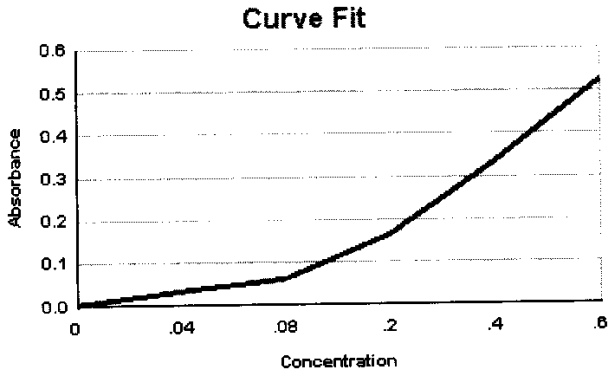
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup:WG579687
Analytical Method:FERROUS
Instrument ID:UV-2600

Analyst:DCM
Initial Calibration Date:08/10/2016

Analyte: FERROUS IRON
Number of Points: 6
Slope: 0.868804
Y-Intercept: -0.00663689
Coef. Of Correlation (R^2): 0.998650
Coef. Of Correlation (R): 0.999325

Concentration X	Absorbance Y	X^2	X * Y	Y-Fitted (mX^2+B)
0.00	0.00100	0.00	0.00	-0.00663689
0.0400	0.0320	0.00160	0.00128	0.0281153
0.0800	0.0580	0.00640	0.00464	0.0628674
0.200	0.161	0.0400	0.0322	0.167124
0.400	0.332	0.160	0.133	0.340885
0.600	0.523	0.360	0.314	0.514646



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 08/10/2016 11:25

[redacted]

Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG579687
File ID: 00.1608101120-07
CCV ID: WG579687-07
Units: mg/L
Analyte: FERROUS IRON

Instrument ID: UV-2600
Run Date: 08/10/2016
Run Time: 11:20
Analyst: DCM
Cal ID: UV-260 - 10-AUG-16 11:20:06

Analyte	Expected	Found	RF	%D	Q
Iron, Ferrous	.2	0.201	0.840	0.5	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_SSCV - Modified 03/06/2008
Report generated 08/10/2016 11:25

LOQ 2(100)/500=0.4
50(0.4)/500=0.04

LOD 25(0.4)/500=0.02

WORKGROUP: WG586481

Ferrous Iron

SM 3500Fe-B

SOP K3500 Revision # 8

Instrument: UV-2600 ~~UV-120-1V~~

Curve Reference: 8/10/16

CCV: 76129
Daily Dilution: 3(100)/1000
Daily Dilution: =0.3

RGTS: 37318
RGTS: 37591
RGTS: 36787

LCS: 77540
Daily Dilution: 2(100)/1000
Daily Dilution: =0.2

Spike: 77540 MS
Daily Dilution: 0.1(600)/50 0.2(100)/50
Daily Dilution: =0.2 =0.4

Sample	Blank	Volume (mL)	Dilution	Cell Size (nm)	Absorbance
CCV: _____ mg/L	✓	50		10	0.269
BLANK ICCB	✓	50		10	0.003
LCS: _____ mg/L	✓	50		10	0.196
LCS DUP: (_____ mg/L)	✓	50		10	0.196
10-123-01	✓	50		10	0.001
03	✓	50		10	0.006
05	✓	50		10	0.004
07	✓	50		10	0.014
* 10-194-01	✓	50	1/200	10	0.070
* 03	✓	50	1/100	10	0.063
05	✓	50		10	0.222
06	✓	50			0.219
LOD ← 10-002-01	✓	50			0.016
LOQ ← 10-004-01	✓	50		10/6/16 Iron	~~0.029~~ 0.0037
09	✓	50			0.036
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
CCB		50			0.003
DUP: 10-194-06	✓	50			0.220
MS: (0.2) 10-194-06	✓	50			0.634
MSD: (0.2) 10-194-06	✓	50			0.631
CCV: (0.3) _____	✓	50			0.269

Analyst: Jammy Moreno Date/Time: 10/6/16 @ 945

*Samples were analyzed in the laboratory and not immediately in the field.

*Samples diluted because of Color.

DCN#121335

Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG586481
Analyte: FERROUS IRON

Analyst: TMM
Date: 10/06/2016

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG586481-01	50	50	0.00300	0.8688	-0.006637	0.011092	0.011092	1	mg/L
WG586481-02	50	50	0.196	0.8688	-0.006637	0.23324	0.23324	1	mg/L
WG586481-03	50	50	0.196	0.8688	-0.006637	0.23324	0.23324	1	mg/L
L16100123-01	50	50	0.00100	0.8688	-0.006637	0.0087901	ND	1	mg/L
L16100123-03	50	50	0.00600	0.8688	-0.006637	0.014545	ND	1	mg/L
L16100123-05	50	50	0.00400	0.8688	-0.006637	0.012243	ND	1	mg/L
L16100123-07	50	50	0.0140	0.8688	-0.006637	0.023753	0.023753 F	1	mg/L
L16100194-01	50	50	0.0700	0.8688	-0.006637	0.088210	17.642	200	mg/L
L16100194-03	50	50	0.0630	0.8688	-0.006637	0.080153	8.0153	100	mg/L
L16100194-05	50	50	0.222	0.8688	-0.006637	0.26316	0.26316	1	mg/L
L16100194-06	50	50	0.219	0.8688	-0.006637	0.25971	0.25971	1	mg/L
WG586481-04	50	50	0.219	0.8688	-0.006637	0.25971	0.25971	1	mg/L
L16100002-01	50	50	0.0160	0.8688	-0.006637	0.026055	0.026055	1	mg/L
L16100004-01	50	50	0.0370	0.8688	-0.006637	0.050226	0.050226	1	mg/L
L16100004-09	50	50	0.0360	0.8688	-0.006637	0.049075	0.049075	1	mg/L
WG586481-05	50	50	0.220	0.8688	-0.006637	0.26086	0.26086	1	mg/L
WG586481-06	50	50	0.634	0.8688	-0.006637	0.73738	0.73738	1	mg/L
WG586481-07	50	50	0.631	0.8688	-0.006637	0.73392	0.73392	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 10/06/2016 14:01

[redacted]

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG586604
File ID: 00.1610060945-01
CCV ID: WG586604-01
Units: mg/L
Analyte: FERROUS IRON

Instrument ID: UV-2600
Run Date: 10/06/2016
Run Time: 09:45
Analyst: TMM
Cal ID: UV-260 - 28-SEP-16

Analyte	Expected	Found	RF	%D	Q
Iron, Ferrous	.3	0.317	0.897	5.7	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 10/06/2016 14:02

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

Workgroup #: WG586604
File ID: 00.1610060945-21
CCV ID: WG586604-04
Units: mg/L
Analyte: FERROUS IRON

Instrument ID: UV-2600
Run Date: 10/06/2016
Run Time: 09:45
Analyst: TMM
Cal ID: UV-260 - 28-SEP-16

Analyte	Expected	Found	RF	%D	Q
Iron, Ferrous	.3	0.317	0.897	5.7	

* Exceeds %D Limit

CCC Calibrtion Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 10/06/2016 14:02

[redacted]

2.4.4 Phosphorus Data

2.4.4.1 Summary Data

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	35AWW09-100316	**Prep Method:**	365.4	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.4	**Cal Date:**	10/10/2016 09:33
Workgroup #:	WG586864	**Analyst:**	DCM	**Run Date:**	10/10/2016 09:43
Collect Date:	10/03/2016 08:25	**Dilution:**	1	**File ID:**	SC161010002.023
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.200	U	0.400	0.200	0.100

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	35AWW10-100316	**Prep Method:**	365.4	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.4	**Cal Date:**	10/10/2016 09:33
Workgroup #:	WG586864	**Analyst:**	DCM	**Run Date:**	10/10/2016 09:44
Collect Date:	10/03/2016 09:40	**Dilution:**	1	**File ID:**	SC161010002.024
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.200	U	0.400	0.200	0.100

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	35AWW11-100316	**Prep Method:**	365.4	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.4	**Cal Date:**	10/10/2016 09:33
Workgroup #:	WG586864	**Analyst:**	DCM	**Run Date:**	10/10/2016 09:44
Collect Date:	10/03/2016 10:50	**Dilution:**	1	**File ID:**	SC161010002.025
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.303	J	0.400	0.200	0.100

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-07	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	35AWW06-100316	**Prep Method:**	365.4	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.4	**Cal Date:**	10/10/2016 09:33
Workgroup #:	WG586864	**Analyst:**	DCM	**Run Date:**	10/10/2016 09:45
Collect Date:	10/03/2016 13:30	**Dilution:**	1	**File ID:**	SC161010002.026
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.208	J	0.400	0.200	0.100

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.4.4.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

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

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 10-OCT-2016
Analyst: DCM
Analyst: NA
Method: PHOS
Instrument: SC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG586864

Calibration/Linearity	10-10-2016
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
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	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
11-OCT-2016

Secondary Reviewer:
11-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-11-2016 14:36:02

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 365.4 AAB#: WG586864

Login Number: L16100123

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
35AWW09-100316	01	10/03/16					10/10/2016	7.1	28		10/10/16	7.1	28	
35AWW10-100316	03	10/03/16					10/10/2016	7	28		10/10/16	7	28	
35AWW11-100316	05	10/03/16					10/10/2016	7	28		10/10/16	7	28	
35AWW06-100316	07	10/03/16					10/10/2016	6.8	28		10/10/16	6.8	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4970119
Report generated 10/11/2016 12:35

METHOD BLANK SUMMARY

Login Number: L16100123
Blank File ID: SC161010002.010
Prep Date: 10/10/16 09:35
Analyzed Date: 10/10/16 09:35
Analyst: DCM

Work Group: WG586864
Blank Sample ID: WG586864-01
Instrument ID: SMARTCHEM
Method: 365.4

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586864-02	SC161010002.011	10/10/16 09:36	01
35AWW09-100316	L16100123-01	SC161010002.023	10/10/16 09:43	01
35AWW10-100316	L16100123-03	SC161010002.024	10/10/16 09:44	01
35AWW11-100316	L16100123-05	SC161010002.025	10/10/16 09:44	01
35AWW06-100316	L16100123-07	SC161010002.026	10/10/16 09:45	01
DUP	WG586864-04	SC161010002.034	10/10/16 09:50	01

Report Name: BLANK_SUMMARY
PDF File ID: 4970120
Report generated 10/11/2016 12:35

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16100123 Prep Date: 10/10/16 09:35 Sample ID: WG586864-01
Instrument ID: SMARTCHEM Run Date: 10/10/16 09:35 Prep Method: 365.4
File ID: SC161010002.010 Analyst: DCM Method: 365.4
Workgroup (AAB#): WG586864 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-10-OCT-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Phosphorus, Total	0.100	0.400	0.100	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4970121
11-OCT-2016 12:35

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100123 Run Date: 10/10/2016 Sample ID: WG586864-02
Instrument ID: SMARTCHEM Run Time: 09:36 Prep Method: 365.4
File ID: SC161010002.011 Analyst: DCM Method: 365.4
Workgroup (AAB#): WG586864 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD78117 Cal ID: SMARTC-10-OCT-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Phosphorus, Total	1.00	1.02	102	70 - 130	

LCS - Modified 03/06/2008
PDF File ID: 4970122
Report generated: 10/11/2016 12:35

2.4.4.3 Raw Data

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

WORKGROUP: WG586864

Daily Check

- [x] Lamp On
- [x] Probe Rinse Full
- [x] DI Water > ½ Full
- [x] Wash Solution > ½ Full
- [ ] NO3 Reagent bottle connected / purged
- [ ] NO3 pH adj to pH 5-9

Syringe filter lot # _____

- [x] WBL Run
- [x] Reagents Full
- [x] Dilution H_2O Full
- [x] Waste Container Check

1) **Workgroup** _____
Plan # _____
2) **Workgroup** _____
Plan # _____
3) **Workgroup** _____
Plan # _____

Instrument: SC1 [x] SC2 [ ]

	Analyte	1	2	3
		PHCS		
		Dilution		
SC Prepared Curve				
Position				
1-1	ICV			
1-2	Blk			
1-3	LCS			
1-4	10-002-01			
1-5	10-004-01			
1-6	09			
1-7	09-1346-01			
1-8	02			
1-9	03			
1-10	04			
1-11	10-188-01			
1-12	10-20[illegible]-03	1ml/250		
1-13	10-123-01			
1-14	03			
1-15	05			
1-16	07			
1-17	10-194-01	1ml/10		
1-18	03	1ml/10		
1-19	05			
1-20	06			
1-21	10-271-02			
1-22	Dup 09-1346-01			
2-1	MS 09-1346-01			
2-2	MS 09-1346-02			
2-3				

Position	Analyte	1	2	3
2-4				
2-5				
2-6				
2-7				
2-8				
2-9				
2-10				
2-11				
2-12				
2-13				
2-14				
2-15				
2-16				
2-17				
2-18				
2-19				
2-20				
2-21				
2-22				
2-23				
2-24				
2-25				
2-26				
3-1				
3-2				

NOTES:
* Run NO2 std on NO3 runs
* LCSD must be run if no MS or Duplicate
*MS(10% sample): NO3, TKN, NH3, PHOS

DCN#121404

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

WORKGROUP: WG586864

Position	Analyte	1	2	3
3-3				
3-4				
3-5				
3-6				
3-7				
3-8				
3-9				
3-10				
3-11				
3-12				
3-13				
3-14				
3-15				

Position	Analyte	1	2	3
3-16				
3-17				
3-18				
3-19				
3-20				
3-21				
3-22				
3-23				
3-24				
3-25				
3-26				
3-27				
3-28				

	Chloride	EPA 325.2/SM 4500-CI E-2000
	Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F-2000
	Alkalinity	EPA 310.2
	Sulfate	EPA 375.4/SM 426C (15th)/ SM4500-504 E-1997

	Ammonia	EPA 350.1/SM 4500-NH3 B-1997
	TKN	EPA 351.2
✓	Phos	EPA 365.4

Analyte	PHOS		Reagents
SOP & Revision	K 3654 R19		RGT 38074
Curve Stock (SC made)			RGT 37845
NO2 STD			RGT 37402
ICV	Digest		
CCV	see		
LCS	Log		
MS	Dilution		

Comments: _____

Analyst: David Merkle Date: 10/10/16

DCN#121404

TKN/Phosphorus Digestion Log

TKN WG: _____ Phos WG: _____

TKN Std: Std 78411 Phos Std: Std 78411

TKN CCV: ½(Std 78411) Phos CCV: ½(78411)

TKN ICV: Std 78119 Phos ICV: Std 78322

TKN LCS: Std 78118 Phos LCS: Std 78117

MS/MSD: Std 76885

Daily Dilution: 1(25)/25 = 1

Block Digester Temperature: 380 °C Digest Reagent: RGT 37945

	Sample	Volume	TKN Dilution	Phos Dilution		Sample	Volume	TKN Dilution	Phos Dilution	
1	Std				26	10-194-C1	1/10		✓	*
2	Std				27	C3	1/10		✓	*
3	ICVT				28	C5			✓	
4	ICVP				29	C6			✓	
5	LCST				30	10-271-C2			✓	
6	LCSP				31	10-002-C1		✓	✓	
7	09-1346-C1		✓	✓	32	10-004-C1		✓	✓	
8	C2		✓	✓	33	C4		✓	✓	
9	C3		✓	✓	34	DUP 09-1346-C1		✓	✓	
10	C4		✓	✓	35	MS 09-1346-C1		✓	✓	
11	10-47-C2	1/50	✓		36	MS 09-1346-C2		✓	✓	
12	C5	1/50	✓		37	RB1				
13	10-103-C1		✓		38					
14	C4		✓		39					
15	10-107-C3		✓		40					
16	C5		✓		41					
17	C6		✓		42					
18	C7		✓		43					
19	10-139-C3		✓		44					
20	10-188-C1		✓	✓	45					
21	10-206-C3	1/250		✓	46					
22	10-123-C1			✓	47					
23	C3			✓	48					
24	C5			✓	49					
25	C7			✓	50					

LOQ $\frac{2(25)}{250} = 0.2$ Std 76885

LOD $\frac{1(0.2)}{2} = 0.1$

* Diluted for matrix interference Dark color samples

Analyst: David Merfeld Date: 10/7/16

MICROBAC (OVD)
SMARTCHEM200 INST1 (VER3.1.14)
NH3, TKN, NO3NO2 (MG/L N)
ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WTPH -Unit [mg/L] - EPA 365.4 TOTAL PHOSPHORUS

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
DIL-1	RBL	0.000	0.0916	0.00	R	9:28:46 AM
DIL-1	RBL	0.000	0.0939	0.00	R	9:29:04 AM
DIL-1	RBL	0.000	0.0902	0.00	R	9:29:58 AM
SR5-1	Std-1	0.010	-0.0001	0.00	INV,EPL	9:30:16 AM
SR5-2	Std-2	0.200	0.0412	0.00	EPL	9:31:10 AM
SR5-3	Std-3	0.500	0.0656	0.00	EPL	9:31:28 AM
SR5-4	Std-4	1.000	0.1298	0.00	EPL	9:32:22 AM
SR5-5	Std-5	1.500	0.1832	0.00		9:32:40 AM
ST-1	Std-6	2.000	0.2417	0.00		9:33:36 AM
ST-3	1CCV (1 mg/L)	1.070	0.1341	107.03		9:33:52 AM
ST-2	2CCB (0 mg/L)	-0.357	-0.0346	0.00	INV,EPL,><	9:34:46 AM
1	ICV	1.708	0.2095	0.00	EPL	9:35:04 AM
2	WG586864-01 BLK	-0.050	0.0017	0.00	EPL,LL	9:35:58 AM
3	WG586864-02 LCS	1.021	0.1283	0.00		9:36:16 AM
4	L16100002-01	0.569	0.0749	0.00	EPL	9:37:10 AM
5	L16100004-01	0.283	0.0410	0.00	EPL	9:37:28 AM
6	L16100004-09	0.280	0.0407	0.00	EPL	9:38:22 AM
7	L16091346-01	0.180	0.0289	0.00	EPL	9:38:40 AM
8	L16091346-02	-0.103	-0.0046	0.00	INV,EPL,><	9:39:35 AM
9	L16091346-03	0.383	0.0529	0.00	EPL	9:39:52 AM
10	L16091346-04	0.022	0.0102	0.00	EPL	9:40:47 AM
ST-3	1CCV (1 mg/L)	1.037	0.1302	103.73		9:41:04 AM
ST-2	2CCB (0 mg/L)	-0.337	-0.0322	0.00	INV,><,LL	9:41:59 AM
11	L16100188-01	-0.178	-0.0134	0.00	INV,><,LL	9:42:16 AM
12	L16100206-03 (250)	1.106	0.1383	0.00	EPL	9:43:11 AM
13	L16100123-01	-0.097	-0.0039	0.00	INV,><,LL	9:43:28 AM
14	L16100123-03	-0.438	-0.0442	0.00	INV,><,LL	9:44:23 AM
15	L16100123-05	0.303	0.0434	0.00	EPL	9:44:40 AM
16	L16100123-07	0.208	0.0322	0.00	EPL	9:45:35 AM
17	L16100194-01 (10)	0.569	0.0748	0.00	EPL	9:45:52 AM
18	L16100194-03 (10)	0.206	0.0320	0.00		9:46:47 AM
19	L16100194-05	-0.302	-0.0281	0.00	INV,><,LL	9:47:04 AM
20	L16100194-06	-0.398	-0.0394	0.00	INV,><,LL	9:47:59 AM
ST-3	1CCV (1 mg/L)	0.987	0.1242	98.65		9:48:17 AM
ST-2	2CCB (0 mg/L)	-0.354	-0.0342	0.00	INV,><,LL	9:49:11 AM
21	L16100271-02	4.420	0.5300	0.00	><,LH	9:49:28 AM

Report Date :10/11/2016 **Run Date :10/10/2016** **Operator : SMARTCHEM1** **Plan # :20161010002**

Plan Description : PHOS-A1-DCM/10/10/2016

MICROBAC (OVD)
SMARTCHEM200 INST1 (VER3.1.14)
NH3, TKN, NO3NO2 (MG/L N)
ALK (MG/L CaCO3) CL, SO4 (MG/L)

Method : WTPH -Unit [mg/L] - EPA 365.4 TOTAL PHOSPHORUS

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
22	WG586864-04 DUP	-0.053	0.0014	0.00	LL	9:50:22 AM
23	WG586864-05 MS	1.338	0.1657	0.00	EPL	9:50:40 AM
24	WG586864-07 MS	1.389	0.1718	0.00	EPL	9:51:34 AM
25	ID 25	-0.351	-0.0339	0.00	INV,><,LL	9:55:10 AM
25	ID 25	***	***	0.00	SS	9:51:52 AM
26	ID 26	-0.215	-0.0178	0.00	INV,><,LL	9:52:46 AM
27	ID 27	0.080	0.0171	0.00	EPL	9:53:04 AM
ST-3	1CCV (1 mg/L)	1.051	0.1318	105.08		9:53:59 AM
ST-2	2CCB (0 mg/L)	-0.362	-0.0352	0.00	INV,><,LL	9:54:16 AM
21-[1/2]	L16100271-02	X 4.066	0.2479	0.00	EPL,><,LH	10:02:40 AM
ST-3	1CCV (1 mg/L)	1.039	0.1304	103.90		10:02:40 AM
ST-2	2CCB (0 mg/L)	-0.430	-0.0432	0.00	INV,><,LL	10:03:34 AM
21-[1/5]	L16100271-02	3.642	0.0937	0.00	LH	10:11:15 AM
ST-3	1CCV (1 mg/L)	1.023	0.1285	102.29		10:11:15 AM
ST-2	2CCB (0 mg/L)	-0.387	-0.0381	0.00	INV,><,LL	10:12:09 AM

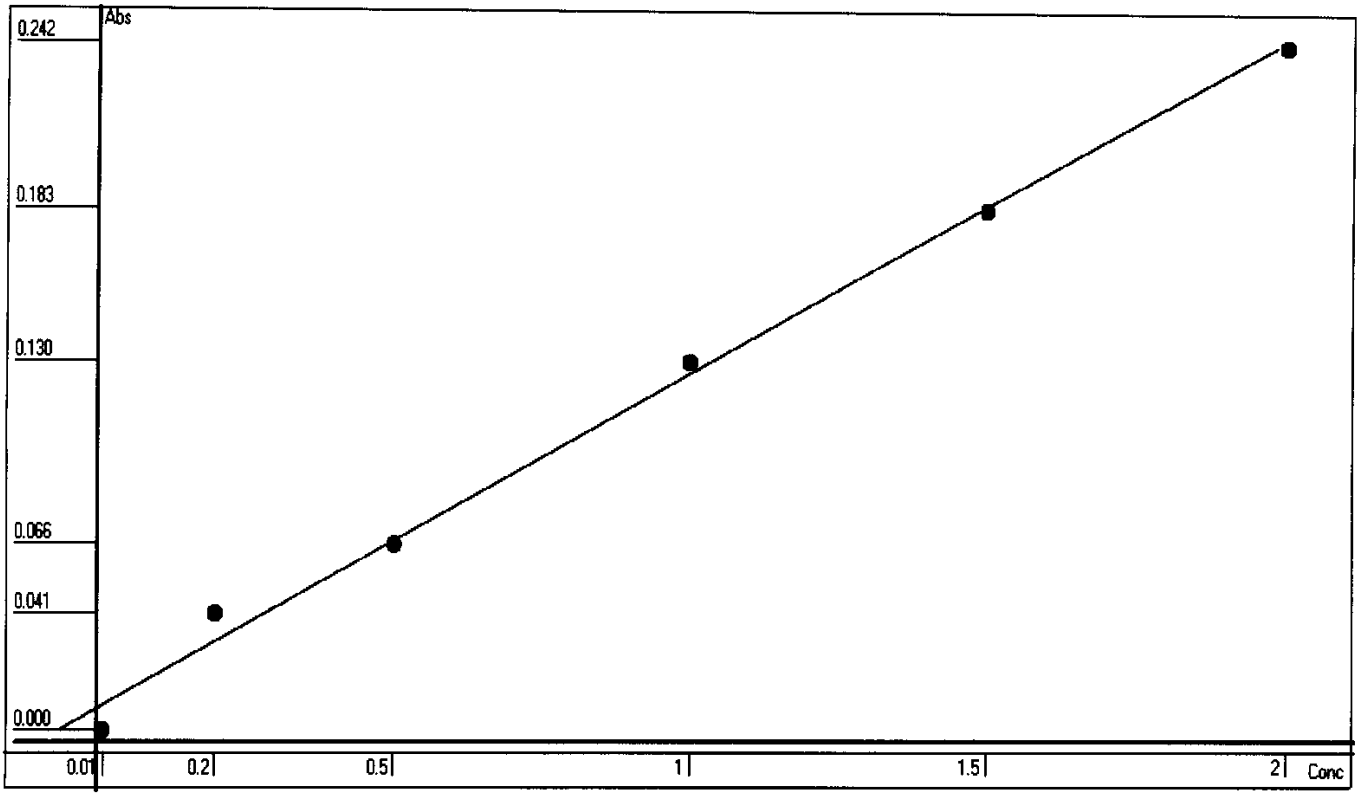
Report Date :10/11/2016 **Run Date :10/10/2016** **Operator : SMARTCHEM1** **Plan # :20161010002**

Plan Description : PHOS-A1-DCM/10/10/2016

Calibrant Report - WTPH -

Calib Lot #:010104 Exp Date:6/18/2020 User:MICROBAC

Plan # : 20161010002 Description : [PHOS-A1-DCM/10/10/2016] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0001	0.01	-0.0652	-752.00
2	0.0412	0.2	0.2842	42.10
3	0.0656	0.5	0.4907	-1.86
4	0.1298	1	1.0339	3.39
5	0.1832	1.5	1.4858	-0.95
6	0.2417	2	1.9808	-0.96

Conc= +8.4616*Abso -0.0644 R^2=0.9952

RBL
0.0909
0

Report Date 10/11/2016 Run Date 10/10/2016

2.4.5 Sulfide Data

2.4.5.1 Summary Data

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-01	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	35AWW09-100316	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG586639	**Analyst:**	EPT	**Run Date:**	10/06/2016 16:20
Collect Date:	10/03/2016 08:25	**Dilution:**	1	**File ID:**	ET.1610061620-04
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	3.68		2.00	1.00	0.500

Certificate of Analysis

Sample #:	L16100123-03	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	35AWW10-100316	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG586639	**Analyst:**	EPT	**Run Date:**	10/06/2016 16:20
Collect Date:	10/03/2016 09:40	**Dilution:**	1	**File ID:**	ET.1610061620-05
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-05	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	35AWW11-100316	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG586639	**Analyst:**	EPT	**Run Date:**	10/06/2016 16:20
Collect Date:	10/03/2016 10:50	**Dilution:**	1	**File ID:**	ET.1610061620-06
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100123-07	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	35AWW06-100316	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG586639	**Analyst:**	EPT	**Run Date:**	10/06/2016 16:20
Collect Date:	10/03/2016 13:30	**Dilution:**	1	**File ID:**	ET.1610061620-07
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.4.5.2 QC Summary Data

Example Total Sulfide(Liquid) Calculations

[mL Iodine * N Iodide) - (mL titrant * N titrant)] * 16000/(volume * dilution) = mg/L Sulfide

where:

mL Iodine = mL of Iodine used
N Iodine = normality of Iodine
mL titrant = mL of titrant used
N titrant = normality of titrant
16000 = factor: 1mL of 0.025 N iodine reacts with 0.4mg sulfide
volume = mL filtered of mL titrated(if not filtered)
dilution = dilution in decimal form (1/5 = 0.2)

Example Total Sulfide(Soil) Calculations

[(mL Iodine * N Iodine) - (mL titrant * N titrant)] * 16.03/weight = mg/kg sulfide

where:

mL Iodine = mL of Iodine used
N Iodine = normality of Iodine
mL titrant = normality of titrant
16.03 = 32.06 grams per 2 equivalents
weight = kg of sample used

Microbac Laboratories Inc.

Data Checklist

Date: 06-OCT-2016
Analyst: EPT
Analyst: NA
Method: SULFIDE
Instrument: BURET
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG586639

Calibration/Linearity	10/06/16
Second Source Check	
ICV/CCV (std)	
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	
Duplicate	
Upload Results	X
Client Forms	
QC Violation Sheet	
Case Narratives	
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	
Primary Reviewer	EPT
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
11-OCT-2016

Secondary Reviewer:
13-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-13-2016 13:58:09

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-S-(-2)-F- AAB#: WG586639

Login Number: L16100123

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
35AWW09-100316	01	10/03/16					10/06/2016	3.3	7		10/06/16	3.3	7	
35AWW10-100316	03	10/03/16					10/06/2016	3.3	7		10/06/16	3.3	7	
35AWW11-100316	05	10/03/16					10/06/2016	3.2	7		10/06/16	3.2	7	
35AWW06-100316	07	10/03/16					10/06/2016	3.1	7		10/06/16	3.1	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4973567
Report generated 10/13/2016 10:27

METHOD BLANK SUMMARY

Login Number: L16100123
Blank File ID: ET.1610061620-01
Prep Date: 10/06/16 16:20
Analyzed Date: 10/06/16 16:20
Analyst: EPT

Work Group: WG586639
Blank Sample ID: WG586639-01
Instrument ID: BURET
Method: SM4500-S-(-2)-F-

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586639-02	ET.1610061620-02	10/06/16 16:20	
LCS2	WG586639-03	ET.1610061620-03	10/06/16 16:20	
35AWW09-100316	L16100123-01	ET.1610061620-04	10/06/16 16:20	
35AWW10-100316	L16100123-03	ET.1610061620-05	10/06/16 16:20	
35AWW11-100316	L16100123-05	ET.1610061620-06	10/06/16 16:20	
35AWW06-100316	L16100123-07	ET.1610061620-07	10/06/16 16:20	

Report Name: BLANK_SUMMARY
PDF File ID: 4973568
Report generated 10/13/2016 10:27

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16100123 Prep Date: 10/06/16 16:20 Sample ID: WG586639-01
Instrument ID: BURET Run Date: 10/06/16 16:20 Prep Method: SM4500-S-(-2)-F
File ID: ET.1610061620-01 Analyst: EPT Method: SM4500-S-(-2)-F
Workgroup (AAB#): WG586639 Matrix: Water Units: mg/L
Contract #: Cal ID: BURET-

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Sulfide	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4973569
13-OCT-2016 10:27

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100123 Analyst: EPT Prep Method: SM4500-S-(-2)-F
Instrument ID: BURET Matrix: Water Method: SM4500-S-(-2)-F
Workgroup (AAB#): WG586639 Units: mg/L
QC Key: DOD4 Lot #: STD78400

Sample ID: WG586639-02 LCS File ID: ET.1610061620-02 Run Date: 10/06/2016 16:20
Sample ID: WG586639-03 LCS2 File ID: ET.1610061620-03 Run Date: 10/06/2016 16:20

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Sulfide	19.3	18.6	96.3	19.3	18.6	96.3	0.00	85 - 115	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4973570
Report generated: 10/13/2016 10:27

2.4.5.3 Raw Data

SULFIDE
(sulfide1)

WORKGROUP: WG586639

Water:
EPA 376.1 / SM4500-S(-2)-F
SOP K3761 Revision #: 17

Soil:
SM846 9030B/9034
SOP K9030 Revision #: _____

Instrument: Buret

LCS: Std 78400

Iodine standardization (0.025N) COA: 19159
mL 0.025N titrant: 10.0
Volume I: 10.0 mL
Normality I: 0.0250

(0.1 N I) COA: 18931
mL 0.025 N titrant: 8.0
Volume I: 2.0 mL
Normality I: 0.100

Stock standardization (in duplicate) 5.0 mL stock
mL I 1) 10.0 2) 10.0
N I 1) 0.100 2) 0.100
mL 0.025 titrant 1) 23.9 2) 23.9

1288 = stock conc (mg/L)

LCS daily dilution: $\frac{(5)(1288)}{200}$ = 19.32 mg/L

Titrant: T- 1775-12-03

SAMPLE	Volume Filtered mL	mL Iodine	N Iodine	0.0250 N Sodium Thiosulfate (mL)
BLANK	200	15.0	0.0250	15.0
LCS (mL)	200	15.0	0.0250	5.7
LCSDUP (mL)	200	15.0	0.0250	5.7
10-0123-01	500	15.0	0.0250	10.4
-03	480	15.0	0.0250	15.0
-05	480	15.0	0.0250	15.0
-07	480	15.0	0.0250	15.0
10-0194-01	490	15.0	0.0250	14.5
-03	420	15.0	0.0250	15.0
-05	460	15.0	0.0250	14.0
-06	500	15.0	0.0250	15.0

Analyst: Esther Tuttle Date/Time: 10/6/16 1620

DCN#121362

Microbac Laboratories Inc.
TITRAMETRIC REPORT

Workgroup (AAB#):WG586639
Product:EPA 376.1\9034
Analyte:Sulfide

Analyst:EPT
Run Date:10/06/2016 16:20

SAMPLE NUMBER	Volume	Vol I	Nor I	Vol T	Nor T	Dil	Analytical	Reported	Units
WG586639-01	200.0	15	.025	15	.025	1	0	0	mg/L
WG586639-02	200.0	15	.025	5.7	.025	1	18.6	18.60	mg/L
WG586639-03	200.0	15	.025	5.7	.025	1	18.6	18.60	mg/L
L16100123-01	500.0	15	.025	10.4	.025	1	3.68	3.680	mg/L
L16100123-03	480.0	15	.025	15	.025	1	0	ND	mg/L
L16100123-05	480.0	15	.025	15	.025	1	0	ND	mg/L
L16100123-07	480.0	15	.025	15	.025	1	0	ND	mg/L
L16100194-01	490.0	15	.025	14.5	.025	1	0.408	ND	mg/L
L16100194-03	420.0	15	.025	15	.025	1	0	ND	mg/L
L16100194-05	460.0	15	.025	14	.025	1	0.870	0.8696 F	mg/L
L16100194-06	500.0	15	.025	15	.025	1	0	ND	mg/L

SULFIDE_REPORT - Modified 03/06/2008

Report generated 10/10/2016 11:39

[redacted]

2.4.6 Total Organic Carbon Data

2.4.6.1 Summary Data

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100123-01 | **PrePrep Method:** N/A | **Instrument:** TOC-VWP
Client ID: 35AWW09-100316 | **Prep Method:** 415.1 | **Prep Date:** N/A
Matrix: Water | **Analytical Method:** 415.1 | **Cal Date:** 10/30/2015 17:00
Workgroup #: WG586887 | **Analyst:** DCM | **Run Date:** 10/11/2016 11:49
Collect Date: 10/03/2016 08:25 | **Dilution:** 3 | **File ID:** TC10102016.101
Sample Tag: DL01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	15.6		6.00	3.00	1.50

Certificate of Analysis

Sample #: L16100123-03 | **PrePrep Method:** N/A | **Instrument:** TOC-VWP
Client ID: 35AWW10-100316 | **Prep Method:** 415.1 | **Prep Date:** N/A
Matrix: Water | **Analytical Method:** 415.1 | **Cal Date:** 10/30/2015 17:00
Workgroup #: WG586887 | **Analyst:** DCM | **Run Date:** 10/10/2016 20:40
Collect Date: 10/03/2016 09:40 | **Dilution:** 1 | **File ID:** TC10102016.052
Sample Tag: 01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	7.43		2.00	1.00	0.500

Certificate of Analysis

Sample #: L16100123-05 | **PrePrep Method:** N/A | **Instrument:** TOC-VWP
Client ID: 35AWW11-100316 | **Prep Method:** 415.1 | **Prep Date:** N/A
Matrix: Water | **Analytical Method:** 415.1 | **Cal Date:** 10/30/2015 17:00
Workgroup #: WG586887 | **Analyst:** DCM | **Run Date:** 10/11/2016 14:10
Collect Date: 10/03/2016 10:50 | **Dilution:** 5 | **File ID:** TC10102016.111
Sample Tag: DL01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	25.6		10.0	5.00	2.50

Certificate of Analysis

Microbac

Lab Report #: L16100123
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L16100123-07	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	35AWW06-100316	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG586887	**Analyst:**	DCM	**Run Date:**	10/11/2016 12:17
Collect Date:	10/03/2016 13:30	**Dilution:**	5	**File ID:**	TC10102016.103
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	28.8		10.0	5.00	2.50

2.4.6.2 QC Summary Data

Total Organic Carbon Example Calculations
(Direct Readout Parameter)

(Readout)/(dilution) = mg/L

where:

Readout = direct readout from the instrument
dilution = dilution in decimal form (ex. 1/5 dilution = 0.2)

Microbac Laboratories Inc.

Data Checklist

Date: 10-OCT-2016
Analyst: DCM
Analyst: NA
Method: TOC
Instrument: TOC-VWP
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG586771 WG586887 WG586975

Calibration/Linearity	10-31-2015
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
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	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
12-OCT-2016

Secondary Reviewer:
13-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-13-2016 14:00:07

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 415.1 AAB#: WG586887

Login Number: L16100123

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
35AWW09-100316	01	10/03/16					10/11/2016	8.1	28		10/11/16	8.1	28	
35AWW10-100316	03	10/03/16					10/10/2016	7.5	28		10/10/16	7.5	28	
35AWW11-100316	05	10/03/16					10/11/2016	8.1	28		10/11/16	8.1	28	
35AWW06-100316	07	10/03/16					10/11/2016	7.9	28		10/11/16	7.9	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4974215
Report generated 10/13/2016 14:28

METHOD BLANK SUMMARY

Login Number: L16100123
Work Group: WG586887
Blank File ID: TC10102016.033
Blank Sample ID: WG586887-01
Prep Date: 10/10/16 16:30
Instrument ID: TOC-VWP
Analyzed Date: 10/10/16 16:30
Method: 415.1
Analyst: DCM

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586887-02	TC10102016.034	10/10/16 16:41	01
LCS2	WG586887-03	TC10102016.035	10/10/16 16:53	01
35AWW10-100316	L16100123-03	TC10102016.052	10/10/16 20:40	01
DUP	WG586887-05	TC10102016.060	10/10/16 22:34	01
35AWW09-100316	L16100123-01	TC10102016.101	10/11/16 11:49	DL01
35AWW06-100316	L16100123-07	TC10102016.103	10/11/16 12:17	DL01
35AWW11-100316	L16100123-05	TC10102016.111	10/11/16 14:10	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 4974216
Report generated 10/13/2016 14:28

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16100123 Prep Date: 10/10/16 16:30 Sample ID: WG586887-01
Instrument ID: TOC-VWP Run Date: 10/10/16 16:30 Prep Method: 415.1
File ID: TC10102016.033 Analyst: DCM Method: 415.1
Workgroup (AAB#): WG586887 Matrix: Water Units: mg/L
Contract #: Cal ID: TOC-VW-30-OCT-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Total Organic Carbon	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4974217
13-OCT-2016 14:28

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100123 Analyst: DCM Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG586887 Units: mg/L
QC Key: DOD4 Lot #: STD77870

Sample ID: WG586887-02 LCS File ID: TC10102016.034 Run Date: 10/10/2016 16:41
Sample ID: WG586887-03 LCS2 File ID: TC10102016.035 Run Date: 10/10/2016 16:53

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	26.8	107	25.0	26.3	105	2.00	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4974218
Report generated: 10/13/2016 14:28

2.4.6.3 Raw Data

Curve

wg545145

Total Organic Carbon

MAKE DAILY

CCV (TOC): _____ (5/200)(1000) = 25mg/L

LCS (TOC): _____ (5/200)(1000) = 25mg/L

CCV (TIC): _____ (5/200)(1000) = 25mg/L See Below

MS (TOC): _____

Calibration Curve Date: _____

Reagent: RGT 34567, RGT 34459

☑ SM5310-C : Matrix 2 WG_____

☐ EPA 415.1/9060A(mod): Matrix 1 WG_____ SOP: K 4151 Rev. 18

WG_____ Instrument: Shimadza TOC-VWP/ASI

DAILY CHECK

☑ drain reservoir filled
☑ ASI water bottle full
☑ dilution water bottle full

☑ 3rd bottle full
☑ sufficient gas
☐ sufficient persulfate

☑ sufficient acid
☑ waste container

Position	Sample ID	Dilution
1	TC Curve	
2	TIC Curve	
3	TC ICV	
4	TIC ICV	
5		
6		
7		
8		
9		
10		
11		
12		
13	All points	
14	analyzed	
15	in duplicate	
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

Position	Sample ID	Dilution
26	TC Curve	
27	Std 72153	
28		
29	TIC Curve	
30	Std 72165	
31		
32		
33	TOC (TC)	
34	ICV	
35	Std 72270	
36		
37	TIC ICV	
38	Std 72654	
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

Position	Sample ID	Dilution
51		
52	~~See SOP~~	
53	~~for point~~	
54	~~preparation~~	
55		
56		
57		
58		
59		
60	5/200 (1000) = 25	
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		

Analyst: David Merkle Date/Time: 10/31/15

DCN#114406

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Cal. Curve

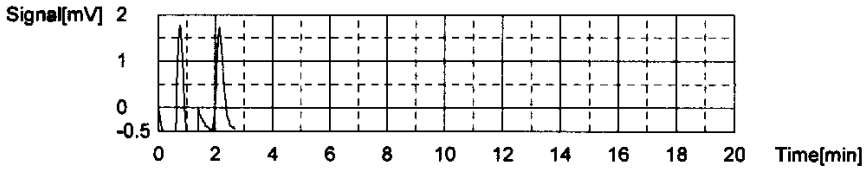
Sample Name: TCCURVE
Sample ID:
Cal. Curve: TCCURVE-10-30-2015.2015_10_30_16_06_37.cal
Status Completed

Type	Anal.
Standard	TC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	4.764	500uL	1	*******		10/30/2015 4:10:07 PM
2	3.607	500uL	1	*******		10/30/2015 4:13:33 PM

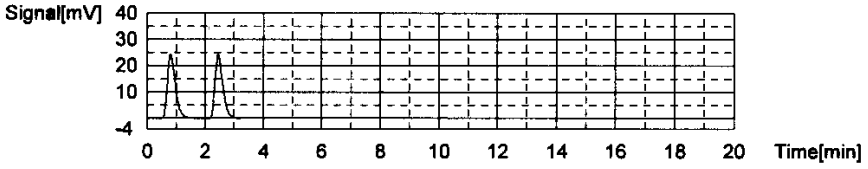
Acid Add. 0.000%
Mean Area 4.186



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	46.19	500uL	1	*******		10/30/2015 4:19:03 PM
2	46.28	500uL	1	*******		10/30/2015 4:22:56 PM

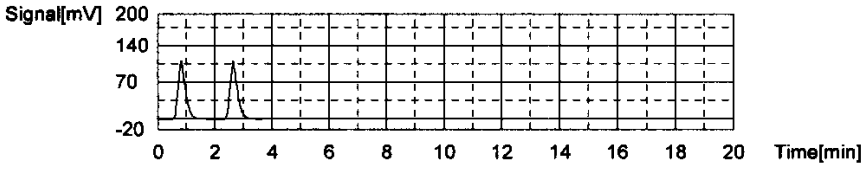
Acid Add. 0.000%
Mean Area 46.23



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	194.3	500uL	1	*******		10/30/2015 4:28:42 PM
2	193.1	500uL	1	*******		10/30/2015 4:32:47 PM

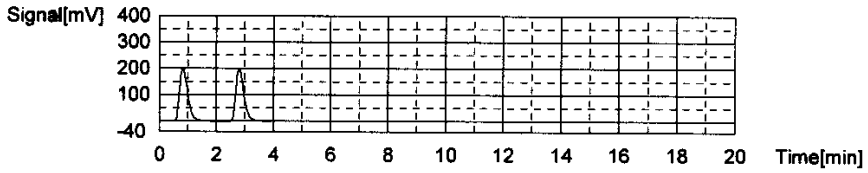
Acid Add. 0.000%
Mean Area 193.7



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	390.8	500uL	1	********		10/30/2015 4:38:42 PM
2	391.3	500uL	1	********		10/30/2015 4:42:54 PM

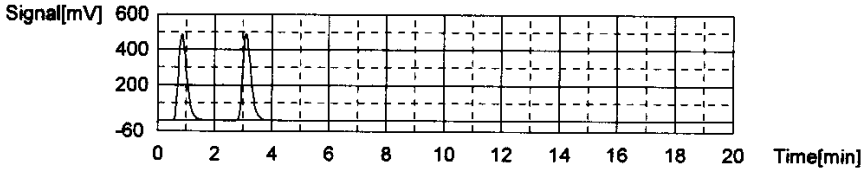
Acid Add. 0.000%
Mean Area 391.1



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	989.0	500uL	1	********		10/30/2015 4:49:06 PM
2	994.6	500uL	1	********		10/30/2015 4:53:33 PM

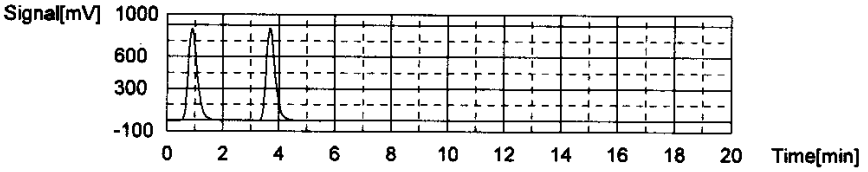
Acid Add. 0.000%
Mean Area 991.8



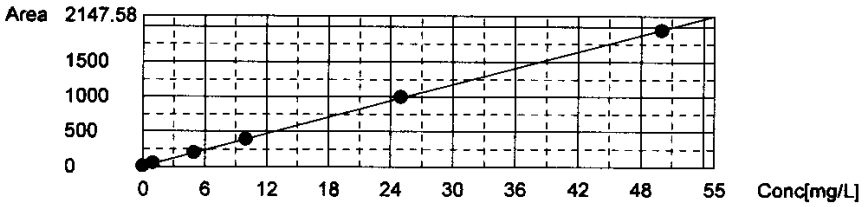
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1946	500uL	1	********		10/30/2015 5:00:24 PM
2	1948	500uL	1	********		10/30/2015 5:05:23 PM

Acid Add. 0.000%
Mean Area 1947



Slope: 38.95
Intercept 4.952
r^2 0.999910
Zero Shift No



Sample

Sample Name: TC ICV
Sample ID:
Origin: TCCURVE-10-30-2015.2015_10_30_16_06_37.cal
Status Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:25.93mg/L

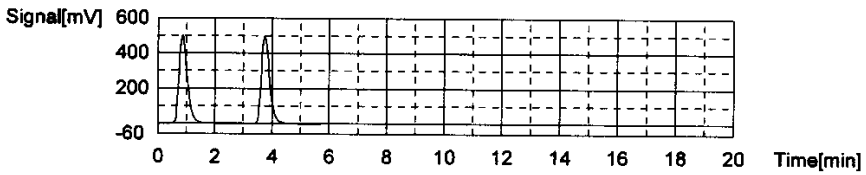
= 103.7%

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1020	26.06mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/31/2015 9:56:57 AM
2	1010	25.80mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/31/2015 10:02:17 AM

Mean Area 1015
Mean Conc. 25.93mg/L



Cal. Curve

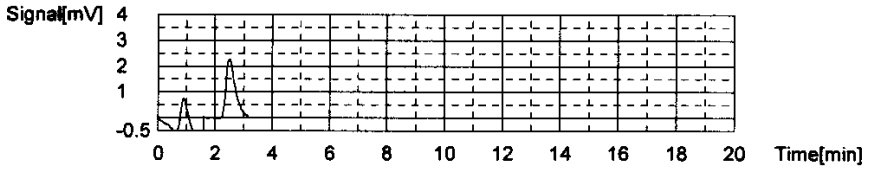
Sample Name: TICCURVE
Sample ID: Untitled
Cal. Curve: TICCURVE-10-30-2015.2015_10_31_11_55_05.cal
Status Completed

Type	Anal.
Standard	IC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	2.732	500uL	1	********		10/31/2015 12:00:21 PM
2	5.011	500uL	1	********		10/31/2015 12:04:52 PM

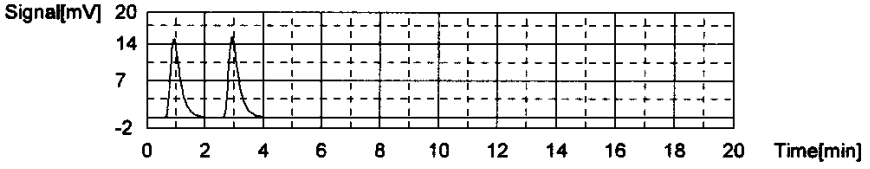
Acid Add. 10.00%
Mean Area 3.872



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	35.96	500uL	1	********		10/31/2015 12:12:47 PM
2	37.13	500uL	1	********		10/31/2015 12:17:43 PM

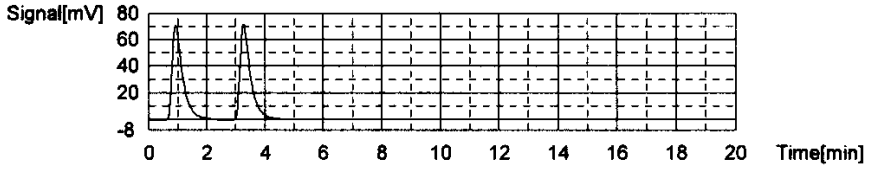
Acid Add. 10.00%
Mean Area 36.55



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	173.6	500uL	1	********		10/31/2015 12:26:14 PM
2	175.6	500uL	1	********		10/31/2015 12:31:38 PM

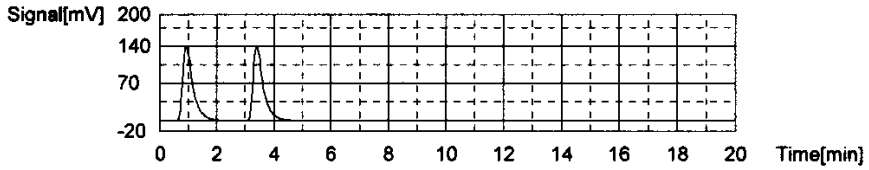
Acid Add. 10.00%
Mean Area 174.6



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	344.8	500uL	1	********		10/31/2015 12:40:18 PM
2	345.1	500uL	1	********		10/31/2015 12:45:49 PM

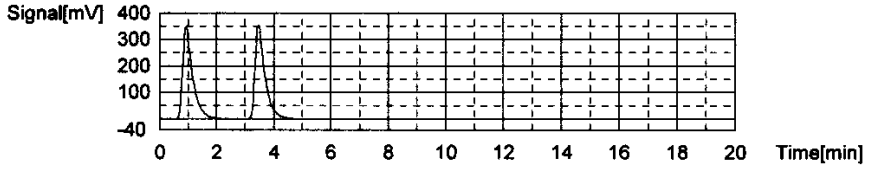
Acid Add. 10.00%
Mean Area 345.0



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	835.5	500uL	1	********		10/31/2015 12:54:43 PM
2	845.9	500uL	1	********		10/31/2015 1:00:42 PM

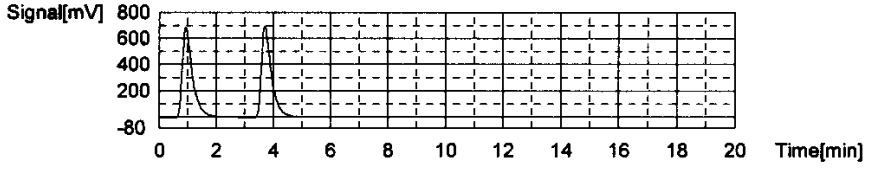
Acid Add. 10.00%
Mean Area 840.7



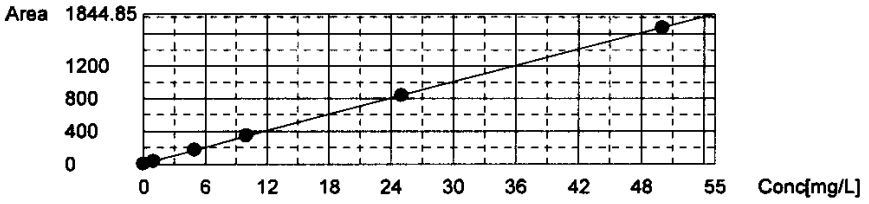
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1676	500uL	1	********		10/31/2015 1:09:51 PM
2	1677	500uL	1	********		10/31/2015 1:15:54 PM

Acid Add. 10.00%
Mean Area 1677



Slope: 33.42
Intercept 5.927
r^2 0.999982
Zero Shift No



Sample

Sample Name: TIC ICV
Sample ID: Untitled
Origin: TICCURVE-10-30-2015.cal
Status Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	IC	1.000	IC:25.37mg/L

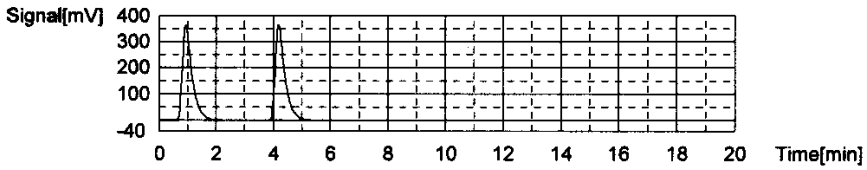
$= 101.5\%$

1. Det

Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	854.5	25.39mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/31/2015 1:25:27 PM
2	853.1	25.35mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/31/2015 1:31:33 PM

Mean Area 853.8
Mean Conc. 25.37mg/L



WORKGROUP: WG586771
586887
586975

Total Organic Carbon

MAKE DAILY

CCV (TOC): Std 75879 (5/200)(1000) = 25mg/L

LCS (TOC): Std 77870 (5/200)(1000) = 25mg/L

CCV (TIC): Std 78236 (5/200)(1000) = 25mg/L

MS (TOC): Std 77870 0.4(1000)/40 = 10

Calibration Curve Date: 10/31/15

Reagent: RGT 38136
RGT 37673

☑ SM5310-C : Matrix 2 WG 586975

☑ EPA 415.1/9060A(mod): Matrix 1 WG 586771 WG 586887

SOP: K 4151 Rev. 19

Instrument: Shimadza TOC-VWP/ASI

DAILY CHECK

☑ drain reservoir filled
☑ ASI water bottle full
☑ dilution water bottle full

☑ 3rd bottle full
☑ sufficient gas
☑ sufficient persulfate

☑ sufficient acid
☑ waste container

Position	Sample ID	Dilution
1	TIC	
2	TOC/TIC	
3	CCV	
4	Blk	
5	LCS	
6	LCSDUP	
7	10-297-C1	1/100 1/50
8	C2	1/50
9	C3	1/100
10	C4	1/50
11	C5	1/50
12	C6	1/50
13	C7	1/50
14	CCV	
15	CCB	
16	10-297C8	1/50
17	C9	1/50
18	10	1/50
19	11	1/100
20	12	1/100
21	13	1/50
22	14	1/50
23	15	1/50
24	16	1/50
25	17	1/50

dcm 10/10/16

Position	Sample ID	Dilution
26	CCV	
27	CCB	
28	10-297-18	1/50
29	19	1/50
30	C9-1363-C1	
31	DUP C9-1363-C1	
32	MS C9-1363-C1	
33	Blk	
34	LCS	
35	LCSDUP	
36	10-315-C1	1/2
37	C2	1/10
38	CCV	
39	CCB	
40	10-316-C1	
41	C2	
42	C3	
43	C4	
44	C5	
45	C6	
46	C7	
47	10-319-C1	1/2
48	10-98-C1	1/2
49	10-123-C1	
50	CCV ~~C3~~	

dcm 10/10/16

Position	Sample ID	Dilution
51	CCB	
52	10-123-C3	
53	C5	
54	C7	
55	10-194-C1	1/100
56	C3	1/100
57	C5	
58	C6	
59	10-363-C3	
60	DUP 10-363-C3	
61	MS 10-363-C3	
62	CCV	
63	CCB	
64	Blk	
65	LCS	
66	LCSDUP	
67	10-314-C1	
68	10-376-C1	
69		
70		
71		
72		
73		
74		
75		

Analyst: David Merchlak Date/Time: 10/10/16 0941

DCN#121410

WORKGROUP: WG586771

Total Organic Carbon

MAKE DAILY

CCV (TOC): _____ (5/200)(1000) = 25mg/L

LCS (TOC): _____ (5/200)(1000) = 25mg/L

CCV (TIC): _____ (5/200)(1000) = 25mg/L

MS (TOC): _____

Calibration Curve Date: _____

Reagent: _____

☐ SM5310-C : Matrix 2 WG_____

☐ EPA 415.1/9060A(mod): Matrix 1 WG_____ SOP: K _____ Rev. _____

WG_____ Instrument: Shimadza TOC-VWP/ASI

DAILY CHECK

☐ drain reservoir filled
☐ ASI water bottle full
☐ dilution water bottle full
☐ 3rd bottle full
☐ sufficient gas
☐ sufficient persulfate
☐ sufficient acid
☐ waste container

Position	Sample ID	Dilution
1	10-376-03	
2	c5	
3	10-447-01	
4	10-449-01	
5	10-367-01	
6	CCV	
7	CCB	
8	10-367-02	
9	03	
10	04	
11	10-456-01	
12	C4	
13	DUP 10-367-04	
14	MS 10-367-04	
15	CCV	
16	CCB	
17	CCV	
18	CCB	
19	10-297-03	1/50
20	11	1/50
21	12	1/50
22	10-315-01	1/20
23	02	1/20
24	10-316-01	1/3
25	02	1/3

Position	Sample ID	Dilution
26	10-316-03	1/3
27	05	1/3
28	06	1/3
29	CCV	
30	CCB	
31	10-316-07	1/3
32	10-319-01	
33	10-123-01	1/3
34	05	1/3
35	07	1/5
36	10-194-01	1/50
37	03	1/25
38	05	1/5
39	06	1/5
40	CCV	
41	CCB	
42	10-376-05	1/2
43	~~CCV~~ 10-123-05	1/5
44	~~CCB~~ CCV	
45	CCB	
46		
47		
48		
49		
50		

Position	Sample ID	Dilution
51		
52		
53		
54		
55		
56		
57		
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63		
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72		
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75		

Analyst: dcm Date/Time: 10/10/16

pg. 2

DCN#121410

C:\TOC3201\Data\10-10-2016-DCM-TOC.t32

	Analysis	Sample Name	Result	Status	Date / Time	Vial
1	TOC	TIC	TOC:3.638mg/L TC:26.19mg/L IC:22.55mg/L	Complete	10/10/2016 9:41:49 AM	1
2	TOC	TOC/TIC	TOC:26.94mg/L TC:35.23mg/L IC:8.287mg/L	Complete	10/10/2016 9:54:27 AM	2
3	TOC	CCV	TOC:26.62mg/L TC:26.65mg/L IC:0.03139mg/L	Complete	10/10/2016 10:06:36 AM	3
4	TOC	WG586771-01 BLK	TOC:0.06376mg/L TC:0.1243mg/L IC:0.06053mg/L	Complete	10/10/2016 10:15:35 AM	0
5	TOC	WG586771-02 LCS	TOC:26.21mg/L TC:26.22mg/L IC:0.00847mg/L	Complete	10/10/2016 10:27:33 AM	5
6	TOC	WG586771-03 LCSDUP	TOC:26.28mg/L TC:26.29mg/L IC:0.01320mg/L	Complete	10/10/2016 10:39:35 AM	6
7	TOC	L16100297-01 (50)	TOC:47.50mg/L TC:47.63mg/L IC:0.1299mg/L	Complete	10/10/2016 11:21:29 AM	7
8	TOC	L16100297-02 (50)	!!Error!! TOC:20.71mg/L TC:20.71mg/L IC:-0.00224mg	Complete	10/10/2016 11:33:14 AM	8
9	TOC		TOC:6.217mg/L TC:6.269mg/L IC:0.05198mg/L	Complete	10/10/2016 11:44:48 AM	9
10	TOC	L16100297-04 (50)	TOC:36.38mg/L TC:36.41mg/L IC:0.02538mg/L	Complete	10/10/2016 11:56:37 AM	10
11	TOC	L16100297-05 (50)	TOC:24.49mg/L TC:24.52mg/L IC:0.02421mg/L	Complete	10/10/2016 12:08:18 PM	11
12	TOC	L16100297-06 (50)	TOC:10.68mg/L TC:10.73mg/L IC:0.05084mg/L	Complete	10/10/2016 12:19:52 PM	12
13	TOC	L16100297-07 (50)	TOC:11.00mg/L TC:11.04mg/L IC:0.04159mg/L	Complete	10/10/2016 12:31:29 PM	13
14	TOC	CCV	TOC:26.33mg/L TC:26.37mg/L IC:0.03815mg/L	Complete	10/10/2016 12:43:32 PM	14
15	TOC	CCB	TOC:0.06039mg/L TC:0.1054mg/L IC:0.04503mg/L	Complete	10/10/2016 12:52:26 PM	0
16	TOC	L16100297-08 (50)	TOC:20.49mg/L TC:20.52mg/L IC:0.03011mg/L	Complete	10/10/2016 1:04:12 PM	16
17	TOC	L16100297-09 (50)	TOC:19.43mg/L TC:19.49mg/L IC:0.05811mg/L	Complete	10/10/2016 1:15:57 PM	17
18	TOC	L16100297-10 (50)	TOC:26.02mg/L TC:26.06mg/L IC:0.04213mg/L	Complete	10/10/2016 1:27:46 PM	18
19	TOC		TOC:3.139mg/L TC:3.213mg/L IC:0.07453mg/L	Complete	10/10/2016 1:39:15 PM	19
20	TOC		TOC:4.891mg/L TC:4.957mg/L IC:0.06571mg/L	Complete	10/10/2016 1:50:49 PM	20
21	TOC	L16100297-13 (50)	TOC:28.46mg/L TC:28.50mg/L IC:0.04489mg/L	Complete	10/10/2016 2:02:41 PM	21
22	TOC	L16100297-14 (50)	TOC:22.70mg/L TC:22.75mg/L IC:0.04324mg/L	Complete	10/10/2016 2:14:26 PM	22
23	TOC	L16100297-15 (50)	TOC:30.96mg/L TC:31.02mg/L IC:0.05563mg/L	Complete	10/10/2016 2:26:19 PM	23
24	TOC	L16100297-16 (50)	TOC:15.56mg/L TC:15.64mg/L IC:0.07471mg/L	Complete	10/10/2016 2:38:04 PM	24
25	TOC	L16100297-17 (50)	TOC:14.94mg/L TC:15.01mg/L IC:0.06538mg/L	Complete	10/10/2016 2:49:43 PM	25
26	TOC	CCV	TOC:26.61mg/L TC:26.68mg/L IC:0.06993mg/L	Complete	10/10/2016 3:01:46 PM	26
27	TOC	CCB	TOC:0.05112mg/L TC:0.1045mg/L IC:0.05338mg/L	Complete	10/10/2016 3:10:40 PM	0
28	TOC	L16100297-18 (50)	TOC:20.96mg/L TC:21.03mg/L IC:0.07441mg/L	Complete	10/10/2016 3:22:29 PM	28
29	TOC	L16100297-19 (50)	TOC:26.00mg/L TC:26.06mg/L IC:0.06613mg/L	Complete	10/10/2016 3:34:18 PM	29
30	TOC	L16091363-01	TOC:4.879mg/L TC:7.347mg/L IC:2.468mg/L	Complete	10/10/2016 4:00:43 PM	30
31	TOC	WG586771-05 DUP	TOC:4.847mg/L TC:7.324mg/L IC:2.477mg/L	Complete	10/10/2016 4:12:53 PM	31
32	TOC	WG586771-06 MS	TOC:14.88mg/L TC:16.81mg/L IC:1.925mg/L	Complete	10/10/2016 4:25:05 PM	32
33	TOC	WG586887-01 BLK	TOC:0.04884mg/L TC:0.1056mg/L IC:0.05676mg/L	Complete	10/10/2016 4:34:01 PM	0
34	TOC	WG586887-02 LCS	TOC:26.78mg/L TC:26.86mg/L IC:0.07666mg/L	Complete	10/10/2016 4:46:08 PM	34
35	TOC	WG586887-03 LCSDUP	TOC:26.25mg/L TC:26.32mg/L IC:0.07181mg/L	Complete	10/10/2016 4:58:08 PM	35
36	TOC		TOC:134.4mg/L TC:135.5mg/L IC:1.127mg/L	Complete	10/10/2016 5:13:06 PM	36
37	TOC		TOC:68.65mg/L TC:80.06mg/L IC:11.41mg/L	Complete	10/10/2016 5:28:01 PM	37
38	TOC	CCV	TOC:26.35mg/L TC:26.45mg/L IC:0.1018mg/L	Complete	10/10/2016 5:40:04 PM	38
39	TOC	CCB	TOC:0.06820mg/L TC:0.1166mg/L IC:0.04842mg/L	Complete	10/10/2016 5:48:56 PM	0
40	TOC		TOC:1.761mg/L TC:67.91mg/L IC:66.15mg/L	Complete	10/10/2016 6:04:07 PM	40
41	TOC		!!Error!! TOC:-0.2062mg/L TC:63.70mg/L IC:63.91mg/L	Complete	10/10/2016 6:17:50 PM	41
42	TOC		!!Error!! TOC:-12.41mg/L TC:80.49mg/L IC:92.90mg/L	Complete	10/10/2016 6:33:24 PM	42
43	TOC	L16100316-04	TOC:4.943mg/L TC:22.57mg/L IC:17.62mg/L	Complete	10/10/2016 6:46:17 PM	43
44	TOC		TOC:1.037mg/L TC:62.88mg/L IC:61.84mg/L	Complete	10/10/2016 7:00:50 PM	44
45	TOC		TOC:26.41mg/L TC:75.18mg/L IC:48.77mg/L	Complete	10/10/2016 7:14:50 PM	45
46	TOC		!!Error!! TOC:-0.3349mg/L TC:66.83mg/L IC:67.17mg/L	Complete	10/10/2016 7:30:02 PM	46
47	TOC		TOC:6.413mg/L TC:9.784mg/L IC:3.371mg/L	Complete	10/10/2016 7:42:09 PM	47
48	TOC	L16100098-01 (2)	TOC:14.97mg/L TC:24.40mg/L IC:9.429mg/L	Complete	10/10/2016 7:55:27 PM	48
49	TOC		!!Error!! TOC:-6.220mg/L TC:88.32mg/L IC:94.54mg/L	Complete	10/10/2016 8:11:38 PM	49
50	TOC	CCV	TOC:26.06mg/L TC:26.60mg/L IC:0.5359mg/L	Complete	10/10/2016 8:23:49 PM	50
51	TOC	CCB	TOC:0.02080mg/L TC:0.1448mg/L IC:0.1240mg/L	Complete	10/10/2016 8:32:44 PM	0
52	TOC	L16100123-03	TOC:7.427mg/L TC:35.82mg/L IC:28.39mg/L	Complete	10/10/2016 8:45:39 PM	52
53	TOC		!!Error!! TOC:-5.675mg/L TC:79.77mg/L IC:85.45mg/L	Complete	10/10/2016 9:01:55 PM	53
54	TOC		!!Error!! TOC:-8.246mg/L TC:102.6mg/L IC:110.8mg/L	Complete	10/10/2016 9:18:27 PM	54
55	TOC		TOC:2.289mg/L TC:3.290mg/L IC:1.001mg/L	Complete	10/10/2016 9:30:29 PM	55
56	TOC		TOC:0.6915mg/L TC:1.036mg/L IC:0.3445mg/L	Complete	10/10/2016 9:41:59 PM	56
57	TOC		TOC:1.904mg/L TC:94.74mg/L IC:92.84mg/L	Complete	10/10/2016 9:58:20 PM	57
58	TOC		!!Error!! TOC:-4.000mg/L TC:93.18mg/L IC:97.18mg/L	Complete	10/10/2016 10:14:56 PM	58
59	TOC	L16100363-03	TOC:2.476mg/L TC:10.13mg/L IC:7.649mg/L	Complete	10/10/2016 10:27:10 PM	59
60	TOC	WG586887-05 DUP	TOC:2.213mg/L TC:11.08mg/L IC:8.870mg/L	Complete	10/10/2016 10:39:14 PM	60
61	TOC	WG586887-06 MS	TOC:12.47mg/L TC:15.31mg/L IC:2.832mg/L	Complete	10/10/2016 10:51:17 PM	61
62	TOC	CCV	TOC:26.04mg/L TC:26.14mg/L IC:0.09880mg/L	Complete	10/10/2016 11:03:17 PM	62
63	TOC	CCB	TOC:0.04445mg/L TC:0.1224mg/L IC:0.07795mg/L	Complete	10/10/2016 11:12:13 PM	0
64	TOC	WG586975-01 BLK	TOC:0.04081mg/L TC:0.1144mg/L IC:0.07355mg/L	Complete	10/10/2016 11:28:32 PM	0
65	TOC	WG586975-02 LCS	TOC:25.99mg/L TC:26.06mg/L IC:0.07198mg/L	Complete	10/10/2016 11:49:17 PM	65
66	TOC	WG586975-03 LCSDUP	TOC:26.01mg/L TC:26.09mg/L IC:0.07546mg/L	Complete	10/11/2016 12:09:58 AM	66
67	TOC	L16100314-01	TOC:34.81mg/L TC:35.60mg/L IC:0.7901mg/L	Complete	10/11/2016 12:37:06 AM	67

C:\TOC3201\Data\10-10-2016-DCM-TOC.t32

dcm 10/12/16

	Analysis	Sample Name	Result	Status	Date / Time	Vial
68	TOC	L16100376-01	TOC:3.175mg/L TC:7.008mg/L IC:3.833mg/L	Complete	10/11/2016 12:57:57 AM	68
69	TOC	L16100376-03	TOC:5.692mg/L TC:8.886mg/L IC:3.194mg/L	Complete	10/11/2016 1:19:09 AM	1
70	TOC		TOC:48.75mg/L TC:54.05mg/L IC:5.298mg/L	Complete	10/11/2016 1:43:13 AM	2
71	TOC	L16100447-01	TOC:0.2105mg/L TC:0.2803mg/L IC:0.06985mg/L	Complete	10/11/2016 2:02:19 AM	3
72	TOC	L16100449-09 cl	TOC:0.2248mg/L TC:0.2819mg/L IC:0.05705mg/L	Complete	10/11/2016 2:21:26 AM	4
73	TOC	L16100367-01	TOC:1.631mg/L TC:3.073mg/L IC:1.442mg/L	Complete	10/11/2016 2:41:27 AM	5
74	TOC	CCV	TOC:25.80mg/L TC:25.88mg/L IC:0.07809mg/L	Complete	10/11/2016 2:53:27 AM	6
75	TOC	CCB	TOC:0.04348mg/L TC:0.1161mg/L IC:0.07262mg/L	Complete	10/11/2016 3:02:23 AM	0
76	TOC	L16100367-02	TOC:3.169mg/L TC:4.446mg/L IC:1.276mg/L	Complete	10/11/2016 3:22:25 AM	8
77	TOC	L16100367-03	TOC:5.437mg/L TC:6.406mg/L IC:0.9686mg/L	Complete	10/11/2016 3:42:53 AM	9
78	TOC	L16100367-04	TOC:3.374mg/L TC:4.279mg/L IC:0.9048mg/L	Complete	10/11/2016 4:02:56 AM	10
79	TOC	L16100456-01	TOC:2.721mg/L TC:11.17mg/L IC:8.445mg/L	Complete	10/11/2016 4:24:08 AM	11
80	TOC	L16100456-04	TOC:2.167mg/L TC:10.01mg/L IC:7.842mg/L	Complete	10/11/2016 4:44:42 AM	12
81	TOC	WG586975-05 DUP	TOC:3.402mg/L TC:4.109mg/L IC:0.7075mg/L	Complete	10/11/2016 5:04:54 AM	13
82	TOC	WG586975-06 MS	TOC:13.76mg/L TC:14.02mg/L IC:0.2586mg/L	Complete	10/11/2016 5:25:08 AM	14
83	TOC	CCV	TOC:25.83mg/L TC:25.91mg/L IC:0.07507mg/L	Complete	10/11/2016 5:37:08 AM	15
84	TOC	CCB	TOC:0.03972mg/L TC:0.1145mg/L IC:0.07474mg/L	Complete	10/11/2016 5:46:02 AM	0
85	TOC	CCV	TOC:26.41mg/L TC:26.50mg/L IC:0.09213mg/L	Complete	10/11/2016 7:51:03 AM	17
86	TOC	CCB	TOC:0.08303mg/L TC:0.1404mg/L IC:0.05736mg/L	Complete	10/11/2016 8:00:02 AM	0
87	TOC	L16100297-03 (50)	TOC:35.87mg/L TC:35.90mg/L IC:0.02837mg/L	Complete	10/11/2016 8:28:30 AM	19
88	TOC	L16100297-11 (50)	TOC:35.81mg/L TC:35.84mg/L IC:0.02963mg/L	Complete	10/11/2016 8:40:25 AM	20
89	TOC	L16100297-12 (50)	TOC:28.66mg/L TC:28.68mg/L IC:0.01739mg/L	Complete	10/11/2016 8:56:52 AM	21
90	TOC	L16100315-01 (20)	TOC:12.61mg/L TC:12.75mg/L IC:0.1422mg/L	Complete	10/11/2016 9:08:56 AM	22
91	TOC	L16100315-02 (20)	TOC:36.47mg/L TC:48.22mg/L IC:11.75mg/L	Complete	10/11/2016 9:22:40 AM	23
92	TOC	L16100316-01 (3)	TOC:5.755mg/L TC:41.75mg/L IC:35.99mg/L	Complete	10/11/2016 9:35:44 AM	24
93	TOC	L16100316-02 (3)	TOC:5.356mg/L TC:31.84mg/L IC:26.48mg/L	Complete	10/11/2016 9:48:16 AM	25
94	TOC	L16100316-03 (3)	TOC:6.605mg/L TC:35.92mg/L IC:29.32mg/L	Complete	10/11/2016 10:09:15 AM	26
95	TOC	L16100316-05 (3)	TOC:4.300mg/L TC:29.32mg/L IC:25.02mg/L	Complete	10/11/2016 10:22:22 AM	27
96	TOC	L16100316-06 (3)	TOC:11.31mg/L TC:33.53mg/L IC:22.22mg/L	Complete	10/11/2016 10:35:08 AM	28
97	TOC	CCV	TOC:25.80mg/L TC:25.88mg/L IC:0.08171mg/L	Complete	10/11/2016 10:46:43 AM	29
98	TOC	CCB	TOC:0.04605mg/L TC:0.1073mg/L IC:0.06125mg/L	Complete	10/11/2016 10:55:31 AM	0
99	TOC	L16100316-07 (3)	TOC:5.702mg/L TC:30.14mg/L IC:24.44mg/L	Complete	10/11/2016 11:08:27 AM	31
100	TOC	L16100319-01	TOC:12.56mg/L TC:19.90mg/L IC:7.335mg/L	Complete	10/11/2016 11:21:10 AM	32
101	TOC	L16100123-01 (3)	TOC:5.209mg/L TC:38.54mg/L IC:33.33mg/L	Complete	10/11/2016 11:54:33 AM	33
102	TOC		TOC:6.300mg/L TC:54.02mg/L IC:47.72mg/L	Complete	10/11/2016 12:09:17 PM	34
103	TOC	L16100123-07 (5)	TOC:5.755mg/L TC:41.57mg/L IC:35.81mg/L	Complete	10/11/2016 12:22:36 PM	35
104	TOC	L16100194-01 (50)	TOC:18.35mg/L TC:21.60mg/L IC:3.245mg/L	Complete	10/11/2016 12:35:16 PM	36
105	TOC	L16100194-03 (25)	TOC:11.66mg/L TC:19.71mg/L IC:8.059mg/L	Complete	10/11/2016 12:48:32 PM	37
106	TOC	L16100194-05 (5)	TOC:6.352mg/L TC:28.27mg/L IC:21.92mg/L	Complete	10/11/2016 1:01:49 PM	38
107	TOC	L16100194-06 (5)	TOC:8.323mg/L TC:47.94mg/L IC:39.61mg/L	Complete	10/11/2016 1:15:42 PM	39
108	TOC	CCV	TOC:25.65mg/L TC:25.78mg/L IC:0.1323mg/L	Complete	10/11/2016 1:30:10 PM	40
109	TOC	CCB	TOC:0.04982mg/L TC:0.1148mg/L IC:0.06502mg/L	Complete	10/11/2016 1:39:00 PM	0
110	TOC	L16100376-05 (2)	TOC:27.47mg/L TC:33.05mg/L IC:5.576mg/L	Complete	10/11/2016 2:02:17 PM	42
111	TOC	L16100123-05 (5)	TOC:5.114mg/L TC:34.15mg/L IC:29.04mg/L	Complete	10/11/2016 2:16:08 PM	43
112	TOC	CCV	TOC:25.75mg/L TC:25.88mg/L IC:0.1305mg/L	Complete	10/11/2016 2:28:13 PM	44
113	TOC	CCB	TOC:0.05149mg/L TC:0.1144mg/L IC:0.06287mg/L	Complete	10/11/2016 2:37:06 PM	0

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Sample

Sample Name: TIC
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

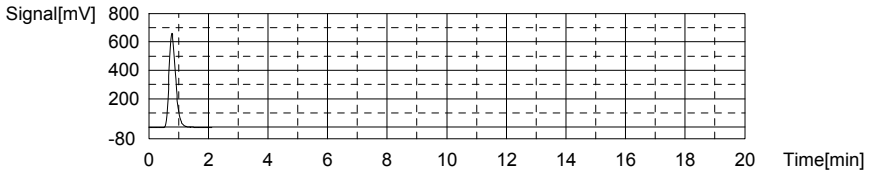
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.638mg/L TC:26.19mg/L IC:22.55mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1025	26.19mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 9:36:30 AM

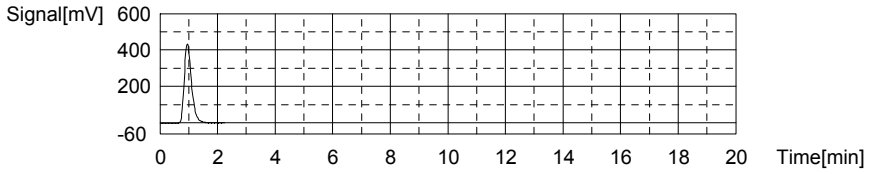
Mean Area 1025
Mean Conc. 26.19mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	759.7	22.55mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 9:41:49 AM

Mean Area 759.7
Mean Conc. 22.55mg/L



Sample

Sample Name: TOC/TIC
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

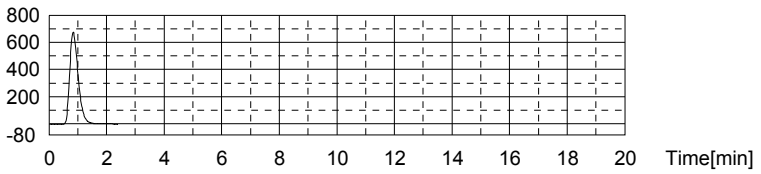
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.94mg/L TC:35.23mg/L IC:8.287mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1377	35.23mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 9:49:38 AM

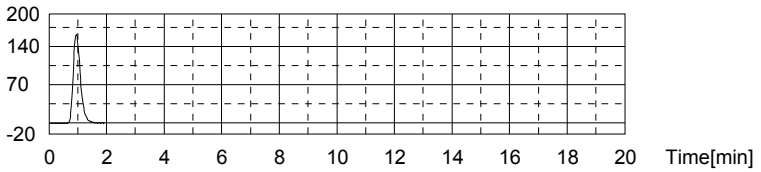
Mean Area 1377
Mean Conc. 35.23mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	282.9	8.287mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 9:54:27 AM

Mean Area 282.9
Mean Conc. 8.287mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

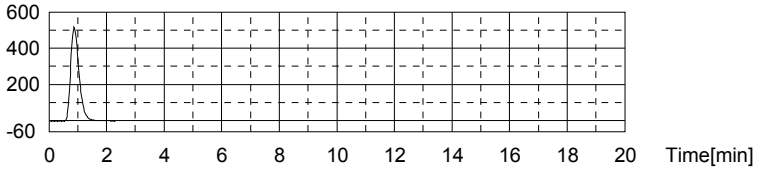
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.62mg/L TC:26.65mg/L IC:0.03139mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1043	26.65mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 10:02:12 AM

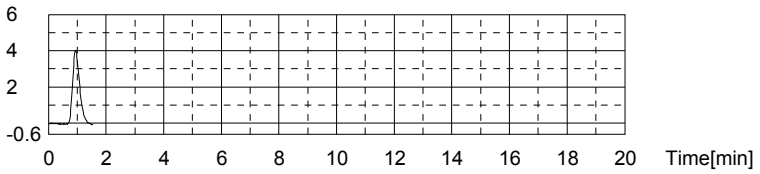
Mean Area 1043
Mean Conc. 26.65mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.976	0.03139mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 10:06:36 AM

Mean Area 6.976
Mean Conc. 0.03139mg/L



Sample

Sample Name: WG586771-01 BLK
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

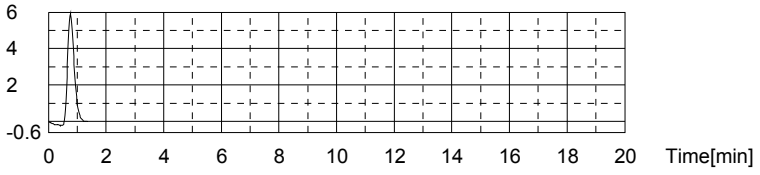
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.06376mg/L TC:0.1243mg/L IC:0.06053mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.793	0.1243mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 10:11:37 AM

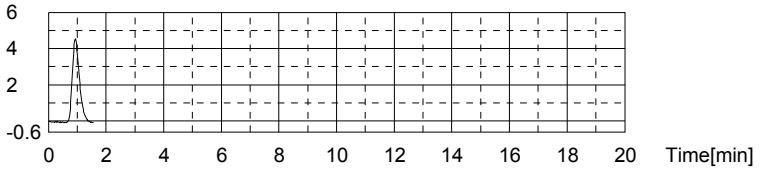
Mean Area 9.793
Mean Conc. 0.1243mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.950	0.06053mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 10:15:35 AM

Mean Area 7.950
Mean Conc. 0.06053mg/L



Sample

Sample Name: WG586771-02 LCS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

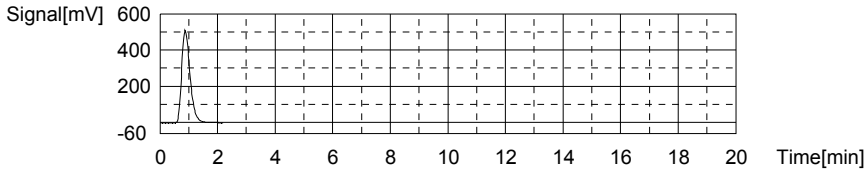
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.21mg/L TC:26.22mg/L IC:0.00847mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1026	26.22mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 10:23:13 AM

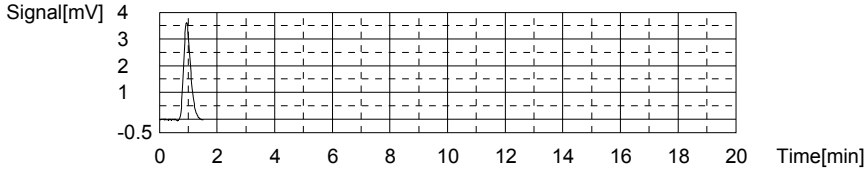
Mean Area 1026
Mean Conc. 26.22mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.210	0.00847mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 10:27:33 AM

Mean Area 6.210
Mean Conc. 0.00847mg/L



Sample

Sample Name: WG586771-03 LCSDUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

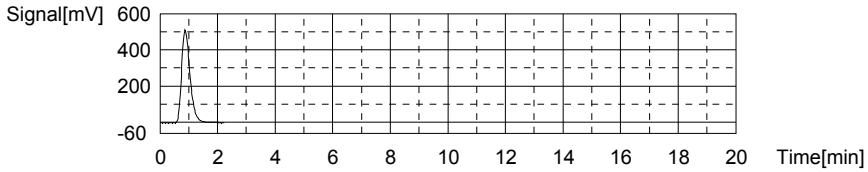
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.28mg/L TC:26.29mg/L IC:0.01320mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1029	26.29mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 10:35:13 AM

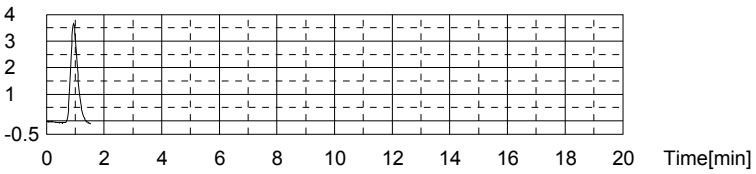
Mean Area 1029
Mean Conc. 26.29mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.368	0.01320mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 10:39:35 AM

Mean Area 6.368
Mean Conc. 0.01320mg/L



Sample

Sample Name: L16100297-01 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

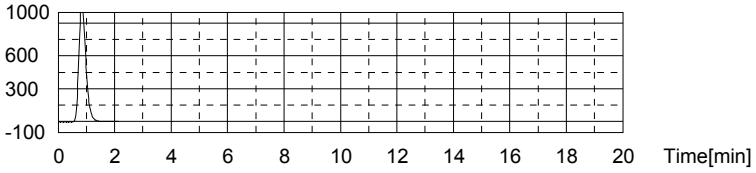
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:47.50mg/L TC:47.63mg/L IC:0.1299mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1860	47.63mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 11:17:01 AM

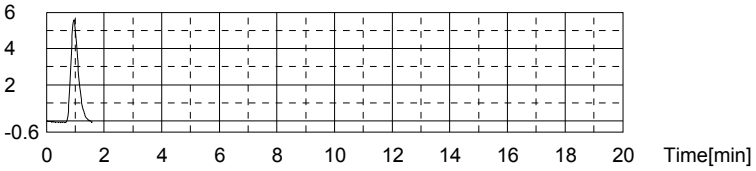
Mean Area 1860
Mean Conc. 47.63mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.27	0.1299mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 11:21:29 AM

Mean Area 10.27
Mean Conc. 0.1299mg/L



Sample

Sample Name: L16100297-02 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

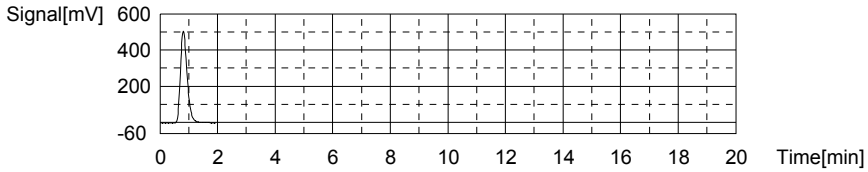
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:20.71mg/L TC:20.71mg/L IC:-0.00224mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	811.6	20.71mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 11:28:51 AM

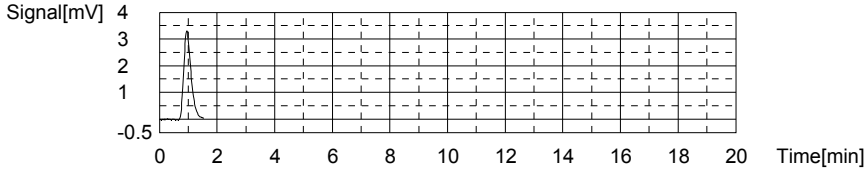
Mean Area 811.6
Mean Conc. 20.71mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.852	-0.00224mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 11:33:14 AM

Mean Area 5.852
Mean Conc. -0.00224mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

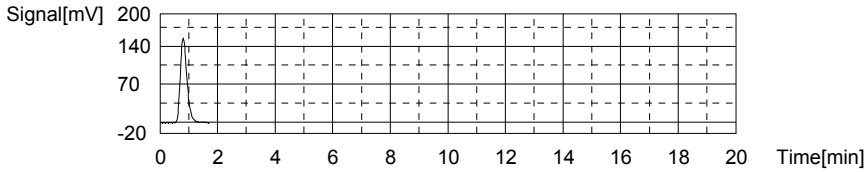
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.217mg/L TC:6.269mg/L IC:0.05198mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	249.1	6.269mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 11:40:23 AM

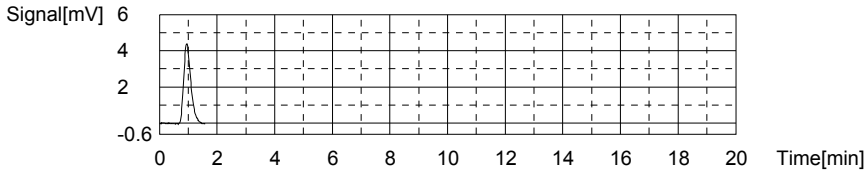
Mean Area 249.1
Mean Conc. 6.269mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.664	0.05198mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 11:44:48 AM

Mean Area 7.664
Mean Conc. 0.05198mg/L



Sample

Sample Name: L16100297-04 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

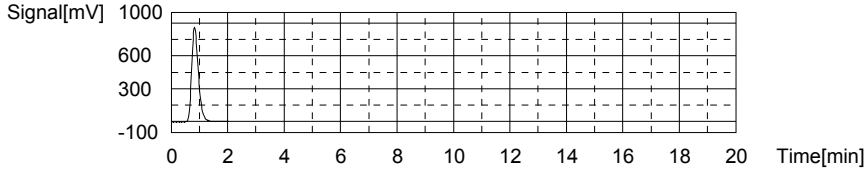
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:36.38mg/L TC:36.41mg/L IC:0.02538mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1423	36.41mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 11:52:16 AM

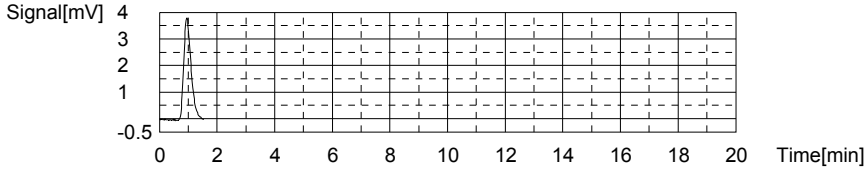
Mean Area 1423
Mean Conc. 36.41mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.775	0.02538mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 11:56:37 AM

Mean Area 6.775
Mean Conc. 0.02538mg/L



Sample

Sample Name: L16100297-05 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

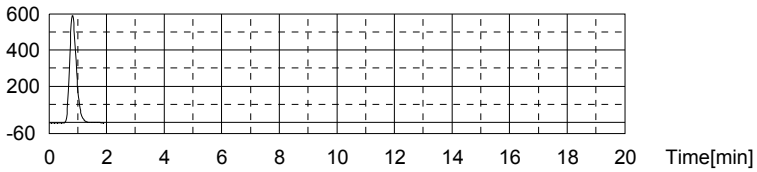
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:24.49mg/L TC:24.52mg/L IC:0.02421mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	959.8	24.52mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 12:03:59 PM

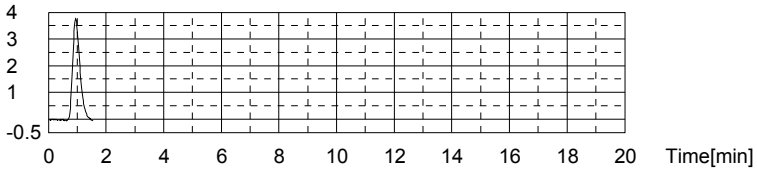
Mean Area 959.8
Mean Conc. 24.52mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.736	0.02421mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 12:08:18 PM

Mean Area 6.736
Mean Conc. 0.02421mg/L



Sample

Sample Name: L16100297-06 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

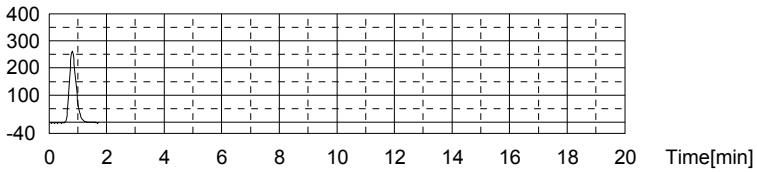
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.68mg/L TC:10.73mg/L IC:0.05084mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	423.0	10.73mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 12:15:29 PM

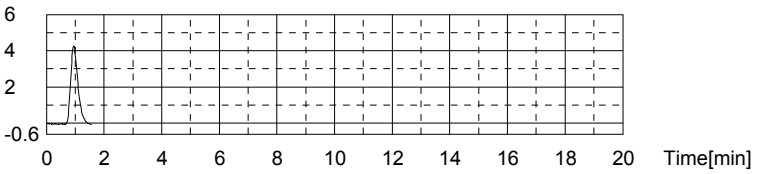
Mean Area 423.0
Mean Conc. 10.73mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.626	0.05084mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 12:19:52 PM

Mean Area 7.626
Mean Conc. 0.05084mg/L



Sample

Sample Name: L16100297-07 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

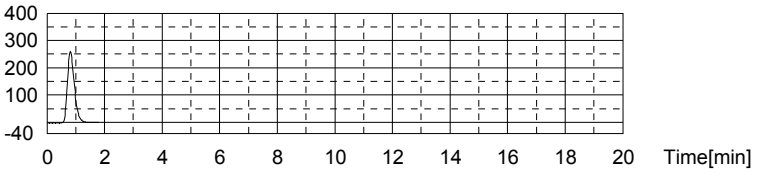
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.00mg/L TC:11.04mg/L IC:0.04159mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	435.0	11.04mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 12:27:06 PM

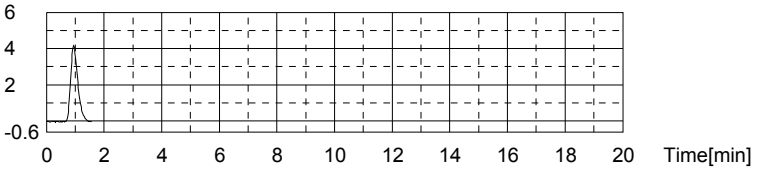
Mean Area 435.0
Mean Conc. 11.04mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.317	0.04159mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 12:31:29 PM

Mean Area 7.317
Mean Conc. 0.04159mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

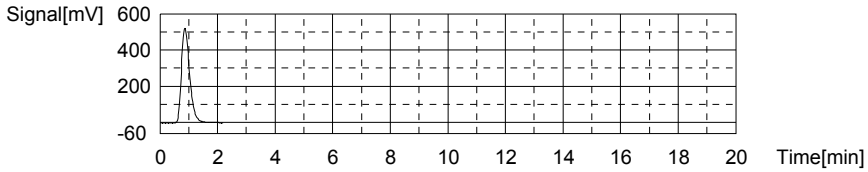
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.33mg/L TC:26.37mg/L IC:0.03815mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1032	26.37mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 12:39:07 PM

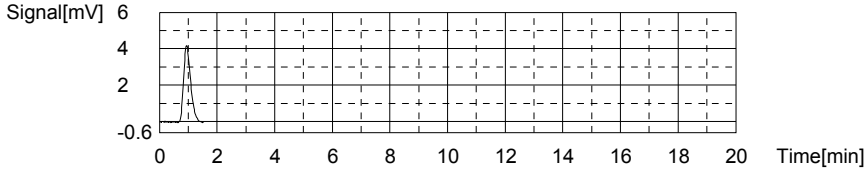
Mean Area 1032
Mean Conc. 26.37mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.202	0.03815mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 12:43:32 PM

Mean Area 7.202
Mean Conc. 0.03815mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

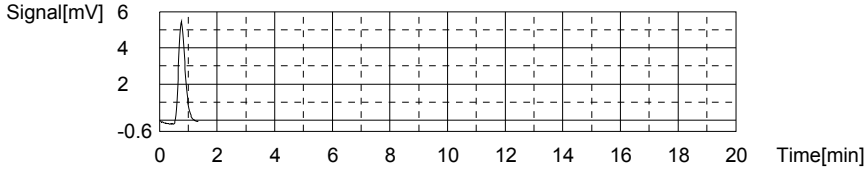
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.06039mg/L TC:0.1054mg/L IC:0.04503mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.058	0.1054mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 12:48:31 PM

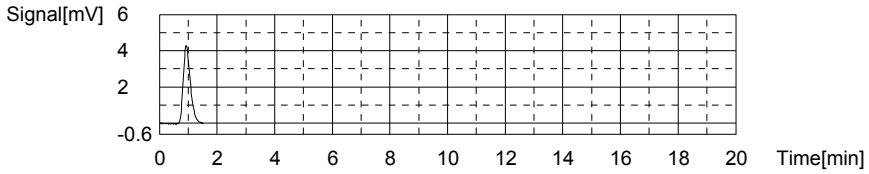
Mean Area 9.058
Mean Conc. 0.1054mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.432	0.04503mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 12:52:26 PM

Mean Area 7.432
Mean Conc. 0.04503mg/L



Sample

Sample Name: L16100297-08 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

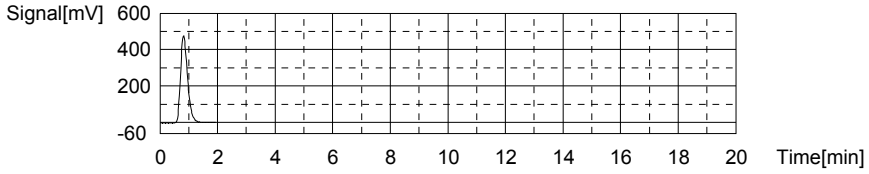
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:20.49mg/L TC:20.52mg/L IC:0.03011mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	804.1	20.52mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 12:59:48 PM

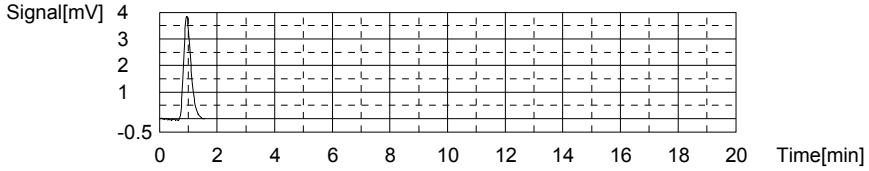
Mean Area 804.1
Mean Conc. 20.52mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.933	0.03011mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 1:04:12 PM

Mean Area 6.933
Mean Conc. 0.03011mg/L



Sample

Sample Name: L16100297-09 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

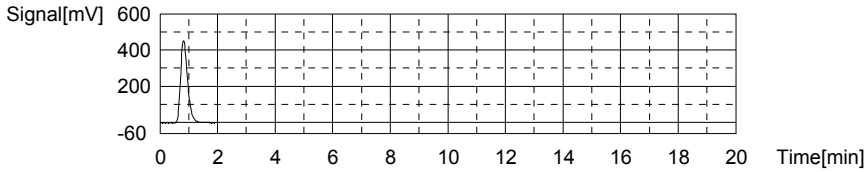
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:19.43mg/L TC:19.49mg/L IC:0.05811mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	764.1	19.49mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 1:11:34 PM

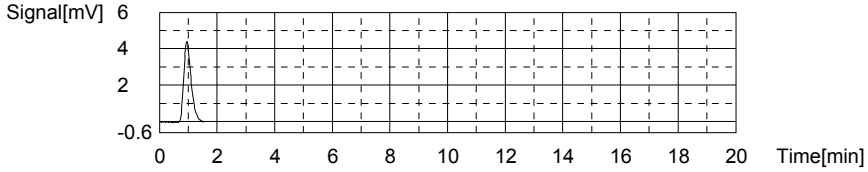
Mean Area 764.1
Mean Conc. 19.49mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.869	0.05811mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 1:15:57 PM

Mean Area 7.869
Mean Conc. 0.05811mg/L



Sample

Sample Name: L16100297-10 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

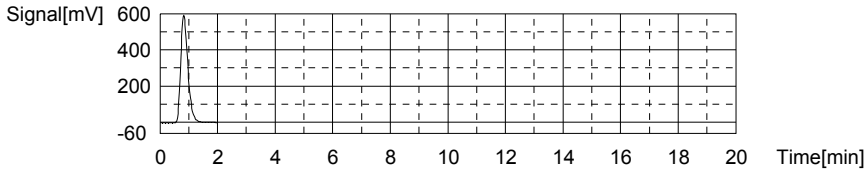
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.02mg/L TC:26.06mg/L IC:0.04213mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1020	26.06mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 1:23:22 PM

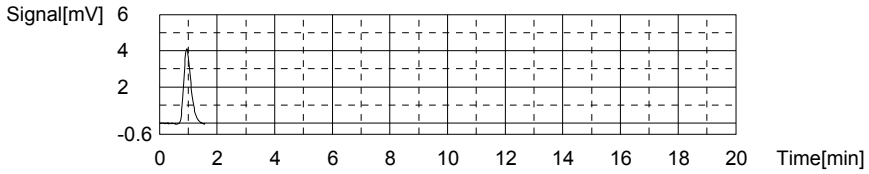
Mean Area 1020
Mean Conc. 26.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.335	0.04213mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 1:27:46 PM

Mean Area 7.335
Mean Conc. 0.04213mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

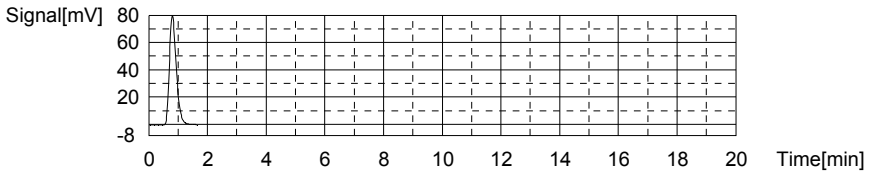
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.139mg/L TC:3.213mg/L IC:0.07453mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	130.1	3.213mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 1:34:50 PM

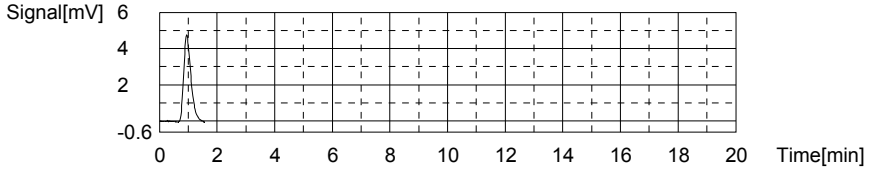
Mean Area 130.1
Mean Conc. 3.213mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.418	0.07453mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 1:39:15 PM

Mean Area 8.418
Mean Conc. 0.07453mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

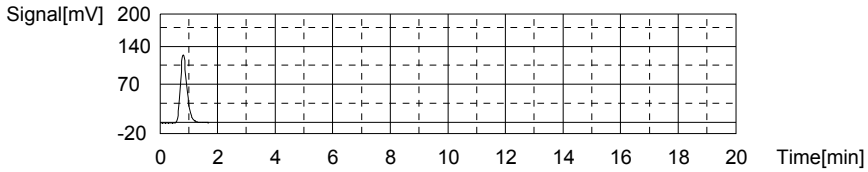
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.891mg/L TC:4.957mg/L IC:0.06571mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	198.0	4.957mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 1:46:24 PM

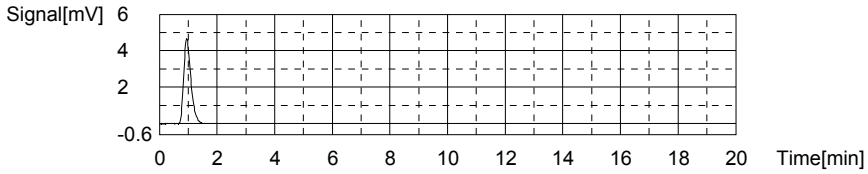
Mean Area 198.0
Mean Conc. 4.957mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.123	0.06571mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 1:50:49 PM

Mean Area 8.123
Mean Conc. 0.06571mg/L



Sample

Sample Name: L16100297-13 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

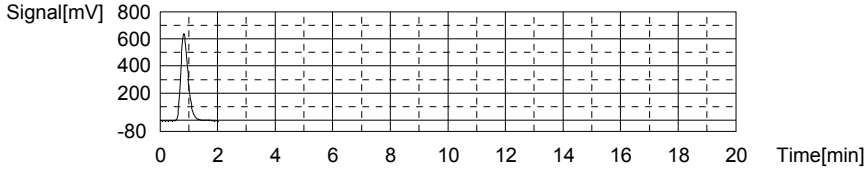
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:28.46mg/L TC:28.50mg/L IC:0.04489mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1115	28.50mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 1:58:16 PM

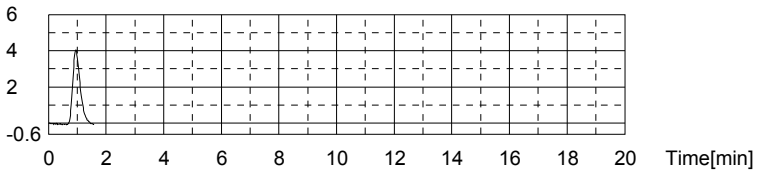
Mean Area 1115
Mean Conc. 28.50mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.427	0.04489mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 2:02:41 PM

Mean Area 7.427
Mean Conc. 0.04489mg/L



Sample

Sample Name: L16100297-14 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

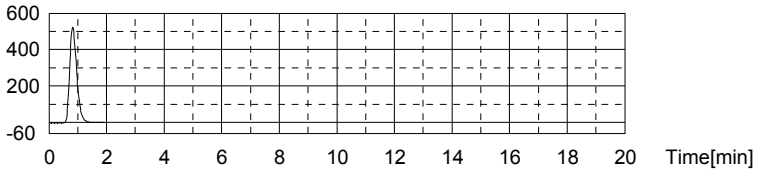
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:22.70mg/L TC:22.75mg/L IC:0.04324mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	890.9	22.75mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 2:10:02 PM

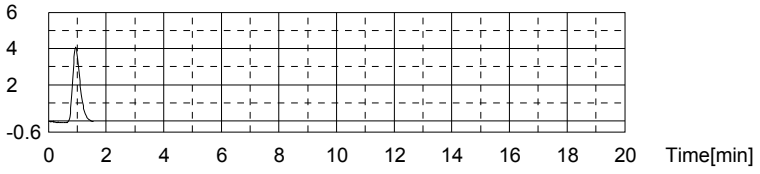
Mean Area 890.9
Mean Conc. 22.75mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.372	0.04324mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 2:14:26 PM

Mean Area 7.372
Mean Conc. 0.04324mg/L



Sample

Sample Name: L16100297-15 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

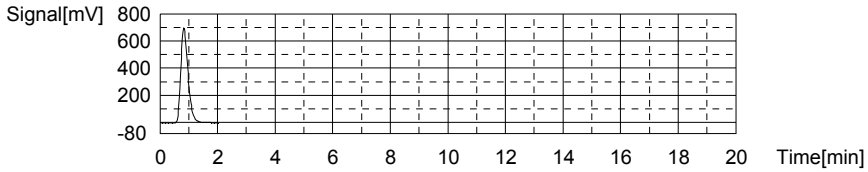
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:30.96mg/L TC:31.02mg/L IC:0.05563mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1213	31.02mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 2:21:54 PM

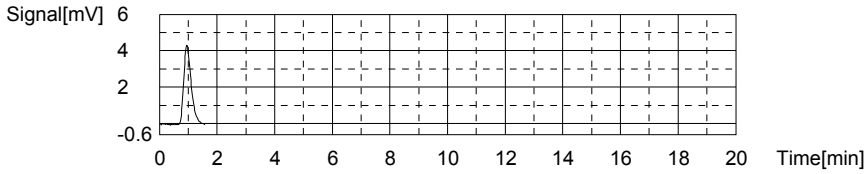
Mean Area 1213
Mean Conc. 31.02mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.786	0.05563mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 2:26:19 PM

Mean Area 7.786
Mean Conc. 0.05563mg/L



Sample

Sample Name: L16100297-16 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

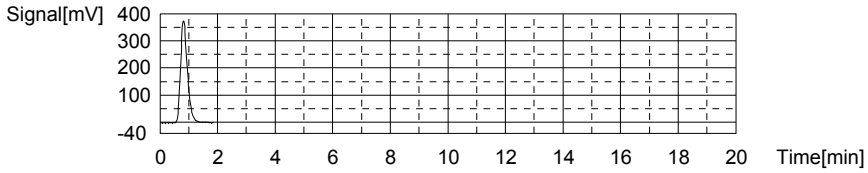
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:15.56mg/L TC:15.64mg/L IC:0.07471mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	614.0	15.64mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 2:33:37 PM

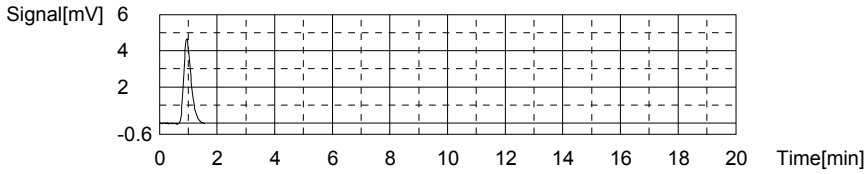
Mean Area 614.0
Mean Conc. 15.64mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.424	0.07471mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 2:38:04 PM

Mean Area 8.424
Mean Conc. 0.07471mg/L



Sample

Sample Name: L16100297-17 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

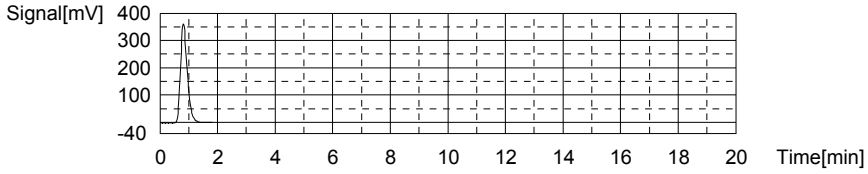
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:14.94mg/L TC:15.01mg/L IC:0.06538mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	589.5	15.01mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 2:45:18 PM

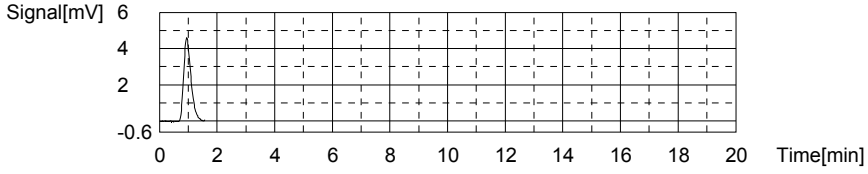
Mean Area 589.5
Mean Conc. 15.01mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.112	0.06538mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 2:49:43 PM

Mean Area 8.112
Mean Conc. 0.06538mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

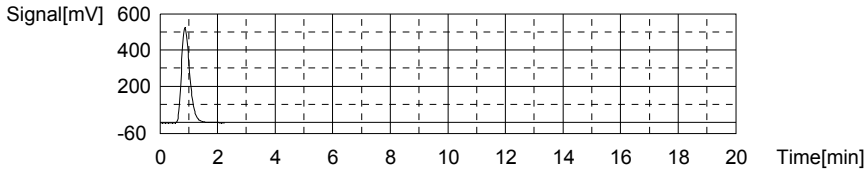
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.61mg/L TC:26.68mg/L IC:0.06993mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1044	26.68mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 2:57:23 PM

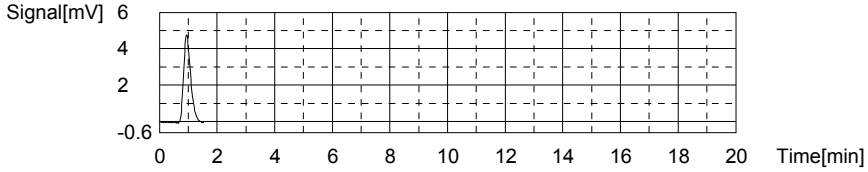
Mean Area 1044
Mean Conc. 26.68mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.264	0.06993mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 3:01:46 PM

Mean Area 8.264
Mean Conc. 0.06993mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

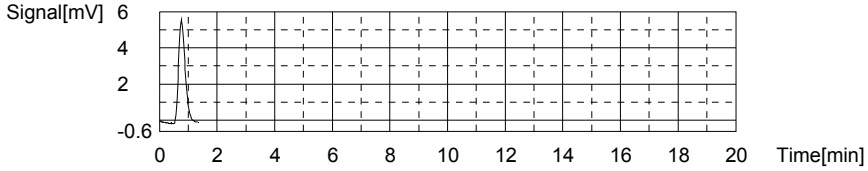
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.05112mg/L TC:0.1045mg/L IC:0.05338mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.022	0.1045mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 3:06:45 PM

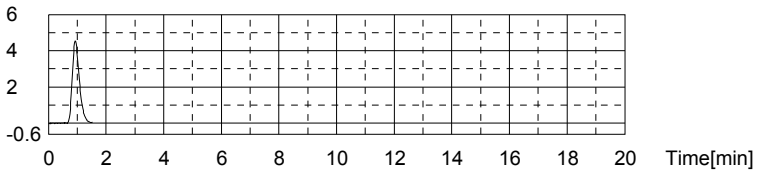
Mean Area 9.022
Mean Conc. 0.1045mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.711	0.05338mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 3:10:40 PM

Mean Area 7.711
Mean Conc. 0.05338mg/L



Sample

Sample Name: L16100297-18 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

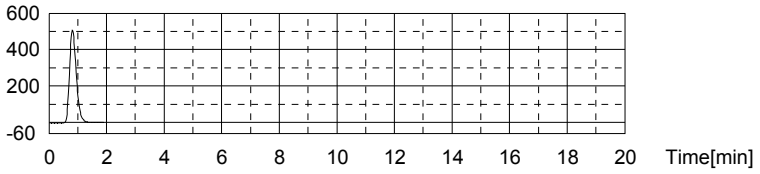
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:20.96mg/L TC:21.03mg/L IC:0.07441mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	824.2	21.03mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 3:18:01 PM

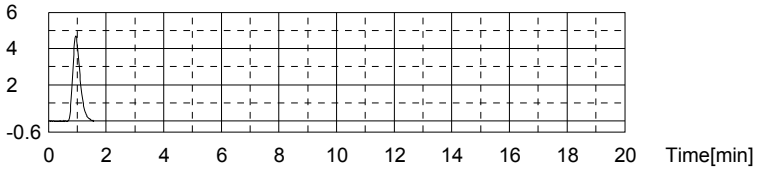
Mean Area 824.2
Mean Conc. 21.03mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.414	0.07441mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 3:22:29 PM

Mean Area 8.414
Mean Conc. 0.07441mg/L



Sample

Sample Name: L16100297-19 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

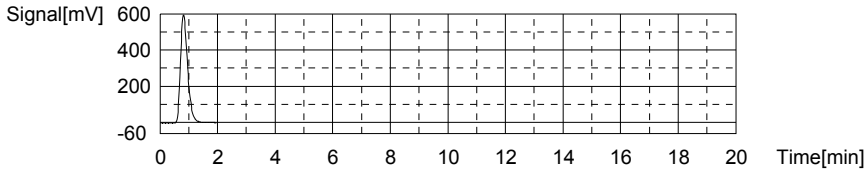
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.00mg/L TC:26.06mg/L IC:0.06613mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1020	26.06mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 3:29:54 PM

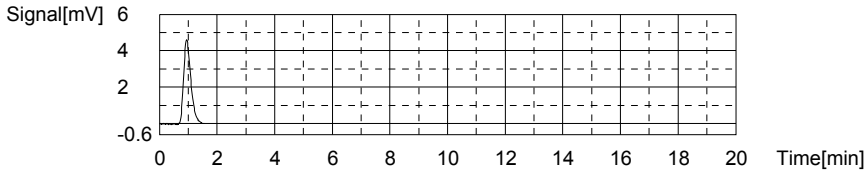
Mean Area 1020
Mean Conc. 26.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.137	0.06613mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 3:34:18 PM

Mean Area 8.137
Mean Conc. 0.06613mg/L



Sample

Sample Name: L16091363-01
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

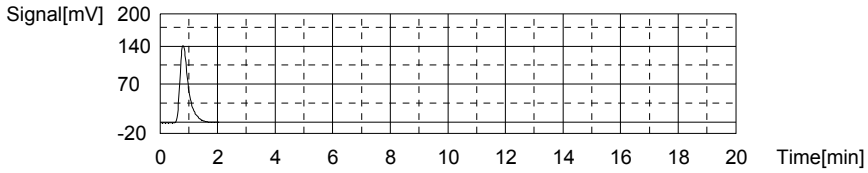
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.879mg/L TC:7.347mg/L IC:2.468mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	291.1	7.347mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 3:56:05 PM

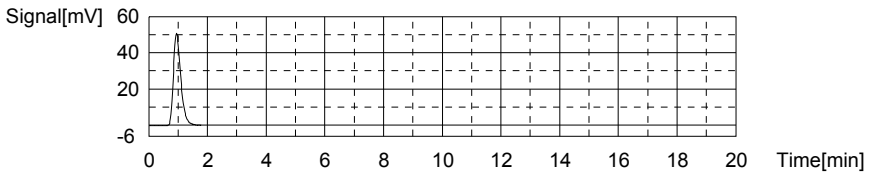
Mean Area 291.1
Mean Conc. 7.347mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	88.41	2.468mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 4:00:43 PM

Mean Area 88.41
Mean Conc. 2.468mg/L



Sample

Sample Name: WG586771-05 DUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

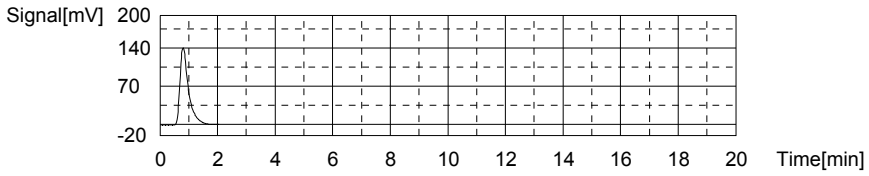
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.847mg/L TC:7.324mg/L IC:2.477mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	290.2	7.324mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 4:08:14 PM

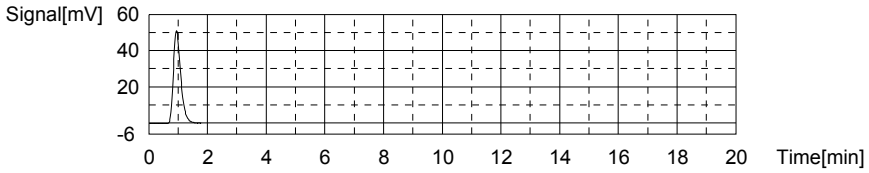
Mean Area 290.2
Mean Conc. 7.324mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	88.71	2.477mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 4:12:53 PM

Mean Area 88.71
Mean Conc. 2.477mg/L



Sample

Sample Name: WG586771-06 MS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

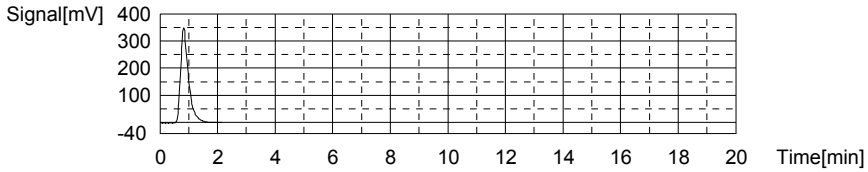
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:14.88mg/L TC:16.81mg/L IC:1.925mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	659.6	16.81mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 4:20:29 PM

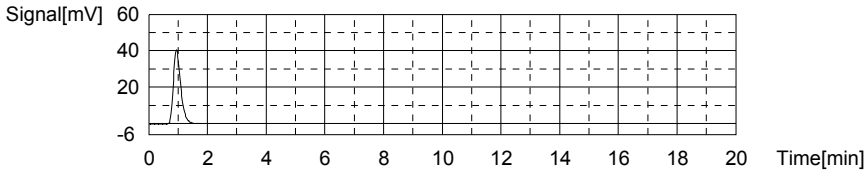
Mean Area 659.6
Mean Conc. 16.81mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	70.27	1.925mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 4:25:05 PM

Mean Area 70.27
Mean Conc. 1.925mg/L



Sample

Sample Name: WG586887-01 BLK
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

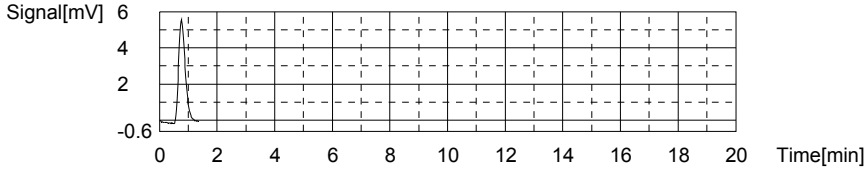
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04884mg/L TC:0.1056mg/L IC:0.05676mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.065	0.1056mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 4:30:04 PM

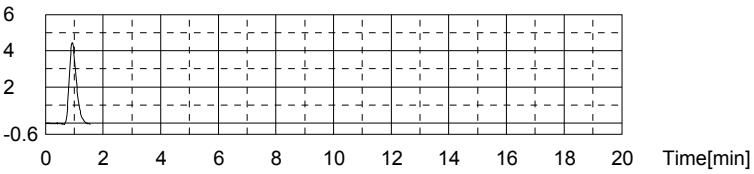
Mean Area 9.065
Mean Conc. 0.1056mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.824	0.05676mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 4:34:01 PM

Mean Area 7.824
Mean Conc. 0.05676mg/L



Sample

Sample Name: WG586887-02 LCS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

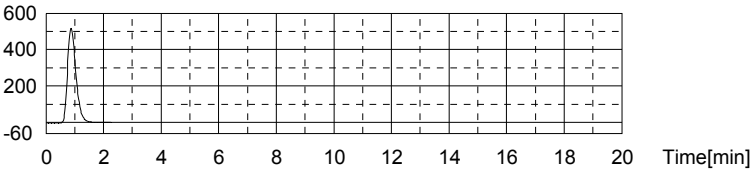
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.78mg/L TC:26.86mg/L IC:0.07666mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1051	26.86mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 4:41:44 PM

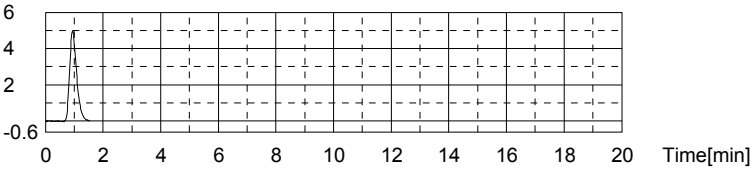
Mean Area 1051
Mean Conc. 26.86mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.489	0.07666mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 4:46:08 PM

Mean Area 8.489
Mean Conc. 0.07666mg/L



Sample

Sample Name: WG586887-03 LCSDUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

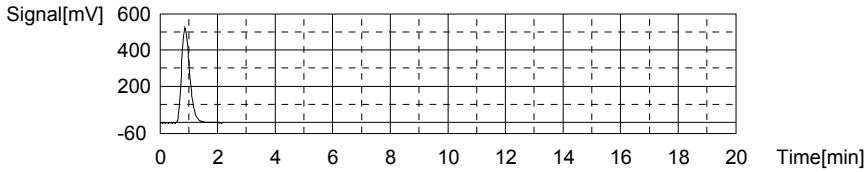
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.25mg/L TC:26.32mg/L IC:0.07181mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1030	26.32mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 4:53:47 PM

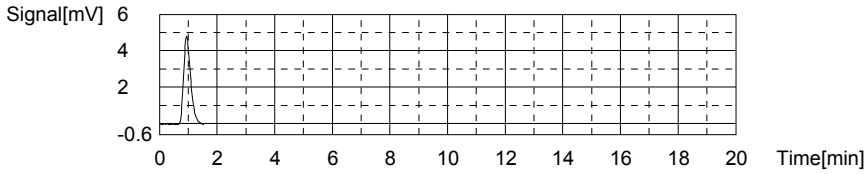
Mean Area 1030
Mean Conc. 26.32mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.327	0.07181mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 4:58:08 PM

Mean Area 8.327
Mean Conc. 0.07181mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

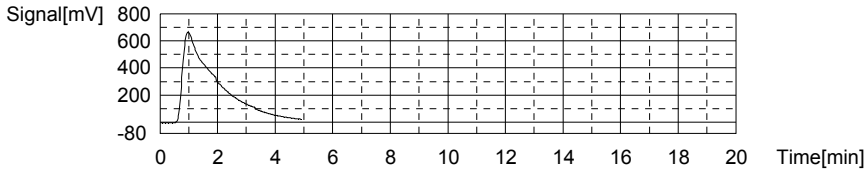
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:134.4mg/L TC:135.5mg/L IC:1.127mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5284	135.5mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 5:08:30 PM

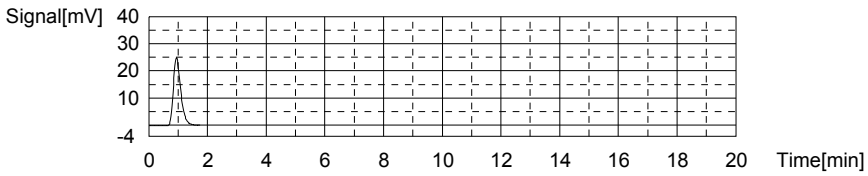
Mean Area 5284
Mean Conc. 135.5mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	43.58	1.127mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 5:13:06 PM

Mean Area 43.58
Mean Conc. 1.127mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

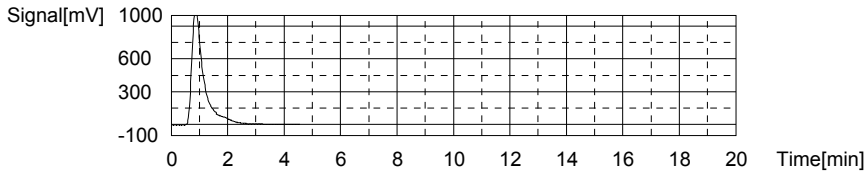
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:68.65mg/L TC:80.06mg/L IC:11.41mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3123	80.06mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 5:23:06 PM

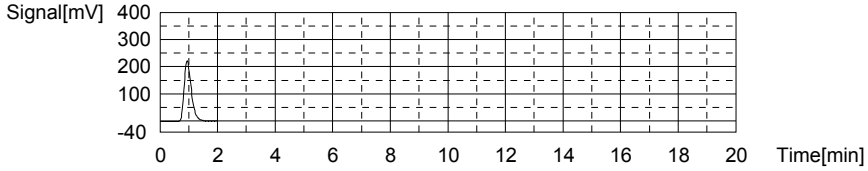
Mean Area 3123
Mean Conc. 80.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	387.2	11.41mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 5:28:01 PM

Mean Area 387.2
Mean Conc. 11.41mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

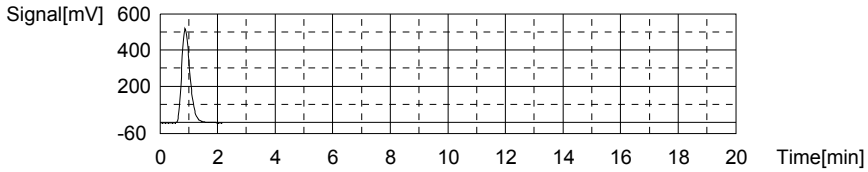
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.35mg/L TC:26.45mg/L IC:0.1018mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1035	26.45mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 5:35:38 PM

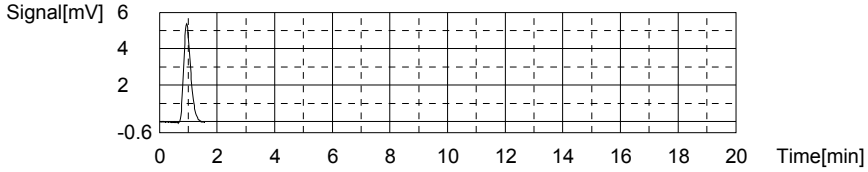
Mean Area 1035
Mean Conc. 26.45mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.329	0.1018mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 5:40:04 PM

Mean Area 9.329
Mean Conc. 0.1018mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

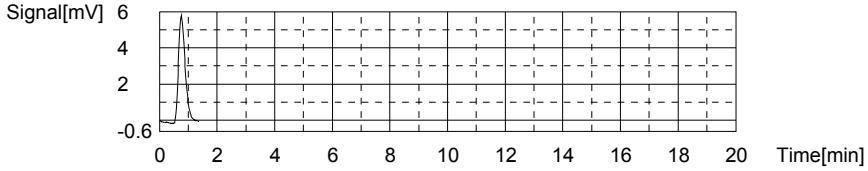
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.06820mg/L TC:0.1166mg/L IC:0.04842mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.494	0.1166mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 5:45:04 PM

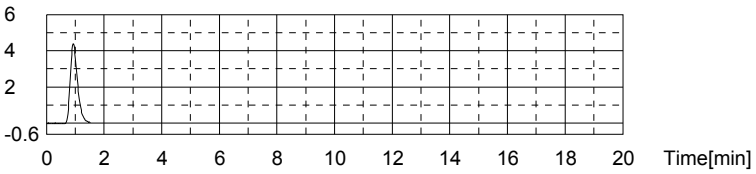
Mean Area 9.494
Mean Conc. 0.1166mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.545	0.04842mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 5:48:56 PM

Mean Area 7.545
Mean Conc. 0.04842mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

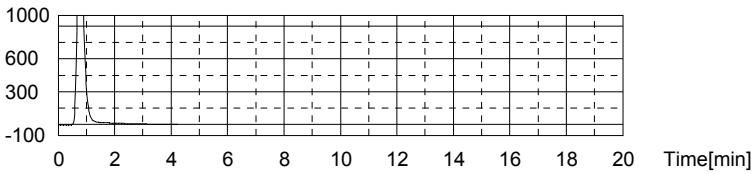
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.761mg/L TC:67.91mg/L IC:66.15mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2650	67.91mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 5:58:38 PM

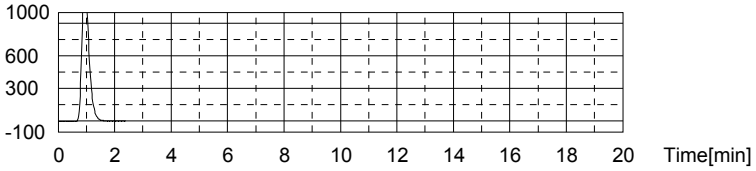
Mean Area 2650
Mean Conc. 67.91mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2217	66.15mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 6:04:07 PM

Mean Area 2217
Mean Conc. 66.15mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

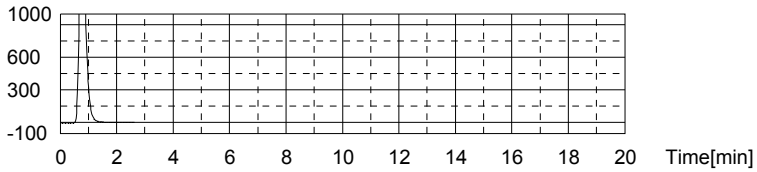
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-0.2062mg/L TC:63.70mg/L IC:63.91mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2486	63.70mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 6:12:11 PM

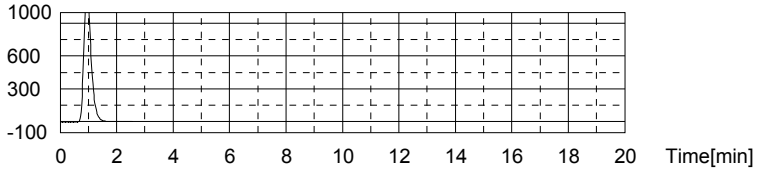
Mean Area 2486
Mean Conc. 63.70mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2142	63.91mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 6:17:50 PM

Mean Area 2142
Mean Conc. 63.91mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

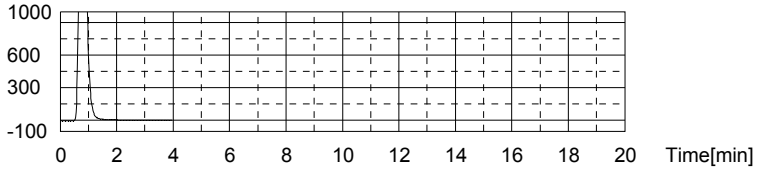
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-12.41mg/L TC:80.49mg/L IC:92.90mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3140	80.49mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 6:27:15 PM

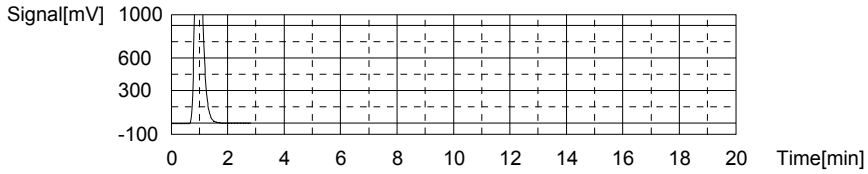
Mean Area 3140
Mean Conc. 80.49mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3111	92.90mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 6:33:24 PM

Mean Area 3111
Mean Conc. 92.90mg/L



Sample

Sample Name: L16100316-04
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

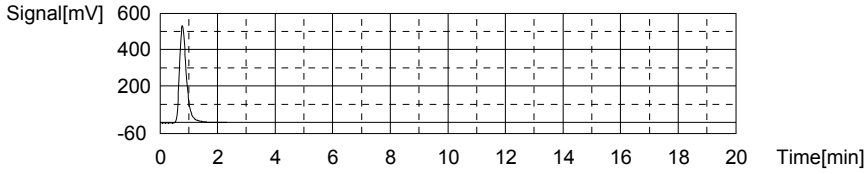
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.943mg/L TC:22.57mg/L IC:17.62mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	883.9	22.57mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 6:41:10 PM

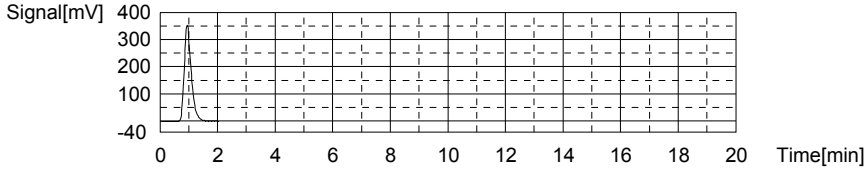
Mean Area 883.9
Mean Conc. 22.57mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	595.0	17.62mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 6:46:17 PM

Mean Area 595.0
Mean Conc. 17.62mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

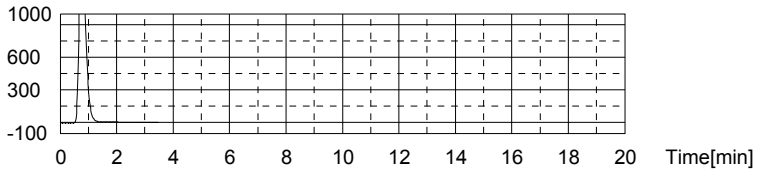
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.037mg/L TC:62.88mg/L IC:61.84mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2454	62.88mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 6:55:13 PM

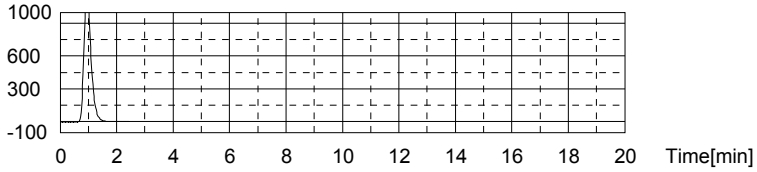
Mean Area 2454
Mean Conc. 62.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2073	61.84mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 7:00:50 PM

Mean Area 2073
Mean Conc. 61.84mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

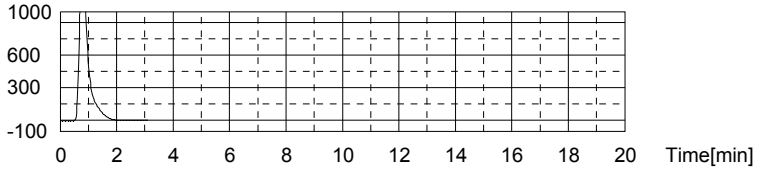
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.41mg/L TC:75.18mg/L IC:48.77mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2933	75.18mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 7:09:24 PM

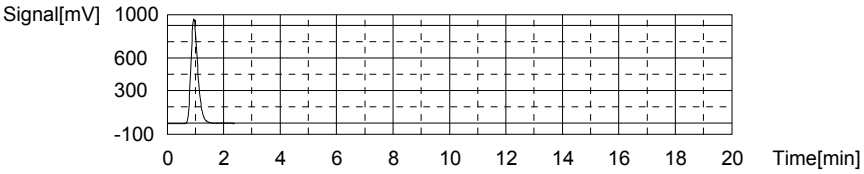
Mean Area 2933
Mean Conc. 75.18mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1636	48.77mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 7:14:50 PM

Mean Area 1636
Mean Conc. 48.77mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

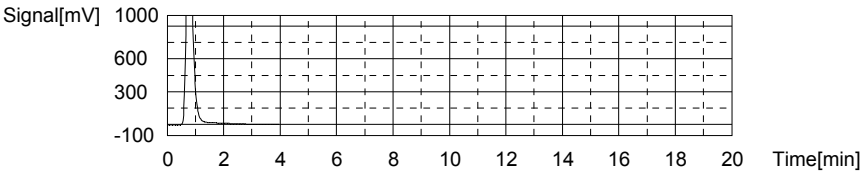
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-0.3349mg/L TC:66.83mg/L IC:67.17mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2608	66.83mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 7:24:14 PM

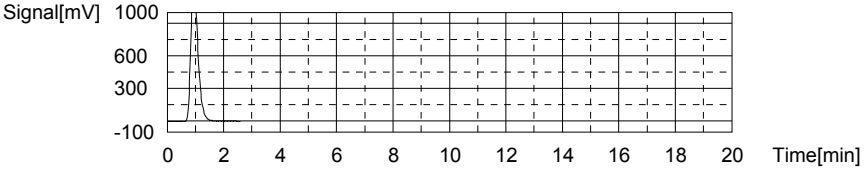
Mean Area 2608
Mean Conc. 66.83mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2251	67.17mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 7:30:02 PM

Mean Area 2251
Mean Conc. 67.17mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

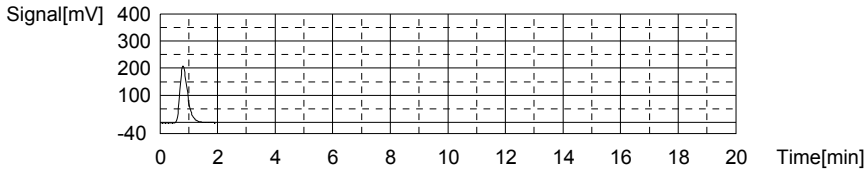
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.413mg/L TC:9.784mg/L IC:3.371mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	386.0	9.784mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 7:37:26 PM

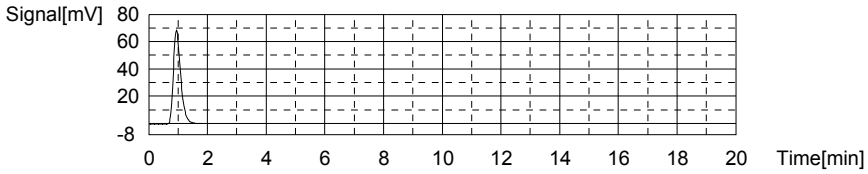
Mean Area 386.0
Mean Conc. 9.784mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	118.6	3.371mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 7:42:09 PM

Mean Area 118.6
Mean Conc. 3.371mg/L



Sample

Sample Name: L16100098-01 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

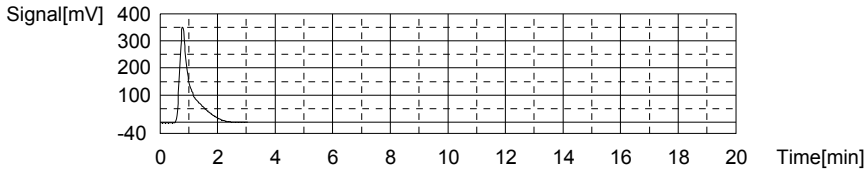
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:14.97mg/L TC:24.40mg/L IC:9.429mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	955.4	24.40mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 7:50:39 PM

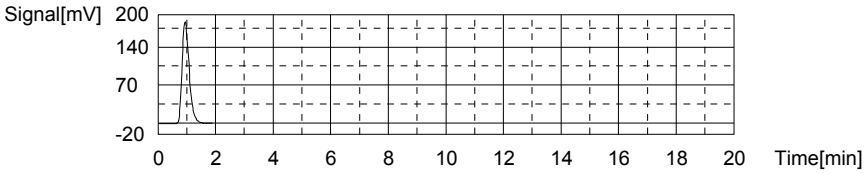
Mean Area 955.4
Mean Conc. 24.40mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	321.1	9.429mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 7:55:27 PM

Mean Area 321.1
Mean Conc. 9.429mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

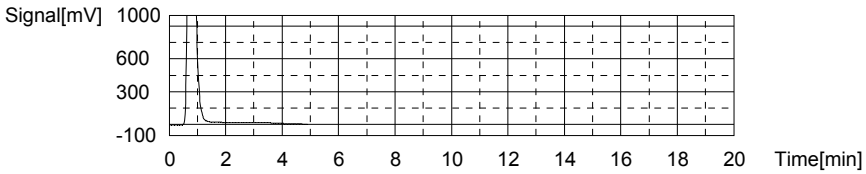
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-6.220mg/L TC:88.32mg/L IC:94.54mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3445	88.32mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 8:05:49 PM

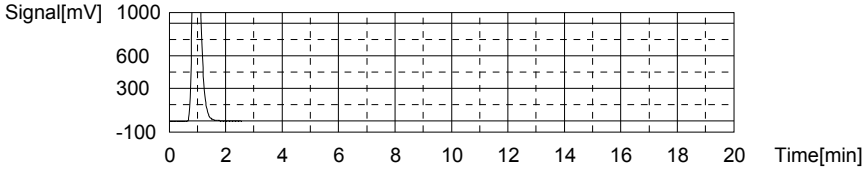
Mean Area 3445
Mean Conc. 88.32mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3166	94.54mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 8:11:38 PM

Mean Area 3166
Mean Conc. 94.54mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

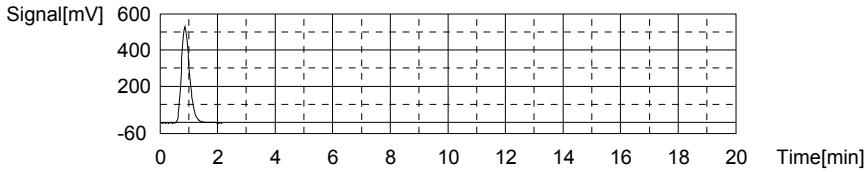
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.06mg/L TC:26.60mg/L IC:0.5359mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1041	26.60mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 8:19:16 PM

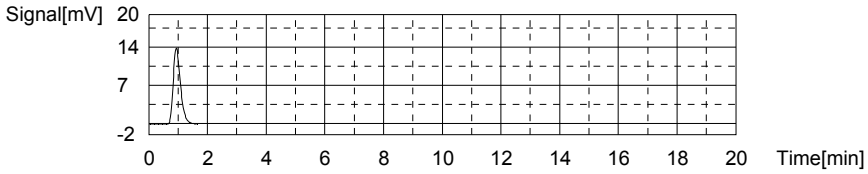
Mean Area 1041
Mean Conc. 26.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	23.84	0.5359mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 8:23:49 PM

Mean Area 23.84
Mean Conc. 0.5359mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

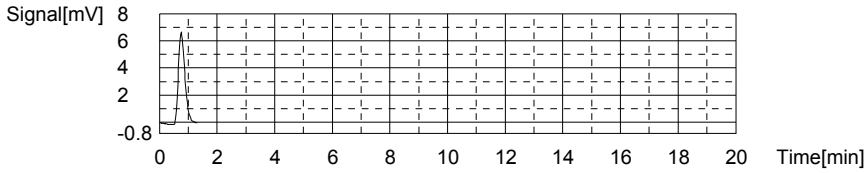
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.02080mg/L TC:0.1448mg/L IC:0.1240mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.59	0.1448mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 8:28:45 PM

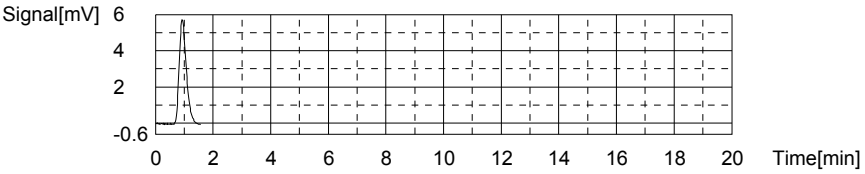
Mean Area 10.59
Mean Conc. 0.1448mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.07	0.1240mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 8:32:44 PM

Mean Area 10.07
Mean Conc. 0.1240mg/L



Sample

Sample Name: L16100123-03
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

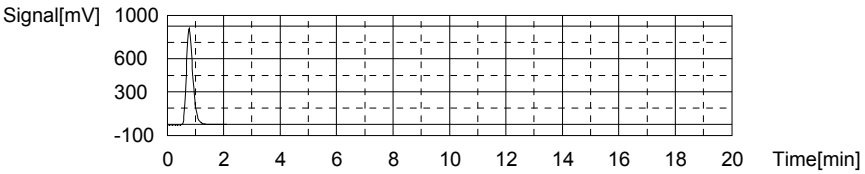
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.427mg/L TC:35.82mg/L IC:28.39mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1400	35.82mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 8:40:20 PM

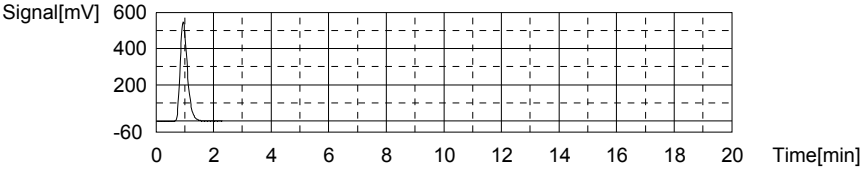
Mean Area 1400
Mean Conc. 35.82mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	954.9	28.39mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 8:45:39 PM

Mean Area 954.9
Mean Conc. 28.39mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

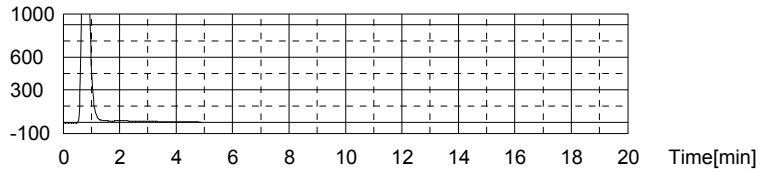
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-5.675mg/L TC:79.77mg/L IC:85.45mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3112	79.77mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 8:56:01 PM

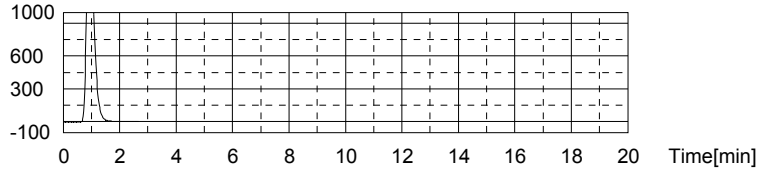
Mean Area 3112
Mean Conc. 79.77mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2862	85.45mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 9:01:55 PM

Mean Area 2862
Mean Conc. 85.45mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

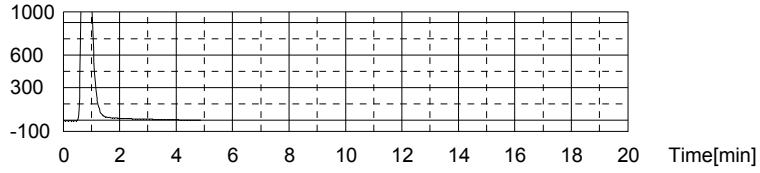
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-8.246mg/L TC:102.6mg/L IC:110.8mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4000	102.6mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 9:12:16 PM

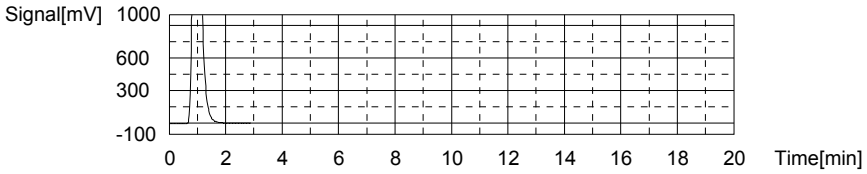
Mean Area 4000
Mean Conc. 102.6mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3710	110.8mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 9:18:27 PM

Mean Area 3710
Mean Conc. 110.8mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

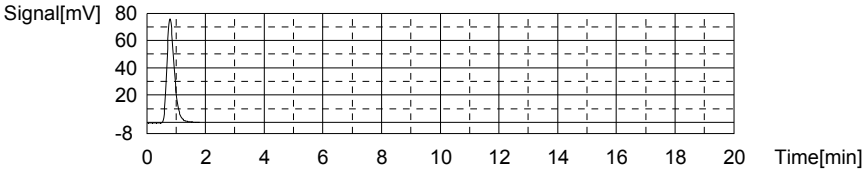
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.289mg/L TC:3.290mg/L IC:1.001mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	133.1	3.290mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 9:25:43 PM

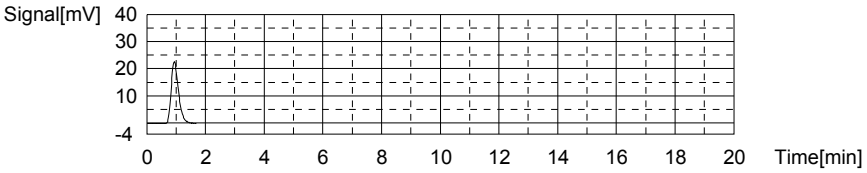
Mean Area 133.1
Mean Conc. 3.290mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	39.40	1.001mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 9:30:29 PM

Mean Area 39.40
Mean Conc. 1.001mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

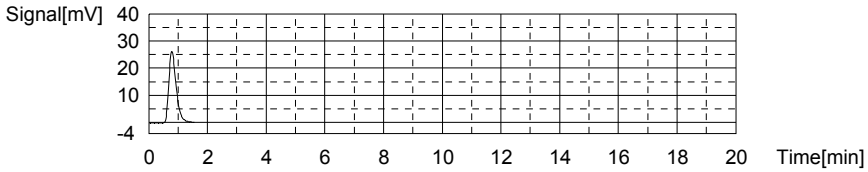
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.6915mg/L TC:1.036mg/L IC:0.3445mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	45.30	1.036mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 9:37:31 PM

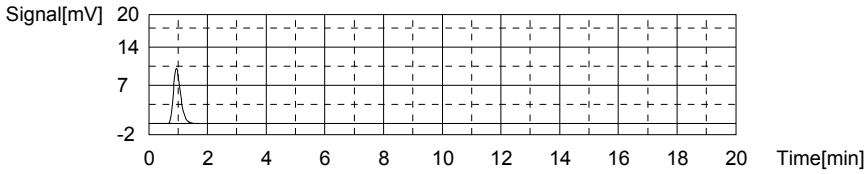
Mean Area 45.30
Mean Conc. 1.036mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	17.44	0.3445mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 9:41:59 PM

Mean Area 17.44
Mean Conc. 0.3445mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

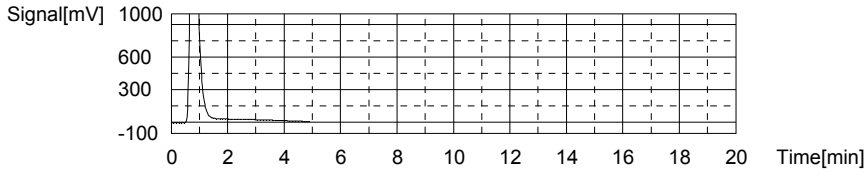
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.904mg/L TC:94.74mg/L IC:92.84mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3695	94.74mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 9:52:21 PM

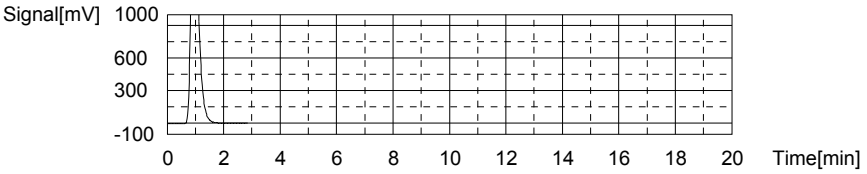
Mean Area 3695
Mean Conc. 94.74mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3109	92.84mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 9:58:20 PM

Mean Area 3109
Mean Conc. 92.84mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

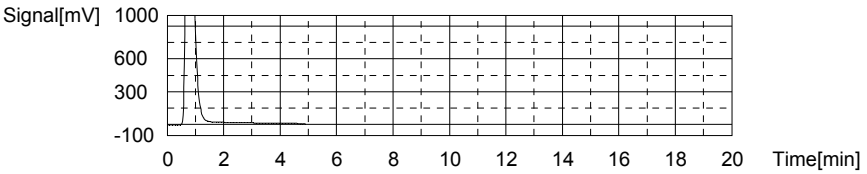
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-4.000mg/L TC:93.18mg/L IC:97.18mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3634	93.18mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 10:08:43 PM

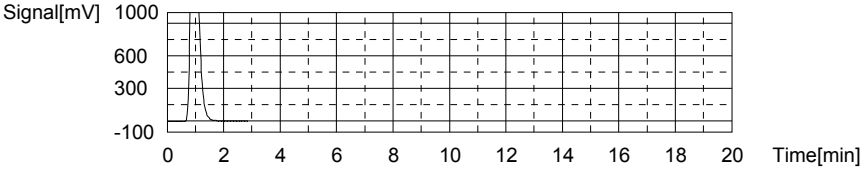
Mean Area 3634
Mean Conc. 93.18mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3254	97.18mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 10:14:56 PM

Mean Area 3254
Mean Conc. 97.18mg/L



Sample

Sample Name: L16100363-03
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

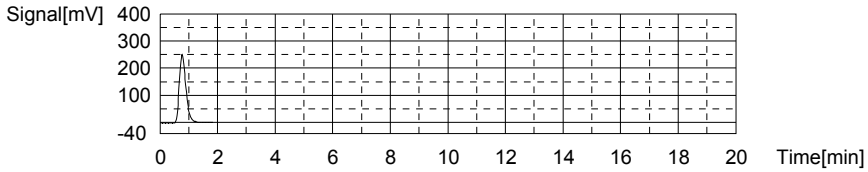
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.476mg/L TC:10.13mg/L IC:7.649mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	399.3	10.13mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 10:22:14 PM

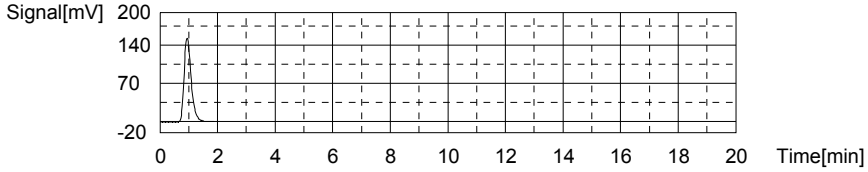
Mean Area 399.3
Mean Conc. 10.13mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	261.6	7.649mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 10:27:10 PM

Mean Area 261.6
Mean Conc. 7.649mg/L



Sample

Sample Name: WG586887-05 DUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

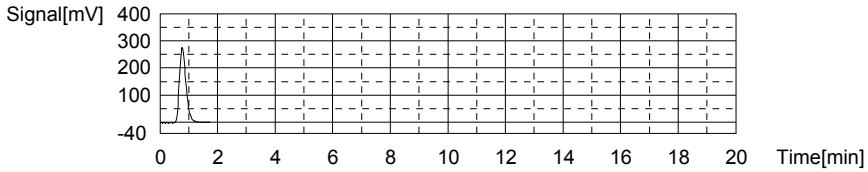
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.213mg/L TC:11.08mg/L IC:8.870mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	436.6	11.08mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 10:34:22 PM

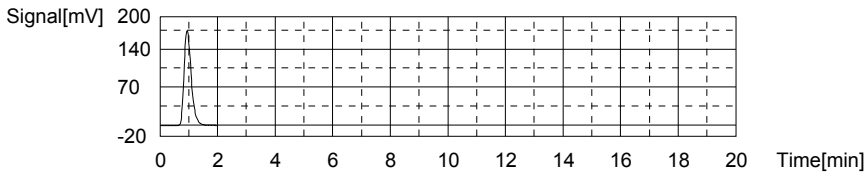
Mean Area 436.6
Mean Conc. 11.08mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	302.4	8.870mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 10:39:14 PM

Mean Area 302.4
Mean Conc. 8.870mg/L



Sample

Sample Name: WG586887-06 MS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

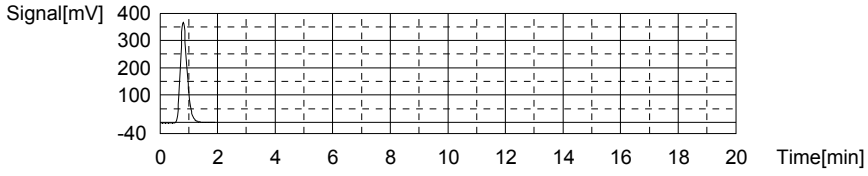
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.47mg/L TC:15.31mg/L IC:2.832mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	601.1	15.31mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 10:46:38 PM

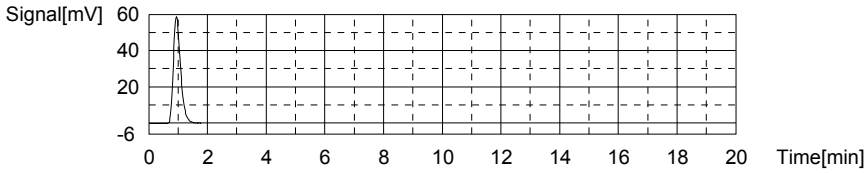
Mean Area 601.1
Mean Conc. 15.31mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	100.6	2.832mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 10:51:17 PM

Mean Area 100.6
Mean Conc. 2.832mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

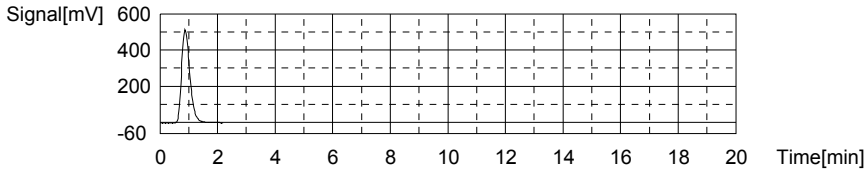
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.04mg/L TC:26.14mg/L IC:0.09880mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1023	26.14mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 10:58:57 PM

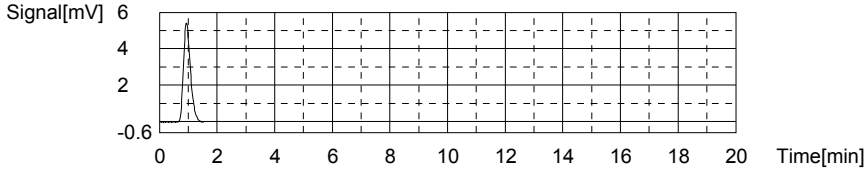
Mean Area 1023
Mean Conc. 26.14mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.229	0.09880mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 11:03:17 PM

Mean Area 9.229
Mean Conc. 0.09880mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

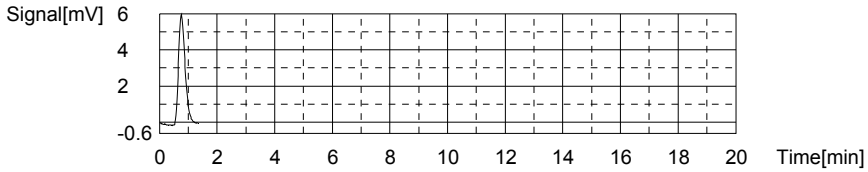
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04445mg/L TC:0.1224mg/L IC:0.07795mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.719	0.1224mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 11:08:16 PM

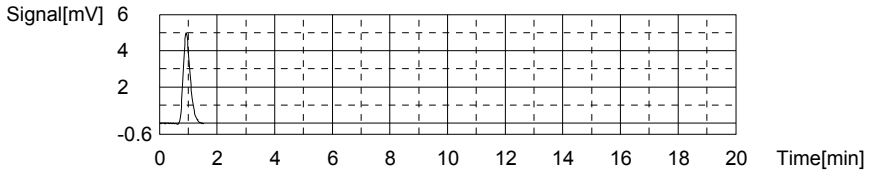
Mean Area 9.719
Mean Conc. 0.1224mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.532	0.07795mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 11:12:13 PM

Mean Area 8.532
Mean Conc. 0.07795mg/L



Sample

Sample Name: WG586975-01 BLK
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

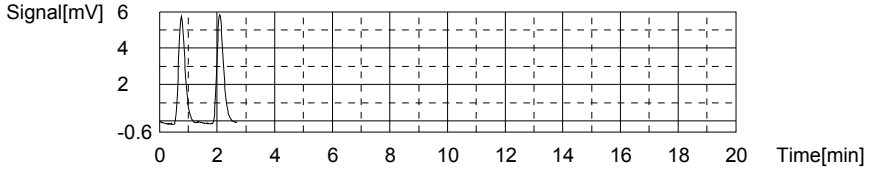
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04081mg/L TC:0.1144mg/L IC:0.07355mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.337	0.1126mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 11:17:11 PM
2	9.475	0.1161mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 11:20:41 PM

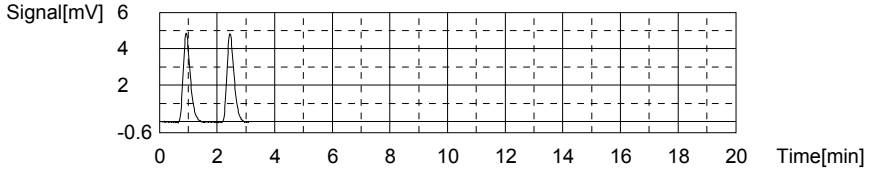
Mean Area 9.406
Mean Conc. 0.1144mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.375	0.07325mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 11:24:35 PM
2	8.395	0.07385mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 11:28:32 PM

Mean Area 8.385
Mean Conc. 0.07355mg/L



Sample

Sample Name: WG586975-02 LCS
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

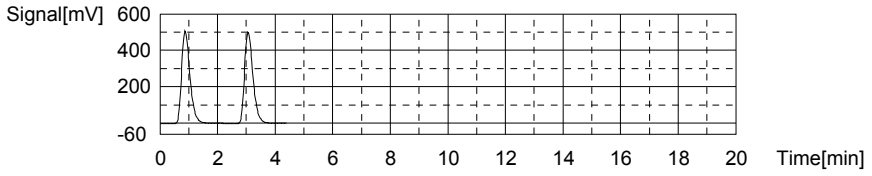
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.99mg/L TC:26.06mg/L IC:0.07198mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1018	26.01mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 11:36:17 PM
2	1022	26.11mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 11:40:45 PM

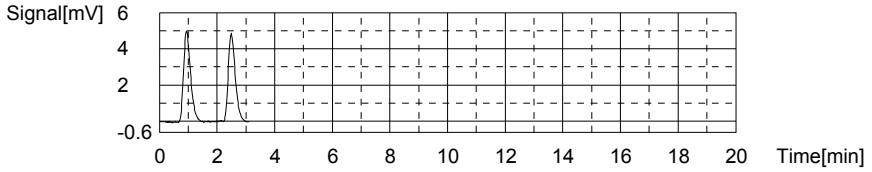
Mean Area 1020
Mean Conc. 26.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.575	0.07923mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 11:45:08 PM
2	8.090	0.06472mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/10/2016 11:49:17 PM

Mean Area 8.332
Mean Conc. 0.07198mg/L



Sample

Sample Name: WG586975-03 LCSDUP
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

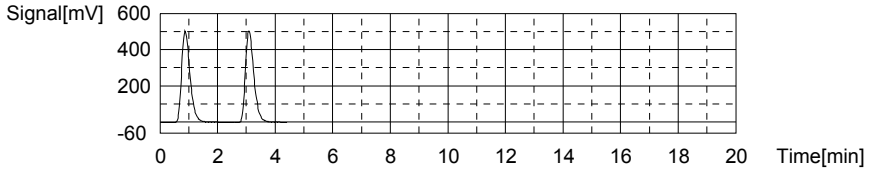
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.01mg/L TC:26.09mg/L IC:0.07546mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1019	26.04mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/10/2016 11:56:59 PM
2	1023	26.14mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 12:01:26 AM

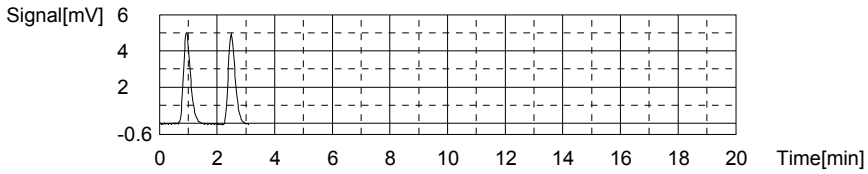
Mean Area 1021
Mean Conc. 26.09mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.495	0.07684mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 12:05:50 AM
2	8.403	0.07409mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 12:09:58 AM

Mean Area 8.449
Mean Conc. 0.07546mg/L



Sample

Sample Name: L16100314-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

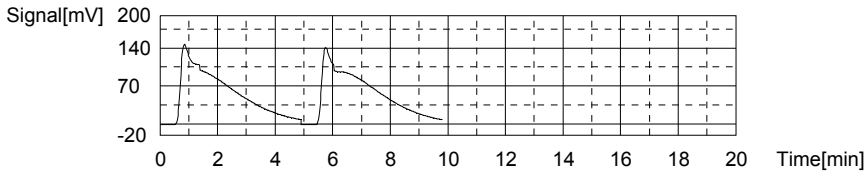
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:34.81mg/L TC:35.60mg/L IC:0.7901mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1394	35.66mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 12:20:22 AM
2	1389	35.54mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 12:28:25 AM

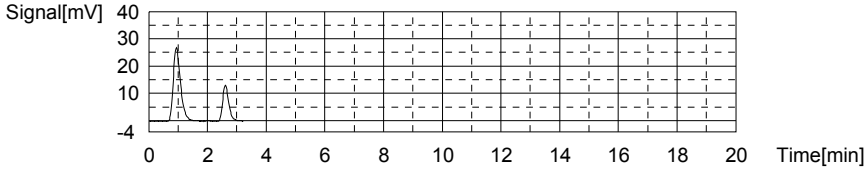
Mean Area 1392
Mean Conc. 35.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	45.90	1.196mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 12:32:57 AM
2	18.77	0.3842mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 12:37:06 AM

Mean Area 32.34
Mean Conc. 0.7901mg/L



Sample

Sample Name: L16100376-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

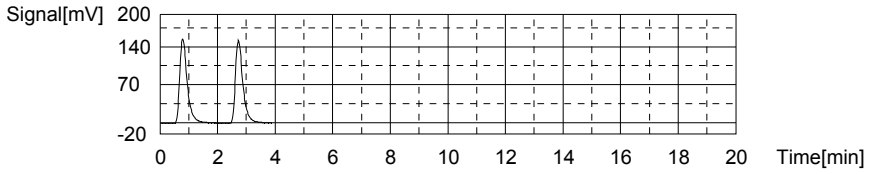
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.175mg/L TC:7.008mg/L IC:3.833mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	280.3	7.070mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 12:44:31 AM
2	275.5	6.946mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 12:48:51 AM

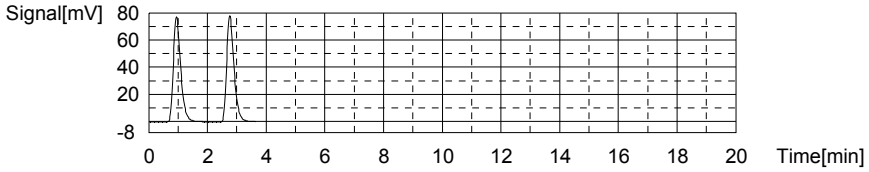
Mean Area 277.9
Mean Conc. 7.008mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	133.6	3.820mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 12:53:30 AM
2	134.5	3.847mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 12:57:57 AM

Mean Area 134.1
Mean Conc. 3.833mg/L



Sample

Sample Name: L16100376-03
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

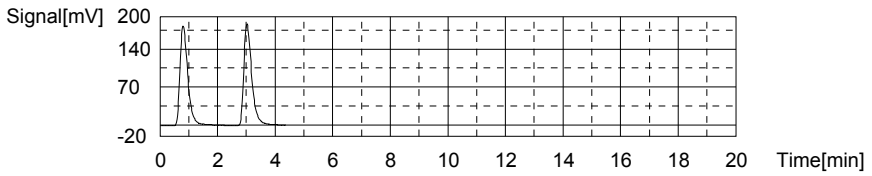
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.692mg/L TC:8.886mg/L IC:3.194mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	344.4	8.715mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 1:05:38 AM
2	357.7	9.057mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 1:10:03 AM

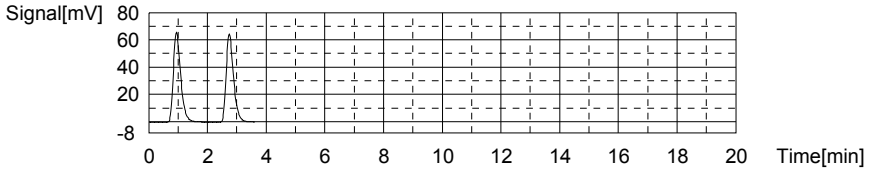
Mean Area 351.1
Mean Conc. 8.886mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	113.9	3.230mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 1:14:43 AM
2	111.5	3.159mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 1:19:09 AM

Mean Area 112.7
Mean Conc. 3.194mg/L



Sample

Sample Name:
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

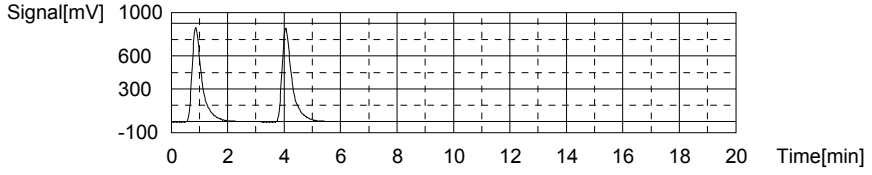
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:48.75mg/L TC:54.05mg/L IC:5.298mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2110	54.05mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 1:27:47 AM
2	2110	54.05mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 1:34:03 AM

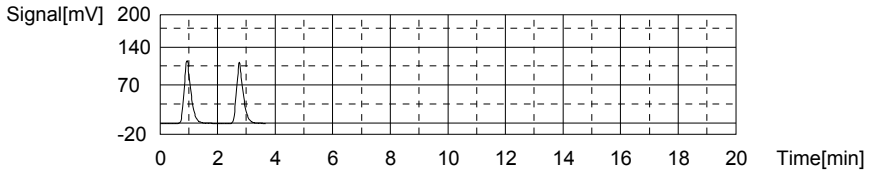
Mean Area 2110
Mean Conc. 54.05mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	186.8	5.411mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 1:38:44 AM
2	179.2	5.184mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 1:43:13 AM

Mean Area 183.0
Mean Conc. 5.298mg/L



Sample

Sample Name: L16100447-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

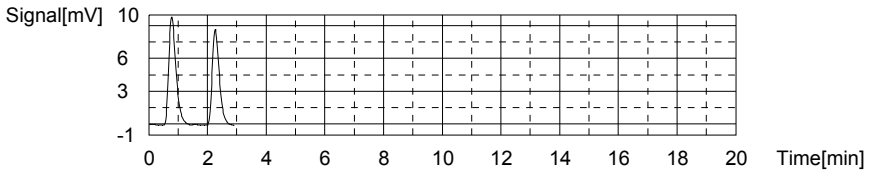
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2105mg/L TC:0.2803mg/L IC:0.06985mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	17.07	0.3111mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 1:50:08 AM
2	14.67	0.2495mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 1:53:49 AM

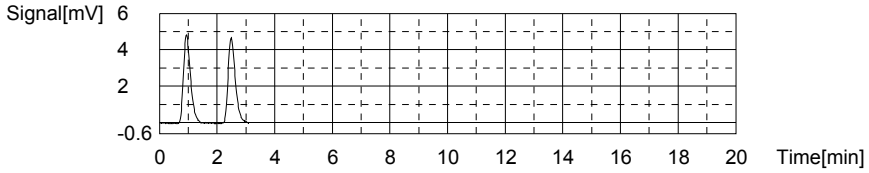
Mean Area 15.87
Mean Conc. 0.2803mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.366	0.07298mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 1:58:11 AM
2	8.157	0.06673mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 2:02:19 AM

Mean Area 8.261
Mean Conc. 0.06985mg/L



Sample

Sample Name: L16100449-09
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

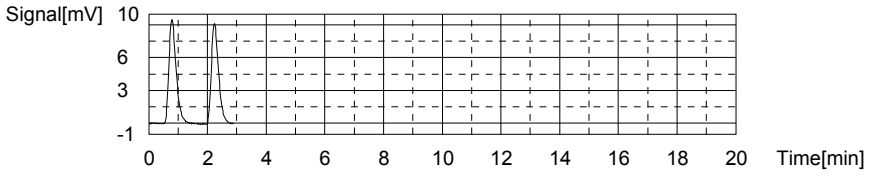
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2248mg/L TC:0.2819mg/L IC:0.05705mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.31	0.2916mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 2:09:12 AM
2	15.55	0.2721mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 2:12:54 AM

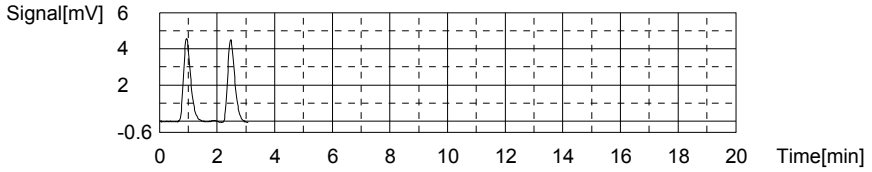
Mean Area 15.93
Mean Conc. 0.2819mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.849	0.05751mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 2:17:16 AM
2	7.818	0.05658mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 2:21:26 AM

Mean Area 7.834
Mean Conc. 0.05705mg/L



Sample

Sample Name: L16100367-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

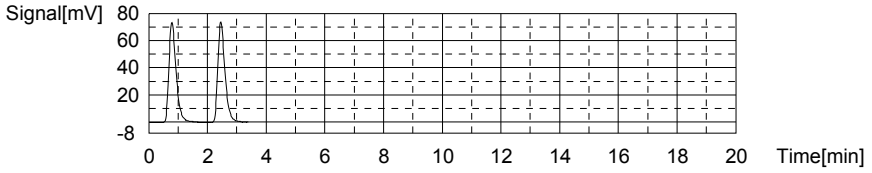
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.631mg/L TC:3.073mg/L IC:1.442mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	124.1	3.059mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 2:28:32 AM
2	125.2	3.087mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 2:32:31 AM

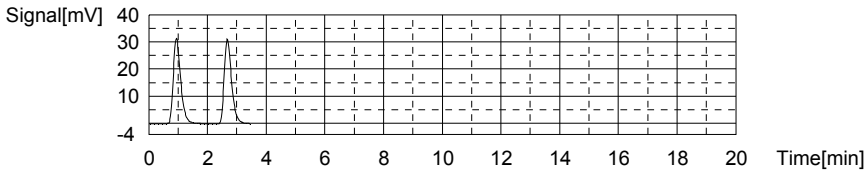
Mean Area 124.7
Mean Conc. 3.073mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	54.40	1.450mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 2:37:05 AM
2	53.87	1.434mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 2:41:27 AM

Mean Area 54.14
Mean Conc. 1.442mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

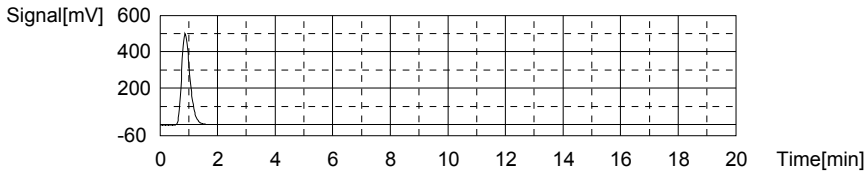
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.80mg/L TC:25.88mg/L IC:0.07809mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1013	25.88mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 2:49:05 AM

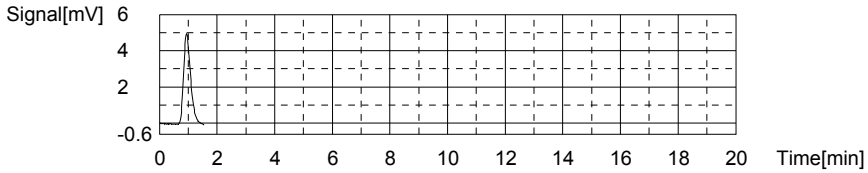
Mean Area 1013
Mean Conc. 25.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.537	0.07809mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 2:53:27 AM

Mean Area 8.537
Mean Conc. 0.07809mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

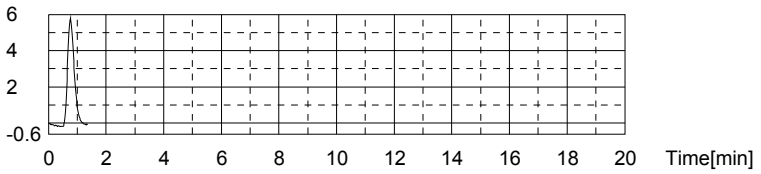
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04348mg/L TC:0.1161mg/L IC:0.07262mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.474	0.1161mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 2:58:27 AM

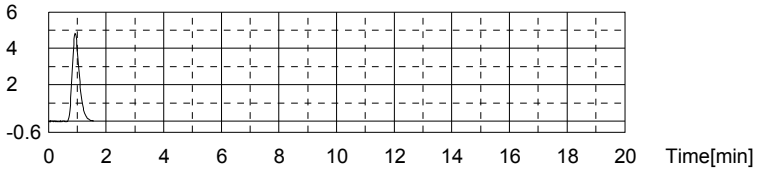
Mean Area 9.474
Mean Conc. 0.1161mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.354	0.07262mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 3:02:23 AM

Mean Area 8.354
Mean Conc. 0.07262mg/L



Sample

Sample Name: L16100367-02
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

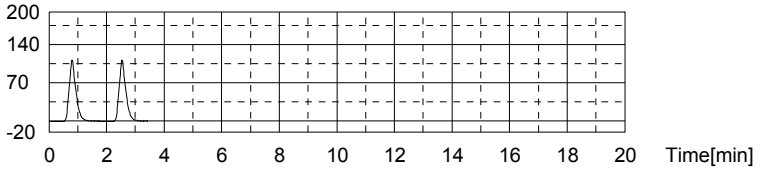
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.169mg/L TC:4.446mg/L IC:1.276mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	178.0	4.443mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 3:09:34 AM
2	178.2	4.448mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 3:13:32 AM

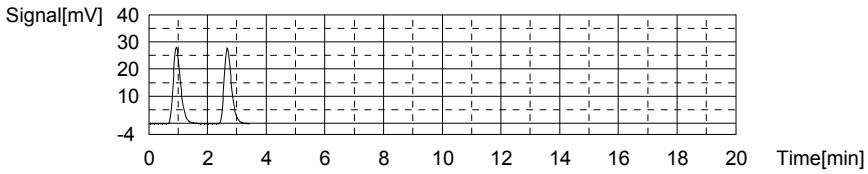
Mean Area 178.1
Mean Conc. 4.446mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	48.88	1.285mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 3:18:06 AM
2	48.30	1.268mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 3:22:25 AM

Mean Area 48.59
Mean Conc. 1.276mg/L



Sample

Sample Name: L16100367-03
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

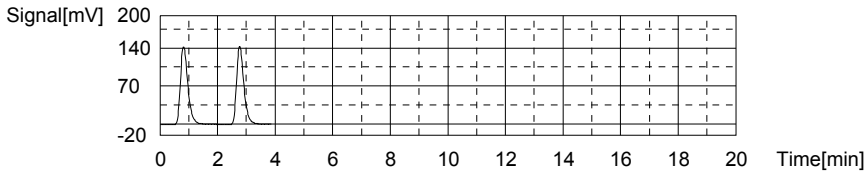
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.437mg/L TC:6.406mg/L IC:0.9686mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	255.4	6.430mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 3:29:48 AM
2	253.5	6.382mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 3:33:58 AM

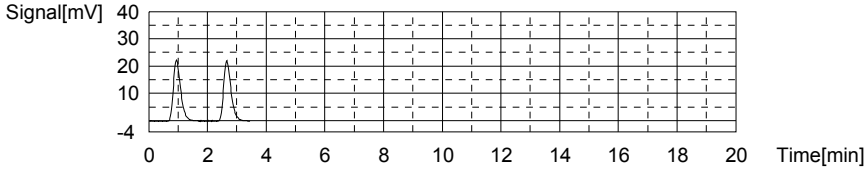
Mean Area 254.4
Mean Conc. 6.406mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	38.44	0.9727mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 3:38:31 AM
2	38.16	0.9644mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 3:42:53 AM

Mean Area 38.30
Mean Conc. 0.9686mg/L



Sample

Sample Name: L16100367-04
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

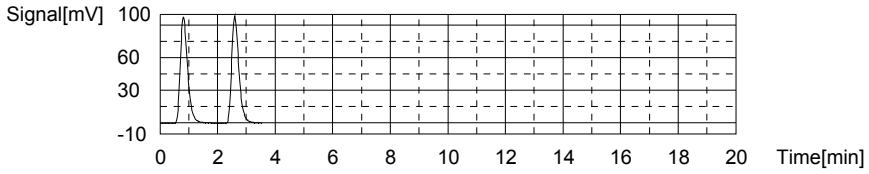
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.374mg/L TC:4.279mg/L IC:0.9048mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	171.9	4.286mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 3:50:06 AM
2	171.3	4.271mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 3:54:06 AM

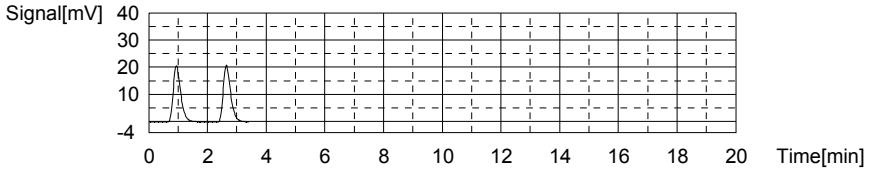
Mean Area 171.6
Mean Conc. 4.279mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	36.14	0.9039mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 3:58:38 AM
2	36.20	0.9057mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 4:02:56 AM

Mean Area 36.17
Mean Conc. 0.9048mg/L



Sample

Sample Name: L16100456-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

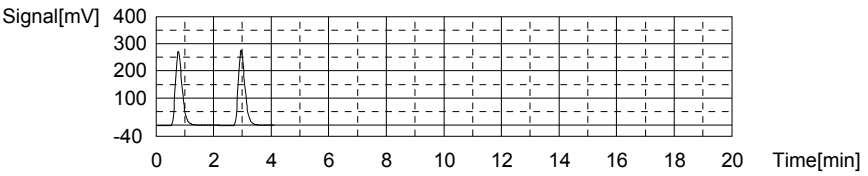
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.721mg/L TC:11.17mg/L IC:8.445mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	437.9	11.12mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 4:10:34 AM
2	441.8	11.22mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 4:14:45 AM

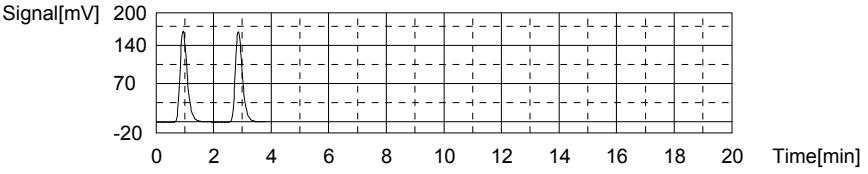
Mean Area 439.9
Mean Conc. 11.17mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	289.6	8.487mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 4:19:35 AM
2	286.8	8.403mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 4:24:08 AM

Mean Area 288.2
Mean Conc. 8.445mg/L



Sample

Sample Name: L16100456-04
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

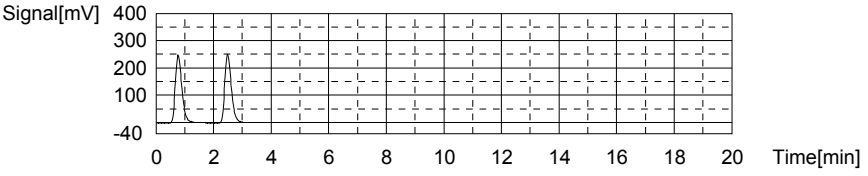
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.167mg/L TC:10.01mg/L IC:7.842mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	391.0	9.912mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 4:31:17 AM
2	398.6	10.11mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 4:35:23 AM

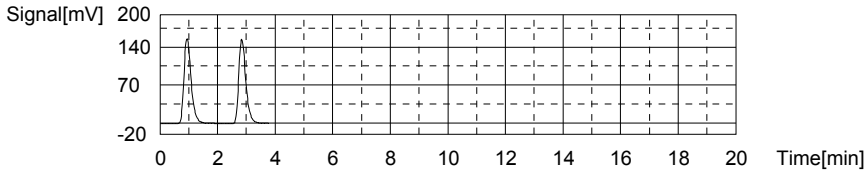
Mean Area 394.8
Mean Conc. 10.01mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	269.4	7.883mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 4:40:10 AM
2	266.7	7.802mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 4:44:42 AM

Mean Area 268.1
Mean Conc. 7.842mg/L



Sample

Sample Name: WG586975-05 DUP
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

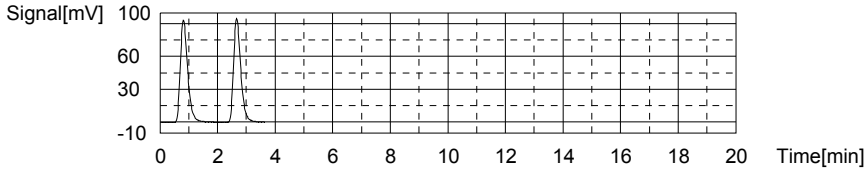
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.402mg/L TC:4.109mg/L IC:0.7075mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	164.9	4.107mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 4:51:59 AM
2	165.1	4.112mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 4:56:02 AM

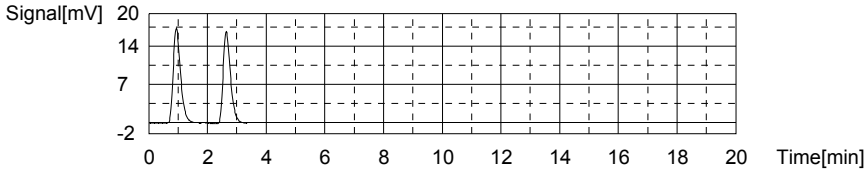
Mean Area 165.0
Mean Conc. 4.109mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	30.05	0.7217mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 5:00:36 AM
2	29.10	0.6933mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 5:04:54 AM

Mean Area 29.58
Mean Conc. 0.7075mg/L



Sample

Sample Name: WG586975-06 MS
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

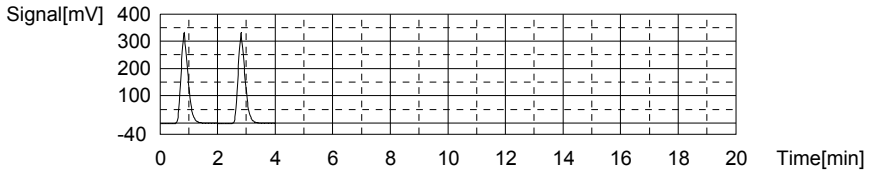
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:13.76mg/L TC:14.02mg/L IC:0.2586mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	551.5	14.03mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 5:12:19 AM
2	550.2	14.00mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 5:16:36 AM

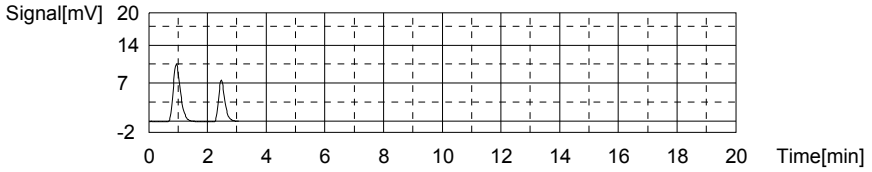
Mean Area 550.9
Mean Conc. 14.02mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	18.03	0.3621mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 5:21:03 AM
2	11.11	0.1551mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 5:25:08 AM

Mean Area 14.57
Mean Conc. 0.2586mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

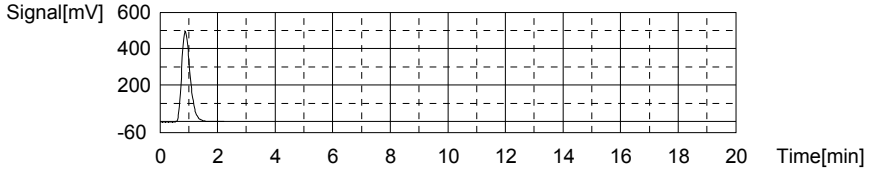
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.83mg/L TC:25.91mg/L IC:0.07507mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1014	25.91mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 5:32:47 AM

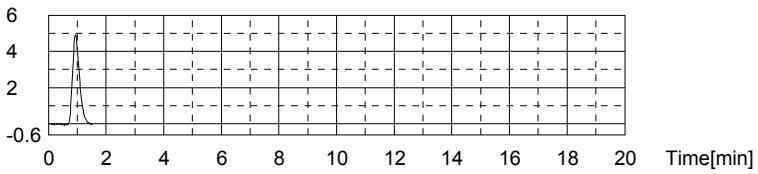
Mean Area 1014
Mean Conc. 25.91mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.436	0.07507mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 5:37:08 AM

Mean Area 8.436
Mean Conc. 0.07507mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

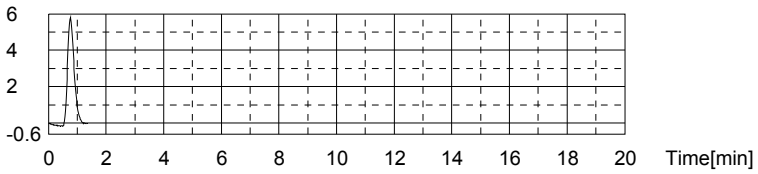
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.03972mg/L TC:0.1145mg/L IC:0.07474mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.410	0.1145mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 5:42:07 AM

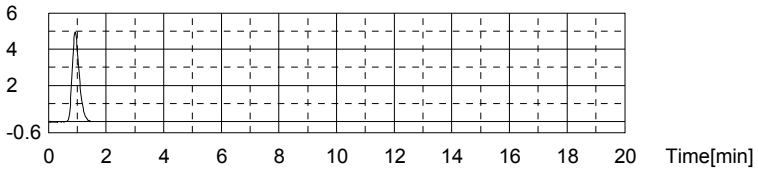
Mean Area 9.410
Mean Conc. 0.1145mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.425	0.07474mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 5:46:02 AM

Mean Area 8.425
Mean Conc. 0.07474mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

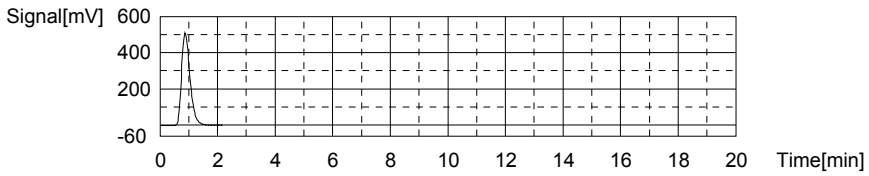
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.41mg/L TC:26.50mg/L IC:0.09213mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1037	26.50mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 7:46:41 AM

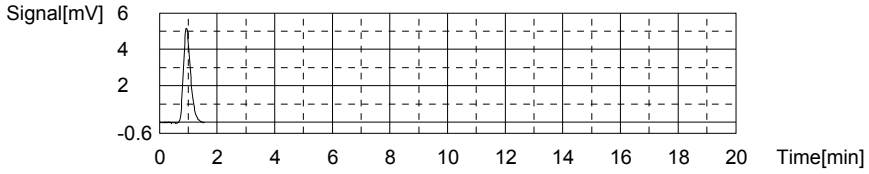
Mean Area 1037
Mean Conc. 26.50mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.006	0.09213mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 7:51:03 AM

Mean Area 9.006
Mean Conc. 0.09213mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

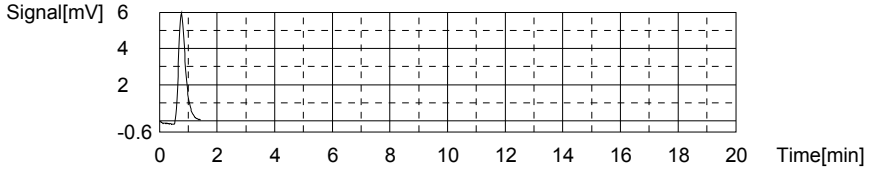
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.08303mg/L TC:0.1404mg/L IC:0.05736mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.42	0.1404mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 7:56:08 AM

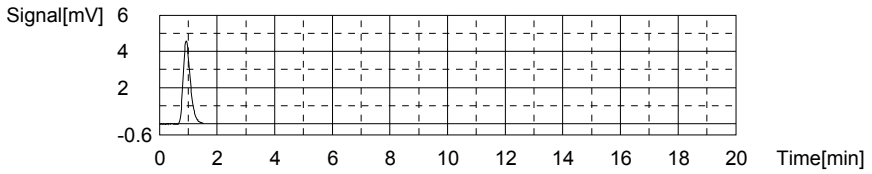
Mean Area 10.42
Mean Conc. 0.1404mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.844	0.05736mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 8:00:02 AM

Mean Area 7.844
Mean Conc. 0.05736mg/L



Sample

Sample Name: L16100297-03 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

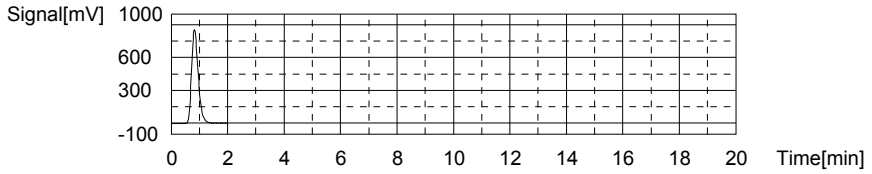
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:35.87mg/L TC:35.90mg/L IC:0.02837mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1403	35.90mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 8:24:11 AM

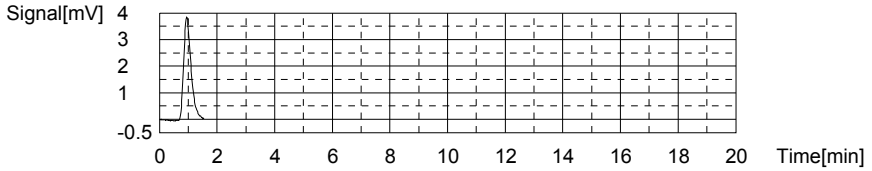
Mean Area 1403
Mean Conc. 35.90mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.875	0.02837mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 8:28:30 AM

Mean Area 6.875
Mean Conc. 0.02837mg/L



Sample

Sample Name: L16100297-11 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

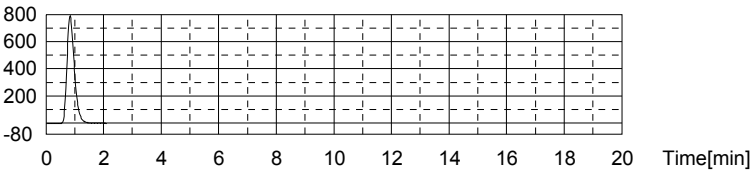
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:35.81mg/L TC:35.84mg/L IC:0.02963mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1401	35.84mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 8:36:03 AM

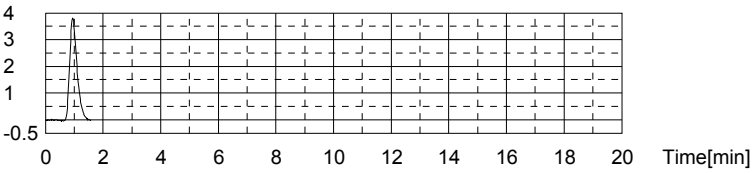
Mean Area 1401
Mean Conc. 35.84mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.917	0.02963mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 8:40:25 AM

Mean Area 6.917
Mean Conc. 0.02963mg/L



Sample

Sample Name: L16100297-12 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

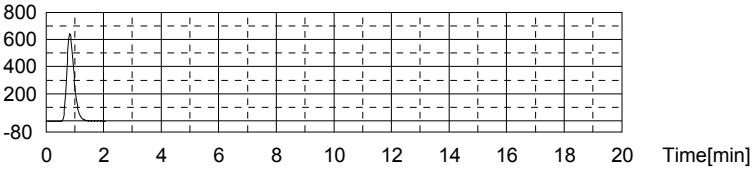
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:28.66mg/L TC:28.68mg/L IC:0.01739mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1122	28.68mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 8:52:20 AM

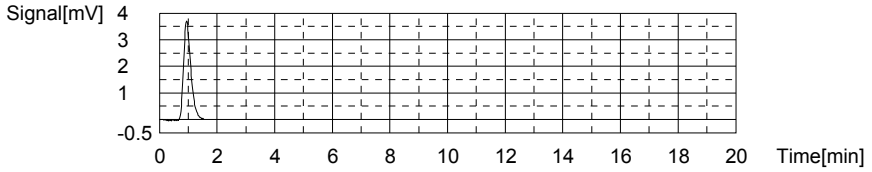
Mean Area 1122
Mean Conc. 28.68mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.508	0.01739mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 8:56:52 AM

Mean Area 6.508
Mean Conc. 0.01739mg/L



Sample

Sample Name: L16100315-01 (20)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

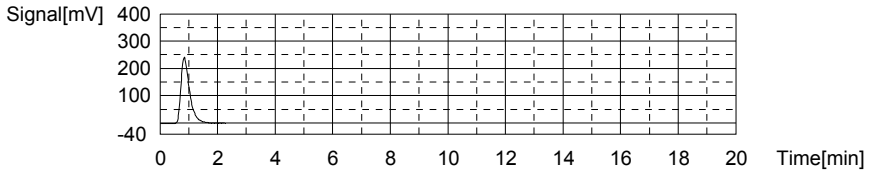
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.61mg/L TC:12.75mg/L IC:0.1422mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	501.7	12.75mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 9:04:35 AM

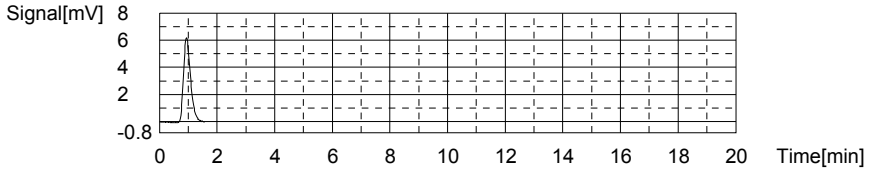
Mean Area 501.7
Mean Conc. 12.75mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.68	0.1422mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 9:08:56 AM

Mean Area 10.68
Mean Conc. 0.1422mg/L



Sample

Sample Name: L16100315-02 (20)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

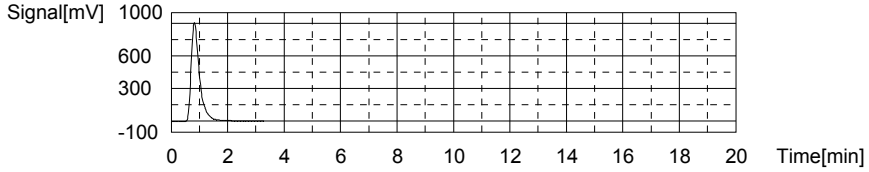
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:36.47mg/L TC:48.22mg/L IC:11.75mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1883	48.22mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 9:17:40 AM

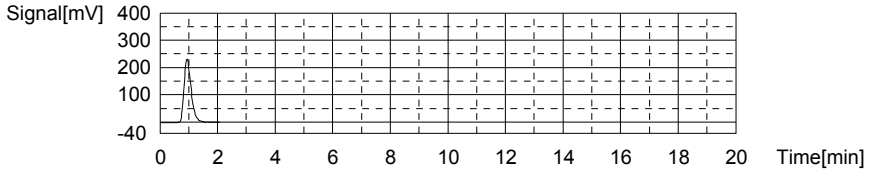
Mean Area 1883
Mean Conc. 48.22mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	398.7	11.75mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 9:22:40 AM

Mean Area 398.7
Mean Conc. 11.75mg/L



Sample

Sample Name: L16100316-01 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

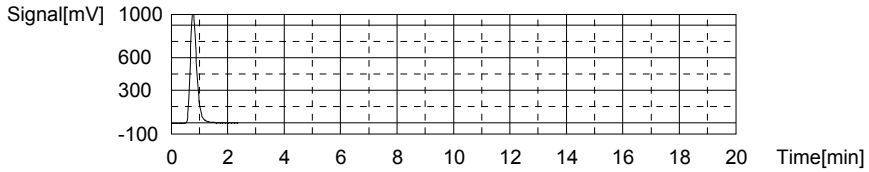
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.755mg/L TC:41.75mg/L IC:35.99mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1631	41.75mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 9:30:30 AM

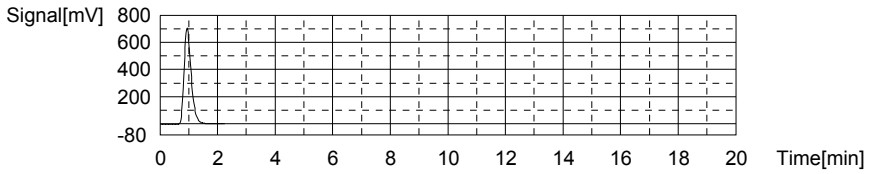
Mean Area 1631
Mean Conc. 41.75mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1209	35.99mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 9:35:44 AM

Mean Area 1209
Mean Conc. 35.99mg/L



Sample

Sample Name: L16100316-02 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

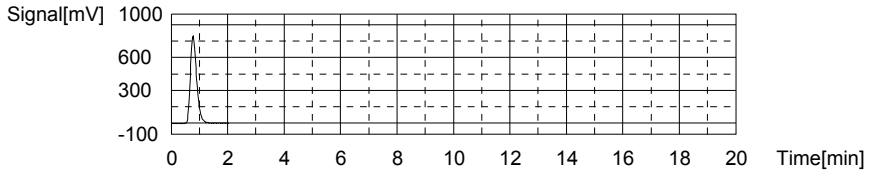
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.356mg/L TC:31.84mg/L IC:26.48mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1245	31.84mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 9:43:13 AM

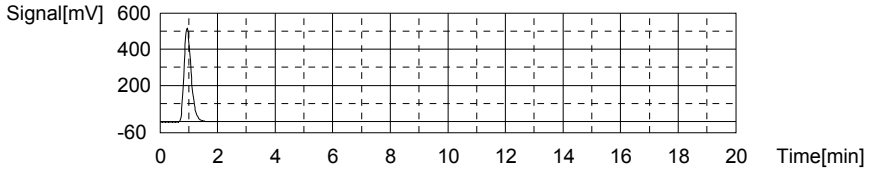
Mean Area 1245
Mean Conc. 31.84mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	891.1	26.48mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 9:48:16 AM

Mean Area 891.1
Mean Conc. 26.48mg/L



Sample

Sample Name: L16100316-03 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

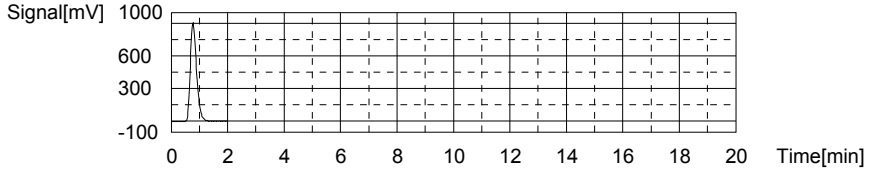
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.605mg/L TC:35.92mg/L IC:29.32mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1404	35.92mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 10:04:02 AM

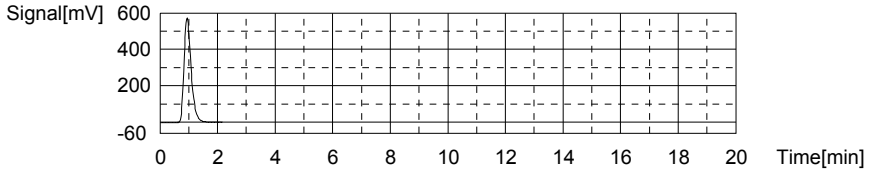
Mean Area 1404
Mean Conc. 35.92mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	985.8	29.32mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 10:09:15 AM

Mean Area 985.8
Mean Conc. 29.32mg/L



Sample

Sample Name: L16100316-05 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

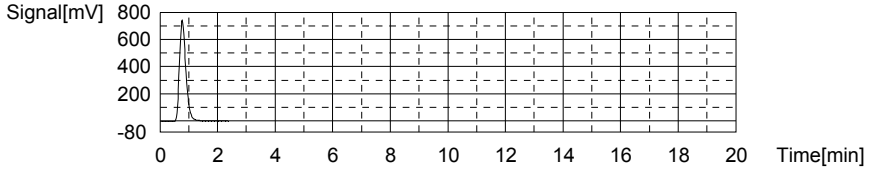
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.300mg/L TC:29.32mg/L IC:25.02mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1147	29.32mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 10:17:04 AM

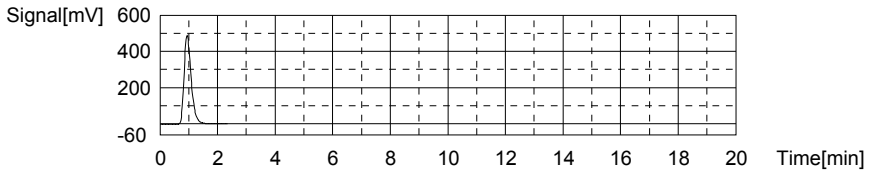
Mean Area 1147
Mean Conc. 29.32mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	842.3	25.02mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 10:22:22 AM

Mean Area 842.3
Mean Conc. 25.02mg/L



Sample

Sample Name: L16100316-06 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

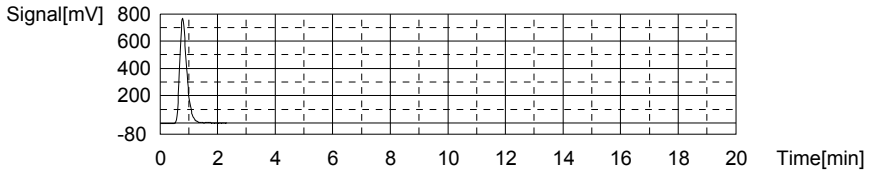
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.31mg/L TC:33.53mg/L IC:22.22mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1311	33.53mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 10:30:09 AM

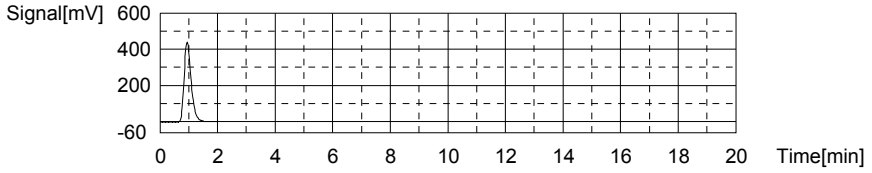
Mean Area 1311
Mean Conc. 33.53mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	748.7	22.22mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 10:35:08 AM

Mean Area 748.7
Mean Conc. 22.22mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

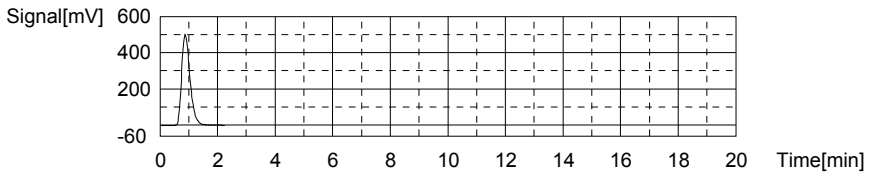
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.80mg/L TC:25.88mg/L IC:0.08171mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1013	25.88mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 10:42:27 AM

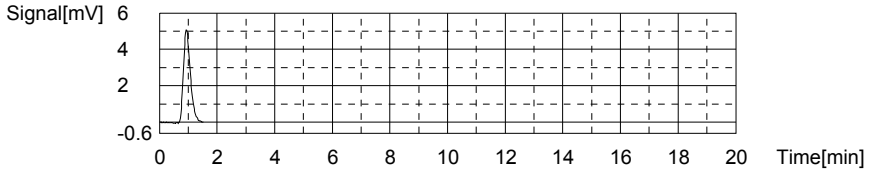
Mean Area 1013
Mean Conc. 25.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.658	0.08171mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 10:46:43 AM

Mean Area 8.658
Mean Conc. 0.08171mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

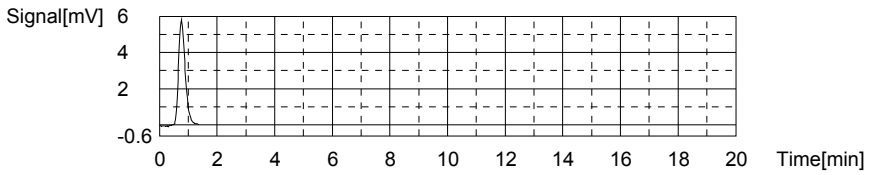
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04605mg/L TC:0.1073mg/L IC:0.06125mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.131	0.1073mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 10:51:39 AM

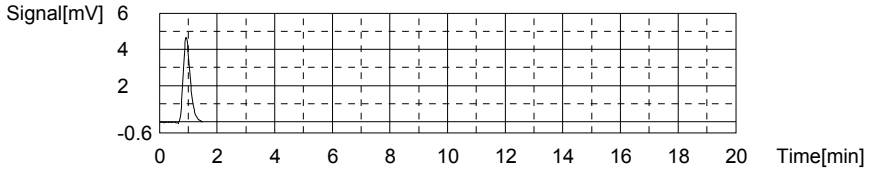
Mean Area 9.131
Mean Conc. 0.1073mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.974	0.06125mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 10:55:31 AM

Mean Area 7.974
Mean Conc. 0.06125mg/L



Sample

Sample Name: L16100316-07 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

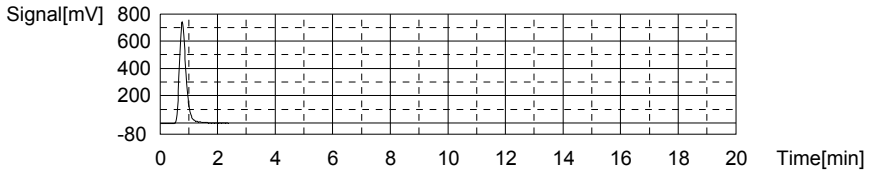
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.702mg/L TC:30.14mg/L IC:24.44mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1179	30.14mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 11:03:21 AM

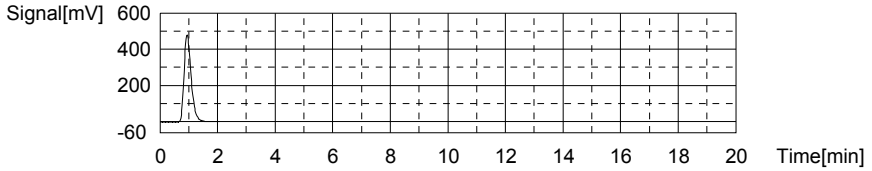
Mean Area 1179
Mean Conc. 30.14mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	822.9	24.44mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 11:08:27 AM

Mean Area 822.9
Mean Conc. 24.44mg/L



Sample

Sample Name: L16100319-01
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

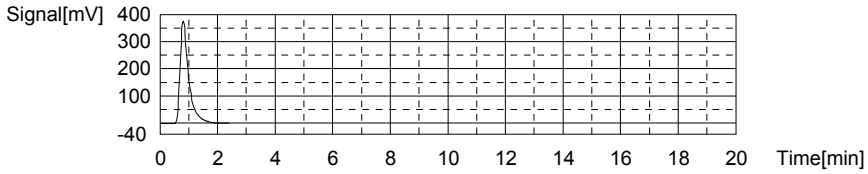
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.56mg/L TC:19.90mg/L IC:7.335mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	779.9	19.90mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 11:16:18 AM

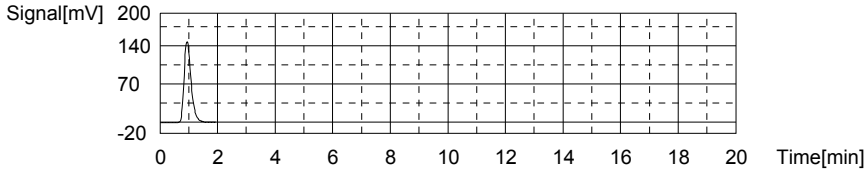
Mean Area 779.9
Mean Conc. 19.90mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	251.1	7.335mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 11:21:10 AM

Mean Area 251.1
Mean Conc. 7.335mg/L



Sample

Sample Name: L16100123-01 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

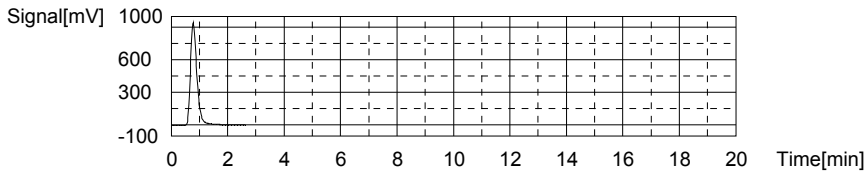
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.209mg/L TC:38.54mg/L IC:33.33mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1506	38.54mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 11:49:24 AM

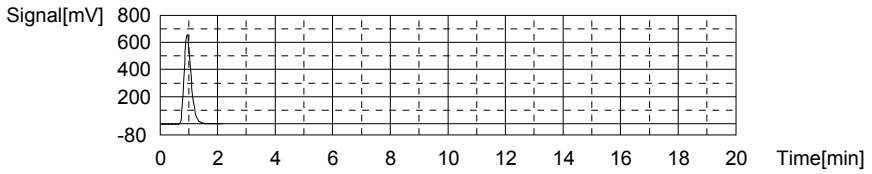
Mean Area 1506
Mean Conc. 38.54mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1120	33.33mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 11:54:33 AM

Mean Area 1120
Mean Conc. 33.33mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

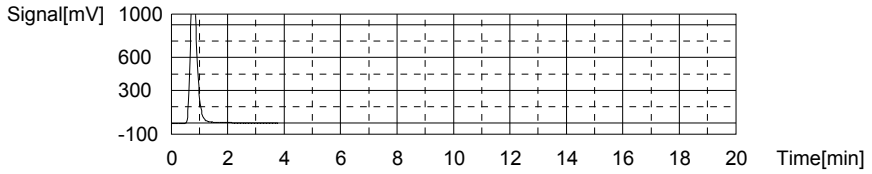
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.300mg/L TC:54.02mg/L IC:47.72mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2109	54.02mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 12:03:48 PM

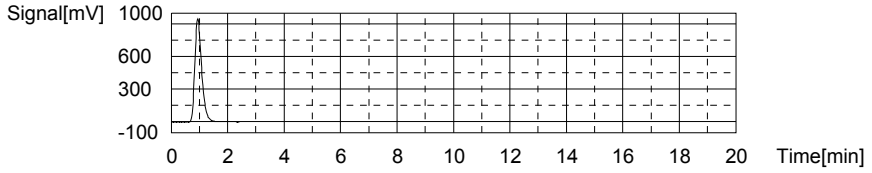
Mean Area 2109
Mean Conc. 54.02mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1601	47.72mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 12:09:17 PM

Mean Area 1601
Mean Conc. 47.72mg/L



Sample

Sample Name: L16100123-07 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

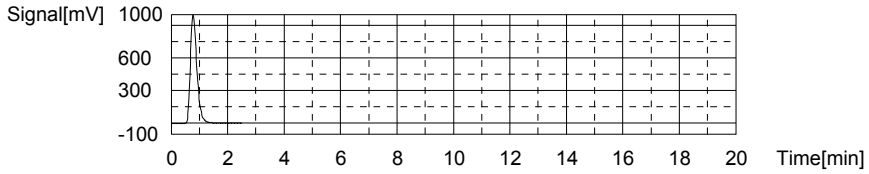
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.755mg/L TC:41.57mg/L IC:35.81mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1624	41.57mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 12:17:14 PM

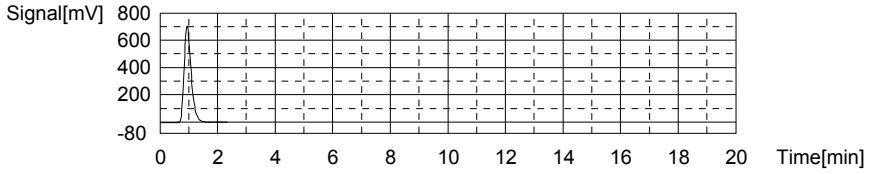
Mean Area 1624
Mean Conc. 41.57mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1203	35.81mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 12:22:36 PM

Mean Area 1203
Mean Conc. 35.81mg/L



Sample

Sample Name: L16100194-01 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

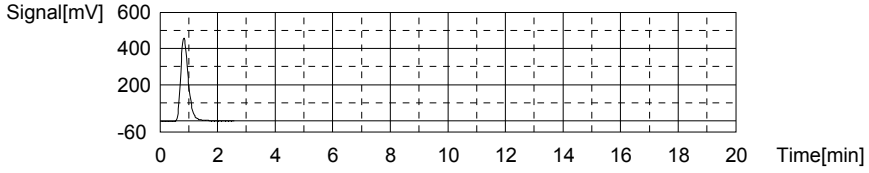
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:18.35mg/L TC:21.60mg/L IC:3.245mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	846.1	21.60mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 12:30:37 PM

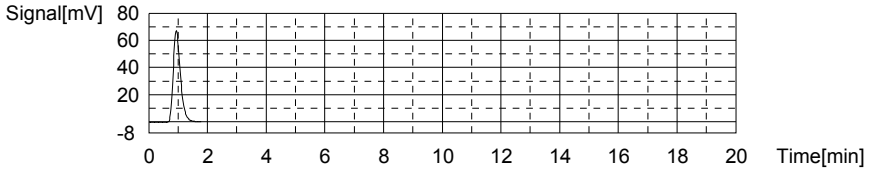
Mean Area 846.1
Mean Conc. 21.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	114.4	3.245mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 12:35:16 PM

Mean Area 114.4
Mean Conc. 3.245mg/L



Sample

Sample Name: L16100194-03 (25)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

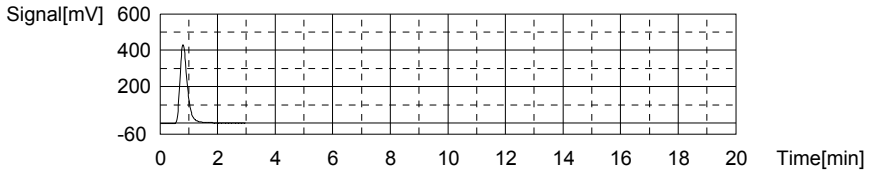
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.66mg/L TC:19.71mg/L IC:8.059mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	772.8	19.71mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 12:43:42 PM

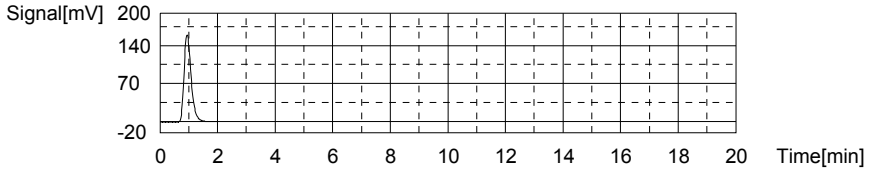
Mean Area 772.8
Mean Conc. 19.71mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	275.3	8.059mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 12:48:32 PM

Mean Area 275.3
Mean Conc. 8.059mg/L



Sample

Sample Name: L16100194-05 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

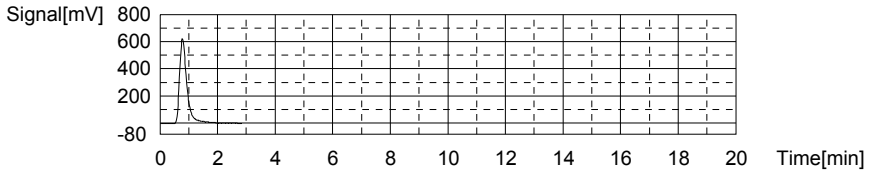
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.352mg/L TC:28.27mg/L IC:21.92mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1106	28.27mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 12:56:49 PM

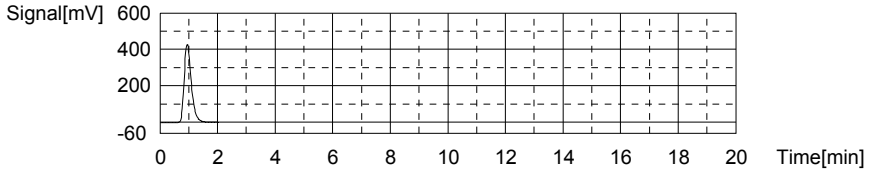
Mean Area 1106
Mean Conc. 28.27mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	738.5	21.92mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 1:01:49 PM

Mean Area 738.5
Mean Conc. 21.92mg/L



Sample

Sample Name: L16100194-06 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

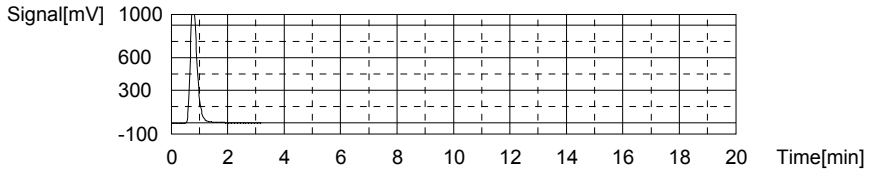
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:8.323mg/L TC:47.94mg/L IC:39.61mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1872	47.94mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 1:10:29 PM

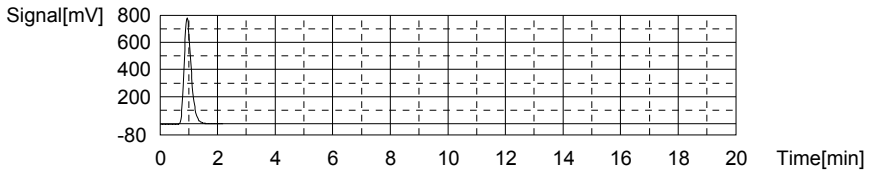
Mean Area 1872
Mean Conc. 47.94mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1330	39.61mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 1:15:42 PM

Mean Area 1330
Mean Conc. 39.61mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

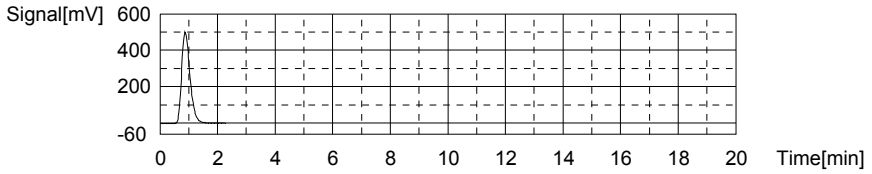
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.65mg/L TC:25.78mg/L IC:0.1323mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1009	25.78mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 1:25:46 PM

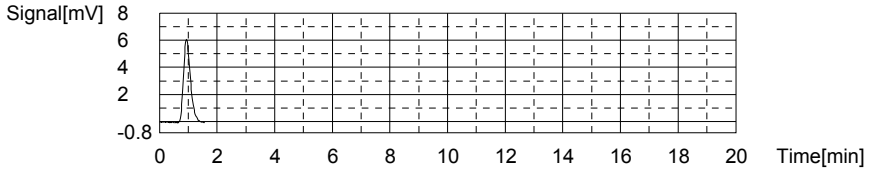
Mean Area 1009
Mean Conc. 25.78mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.35	0.1323mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 1:30:10 PM

Mean Area 10.35
Mean Conc. 0.1323mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

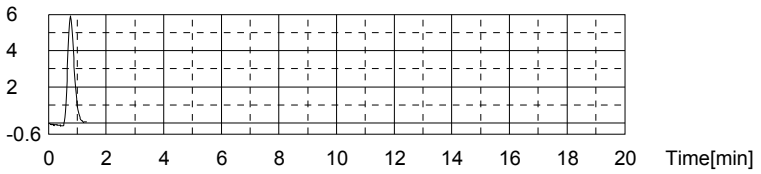
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04982mg/L TC:0.1148mg/L IC:0.06502mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.425	0.1148mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 1:35:08 PM

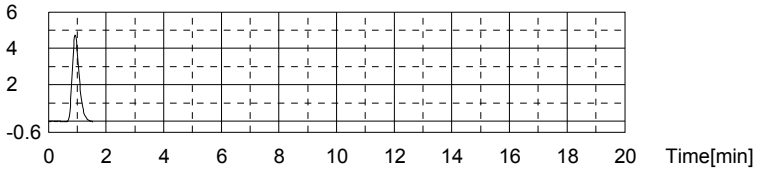
Mean Area 9.425
Mean Conc. 0.1148mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.100	0.06502mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 1:39:00 PM

Mean Area 8.100
Mean Conc. 0.06502mg/L



Sample

Sample Name: L16100376-05 (2)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

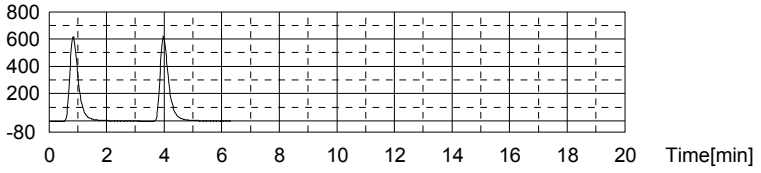
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.47mg/L TC:33.05mg/L IC:5.576mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1286	32.89mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 1:47:36 PM
2	1298	33.20mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 1:53:05 PM

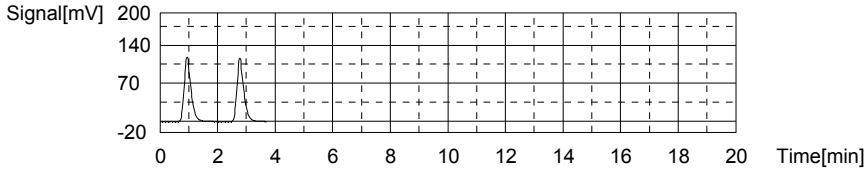
Mean Area 1292
Mean Conc. 33.05mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	194.2	5.633mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 1:57:47 PM
2	190.4	5.519mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 2:02:17 PM

Mean Area 192.3
Mean Conc. 5.576mg/L



Sample

Sample Name: L16100123-05 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

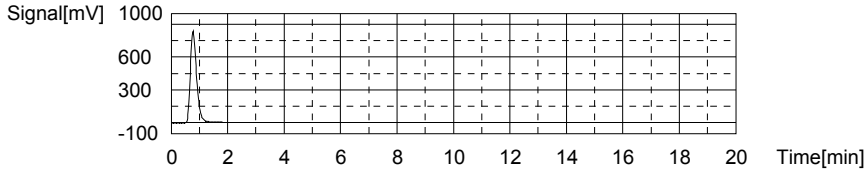
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.114mg/L TC:34.15mg/L IC:29.04mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1335	34.15mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 2:10:55 PM

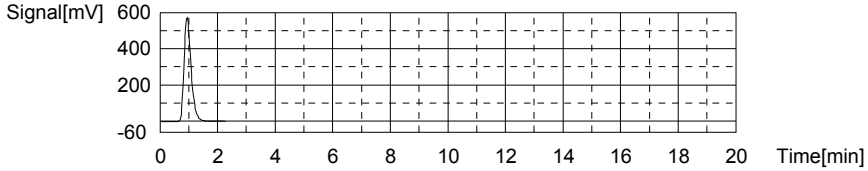
Mean Area 1335
Mean Conc. 34.15mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	976.4	29.04mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 2:16:08 PM

Mean Area 976.4
Mean Conc. 29.04mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

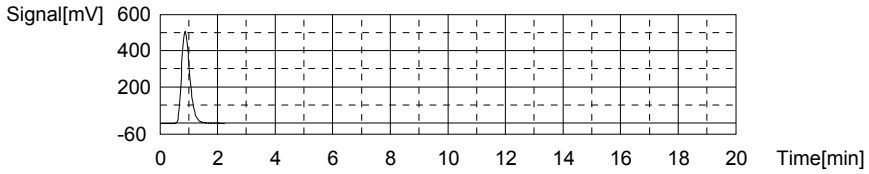
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.75mg/L TC:25.88mg/L IC:0.1305mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1013	25.88mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 2:23:51 PM

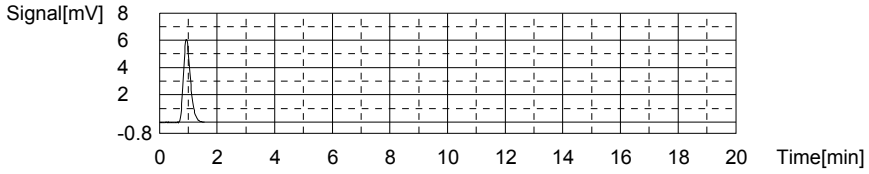
Mean Area 1013
Mean Conc. 25.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.29	0.1305mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 2:28:13 PM

Mean Area 10.29
Mean Conc. 0.1305mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

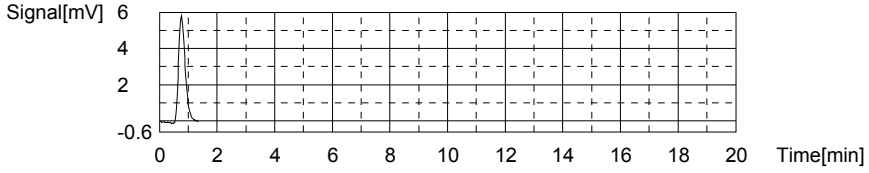
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.05149mg/L TC:0.1144mg/L IC:0.06287mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.406	0.1144mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 2:33:12 PM

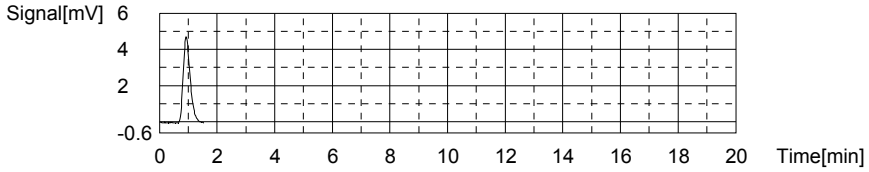
Mean Area 9.406
Mean Conc. 0.1144mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.028	0.06287mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	10/11/2016 2:37:06 PM

Mean Area 8.028
Mean Conc. 0.06287mg/L



3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
October 20, 2016

---

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
AED - ALLEN E. DAVIS	ALS - ADRIANE L. STEED
AMA - ALEXANDRA M. ALFRED	AWE - ANDREW W. ESSIG
AZH - AFTER HOURS	BJO - BRIAN J. OGDEN
BKT - BRENDAN TORRENCE	BLG - BRENDA L. GREENWALT
BNB - Brandi N. Bentley	BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN	CAF - CHERYL A. FLOWERS
CAS - Craig A. Smith	CEB - CHAD E. BARNES
CJQ - Cameron J. Quick	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS
CPD - CHAD P. DAVIS	CSH - CHRIS S. HILL
CV - Carl Volkman	DAK - DEAN A. KETELSEN
DCM - DAVID C. MERCKLE	DEV - DAVID E. VANDENBERG
DIH - DEANNA I. HESSON	DLB - DAVID L. BUMGARNER
DLP - DOROTHY L. PAYNE	DSM - DAVID S. MOSSOR
ECL - ERIC C. LAWSON	EMW - ERIC M. WILKEN
ENY - EMILY N. YOAK	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	HDD - HANAH D. DAWKINS
JDH - JUSTIN D. HESSON	JDS - JARED D. SMITH
JKP - JACQUELINE K. PARSONS	JLD - JESSICA L. DELONG
JLL - JOHN L. LENT	JMW - JEANA M. WHITE
JTP - JOSHUA T. PEMBERTON	JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES	JYH - JI Y. HU
KAK - KATHY A. KIRBY	KAT - KATHY A. TUCKER
KDD - Katelyn D. Daley	KDW - KATHRYN D. WELCH
KEB - KATIE E. BARNES	KHR - KIM H. RHODES
KKB - KERRI K. BUCK	KRA - KATHY R. ALBERTSON
KRB - KAELY R. BECKER	KRP - KATHY R. PARSONS
LJH - Lacey J. Hendershot	LKN - LINDA K. NEDEFF
LLS - LARRY L. STEPHENS	LSB - LESLIE S. BUCINA
MAP - MARLA A. PORTER	MBK - MORGAN B. KNOWLTON
MDA - MIKE D. ALBERTSON	MDC - MIKE D. COCHRAN
MES - MARY E. SCHILLING	MMB - MAREN M. BEERY
MRT - MICHELLE R. TAYLOR	MSW - MATT S. WILSON
NPH - Natalie P. Hart	PDM - PIERCE D. MORRIS
PIT - MICROBAC WARRENDALE	QX - QIN XU
RAH - ROY A. HALSTEAD	REK - BOB E. KYER
RLB - BOB BUCHANAN	RNP - RICK N. PETTY
SAV - SARAH A. VANDENBERG	SCB - SARAH C. BOGOLIN
SDC - SHALYN D. CONLEY	SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF	TB - TODD BOYLE
TGF - TIM G. FELTON	TMB - TIFFANY M. BAILEY
TMM - TAMMY M. MORRIS	VC - VICKI COLLIER
WJB - WILL J. BEASLEY	WTD - WADE T. DELONG
XXX - UNAVAILABLE OR SUBCONTRACT	

Microbac Laboratories Inc.
List of Valid Qualifiers
October 20, 2016

Qualkey: DOD

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.
>	Greater than
>,H1	Result is greater than the associated numerical value. Sample analysis performed past holding time.
A	See the report narrative
B	The reported result is associated with a contaminated 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	Cooler temperature at sample reciept exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
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; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
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 LOQ. Cooler temperature at sample reciept exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
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	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
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.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. 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
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound

Microbac Laboratories Inc.
List of Valid Qualifiers
October 20, 2016

Qualkey: DOD

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	Analyte was not detected. The concentration is below the reported LOD.
U,CT1	Analyte was not detected. The concentration is below the reported LOD. Cooler temperature at sample reciept exceeded
U,H1	Not detected; Sample analysis performed past holding time.
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

L16100123 / Revision: 0 / 1399 total pages

AECOM

Chain of Custody Record

COC Number:

Laboratory: Microbac POC: Stephanie Mossburg	Project Manager: Debra Richmann	Mail to: Linda Raabe	
Address: 158 Starlite Drive	Phone/Fax Number: 210-296-2000	112 East Pecan STE. 400	
Marietta, OH 45750	Sampler (print): Scott Beesinger	San Antonio, TX 78205	
Phone: 1-800-373-4071		210-296-2000	
Client: AECOM	Signature: Scott Beesinger	Fed Ex Airbill No:	
Address: 112 East Pecan Ste. 400			
San Antonio, TX 78205	pH:	Program:	
Turn Around Time: STANDARD			
Project Name/Location: Longhorn			
Project Number: 60256135.0002HA			

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp*	Grab	Matrix	Number of Containers	VOC	Dissolved Gases Carbon Dioxide	Nitrate / Nitrite Chloride / Sulfate	Alkalinity	Sulfide	Total Phosphorous Total Organic Carbon	Ferrous Iron	Total Iron Manganese	SA CODE	Cooler ID	LOT CONTROL NUMBERS ABLOT	EBLOT	TBLOT
SITE 58	35AWW09-100316			10/3/16	0825		X	W	11	X	X	X	X	X	X	X	X					
	35AWW09F-100316			10/3/16	0825		X	W	1								X					
	35AWW09-100316			10/3/16	0940		X	W	11	X	X	X	X	X	X	X						
	35AWW09F-100316			10/3/16	0940		X	W	1								X					
	35AWW11-100316			10/3/16	1050		X	W	11	X	X	X	X	X	X	X						
	35AWW11F-100316			10/3/16	1050		X	W	1								X					
	35AWW06-100316			10/3/16	1330		X	W	12	X	X	X	X	X	X	X	X					
	35AWW17-100316			10/3/16	1435		X	W	3	X												
	Trip Blank			10/3/16			X	W	2	X												

Comments: **STANDARD TAT**

ERPIMS REQUIRED FIELDS

Microbac OVD
Received: 10/04/2016 10:17
By: CARA STRICKLER
221000091593

Relinquished by: (Signature) Scott Beesinger	Date 10/3/16	Time 1530	Received by: (Signature) Cara Strickler	Date	Time	Relinquished by: (Signature)
Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)	Date	Time	Remarks:

*Homogenize all composite samples prior to analysis

Distribution: White to Laboratory, Canary to Project Manager, Pink QA/QC Manager

Generated: 10/20/2016 13:38

00867450

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AECOM

Chain of Custody Record

COC Number:

Laboratory: Microbac POC: Stephanie Mossburg	Project Manager: Debra Richmann	Mail to: Linda Raabe	
Address: 158 Starlite Drive	Phone/Fax Number: 210-296-2000		112 East Pecan STE. 400
Marietta, OH 45750	Sampler (print): Scott Beesinger		San Antonio, TX 78205
Phone: 1-800-373-4071			210-296-2000
Client: AECOM	Signature: Scott Beesinger	Fed Ex Airbill No:	
Address: 112 East Pecan Ste. 400			
San Antonio, TX 78205	pH:	Program:	
Turn Around Time: Standard			
Project Name/Location: Longhorn			
Project Number: 60256135.0002HA			

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp*	Grab	Matrix	Number of Containers	Dissovled Manganese	Volatile Fatty Acids	ERPIMS REQUIRED FIELDS: SA CODE	Cooler ID	LOT CONTROL NUMBERS: ABLOT	EBLOT	TBLOT
SITE 58	35AWW09FF-100316			10/3/16	0825		X	W	1	X						
	35AWW09-100316			10/3/16	0825		X	W	1		X					
	35AWW10-100316			10/3/16	0940		X	W	1	X						
	35AWW10FF-100316			10/3/16	0940		X	W	1		X					
	35AWW11FF-100316			10/3/16	1050		X	W	1	X						
	35AWW06FF-100316			10/3/16	1330		X	W	1	X						

Comments: **STANDARD TAT**

Microbac OVD
Received: 10/04/2016 10:17
By: CARA STRICKLER 221000091593

Relinquished by: (Signature) Scott Beesinger	Date 10/3/16	Time 1530	Received by:	e	Relinquished by: (Signature)
Relinquished by: (Signature)	Date	Time	Received for (Signature) Cara Strickler		Remarks:

•Homogenize all composite samples prior to analysis

Distribution: White to Laboratory, Canary to Project Manager, Pink QA/QC Manager

Generated: 10/20/2016 13:38

00867451

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-01	809656	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	04-OCT-2016 15:01	CLS		
2	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:41	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:41	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Samplenum	Container ID	Products
L16100123-01	809657	RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-OCT-2016 07:21	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-OCT-2016 07:21	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-OCT-2016 07:21	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

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-01	809658	9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	PREP	W1	SEM	04-OCT-2016 15:34	CAS	BRG	
3	ANALYZ	SEM	A1	07-OCT-2016 08:32	BRG	CAS	

Samplenum	Container ID	Products
L16100123-01	809659	ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	ANALYZ	W1	WET	05-OCT-2016 09:03	DCM	CLS	
3	STORE	WET	A1	06-OCT-2016 09:16	BRG	DCM	

Samplenum	Container ID	Products
L16100123-01	809660	FERROUS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 08:18	TMM	AZH	
3	ANALYZ	W1	WET	10-OCT-2016 12:05	CLS	TMM	

Samplenum	Container ID	Products
L16100123-01	809661	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		<2
2	ANALYZ	W1	WET	07-OCT-2016 08:24	DCM	BRG	
3	STORE	WET	A1	14-OCT-2016 13:40	CLS	DCM	

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: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-01	809662	S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 10:42	EPT	BRG	
3	STORE	WET	A1	10-OCT-2016 12:03	BRG	EPT	

Samplenum	Container ID	Products
L16100123-02	809663	FE MN-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	PREP	W1	DIG	05-OCT-2016 08:01	VC	AZH	
3	ANALYZ*	DIG	METALS	05-OCT-2016 14:20	KKB	VC	
4	STORE	DIG	A1	05-OCT-2016 14:32	BRG	ERP	

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L16100123-03	809664	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:41	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:41	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:41	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	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

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-03	809665	RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-OCT-2016 07:21	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-OCT-2016 07:21	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-OCT-2016 07:21	CLS	AWE	

Samplenum	Container ID	Products
L16100123-03	809666	9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	PREP	W1	SEM	04-OCT-2016 15:34	CAS	BRG	
3	ANALYZ	SEM	A1	07-OCT-2016 08:32	BRG	CAS	

Samplenum	Container ID	Products
L16100123-03	809667	ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	ANALYZ	W1	WET	05-OCT-2016 09:03	DCM	CLS	
3	STORE	WET	A1	06-OCT-2016 09:16	BRG	DCM	

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: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-03	809668	FERROUS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 08:17	TMM	AZH	
3	ANALYZ	W1	WET	10-OCT-2016 12:05	CLS	TMM	

Samplenum	Container ID	Products
L16100123-03	809669	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		<2
2	ANALYZ	W1	WET	07-OCT-2016 08:24	DCM	BRG	
3	STORE	WET	A1	14-OCT-2016 13:40	CLS	DCM	

Samplenum	Container ID	Products
L16100123-03	809670	S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 10:42	EPT	BRG	
3	STORE	WET	A1	10-OCT-2016 12:03	BRG	EPT	

Samplenum	Container ID	Products
L16100123-04	809671	FE MN-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	PREP	W1	DIG	05-OCT-2016 08:01	VC	AZH	
3	ANALYZ*	DIG	METALS	05-OCT-2016 14:20	KKB	VC	
4	STORE	DIG	A1	05-OCT-2016 14:32	BRG	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: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-05	809672	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:40	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:40	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:40	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Samplenum	Container ID	Products
L16100123-05	809673	RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-OCT-2016 07:21	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-OCT-2016 07:21	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-OCT-2016 07:21	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

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-05	809674	9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	PREP	W1	SEM	04-OCT-2016 15:34	CAS	BRG	
3	ANALYZ	SEM	A1	07-OCT-2016 08:32	BRG	CAS	

Samplenum	Container ID	Products
L16100123-05	809675	ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	ANALYZ	W1	WET	05-OCT-2016 09:03	DCM	CLS	
3	STORE	WET	A1	06-OCT-2016 09:16	BRG	DCM	

Samplenum	Container ID	Products
L16100123-05	809676	FERROUS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 08:18	TMM	AZH	
3	ANALYZ	W1	WET	10-OCT-2016 12:05	CLS	TMM	

Samplenum	Container ID	Products
L16100123-05	809677	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		<2
2	ANALYZ	W1	WET	07-OCT-2016 08:24	DCM	BRG	
3	STORE	WET	A1	14-OCT-2016 13:39	CLS	DCM	

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: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-05	809678	S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 10:42	EPT	BRG	
3	STORE	WET	A1	10-OCT-2016 12:03	BRG	EPT	

Samplenum	Container ID	Products
L16100123-06	809679	FE MN-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	PREP	W1	DIG	05-OCT-2016 08:01	VC	AZH	
3	ANALYZ*	DIG	METALS	05-OCT-2016 14:20	KKB	VC	
4	STORE	DIG	A1	05-OCT-2016 14:32	BRG	ERP	

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L16100123-07	809680	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:40	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:40	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:40	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	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

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-07	809681	RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-OCT-2016 07:21	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-OCT-2016 07:21	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 07:39	AWE	CLS	
3	STORE	ORG1	A1	18-OCT-2016 07:21	CLS	AWE	

Samplenum	Container ID	Products
L16100123-07	809682	9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	PREP	W1	SEM	04-OCT-2016 15:34	CAS	BRG	
3	ANALYZ	SEM	A1	07-OCT-2016 08:32	BRG	CAS	

Samplenum	Container ID	Products
L16100123-07	809683	ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	ANALYZ	W1	WET	05-OCT-2016 09:03	DCM	CLS	
3	STORE	WET	A1	06-OCT-2016 09:16	BRG	DCM	

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: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-07	809684	FERROUS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 08:18	TMM	AZH	
3	ANALYZ	W1	WET	10-OCT-2016 12:05	CLS	TMM	

Samplenum	Container ID	Products
L16100123-07	809685	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		<2
2	ANALYZ	W1	WET	07-OCT-2016 08:24	DCM	BRG	
3	STORE	WET	A1	14-OCT-2016 13:40	CLS	DCM	

Samplenum	Container ID	Products
L16100123-07	809686	FE MN-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	PREP	W1	DIG	05-OCT-2016 08:01	VC	AZH	
3	ANALYZ*	DIG	METALS	05-OCT-2016 14:20	KKB	VC	
4	STORE	DIG	A1	05-OCT-2016 14:32	BRG	ERP	

***Sample extract/digestate/leachate**

Samplenum	Container ID	Products
L16100123-07	809687	S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 10:42	EPT	BRG	
3	STORE	WET	A1	10-OCT-2016 12:03	BRG	EPT	

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: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-08	809688	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:40	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:40	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	04-OCT-2016 15:01	CLS		
2	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Samplenum	Container ID	Products
L16100123-09	809689	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:40	AWE	CLS	
3	STORE	ORG4	A1	18-OCT-2016 07:22	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	04-OCT-2016 15:01	CLS		
2	ANALYZ	V1	ORG4	05-OCT-2016 07:40	AWE	CLS	

Samplenum	Container ID	Products
L16100123-10	809690	MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	PREP	W1	DIG	05-OCT-2016 08:01	VC	AZH	
3	STORE	DIG	A1	05-OCT-2016 14:32	BRG	ERP	
4	ANALYZ*	DIG	METALS	17-OCT-2016 14:36	BKT	VC	

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-11	809691	830-MBA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		<2
2	ANALYZ	W1	SEM	14-OCT-2016 14:01	JWR	CLS	
3	STORE	SEM	A1	15-OCT-2016 15:03	AZH	JWR	

Samplenum	Container ID	Products
L16100123-12	809692	MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	PREP	W1	DIG	05-OCT-2016 08:01	VC	AZH	
3	STORE	DIG	A1	05-OCT-2016 14:32	BRG	ERP	
4	ANALYZ*	DIG	METALS	17-OCT-2016 14:36	BKT	VC	

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L16100123-13	809693	830-MBA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		<2
2	ANALYZ	W1	SEM	14-OCT-2016 14:01	JWR	CLS	
3	STORE	SEM	A1	15-OCT-2016 15:03	AZH	JWR	

Samplenum	Container ID	Products
L16100123-14	809694	MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	PREP	W1	DIG	05-OCT-2016 08:01	VC	AZH	
3	STORE	DIG	A1	05-OCT-2016 14:32	BRG	ERP	
4	ANALYZ*	DIG	METALS	17-OCT-2016 14:36	BKT	VC	

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16100123
Account: 2551
Project: 2551.096
Samples: 15
Due Date: 14-OCT-2016

Samplenum	Container ID	Products
L16100123-15	809695	MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	04-OCT-2016 15:01	CLS		
2	PREP	W1	DIG	05-OCT-2016 08:01	VC	AZH	
3	STORE	DIG	A1	05-OCT-2016 14:32	BRG	ERP	
4	ANALYZ*	DIG	METALS	17-OCT-2016 14:36	BKT	VC	

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

NELAP Addendum - January 4, 2016

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO3)
Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS
Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1
ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

SOLID AND HAZARDOUS CHEMICALS

OVD 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)

Microbac

Laboratory Report Number: L16100194

Kayla Teague
AECOM Technical Services, Inc.
1950 N Stemmons FWY
Dallas, TX 75207

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:
Adriane Steed – Client Services Specialist
(740) 373-4071
Adriane.Steed@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. 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, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on October 20 2016

Leslie Bucina – Managing Director

State of Origin: TX
Accrediting Authority: Texas Commission on Environmental Quality ID:T104704252-07-TX
QAPP: DOD Ver 4.1

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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: 35AWW08-100416. TOC/PHOS pH out of the acceptable range. Due to matrix of sample the pH will need to be adjusted in the lab.BRG Sample ID: 35AWW08F-100416. Metals pH out of the acceptable range. Due to matrix of sample the pH will need to be adjusted in the lab. BRG Sample ID: 35WW01F-100416. Metals pH out of the acceptable range. Due to matrix of sample the pH will need to be adjusted in the lab. BRG Sample ID: 35AWW08-100416. Fatty Acids pH out of the acceptable range. Due to matrix of sample the pH will need to be adjusted in lab. BRG Sample ID: 35AWW08FF-100416. Dissolved Metals pH out of the acceptable range. Due to matrix of sample the pH will need to be adjusted in lab. BRG Sample ID: 03WW01-100416. Fatty Acids pH out of the acceptable range. Due to matrix of sample the pH will need to be adjusted in lab. BRG Sample ID: 03WW01FF-100416. Dissolved Metals pH out of the acceptable range. Due to matrix of sample the pH will need to be adjusted in lab. BRG	Please have lab attempt to adjust ALS

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00110989	I	2.0		J4616883237	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?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes

Microbac Laboratories ● Ohio Valley Division
158 Starlite Drive, Marietta, OH 45750 ● T: (740)373-4071 F: (740)373-4835
www.microbac.com

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

9	Were samples received within EPA hold times?	Yes
10	All samples were checked for pH and met the standard. Exceptions are noted above under discrepancy. (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	No
12	Were VOA samples free of headspace (less than 6mm)?	Yes

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
35AWW08-100416	L16100194-01	10/04/2016 07:40	10/05/2016 09:42
35AWW08F-100416	L16100194-02	10/04/2016 07:40	10/05/2016 09:42
03WW01-100416	L16100194-03	10/04/2016 08:20	10/05/2016 09:42
03WW01F-100416	L16100194-04	10/04/2016 08:20	10/05/2016 09:42
35AWW20-100416	L16100194-05	10/04/2016 09:35	10/05/2016 09:42
LHSMW07-100416	L16100194-06	10/04/2016 10:40	10/05/2016 09:42
35AWW16-100416	L16100194-07	10/04/2016 13:15	10/05/2016 09:42
35AWW16FD-100416	L16100194-08	10/04/2016 13:15	10/05/2016 09:42
35AWW21-100416	L16100194-09	10/04/2016 14:10	10/05/2016 09:42
35AWW21FD-100416	L16100194-10	10/04/2016 14:10	10/05/2016 09:42
TRIP BLANK	L16100194-11	10/04/2016 00:01	10/05/2016 09:42
35AWW08-100416	L16100194-12	10/04/2016 07:40	10/05/2016 09:42
35AWW08FF-100416	L16100194-13	10/04/2016 07:40	10/05/2016 09:42
03WW01-100416	L16100194-14	10/04/2016 08:20	10/05/2016 09:42
03WW01FF-100416	L16100194-15	10/04/2016 08:20	10/05/2016 09:42
35AWW20FF-100416	L16100194-16	10/04/2016 09:35	10/05/2016 09:42
LHSMW07FF-100416	L16100194-17	10/04/2016 10:40	10/05/2016 09:42

Microbac REPORT L16100194
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

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2.4.3.3 Raw Data 1988
2.4.4 Phosphorus Data 1996
2.4.4.1 Summary Data 1997
2.4.4.2 QC Summary Data 2002
2.4.4.3 Raw Data 2009

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1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	8260
Prep Batch Number(s):		**Reviewer Name:**	Franci Bolden
LRC Date:	2016-10-20 00:00:00		

Laboratory Data Package Cover Page

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

Name (Printed)	Signature	Official Title (Printed)	Date
Franci Bolden		Analyst I	2016-10-20 13:24:29

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	8260
Prep Batch Number(s):		**Reviewer Name:**	Franci Bolden
LRC Date:	2016-10-20 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?	X				
Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?		X			1
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	8260
Prep Batch Number(s):		**Reviewer Name:**	Franci Bolden
LRC Date:	2016-10-20 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	8260
Prep Batch Number(s):		**Reviewer Name:**	Franci Bolden
LRC Date:	2016-10-20 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?		X			3
Was the ICAL curve verified for each analyte?		X			2
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	8260
Prep Batch Number(s):		**Reviewer Name:**	Franci Bolden
LRC Date:	2016-10-20 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	8260
Prep Batch Number(s):		**Reviewer Name:**	Franci Bolden
LRC Date:	2016-10-20 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1) Hexachlorobutadiene and 1,2,4-Trichlorobenzene were greater than one half of the RL in the blank analyzed 10/13/16 on HPMS11. Associated samples (03 and 06) were non-detect for these compounds.

2) Naphthalene exceeded the UCL in the ICV analyzed 10/13/2016 on HPMS11.

3) Bromomethane was below the LCL and Trichlorofluoromethane exceeded the UCL in the CCV analyzed 10/12/2016 on HPMS6. Acetone, 2-Butanone and 2-Hexanone were below the LCL in the CCV analyzed 10/17/2016 on HPMS11.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	586463, 586612	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-10-20 00:00:00		

Laboratory Data Package Cover Page

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

Name (Printed)	Signature	Official Title (Printed)	Date
Franci Bolden		Analyst I	2016-10-20 13:22:31

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	586463, 586612	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-10-20 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?			X		
Were % moisture (or solids) reported for all soil and sediment samples?			X		
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	586463, 586612	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-10-20 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	586463, 586612	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-10-20 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	586463, 586612	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-10-20 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	RSK175
Prep Batch Number(s):	586463, 586612	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-10-20 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

There were no exceptions.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	830-MBA
Prep Batch Number(s):	WG587720	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-10-17 00:00:00		

Laboratory Data Package Cover Page

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

Name (Printed)	Signature	Official Title (Printed)	Date
Eric Lawson		Chemist III	2016-10-17 20:37:16

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	830-MBA
Prep Batch Number(s):	WG587720	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-10-17 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?			X		
Were % moisture (or solids) reported for all soil and sediment samples?			X		
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	830-MBA
Prep Batch Number(s):	WG587720	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-10-17 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	830-MBA
Prep Batch Number(s):	WG587720	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-10-17 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	830-MBA
Prep Batch Number(s):	WG587720	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-10-17 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	830-MBA
Prep Batch Number(s):	WG587720	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-10-17 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

There are no exceptions.

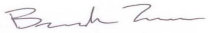
Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG587099	**Reviewer Name:**	Brendan Torrence
LRC Date:	2016-10-20 00:00:00		

Laboratory Data Package Cover Page

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

Name (Printed)	Signature	Official Title (Printed)	Date
Brendan Torrence		Analyst	2016-10-20 19:13:21

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG587099	**Reviewer Name:**	Brendan Torrence
LRC Date:	2016-10-20 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports	X				
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?		X			ER#1
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG587099	**Reviewer Name:**	Brendan Torrence
LRC Date:	2016-10-20 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?			X		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG587099	**Reviewer Name:**	Brendan Torrence
LRC Date:	2016-10-20 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?					
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?	X				
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG587099	**Reviewer Name:**	Brendan Torrence
LRC Date:	2016-10-20 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	6010
Prep Batch Number(s):	WG587099	**Reviewer Name:**	Brendan Torrence
LRC Date:	2016-10-20 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

ER#1 - Client samples 02 and 04 required dilution analyses in order to obtain results for iron within the calibration range.

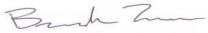
Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG586668	**Reviewer Name:**	Brendan Torrence
LRC Date:	2016-10-20 00:00:00		

Laboratory Data Package Cover Page

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

Name (Printed)	Signature	Official Title (Printed)	Date
Brendan Torrence		Analyst	2016-10-20 19:12:13

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG586668	**Reviewer Name:**	Brendan Torrence
LRC Date:	2016-10-20 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports	X				
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?		X			ER#1
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG586668	**Reviewer Name:**	Brendan Torrence
LRC Date:	2016-10-20 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?			X		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG586668	**Reviewer Name:**	Brendan Torrence
LRC Date:	2016-10-20 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?					
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?	X				
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG586668	**Reviewer Name:**	Brendan Torrence
LRC Date:	2016-10-20 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	6020
Prep Batch Number(s):	WG586668	**Reviewer Name:**	Brendan Torrence
LRC Date:	2016-10-20 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

ER#1 - Client samples 02, 04, 05, 13, 15, and 16 required dilution analyses in order to obtain results for manganese within the calibration range.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG586401	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-10-07 00:00:00		

Laboratory Data Package Cover Page

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

Name (Printed)	Signature	Official Title (Printed)	Date
Eric Lawson		Chemist III	2016-10-07 14:49:07

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG586401	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-10-07 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?			X		
Were % moisture (or solids) reported for all soil and sediment samples?			X		
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG586401	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-10-07 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG586401	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-10-07 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG586401	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-10-07 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	9056
Prep Batch Number(s):	WG586401	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-10-07 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

There are no exceptions.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	ALK-COLOR
Prep Batch Number(s):	WG587228	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Laboratory Data Package Cover Page

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

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson	Deanna Hesson	Conventional Lab Supervisor	2016-10-13 18:19:27

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	ALK-COLOR
Prep Batch Number(s):	WG587228	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	ALK-COLOR
Prep Batch Number(s):	WG587228	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	ALK-COLOR
Prep Batch Number(s):	WG587228	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	ALK-COLOR
Prep Batch Number(s):	WG587228	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	ALK-COLOR
Prep Batch Number(s):	WG587228	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG586481	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Laboratory Data Package Cover Page

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

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson	Deanna Hesson	Conventional Lab Supervisor	2016-10-13 18:18:18

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG586481	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG586481	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG586481	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG586481	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	FERROUS
Prep Batch Number(s):	WG586481	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	PHOS
Prep Batch Number(s):	WG586864	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Laboratory Data Package Cover Page

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

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson	Deanna Hesson	Conventional Lab Supervisor	2016-10-13 18:19:58

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	PHOS
Prep Batch Number(s):	WG586864	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	PHOS
Prep Batch Number(s):	WG586864	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	PHOS
Prep Batch Number(s):	WG586864	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	PHOS
Prep Batch Number(s):	WG586864	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	PHOS
Prep Batch Number(s):	WG586864	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	S
Prep Batch Number(s):	WG586639	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Laboratory Data Package Cover Page

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

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson	Deanna Hesson	Conventional Lab Supervisor	2016-10-13 18:18:53

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	S
Prep Batch Number(s):	WG586639	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	S
Prep Batch Number(s):	WG586639	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	S
Prep Batch Number(s):	WG586639	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?			X		
Were percent differences for each analyte within the method-required QC limits?			X		
Was the ICAL curve verified for each analyte?			X		
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	S
Prep Batch Number(s):	WG586639	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

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5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

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Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	S
Prep Batch Number(s):	WG586639	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG586887	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Laboratory Data Package Cover Page

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

Name (Printed)	Signature	Official Title (Printed)	Date
Deanna Hesson	Deanna Hesson	Conventional Lab Supervisor	2016-10-13 18:17:35

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG586887	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification					
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples					
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):	X				
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG586887	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?	X				
Were analytical duplicates analyzed at the appropriate frequency?	X				
Were RPDs or relative standard deviations within the laboratory QC limits?	X				
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?			X		
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG586887	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?			X		
Were ion abundance data within the method-required QC limits?			X		
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?			X		
Raw data (NELAC Section 5.5.10)			X		
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?			X		
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)			X		
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions			X		
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG586887	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)	X				
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

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Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16100194
Project Name:		**Method:**	TOC
Prep Batch Number(s):	WG586887	**Reviewer Name:**	Deanna Hesson
LRC Date:	2016-10-13 00:00:00		

the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1.2 Certificate of Analysis

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	35AWW08-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	10/13/2016 18:03
Workgroup #:	WG587867	**Analyst:**	FJB	**Run Date:**	10/17/2016 22:18
Collect Date:	10/04/2016 07:40	**Dilution:**	10	**File ID:**	11M14578
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	95.5	Q	100	50.0	25.0
Benzene	71-43-2	2.50	U	10.0	2.50	1.25
Bromobenzene	108-86-1	2.50	U	10.0	2.50	1.25
Bromochloromethane	74-97-5	4.00	U	10.0	4.00	2.00
Bromodichloromethane	75-27-4	5.00	U	10.0	5.00	2.50
Bromoform	75-25-2	10.0	U	20.0	10.0	5.00
Bromomethane	74-83-9	10.0	U	20.0	10.0	5.00
2-Butanone	78-93-3	40.7	Q	100	50.0	25.0
n-Butylbenzene	104-51-8	5.00	U	10.0	5.00	2.50
sec-Butylbenzene	135-98-8	5.00	U	10.0	5.00	2.50
tert-Butylbenzene	98-06-6	5.00	U	10.0	5.00	2.50
Carbon disulfide	75-15-0	10.0	U	20.0	10.0	5.00
Carbon tetrachloride	56-23-5	5.00	U	10.0	5.00	2.50
Chlorobenzene	108-90-7	2.50	U	10.0	2.50	1.25
Chlorodibromomethane	124-48-1	5.00	U	10.0	5.00	2.50
Chloroethane	75-00-3	10.0	U	20.0	10.0	5.00
Chloroform	67-66-3	2.50	U	10.0	2.50	1.25
Chloromethane	74-87-3	10.0	U	20.0	10.0	5.00
2-Chlorotoluene	95-49-8	2.50	U	10.0	2.50	1.25
4-Chlorotoluene	106-43-4	5.00	U	10.0	5.00	2.50
1,2-Dibromo-3-chloropropane	96-12-8	20.0	U	50.0	20.0	10.0
1,2-Dibromoethane	106-93-4	5.00	U	10.0	5.00	2.50
Dibromomethane	74-95-3	5.00	U	10.0	5.00	2.50
1,2-Dichlorobenzene	95-50-1	2.50	U	10.0	2.50	1.25
1,3-Dichlorobenzene	541-73-1	5.00	U	10.0	5.00	2.50
1,4-Dichlorobenzene	106-46-7	2.50	U	10.0	2.50	1.25
Dichlorodifluoromethane	75-71-8	5.00	U	10.0	5.00	2.50
1,1-Dichloroethane	75-34-3	2.50	U	10.0	2.50	1.25
1,2-Dichloroethane	107-06-2	5.00	U	10.0	5.00	2.50
1,1-Dichloroethene	75-35-4	10.0	U	20.0	10.0	5.00
cis-1,2-Dichloroethene	156-59-2	41.7		10.0	5.00	2.50
trans-1,2-Dichloroethene	156-60-5	5.00	U	10.0	5.00	2.50

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	4.00	U	10.0	4.00	2.00
1,3-Dichloropropane	142-28-9	4.00	U	10.0	4.00	2.00
2,2-Dichloropropane	594-20-7	5.00	U	10.0	5.00	2.50
cis-1,3-Dichloropropene	10061-01-5	5.00	U	10.0	5.00	2.50
trans-1,3-Dichloropropene	10061-02-6	10.0	U	20.0	10.0	5.00
1,1-Dichloropropene	563-58-6	5.00	U	10.0	5.00	2.50
Ethylbenzene	100-41-4	5.00	U	10.0	5.00	2.50
2-Hexanone	591-78-6	50.0	Q	100	50.0	25.0
Hexachlorobutadiene	87-68-3	5.00	U	10.0	5.00	2.50
Isopropylbenzene	98-82-8	5.00	U	10.0	5.00	2.50
p-Isopropyltoluene	99-87-6	5.00	U	10.0	5.00	2.50
4-Methyl-2-pentanone	108-10-1	50.0	U	100	50.0	25.0
Methylene chloride	75-09-2	5.00	U	10.0	5.00	2.50
Naphthalene	91-20-3	4.00	U	10.0	4.00	2.00
n-Propylbenzene	103-65-1	2.50	U	10.0	2.50	1.25
Styrene	100-42-5	2.50	U	10.0	2.50	1.25
1,1,1,2-Tetrachloroethane	630-20-6	5.00	U	10.0	5.00	2.50
1,1,2,2-Tetrachloroethane	79-34-5	4.00	U	10.0	4.00	2.00
Tetrachloroethene	127-18-4	36.9		10.0	5.00	2.50
Toluene	108-88-3	5.00	U	10.0	5.00	2.50
1,2,3-Trichlorobenzene	87-61-6	3.00	U	10.0	3.00	1.50
1,2,4-Trichlorobenzene	120-82-1	4.00	U	10.0	4.00	2.00
1,1,1-Trichloroethane	71-55-6	5.00	U	10.0	5.00	2.50
1,1,2-Trichloroethane	79-00-5	5.00	U	10.0	5.00	2.50
Trichloroethene	79-01-6	235		10.0	5.00	2.50
Trichlorofluoromethane	75-69-4	5.00	U	10.0	5.00	2.50
1,2,3-Trichloropropane	96-18-4	10.0	U	20.0	10.0	5.00
1,2,4-Trimethylbenzene	95-63-6	5.00	U	10.0	5.00	2.50
1,3,5-Trimethylbenzene	108-67-8	5.00	U	10.0	5.00	2.50
Vinyl chloride	75-01-4	7.46	J	10.0	5.00	2.50
o-Xylene	95-47-6	5.00	U	10.0	5.00	2.50
m-,p-Xylene	179601-23-1	10.0	U	20.0	10.0	5.00

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	91.8	85	115	
1,2-Dichloroethane-d4	89.0	70	120	
Toluene-d8	94.6	85	120	
4-Bromofluorobenzene	92.4	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-01	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	35AWW08-100416	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG586463	**Analyst:**	JDS	**Run Date:**	10/05/2016 20:19
Collect Date:	10/04/2016 07:40	**Dilution:**	10	**File ID:**	16G50819
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	424000		100000	50000	25000
Methane	74-82-8	7350		50.0	20.0	10.0
ethene	74-85-1	20.0	U	50.0	20.0	10.0
ethane	74-84-0	20.0	U	50.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-01	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	35AWW08-100416	**Prep Method:**	9056	**Prep Date:**	10/05/2016 18:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586401	**Analyst:**	CAS	**Run Date:**	10/05/2016 22:50
Collect Date:	10/04/2016 07:40	**Dilution:**	10	**File ID:**	I2_100516-16
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	10.0	U	20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-01	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	35AWW08-100416	**Prep Method:**	9056	**Prep Date:**	10/05/2016 18:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586401	**Analyst:**	CAS	**Run Date:**	10/06/2016 10:40
Collect Date:	10/04/2016 07:40	**Dilution:**	100	**File ID:**	I2_100516-30
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	2000		40.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	35AWW08-100416	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	10/12/2016 08:02
Workgroup #:	WG587228	**Analyst:**	DCM	**Run Date:**	10/12/2016 08:08
Collect Date:	10/04/2016 07:40	**Dilution:**	500	**File ID:**	SC161012001.018
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	9160	J	20000	10000	5000

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-01	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	35AWW08-100416	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	08/10/2016 11:20
Workgroup #:	WG586481	**Analyst:**	TMM	**Run Date:**	10/06/2016 09:45
Collect Date:	10/04/2016 07:40	**Dilution:**	200	**File ID:**	00.1610060945-10
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		17.6		8.00	8.00	4.00

Certificate of Analysis

Sample #:	L16100194-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	35AWW08-100416	**Prep Method:**	365.4	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.4	**Cal Date:**	10/10/2016 09:33
Workgroup #:	WG586864	**Analyst:**	DCM	**Run Date:**	10/10/2016 09:45
Collect Date:	10/04/2016 07:40	**Dilution:**	10	**File ID:**	SC161010002.027
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	5.68		4.00	2.00	1.00

Certificate of Analysis

Sample #:	L16100194-01	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	35AWW08-100416	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG586639	**Analyst:**	EPT	**Run Date:**	10/06/2016 16:20
Collect Date:	10/04/2016 07:40	**Dilution:**	1	**File ID:**	ET.1610061620-08
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-01	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	35AWW08-100416	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG586887	**Analyst:**	DCM	**Run Date:**	10/11/2016 12:30
Collect Date:	10/04/2016 07:40	**Dilution:**	50	**File ID:**	TC10102016.104
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	918		100	50.0	25.0

Certificate of Analysis

Sample #:	L16100194-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	35AWW08F-100416	**Prep Method:**	3015	**Prep Date:**	10/11/2016 10:14
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	10/14/2016 12:45
Workgroup #:	WG587330	**Analyst:**	KKB	**Run Date:**	10/14/2016 15:08
Collect Date:	10/04/2016 07:40	**Dilution:**	10	**File ID:**	T4.101416.150856
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	33.3		1.00	1.00	0.500

Certificate of Analysis

Sample #:	L16100194-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	35AWW08F-100416	**Prep Method:**	3015	**Prep Date:**	10/07/2016 08:27
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/19/2016 09:04
Workgroup #:	WG586896	**Analyst:**	JYH	**Run Date:**	10/19/2016 09:46
Collect Date:	10/04/2016 07:40	**Dilution:**	100	**File ID:**	NI.101916.094620
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	7.97		0.400	0.200	0.100

Certificate of Analysis

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L16100194-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	03WW01-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	10/13/2016 18:03
Workgroup #:	WG587598	**Analyst:**	FJB	**Run Date:**	10/13/2016 22:54
Collect Date:	10/04/2016 08:20	**Dilution:**	10	**File ID:**	11M14520
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	73.4	J	100	50.0	25.0
Benzene	71-43-2	2.50	U	10.0	2.50	1.25
Bromobenzene	108-86-1	2.50	U	10.0	2.50	1.25
Bromochloromethane	74-97-5	4.00	U	10.0	4.00	2.00
Bromodichloromethane	75-27-4	5.00	U	10.0	5.00	2.50
Bromoform	75-25-2	10.0	U	20.0	10.0	5.00
Bromomethane	74-83-9	10.0	U	20.0	10.0	5.00
2-Butanone	78-93-3	50.0	U	100	50.0	25.0
n-Butylbenzene	104-51-8	5.00	U	10.0	5.00	2.50
sec-Butylbenzene	135-98-8	5.00	U	10.0	5.00	2.50
tert-Butylbenzene	98-06-6	5.00	U	10.0	5.00	2.50
Carbon disulfide	75-15-0	10.0	U	20.0	10.0	5.00
Carbon tetrachloride	56-23-5	5.00	U	10.0	5.00	2.50
Chlorobenzene	108-90-7	2.50	U	10.0	2.50	1.25
Chlorodibromomethane	124-48-1	5.00	U	10.0	5.00	2.50
Chloroethane	75-00-3	10.0	U	20.0	10.0	5.00
Chloroform	67-66-3	2.50	U	10.0	2.50	1.25
Chloromethane	74-87-3	10.0	U	20.0	10.0	5.00
2-Chlorotoluene	95-49-8	2.50	U	10.0	2.50	1.25
4-Chlorotoluene	106-43-4	5.00	U	10.0	5.00	2.50
1,2-Dibromo-3-chloropropane	96-12-8	20.0	U	50.0	20.0	10.0
1,2-Dibromoethane	106-93-4	5.00	U	10.0	5.00	2.50
Dibromomethane	74-95-3	5.00	U	10.0	5.00	2.50
1,2-Dichlorobenzene	95-50-1	2.50	U	10.0	2.50	1.25
1,3-Dichlorobenzene	541-73-1	5.00	U	10.0	5.00	2.50
1,4-Dichlorobenzene	106-46-7	1.52	J	10.0	2.50	1.25
Dichlorodifluoromethane	75-71-8	5.00	U	10.0	5.00	2.50
1,1-Dichloroethane	75-34-3	2.50	U	10.0	2.50	1.25
1,2-Dichloroethane	107-06-2	5.00	U	10.0	5.00	2.50
1,1-Dichloroethene	75-35-4	10.0	U	20.0	10.0	5.00
cis-1,2-Dichloroethene	156-59-2	5.00	U	10.0	5.00	2.50
trans-1,2-Dichloroethene	156-60-5	5.00	U	10.0	5.00	2.50

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	4.00	U	10.0	4.00	2.00
1,3-Dichloropropane	142-28-9	4.00	U	10.0	4.00	2.00
2,2-Dichloropropane	594-20-7	5.00	U	10.0	5.00	2.50
cis-1,3-Dichloropropene	10061-01-5	5.00	U	10.0	5.00	2.50
trans-1,3-Dichloropropene	10061-02-6	10.0	U	20.0	10.0	5.00
1,1-Dichloropropene	563-58-6	5.00	U	10.0	5.00	2.50
Ethylbenzene	100-41-4	5.00	U	10.0	5.00	2.50
2-Hexanone	591-78-6	50.0	U	100	50.0	25.0
Hexachlorobutadiene	87-68-3	5.00	U	10.0	5.00	2.50
Isopropylbenzene	98-82-8	5.00	U	10.0	5.00	2.50
p-Isopropyltoluene	99-87-6	5.00	U	10.0	5.00	2.50
4-Methyl-2-pentanone	108-10-1	50.0	U	100	50.0	25.0
Methylene chloride	75-09-2	5.00	U	10.0	5.00	2.50
Naphthalene	91-20-3	4.00	U	10.0	4.00	2.00
n-Propylbenzene	103-65-1	2.50	U	10.0	2.50	1.25
Styrene	100-42-5	2.50	U	10.0	2.50	1.25
1,1,1,2-Tetrachloroethane	630-20-6	5.00	U	10.0	5.00	2.50
1,1,2,2-Tetrachloroethane	79-34-5	4.00	U	10.0	4.00	2.00
Tetrachloroethene	127-18-4	5.00	U	10.0	5.00	2.50
Toluene	108-88-3	5.00	U	10.0	5.00	2.50
1,2,3-Trichlorobenzene	87-61-6	3.00	U	10.0	3.00	1.50
1,2,4-Trichlorobenzene	120-82-1	4.00	U	10.0	4.00	2.00
1,1,1-Trichloroethane	71-55-6	5.00	U	10.0	5.00	2.50
1,1,2-Trichloroethane	79-00-5	5.00	U	10.0	5.00	2.50
Trichloroethene	79-01-6	5.00	U	10.0	5.00	2.50
Trichlorofluoromethane	75-69-4	5.00	U	10.0	5.00	2.50
1,2,3-Trichloropropane	96-18-4	10.0	U	20.0	10.0	5.00
1,2,4-Trimethylbenzene	95-63-6	5.00	U	10.0	5.00	2.50
1,3,5-Trimethylbenzene	108-67-8	5.00	U	10.0	5.00	2.50
Vinyl chloride	75-01-4	5.00	U	10.0	5.00	2.50
o-Xylene	95-47-6	5.00	U	10.0	5.00	2.50
m-,p-Xylene	179601-23-1	10.0	U	20.0	10.0	5.00

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	97.6	85	115	
1,2-Dichloroethane-d4	94.1	70	120	
Toluene-d8	99.2	85	120	
4-Bromofluorobenzene	94.7	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-03	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	03WW01-100416	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG586463	**Analyst:**	JDS	**Run Date:**	10/05/2016 20:31
Collect Date:	10/04/2016 08:20	**Dilution:**	10	**File ID:**	16G50820
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	657000		100000	50000	25000
Methane	74-82-8	5950		50.0	20.0	10.0
ethene	74-85-1	20.0	U	50.0	20.0	10.0
ethane	74-84-0	20.0	U	50.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-03	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	03WW01-100416	**Prep Method:**	9056	**Prep Date:**	10/05/2016 18:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586401	**Analyst:**	CAS	**Run Date:**	10/05/2016 23:09
Collect Date:	10/04/2016 08:20	**Dilution:**	5	**File ID:**	I2_100516-17
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	1.00	U	2.00	1.00	0.500
Nitrite	14797-65-0	1.00	U	2.00	1.00	0.500
Sulfate	14808-79-8	5.00	U	10.0	5.00	2.50

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-03	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	03WW01-100416	**Prep Method:**	9056	**Prep Date:**	10/05/2016 18:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586401	**Analyst:**	CAS	**Run Date:**	10/05/2016 23:28
Collect Date:	10/04/2016 08:20	**Dilution:**	50	**File ID:**	I2_100516-18
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	762		20.0	10.0	5.00

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	03WW01-100416	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	10/12/2016 08:02
Workgroup #:	WG587228	**Analyst:**	DCM	**Run Date:**	10/12/2016 08:09
Collect Date:	10/04/2016 08:20	**Dilution:**	250	**File ID:**	SC161012001.019
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	5500	J	10000	5000	2500

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-03	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	03WW01-100416	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	08/10/2016 11:20
Workgroup #:	WG586481	**Analyst:**	TMM	**Run Date:**	10/06/2016 09:45
Collect Date:	10/04/2016 08:20	**Dilution:**	100	**File ID:**	00.1610060945-11
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		8.02		4.00	4.00	2.00

Certificate of Analysis

Sample #:	L16100194-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	03WW01-100416	**Prep Method:**	365.4	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.4	**Cal Date:**	10/10/2016 09:33
Workgroup #:	WG586864	**Analyst:**	DCM	**Run Date:**	10/10/2016 09:46
Collect Date:	10/04/2016 08:20	**Dilution:**	10	**File ID:**	SC161010002.028
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	2.06	J	4.00	2.00	1.00

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-03	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	03WW01-100416	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG586639	**Analyst:**	EPT	**Run Date:**	10/06/2016 16:20
Collect Date:	10/04/2016 08:20	**Dilution:**	1	**File ID:**	ET.1610061620-09
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-03	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	03WW01-100416	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG586887	**Analyst:**	DCM	**Run Date:**	10/11/2016 12:43
Collect Date:	10/04/2016 08:20	**Dilution:**	25	**File ID:**	TC10102016.105
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	292		50.0	25.0	12.5

Certificate of Analysis

Sample #:	L16100194-04	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	03WW01F-100416	**Prep Method:**	3015	**Prep Date:**	10/11/2016 10:14
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	10/14/2016 12:45
Workgroup #:	WG587330	**Analyst:**	KKB	**Run Date:**	10/14/2016 15:12
Collect Date:	10/04/2016 08:20	**Dilution:**	10	**File ID:**	T4.101416.151240
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	46.5		1.00	1.00	0.500

Certificate of Analysis

Sample #:	L16100194-04	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	03WW01F-100416	**Prep Method:**	3015	**Prep Date:**	10/07/2016 08:27
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/19/2016 09:04
Workgroup #:	WG586896	**Analyst:**	JYH	**Run Date:**	10/19/2016 09:49
Collect Date:	10/04/2016 08:20	**Dilution:**	100	**File ID:**	NI.101916.094919
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	8.31		0.400	0.200	0.100

Certificate of Analysis

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	35AWW20-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/26/2016 18:51
Workgroup #:	WG587315	**Analyst:**	TMB	**Run Date:**	10/13/2016 00:38
Collect Date:	10/04/2016 09:35	**Dilution:**	20	**File ID:**	6M142674
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	100	U	200	100	50.0
Benzene	71-43-2	6.39	J	20.0	5.00	2.50
Bromobenzene	108-86-1	5.00	U	20.0	5.00	2.50
Bromochloromethane	74-97-5	8.00	U	20.0	8.00	4.00
Bromodichloromethane	75-27-4	10.0	U	20.0	10.0	5.00
Bromoform	75-25-2	20.0	U	40.0	20.0	10.0
Bromomethane	74-83-9	20.0	Q	40.0	20.0	10.0
2-Butanone	78-93-3	100	U	200	100	50.0
n-Butylbenzene	104-51-8	10.0	U	20.0	10.0	5.00
sec-Butylbenzene	135-98-8	10.0	U	20.0	10.0	5.00
tert-Butylbenzene	98-06-6	10.0	U	20.0	10.0	5.00
Carbon disulfide	75-15-0	20.0	U	40.0	20.0	10.0
Carbon tetrachloride	56-23-5	10.0	U	20.0	10.0	5.00
Chlorobenzene	108-90-7	5.00	U	20.0	5.00	2.50
Chlorodibromomethane	124-48-1	10.0	U	20.0	10.0	5.00
Chloroethane	75-00-3	20.0	U	40.0	20.0	10.0
Chloroform	67-66-3	5.00	U	20.0	5.00	2.50
Chloromethane	74-87-3	20.0	U	40.0	20.0	10.0
2-Chlorotoluene	95-49-8	5.00	U	20.0	5.00	2.50
4-Chlorotoluene	106-43-4	10.0	U	20.0	10.0	5.00
1,2-Dibromo-3-chloropropane	96-12-8	40.0	U	100	40.0	20.0
1,2-Dibromoethane	106-93-4	10.0	U	20.0	10.0	5.00
Dibromomethane	74-95-3	10.0	U	20.0	10.0	5.00
1,2-Dichlorobenzene	95-50-1	9.77	J	20.0	5.00	2.50
1,3-Dichlorobenzene	541-73-1	10.0	U	20.0	10.0	5.00
1,4-Dichlorobenzene	106-46-7	5.00	U	20.0	5.00	2.50
Dichlorodifluoromethane	75-71-8	10.0	U	20.0	10.0	5.00
1,1-Dichloroethane	75-34-3	459		20.0	5.00	2.50
1,2-Dichloroethane	107-06-2	17.2	J	20.0	10.0	5.00
1,1-Dichloroethene	75-35-4	3440		40.0	20.0	10.0
cis-1,2-Dichloroethene	156-59-2	115		20.0	10.0	5.00
trans-1,2-Dichloroethene	156-60-5	10.0	U	20.0	10.0	5.00

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	8.00	U	20.0	8.00	4.00
1,3-Dichloropropane	142-28-9	8.00	U	20.0	8.00	4.00
2,2-Dichloropropane	594-20-7	10.0	U	20.0	10.0	5.00
cis-1,3-Dichloropropene	10061-01-5	10.0	U	20.0	10.0	5.00
trans-1,3-Dichloropropene	10061-02-6	20.0	U	40.0	20.0	10.0
1,1-Dichloropropene	563-58-6	10.0	U	20.0	10.0	5.00
Ethylbenzene	100-41-4	10.0	U	20.0	10.0	5.00
2-Hexanone	591-78-6	100	U	200	100	50.0
Hexachlorobutadiene	87-68-3	10.0	U	20.0	10.0	5.00
Isopropylbenzene	98-82-8	10.0	U	20.0	10.0	5.00
p-Isopropyltoluene	99-87-6	10.0	U	20.0	10.0	5.00
4-Methyl-2-pentanone	108-10-1	100	U	200	100	50.0
Methylene chloride	75-09-2	10.0	U	20.0	10.0	5.00
Naphthalene	91-20-3	8.00	U	20.0	8.00	4.00
n-Propylbenzene	103-65-1	5.00	U	20.0	5.00	2.50
Styrene	100-42-5	5.00	U	20.0	5.00	2.50
1,1,1,2-Tetrachloroethane	630-20-6	10.0	U	20.0	10.0	5.00
1,1,2,2-Tetrachloroethane	79-34-5	8.00	U	20.0	8.00	4.00
Tetrachloroethene	127-18-4	10.0	U	20.0	10.0	5.00
Toluene	108-88-3	10.0	U	20.0	10.0	5.00
1,2,3-Trichlorobenzene	87-61-6	6.00	U	20.0	6.00	3.00
1,2,4-Trichlorobenzene	120-82-1	8.00	U	20.0	8.00	4.00
1,1,1-Trichloroethane	71-55-6	10.0	U	20.0	10.0	5.00
1,1,2-Trichloroethane	79-00-5	82.7		20.0	10.0	5.00
Trichloroethene	79-01-6	594		20.0	10.0	5.00
Trichlorofluoromethane	75-69-4	10.0	Q	20.0	10.0	5.00
1,2,3-Trichloropropane	96-18-4	20.0	U	40.0	20.0	10.0
1,2,4-Trimethylbenzene	95-63-6	10.0	U	20.0	10.0	5.00
1,3,5-Trimethylbenzene	108-67-8	10.0	U	20.0	10.0	5.00
Vinyl chloride	75-01-4	166		20.0	10.0	5.00
o-Xylene	95-47-6	10.0	U	20.0	10.0	5.00
m-,p-Xylene	179601-23-1	20.0	U	40.0	20.0	10.0

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	102	70	120	
Toluene-d8	103	85	120	
4-Bromofluorobenzene	96.8	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	35AWW20-100416	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG586463	**Analyst:**	JDS	**Run Date:**	10/05/2016 19:57
Collect Date:	10/04/2016 09:35	**Dilution:**	1	**File ID:**	16G50817
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	216		5.00	2.00	1.00
ethene	74-85-1	2.64	J	5.00	2.00	1.00
ethane	74-84-0	2.00	U	5.00	2.00	1.00

J	Estimated value ; the analyte concentration was less than the LOQ.
J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	35AWW20-100416	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG586612	**Analyst:**	JDS	**Run Date:**	10/06/2016 18:09
Collect Date:	10/04/2016 09:35	**Dilution:**	10	**File ID:**	16G50837
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	735000		100000	50000	25000

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	35AWW20-100416	**Prep Method:**	3015	**Prep Date:**	10/11/2016 10:14
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	10/13/2016 12:49
Workgroup #:	WG587330	**Analyst:**	KKB	**Run Date:**	10/13/2016 15:16
Collect Date:	10/04/2016 09:35	**Dilution:**	1	**File ID:**	T4.101316.151601
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	0.458		0.100	0.100	0.0500

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	35AWW20-100416	**Prep Method:**	3015	**Prep Date:**	10/07/2016 08:27
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/19/2016 09:04
Workgroup #:	WG586896	**Analyst:**	JYH	**Run Date:**	10/19/2016 09:52
Collect Date:	10/04/2016 09:35	**Dilution:**	50	**File ID:**	NI.101916.095218
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	1.95		0.200	0.100	0.0500

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	35AWW20-100416	**Prep Method:**	9056	**Prep Date:**	10/05/2016 18:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586401	**Analyst:**	CAS	**Run Date:**	10/05/2016 23:48
Collect Date:	10/04/2016 09:35	**Dilution:**	20	**File ID:**	I2_100516-19
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	4.00	U	8.00	4.00	2.00
Nitrite	14797-65-0	4.00	U	8.00	4.00	2.00
Sulfate	14808-79-8	1830		40.0	20.0	10.0

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	35AWW20-100416	**Prep Method:**	9056	**Prep Date:**	10/05/2016 18:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586401	**Analyst:**	CAS	**Run Date:**	10/06/2016 10:59
Collect Date:	10/04/2016 09:35	**Dilution:**	100	**File ID:**	I2_100516-31
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1470		40.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	35AWW20-100416	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	10/12/2016 08:02
Workgroup #:	WG587228	**Analyst:**	DCM	**Run Date:**	10/12/2016 08:10
Collect Date:	10/04/2016 09:35	**Dilution:**	5	**File ID:**	SC161012001.020
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	704		200	100	50.0

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	35AWW20-100416	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	08/10/2016 11:20
Workgroup #:	WG586481	**Analyst:**	TMM	**Run Date:**	10/06/2016 09:45
Collect Date:	10/04/2016 09:35	**Dilution:**	1	**File ID:**	00.1610060945-12
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.263		0.0400	0.0400	0.0200

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	35AWW20-100416	**Prep Method:**	365.4	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.4	**Cal Date:**	10/10/2016 09:33
Workgroup #:	WG586864	**Analyst:**	DCM	**Run Date:**	10/10/2016 09:47
Collect Date:	10/04/2016 09:35	**Dilution:**	1	**File ID:**	SC161010002.029
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.200	U	0.400	0.200	0.100

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	35AWW20-100416	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG586639	**Analyst:**	EPT	**Run Date:**	10/06/2016 16:20
Collect Date:	10/04/2016 09:35	**Dilution:**	1	**File ID:**	ET.1610061620-10
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	0.870	J	2.00	1.00	0.500

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	35AWW20-100416	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG586887	**Analyst:**	DCM	**Run Date:**	10/11/2016 12:56
Collect Date:	10/04/2016 09:35	**Dilution:**	5	**File ID:**	TC10102016.106
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	31.8		10.0	5.00	2.50

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	LHSMW07-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	10/13/2016 18:03
Workgroup #:	WG587598	**Analyst:**	FJB	**Run Date:**	10/13/2016 23:23
Collect Date:	10/04/2016 10:40	**Dilution:**	5	**File ID:**	11M14521
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	25.0	U	50.0	25.0	12.5
Benzene	71-43-2	1.17	J	5.00	1.25	0.625
Bromobenzene	108-86-1	1.25	U	5.00	1.25	0.625
Bromochloromethane	74-97-5	2.00	U	5.00	2.00	1.00
Bromodichloromethane	75-27-4	2.50	U	5.00	2.50	1.25
Bromoform	75-25-2	5.00	U	10.0	5.00	2.50
Bromomethane	74-83-9	5.00	U	10.0	5.00	2.50
2-Butanone	78-93-3	25.0	U	50.0	25.0	12.5
n-Butylbenzene	104-51-8	2.50	U	5.00	2.50	1.25
sec-Butylbenzene	135-98-8	2.50	U	5.00	2.50	1.25
tert-Butylbenzene	98-06-6	2.50	U	5.00	2.50	1.25
Carbon disulfide	75-15-0	5.00	U	10.0	5.00	2.50
Carbon tetrachloride	56-23-5	2.50	U	5.00	2.50	1.25
Chlorobenzene	108-90-7	0.729	J	5.00	1.25	0.625
Chlorodibromomethane	124-48-1	2.50	U	5.00	2.50	1.25
Chloroethane	75-00-3	5.00	U	10.0	5.00	2.50
Chloroform	67-66-3	1.25	U	5.00	1.25	0.625
Chloromethane	74-87-3	5.00	U	10.0	5.00	2.50
2-Chlorotoluene	95-49-8	1.25	U	5.00	1.25	0.625
4-Chlorotoluene	106-43-4	2.50	U	5.00	2.50	1.25

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dibromo-3-chloropropane	96-12-8	10.0	U	25.0	10.0	5.00
1,2-Dibromoethane	106-93-4	2.50	U	5.00	2.50	1.25
Dibromomethane	74-95-3	2.50	U	5.00	2.50	1.25
1,2-Dichlorobenzene	95-50-1	1.25	U	5.00	1.25	0.625
1,3-Dichlorobenzene	541-73-1	2.50	U	5.00	2.50	1.25
1,4-Dichlorobenzene	106-46-7	0.657	J	5.00	1.25	0.625
Dichlorodifluoromethane	75-71-8	2.50	U	5.00	2.50	1.25
1,1-Dichloroethane	75-34-3	96.2		5.00	1.25	0.625
1,2-Dichloroethane	107-06-2	2.56	J	5.00	2.50	1.25
1,1-Dichloroethene	75-35-4	701		10.0	5.00	2.50
cis-1,2-Dichloroethene	156-59-2	22.1		5.00	2.50	1.25
trans-1,2-Dichloroethene	156-60-5	2.50	U	5.00	2.50	1.25
1,2-Dichloropropane	78-87-5	2.00	U	5.00	2.00	1.00
1,3-Dichloropropane	142-28-9	2.00	U	5.00	2.00	1.00
2,2-Dichloropropane	594-20-7	2.50	U	5.00	2.50	1.25
cis-1,3-Dichloropropene	10061-01-5	2.50	U	5.00	2.50	1.25
trans-1,3-Dichloropropene	10061-02-6	5.00	U	10.0	5.00	2.50
1,1-Dichloropropene	563-58-6	2.50	U	5.00	2.50	1.25
Ethylbenzene	100-41-4	2.50	U	5.00	2.50	1.25
2-Hexanone	591-78-6	25.0	U	50.0	25.0	12.5
Hexachlorobutadiene	87-68-3	2.50	U	5.00	2.50	1.25
Isopropylbenzene	98-82-8	2.50	U	5.00	2.50	1.25
p-Isopropyltoluene	99-87-6	2.50	U	5.00	2.50	1.25
4-Methyl-2-pentanone	108-10-1	25.0	U	50.0	25.0	12.5
Methylene chloride	75-09-2	2.50	U	5.00	2.50	1.25
Naphthalene	91-20-3	2.00	U	5.00	2.00	1.00
n-Propylbenzene	103-65-1	1.25	U	5.00	1.25	0.625
Styrene	100-42-5	1.25	U	5.00	1.25	0.625
1,1,1,2-Tetrachloroethane	630-20-6	2.50	U	5.00	2.50	1.25
1,1,2,2-Tetrachloroethane	79-34-5	2.00	U	5.00	2.00	1.00
Tetrachloroethene	127-18-4	2.50	U	5.00	2.50	1.25
Toluene	108-88-3	2.50	U	5.00	2.50	1.25
1,2,3-Trichlorobenzene	87-61-6	1.50	U	5.00	1.50	0.750
1,2,4-Trichlorobenzene	120-82-1	2.00	U	5.00	2.00	1.00
1,1,1-Trichloroethane	71-55-6	2.50	U	5.00	2.50	1.25
1,1,2-Trichloroethane	79-00-5	7.72		5.00	2.50	1.25
Trichloroethene	79-01-6	71.6		5.00	2.50	1.25
Trichlorofluoromethane	75-69-4	2.50	U	5.00	2.50	1.25
1,2,3-Trichloropropane	96-18-4	5.00	U	10.0	5.00	2.50

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2,4-Trimethylbenzene	95-63-6	2.50	U	5.00	2.50	1.25
1,3,5-Trimethylbenzene	108-67-8	2.50	U	5.00	2.50	1.25
Vinyl chloride	75-01-4	21.8		5.00	2.50	1.25
o-Xylene	95-47-6	2.50	U	5.00	2.50	1.25
m-,p-Xylene	179601-23-1	5.00	U	10.0	5.00	2.50

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	96.4	85	115	
1,2-Dichloroethane-d4	94.6	70	120	
Toluene-d8	98.5	85	120	
4-Bromofluorobenzene	94.2	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	LHSMW07-100416	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG586463	**Analyst:**	JDS	**Run Date:**	10/05/2016 20:08
Collect Date:	10/04/2016 10:40	**Dilution:**	1	**File ID:**	16G50818
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	115		5.00	2.00	1.00
ethene	74-85-1	2.00	U	5.00	2.00	1.00
ethane	74-84-0	2.00	U	5.00	2.00	1.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	LHSMW07-100416	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG586612	**Analyst:**	JDS	**Run Date:**	10/06/2016 18:21
Collect Date:	10/04/2016 10:40	**Dilution:**	10	**File ID:**	16G50838
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	921000		100000	50000	25000

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	LHSMW07-100416	**Prep Method:**	3015	**Prep Date:**	10/11/2016 10:14
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	10/13/2016 12:49
Workgroup #:	WG587330	**Analyst:**	KKB	**Run Date:**	10/13/2016 14:00
Collect Date:	10/04/2016 10:40	**Dilution:**	1	**File ID:**	T4.101316.140042
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	1.34		0.100	0.100	0.0500

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	LHSMW07-100416	**Prep Method:**	3015	**Prep Date:**	10/07/2016 08:27
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/12/2016 14:22
Workgroup #:	WG586896	**Analyst:**	BKT	**Run Date:**	10/12/2016 17:50
Collect Date:	10/04/2016 10:40	**Dilution:**	1	**File ID:**	NI.101216.175005
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	0.137		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	LHSMW07-100416	**Prep Method:**	9056	**Prep Date:**	10/05/2016 18:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586401	**Analyst:**	CAS	**Run Date:**	10/06/2016 00:26
Collect Date:	10/04/2016 10:40	**Dilution:**	20	**File ID:**	I2_100516-21
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	4.00	U	8.00	4.00	2.00
Nitrite	14797-65-0	4.00	U	8.00	4.00	2.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	LHSMW07-100416	**Prep Method:**	9056	**Prep Date:**	10/05/2016 18:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586401	**Analyst:**	CAS	**Run Date:**	10/06/2016 01:43
Collect Date:	10/04/2016 10:40	**Dilution:**	40	**File ID:**	I2_100516-25
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfate	14808-79-8	2650		80.0	40.0	20.0

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	IC2
Client ID:	LHSMW07-100416	**Prep Method:**	9056	**Prep Date:**	10/05/2016 18:40
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	09/08/2016 00:39
Workgroup #:	WG586401	**Analyst:**	CAS	**Run Date:**	10/06/2016 11:18
Collect Date:	10/04/2016 10:40	**Dilution:**	100	**File ID:**	I2_100516-32
Sample Tag:	DL03	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	2280		40.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	LHSMW07-100416	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	10/12/2016 08:02
Workgroup #:	WG587228	**Analyst:**	DCM	**Run Date:**	10/12/2016 08:11
Collect Date:	10/04/2016 10:40	**Dilution:**	5	**File ID:**	SC161012001.023
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	658		200	100	50.0

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	UV-2600
Client ID:	LHSMW07-100416	**Prep Method:**	SM3500Fe-B-1997	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM3500Fe-B-1997	**Cal Date:**	08/10/2016 11:20
Workgroup #:	WG586481	**Analyst:**	TMM	**Run Date:**	10/06/2016 09:45
Collect Date:	10/04/2016 10:40	**Dilution:**	1	**File ID:**	00.1610060945-13
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.260		0.0400	0.0400	0.0200

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	LHSMW07-100416	**Prep Method:**	365.4	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.4	**Cal Date:**	10/10/2016 09:33
Workgroup #:	WG586864	**Analyst:**	DCM	**Run Date:**	10/10/2016 09:47
Collect Date:	10/04/2016 10:40	**Dilution:**	1	**File ID:**	SC161010002.030
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.200	U	0.400	0.200	0.100

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	LHSMW07-100416	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG586639	**Analyst:**	EPT	**Run Date:**	10/06/2016 16:20
Collect Date:	10/04/2016 10:40	**Dilution:**	1	**File ID:**	ET.1610061620-11
Sample Tag:		**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	TOC-VWP
Client ID:	LHSMW07-100416	**Prep Method:**	415.1	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	415.1	**Cal Date:**	10/30/2015 17:00
Workgroup #:	WG586887	**Analyst:**	DCM	**Run Date:**	10/11/2016 13:10
Collect Date:	10/04/2016 10:40	**Dilution:**	5	**File ID:**	TC10102016.107
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	41.6		10.0	5.00	2.50

Certificate of Analysis

Sample #:	L16100194-07	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	35AWW16-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/26/2016 18:51
Workgroup #:	WG587315	**Analyst:**	TMB	**Run Date:**	10/12/2016 20:21
Collect Date:	10/04/2016 13:15	**Dilution:**	1	**File ID:**	6M142666
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	2.82	J	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	Q	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	110	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	98.5	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	35AWW16FD-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/26/2016 18:51
Workgroup #:	WG587315	**Analyst:**	TMB	**Run Date:**	10/12/2016 19:49
Collect Date:	10/04/2016 13:15	**Dilution:**	1	**File ID:**	6M142665
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	Q	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	110	85	115	
1,2-Dichloroethane-d4	104	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	96.1	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-09	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	35AWW21-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/26/2016 18:51
Workgroup #:	WG587315	**Analyst:**	TMB	**Run Date:**	10/12/2016 19:17
Collect Date:	10/04/2016 14:10	**Dilution:**	1	**File ID:**	6M142664
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	Q	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	109	85	115	
1,2-Dichloroethane-d4	102	70	120	
Toluene-d8	103	85	120	
4-Bromofluorobenzene	97.0	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-10	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	35AWW21FD-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/26/2016 18:51
Workgroup #:	WG587315	**Analyst:**	TMB	**Run Date:**	10/12/2016 18:45
Collect Date:	10/04/2016 14:10	**Dilution:**	1	**File ID:**	6M142663
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	Q	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	109	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	103	85	120	
4-Bromofluorobenzene	95.9	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-11	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/26/2016 18:51
Workgroup #:	WG587315	**Analyst:**	TMB	**Run Date:**	10/12/2016 18:13
Collect Date:	10/04/2016 00:01	**Dilution:**	1	**File ID:**	6M142662
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	9.24	J	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	Q	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	107	85	115	
1,2-Dichloroethane-d4	101	70	120	
Toluene-d8	103	85	120	
4-Bromofluorobenzene	97.1	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-12	**PrePrep Method:**	N/A	**Instrument:**	HPLC4
Client ID:	35AWW08-100416	**Prep Method:**	830-MBA	**Prep Date:**	10/14/2016 15:00
Matrix:	Water	**Analytical Method:**	830-MBA	**Cal Date:**	06/22/2016 20:08
Workgroup #:	WG587720	**Analyst:**	JWR	**Run Date:**	10/15/2016 07:36
Collect Date:	10/04/2016 07:40	**Dilution:**	1	**File ID:**	4L028485.F
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Pyruvic Acid	127-17-3	0.100	U	0.200	0.100	0.0500
Lactic Acid	50-21-5	1.00	U	2.00	1.00	0.500
Propionic Acid	79-09-4	17.6	J	20.0	10.0	5.00
Butyric Acid	107-92-6	1.00	U	2.00	1.00	0.500

J	Estimated value ; the analyte concentration was less than the LOQ.
J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-12	**PrePrep Method:**	N/A	**Instrument:**	HPLC4
Client ID:	35AWW08-100416	**Prep Method:**	830-MBA	**Prep Date:**	10/14/2016 15:00
Matrix:	Water	**Analytical Method:**	830-MBA	**Cal Date:**	06/22/2016 20:08
Workgroup #:	WG587720	**Analyst:**	JWR	**Run Date:**	10/15/2016 08:58
Collect Date:	10/04/2016 07:40	**Dilution:**	10	**File ID:**	4L028486.F
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetic Acid	64-19-7	156		20.0	10.0	5.00

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-13	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	35AWW08FF-100416	**Prep Method:**	3015	**Prep Date:**	10/07/2016 08:27
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/19/2016 09:04
Workgroup #:	WG586896	**Analyst:**	JYH	**Run Date:**	10/19/2016 09:55
Collect Date:	10/04/2016 07:40	**Dilution:**	100	**File ID:**	NI.101916.095517
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	9.38		0.400	0.200	0.100

Certificate of Analysis

Sample #:	L16100194-14	**PrePrep Method:**	N/A	**Instrument:**	HPLC4
Client ID:	03WW01-100416	**Prep Method:**	830-MBA	**Prep Date:**	10/14/2016 15:00
Matrix:	Water	**Analytical Method:**	830-MBA	**Cal Date:**	06/22/2016 20:08
Workgroup #:	WG587720	**Analyst:**	JWR	**Run Date:**	10/15/2016 04:52
Collect Date:	10/04/2016 08:20	**Dilution:**	1	**File ID:**	4L028483.F
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Pyruvic Acid	127-17-3	0.100	U	0.200	0.100	0.0500
Lactic Acid	50-21-5	1.00	U	2.00	1.00	0.500
Acetic Acid	64-19-7	33.2		2.00	1.00	0.500
Propionic Acid	79-09-4	10.0	U	20.0	10.0	5.00
Butyric Acid	107-92-6	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-15	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	03WW01FF-100416	**Prep Method:**	3015	**Prep Date:**	10/07/2016 08:27
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/19/2016 09:04
Workgroup #:	WG586896	**Analyst:**	JYH	**Run Date:**	10/19/2016 10:04
Collect Date:	10/04/2016 08:20	**Dilution:**	100	**File ID:**	NI.101916.100416
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	8.47		0.400	0.200	0.100

Certificate of Analysis

Sample #:	L16100194-16	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	35AWW20FF-100416	**Prep Method:**	3015	**Prep Date:**	10/07/2016 08:27
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/19/2016 09:04
Workgroup #:	WG586896	**Analyst:**	JYH	**Run Date:**	10/19/2016 10:07
Collect Date:	10/04/2016 09:35	**Dilution:**	50	**File ID:**	NI.101916.100716
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	1.91		0.200	0.100	0.0500

Certificate of Analysis

Sample #:	L16100194-17	**PrePrep Method:**	N/A	**Instrument:**	ICP-MS2
Client ID:	LHSMW07FF-100416	**Prep Method:**	3015	**Prep Date:**	10/07/2016 08:27
Matrix:	Water	**Analytical Method:**	6020A	**Cal Date:**	10/12/2016 14:22
Workgroup #:	WG586896	**Analyst:**	BKT	**Run Date:**	10/12/2016 18:08
Collect Date:	10/04/2016 10:40	**Dilution:**	1	**File ID:**	NI.101216.180804
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.144		0.00400	0.00200	0.00100

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	35AWW08-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	10/13/2016 18:03
Workgroup #:	WG587867	**Analyst:**	FJB	**Run Date:**	10/17/2016 22:18
Collect Date:	10/04/2016 07:40	**Dilution:**	10	**File ID:**	11M14578
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	95.5	Q	100	50.0	25.0
Benzene	71-43-2	2.50	U	10.0	2.50	1.25
Bromobenzene	108-86-1	2.50	U	10.0	2.50	1.25
Bromochloromethane	74-97-5	4.00	U	10.0	4.00	2.00
Bromodichloromethane	75-27-4	5.00	U	10.0	5.00	2.50
Bromoform	75-25-2	10.0	U	20.0	10.0	5.00
Bromomethane	74-83-9	10.0	U	20.0	10.0	5.00
2-Butanone	78-93-3	40.7	Q	100	50.0	25.0
n-Butylbenzene	104-51-8	5.00	U	10.0	5.00	2.50
sec-Butylbenzene	135-98-8	5.00	U	10.0	5.00	2.50
tert-Butylbenzene	98-06-6	5.00	U	10.0	5.00	2.50
Carbon disulfide	75-15-0	10.0	U	20.0	10.0	5.00
Carbon tetrachloride	56-23-5	5.00	U	10.0	5.00	2.50
Chlorobenzene	108-90-7	2.50	U	10.0	2.50	1.25
Chlorodibromomethane	124-48-1	5.00	U	10.0	5.00	2.50
Chloroethane	75-00-3	10.0	U	20.0	10.0	5.00
Chloroform	67-66-3	2.50	U	10.0	2.50	1.25
Chloromethane	74-87-3	10.0	U	20.0	10.0	5.00
2-Chlorotoluene	95-49-8	2.50	U	10.0	2.50	1.25
4-Chlorotoluene	106-43-4	5.00	U	10.0	5.00	2.50
1,2-Dibromo-3-chloropropane	96-12-8	20.0	U	50.0	20.0	10.0
1,2-Dibromoethane	106-93-4	5.00	U	10.0	5.00	2.50
Dibromomethane	74-95-3	5.00	U	10.0	5.00	2.50
1,2-Dichlorobenzene	95-50-1	2.50	U	10.0	2.50	1.25
1,3-Dichlorobenzene	541-73-1	5.00	U	10.0	5.00	2.50
1,4-Dichlorobenzene	106-46-7	2.50	U	10.0	2.50	1.25
Dichlorodifluoromethane	75-71-8	5.00	U	10.0	5.00	2.50
1,1-Dichloroethane	75-34-3	2.50	U	10.0	2.50	1.25
1,2-Dichloroethane	107-06-2	5.00	U	10.0	5.00	2.50
1,1-Dichloroethene	75-35-4	10.0	U	20.0	10.0	5.00
cis-1,2-Dichloroethene	156-59-2	41.7		10.0	5.00	2.50
trans-1,2-Dichloroethene	156-60-5	5.00	U	10.0	5.00	2.50

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	4.00	U	10.0	4.00	2.00
1,3-Dichloropropane	142-28-9	4.00	U	10.0	4.00	2.00
2,2-Dichloropropane	594-20-7	5.00	U	10.0	5.00	2.50
cis-1,3-Dichloropropene	10061-01-5	5.00	U	10.0	5.00	2.50
trans-1,3-Dichloropropene	10061-02-6	10.0	U	20.0	10.0	5.00
1,1-Dichloropropene	563-58-6	5.00	U	10.0	5.00	2.50
Ethylbenzene	100-41-4	5.00	U	10.0	5.00	2.50
2-Hexanone	591-78-6	50.0	Q	100	50.0	25.0
Hexachlorobutadiene	87-68-3	5.00	U	10.0	5.00	2.50
Isopropylbenzene	98-82-8	5.00	U	10.0	5.00	2.50
p-Isopropyltoluene	99-87-6	5.00	U	10.0	5.00	2.50
4-Methyl-2-pentanone	108-10-1	50.0	U	100	50.0	25.0
Methylene chloride	75-09-2	5.00	U	10.0	5.00	2.50
Naphthalene	91-20-3	4.00	U	10.0	4.00	2.00
n-Propylbenzene	103-65-1	2.50	U	10.0	2.50	1.25
Styrene	100-42-5	2.50	U	10.0	2.50	1.25
1,1,1,2-Tetrachloroethane	630-20-6	5.00	U	10.0	5.00	2.50
1,1,2,2-Tetrachloroethane	79-34-5	4.00	U	10.0	4.00	2.00
Tetrachloroethene	127-18-4	36.9		10.0	5.00	2.50
Toluene	108-88-3	5.00	U	10.0	5.00	2.50
1,2,3-Trichlorobenzene	87-61-6	3.00	U	10.0	3.00	1.50
1,2,4-Trichlorobenzene	120-82-1	4.00	U	10.0	4.00	2.00
1,1,1-Trichloroethane	71-55-6	5.00	U	10.0	5.00	2.50
1,1,2-Trichloroethane	79-00-5	5.00	U	10.0	5.00	2.50
Trichloroethene	79-01-6	235		10.0	5.00	2.50
Trichlorofluoromethane	75-69-4	5.00	U	10.0	5.00	2.50
1,2,3-Trichloropropane	96-18-4	10.0	U	20.0	10.0	5.00
1,2,4-Trimethylbenzene	95-63-6	5.00	U	10.0	5.00	2.50
1,3,5-Trimethylbenzene	108-67-8	5.00	U	10.0	5.00	2.50
Vinyl chloride	75-01-4	7.46	J	10.0	5.00	2.50
o-Xylene	95-47-6	5.00	U	10.0	5.00	2.50
m-,p-Xylene	179601-23-1	10.0	U	20.0	10.0	5.00

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	91.8	85	115	
1,2-Dichloroethane-d4	89.0	70	120	
Toluene-d8	94.6	85	120	
4-Bromofluorobenzene	92.4	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	03WW01-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	10/13/2016 18:03
Workgroup #:	WG587598	**Analyst:**	FJB	**Run Date:**	10/13/2016 22:54
Collect Date:	10/04/2016 08:20	**Dilution:**	10	**File ID:**	11M14520
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	73.4	J	100	50.0	25.0
Benzene	71-43-2	2.50	U	10.0	2.50	1.25
Bromobenzene	108-86-1	2.50	U	10.0	2.50	1.25
Bromochloromethane	74-97-5	4.00	U	10.0	4.00	2.00
Bromodichloromethane	75-27-4	5.00	U	10.0	5.00	2.50
Bromoform	75-25-2	10.0	U	20.0	10.0	5.00
Bromomethane	74-83-9	10.0	U	20.0	10.0	5.00
2-Butanone	78-93-3	50.0	U	100	50.0	25.0
n-Butylbenzene	104-51-8	5.00	U	10.0	5.00	2.50
sec-Butylbenzene	135-98-8	5.00	U	10.0	5.00	2.50
tert-Butylbenzene	98-06-6	5.00	U	10.0	5.00	2.50
Carbon disulfide	75-15-0	10.0	U	20.0	10.0	5.00
Carbon tetrachloride	56-23-5	5.00	U	10.0	5.00	2.50
Chlorobenzene	108-90-7	2.50	U	10.0	2.50	1.25
Chlorodibromomethane	124-48-1	5.00	U	10.0	5.00	2.50
Chloroethane	75-00-3	10.0	U	20.0	10.0	5.00
Chloroform	67-66-3	2.50	U	10.0	2.50	1.25
Chloromethane	74-87-3	10.0	U	20.0	10.0	5.00
2-Chlorotoluene	95-49-8	2.50	U	10.0	2.50	1.25
4-Chlorotoluene	106-43-4	5.00	U	10.0	5.00	2.50
1,2-Dibromo-3-chloropropane	96-12-8	20.0	U	50.0	20.0	10.0
1,2-Dibromoethane	106-93-4	5.00	U	10.0	5.00	2.50
Dibromomethane	74-95-3	5.00	U	10.0	5.00	2.50
1,2-Dichlorobenzene	95-50-1	2.50	U	10.0	2.50	1.25
1,3-Dichlorobenzene	541-73-1	5.00	U	10.0	5.00	2.50
1,4-Dichlorobenzene	106-46-7	1.52	J	10.0	2.50	1.25
Dichlorodifluoromethane	75-71-8	5.00	U	10.0	5.00	2.50
1,1-Dichloroethane	75-34-3	2.50	U	10.0	2.50	1.25
1,2-Dichloroethane	107-06-2	5.00	U	10.0	5.00	2.50
1,1-Dichloroethene	75-35-4	10.0	U	20.0	10.0	5.00
cis-1,2-Dichloroethene	156-59-2	5.00	U	10.0	5.00	2.50

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	5.00	U	10.0	5.00	2.50
1,2-Dichloropropane	78-87-5	4.00	U	10.0	4.00	2.00
1,3-Dichloropropane	142-28-9	4.00	U	10.0	4.00	2.00
2,2-Dichloropropane	594-20-7	5.00	U	10.0	5.00	2.50
cis-1,3-Dichloropropene	10061-01-5	5.00	U	10.0	5.00	2.50
trans-1,3-Dichloropropene	10061-02-6	10.0	U	20.0	10.0	5.00
1,1-Dichloropropene	563-58-6	5.00	U	10.0	5.00	2.50
Ethylbenzene	100-41-4	5.00	U	10.0	5.00	2.50
2-Hexanone	591-78-6	50.0	U	100	50.0	25.0
Hexachlorobutadiene	87-68-3	5.00	U	10.0	5.00	2.50
Isopropylbenzene	98-82-8	5.00	U	10.0	5.00	2.50
p-Isopropyltoluene	99-87-6	5.00	U	10.0	5.00	2.50
4-Methyl-2-pentanone	108-10-1	50.0	U	100	50.0	25.0
Methylene chloride	75-09-2	5.00	U	10.0	5.00	2.50
Naphthalene	91-20-3	4.00	U	10.0	4.00	2.00
n-Propylbenzene	103-65-1	2.50	U	10.0	2.50	1.25
Styrene	100-42-5	2.50	U	10.0	2.50	1.25
1,1,1,2-Tetrachloroethane	630-20-6	5.00	U	10.0	5.00	2.50
1,1,2,2-Tetrachloroethane	79-34-5	4.00	U	10.0	4.00	2.00
Tetrachloroethene	127-18-4	5.00	U	10.0	5.00	2.50
Toluene	108-88-3	5.00	U	10.0	5.00	2.50
1,2,3-Trichlorobenzene	87-61-6	3.00	U	10.0	3.00	1.50
1,2,4-Trichlorobenzene	120-82-1	4.00	U	10.0	4.00	2.00
1,1,1-Trichloroethane	71-55-6	5.00	U	10.0	5.00	2.50
1,1,2-Trichloroethane	79-00-5	5.00	U	10.0	5.00	2.50
Trichloroethene	79-01-6	5.00	U	10.0	5.00	2.50
Trichlorofluoromethane	75-69-4	5.00	U	10.0	5.00	2.50
1,2,3-Trichloropropane	96-18-4	10.0	U	20.0	10.0	5.00
1,2,4-Trimethylbenzene	95-63-6	5.00	U	10.0	5.00	2.50
1,3,5-Trimethylbenzene	108-67-8	5.00	U	10.0	5.00	2.50
Vinyl chloride	75-01-4	5.00	U	10.0	5.00	2.50
o-Xylene	95-47-6	5.00	U	10.0	5.00	2.50
m-,p-Xylene	179601-23-1	10.0	U	20.0	10.0	5.00

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	97.6	85	115	
1,2-Dichloroethane-d4	94.1	70	120	
Toluene-d8	99.2	85	120	
4-Bromofluorobenzene	94.7	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	35AWW20-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/26/2016 18:51
Workgroup #:	WG587315	**Analyst:**	TMB	**Run Date:**	10/13/2016 00:38
Collect Date:	10/04/2016 09:35	**Dilution:**	20	**File ID:**	6M142674
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	100	U	200	100	50.0
Benzene	71-43-2	6.39	J	20.0	5.00	2.50
Bromobenzene	108-86-1	5.00	U	20.0	5.00	2.50
Bromochloromethane	74-97-5	8.00	U	20.0	8.00	4.00
Bromodichloromethane	75-27-4	10.0	U	20.0	10.0	5.00
Bromoform	75-25-2	20.0	U	40.0	20.0	10.0
Bromomethane	74-83-9	20.0	Q	40.0	20.0	10.0
2-Butanone	78-93-3	100	U	200	100	50.0
n-Butylbenzene	104-51-8	10.0	U	20.0	10.0	5.00
sec-Butylbenzene	135-98-8	10.0	U	20.0	10.0	5.00
tert-Butylbenzene	98-06-6	10.0	U	20.0	10.0	5.00
Carbon disulfide	75-15-0	20.0	U	40.0	20.0	10.0
Carbon tetrachloride	56-23-5	10.0	U	20.0	10.0	5.00
Chlorobenzene	108-90-7	5.00	U	20.0	5.00	2.50
Chlorodibromomethane	124-48-1	10.0	U	20.0	10.0	5.00
Chloroethane	75-00-3	20.0	U	40.0	20.0	10.0
Chloroform	67-66-3	5.00	U	20.0	5.00	2.50
Chloromethane	74-87-3	20.0	U	40.0	20.0	10.0
2-Chlorotoluene	95-49-8	5.00	U	20.0	5.00	2.50
4-Chlorotoluene	106-43-4	10.0	U	20.0	10.0	5.00
1,2-Dibromo-3-chloropropane	96-12-8	40.0	U	100	40.0	20.0
1,2-Dibromoethane	106-93-4	10.0	U	20.0	10.0	5.00
Dibromomethane	74-95-3	10.0	U	20.0	10.0	5.00
1,2-Dichlorobenzene	95-50-1	9.77	J	20.0	5.00	2.50
1,3-Dichlorobenzene	541-73-1	10.0	U	20.0	10.0	5.00
1,4-Dichlorobenzene	106-46-7	5.00	U	20.0	5.00	2.50
Dichlorodifluoromethane	75-71-8	10.0	U	20.0	10.0	5.00
1,1-Dichloroethane	75-34-3	459		20.0	5.00	2.50
1,2-Dichloroethane	107-06-2	17.2	J	20.0	10.0	5.00
1,1-Dichloroethene	75-35-4	3440		40.0	20.0	10.0
cis-1,2-Dichloroethene	156-59-2	115		20.0	10.0	5.00

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	10.0	U	20.0	10.0	5.00
1,2-Dichloropropane	78-87-5	8.00	U	20.0	8.00	4.00
1,3-Dichloropropane	142-28-9	8.00	U	20.0	8.00	4.00
2,2-Dichloropropane	594-20-7	10.0	U	20.0	10.0	5.00
cis-1,3-Dichloropropene	10061-01-5	10.0	U	20.0	10.0	5.00
trans-1,3-Dichloropropene	10061-02-6	20.0	U	40.0	20.0	10.0
1,1-Dichloropropene	563-58-6	10.0	U	20.0	10.0	5.00
Ethylbenzene	100-41-4	10.0	U	20.0	10.0	5.00
2-Hexanone	591-78-6	100	U	200	100	50.0
Hexachlorobutadiene	87-68-3	10.0	U	20.0	10.0	5.00
Isopropylbenzene	98-82-8	10.0	U	20.0	10.0	5.00
p-Isopropyltoluene	99-87-6	10.0	U	20.0	10.0	5.00
4-Methyl-2-pentanone	108-10-1	100	U	200	100	50.0
Methylene chloride	75-09-2	10.0	U	20.0	10.0	5.00
Naphthalene	91-20-3	8.00	U	20.0	8.00	4.00
n-Propylbenzene	103-65-1	5.00	U	20.0	5.00	2.50
Styrene	100-42-5	5.00	U	20.0	5.00	2.50
1,1,1,2-Tetrachloroethane	630-20-6	10.0	U	20.0	10.0	5.00
1,1,2,2-Tetrachloroethane	79-34-5	8.00	U	20.0	8.00	4.00
Tetrachloroethene	127-18-4	10.0	U	20.0	10.0	5.00
Toluene	108-88-3	10.0	U	20.0	10.0	5.00
1,2,3-Trichlorobenzene	87-61-6	6.00	U	20.0	6.00	3.00
1,2,4-Trichlorobenzene	120-82-1	8.00	U	20.0	8.00	4.00
1,1,1-Trichloroethane	71-55-6	10.0	U	20.0	10.0	5.00
1,1,2-Trichloroethane	79-00-5	82.7		20.0	10.0	5.00
Trichloroethene	79-01-6	594		20.0	10.0	5.00
Trichlorofluoromethane	75-69-4	10.0	Q	20.0	10.0	5.00
1,2,3-Trichloropropane	96-18-4	20.0	U	40.0	20.0	10.0
1,2,4-Trimethylbenzene	95-63-6	10.0	U	20.0	10.0	5.00
1,3,5-Trimethylbenzene	108-67-8	10.0	U	20.0	10.0	5.00
Vinyl chloride	75-01-4	166		20.0	10.0	5.00
o-Xylene	95-47-6	10.0	U	20.0	10.0	5.00
m-,p-Xylene	179601-23-1	20.0	U	40.0	20.0	10.0

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	108	85	115	
1,2-Dichloroethane-d4	102	70	120	
Toluene-d8	103	85	120	
4-Bromofluorobenzene	96.8	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS11
Client ID:	LHSMW07-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	10/13/2016 18:03
Workgroup #:	WG587598	**Analyst:**	FJB	**Run Date:**	10/13/2016 23:23
Collect Date:	10/04/2016 10:40	**Dilution:**	5	**File ID:**	11M14521
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	25.0	U	50.0	25.0	12.5
Benzene	71-43-2	1.17	J	5.00	1.25	0.625
Bromobenzene	108-86-1	1.25	U	5.00	1.25	0.625
Bromochloromethane	74-97-5	2.00	U	5.00	2.00	1.00
Bromodichloromethane	75-27-4	2.50	U	5.00	2.50	1.25
Bromoform	75-25-2	5.00	U	10.0	5.00	2.50
Bromomethane	74-83-9	5.00	U	10.0	5.00	2.50
2-Butanone	78-93-3	25.0	U	50.0	25.0	12.5
n-Butylbenzene	104-51-8	2.50	U	5.00	2.50	1.25
sec-Butylbenzene	135-98-8	2.50	U	5.00	2.50	1.25
tert-Butylbenzene	98-06-6	2.50	U	5.00	2.50	1.25
Carbon disulfide	75-15-0	5.00	U	10.0	5.00	2.50
Carbon tetrachloride	56-23-5	2.50	U	5.00	2.50	1.25
Chlorobenzene	108-90-7	0.729	J	5.00	1.25	0.625
Chlorodibromomethane	124-48-1	2.50	U	5.00	2.50	1.25
Chloroethane	75-00-3	5.00	U	10.0	5.00	2.50
Chloroform	67-66-3	1.25	U	5.00	1.25	0.625
Chloromethane	74-87-3	5.00	U	10.0	5.00	2.50
2-Chlorotoluene	95-49-8	1.25	U	5.00	1.25	0.625
4-Chlorotoluene	106-43-4	2.50	U	5.00	2.50	1.25
1,2-Dibromo-3-chloropropane	96-12-8	10.0	U	25.0	10.0	5.00
1,2-Dibromoethane	106-93-4	2.50	U	5.00	2.50	1.25
Dibromomethane	74-95-3	2.50	U	5.00	2.50	1.25
1,2-Dichlorobenzene	95-50-1	1.25	U	5.00	1.25	0.625
1,3-Dichlorobenzene	541-73-1	2.50	U	5.00	2.50	1.25
1,4-Dichlorobenzene	106-46-7	0.657	J	5.00	1.25	0.625
Dichlorodifluoromethane	75-71-8	2.50	U	5.00	2.50	1.25
1,1-Dichloroethane	75-34-3	96.2		5.00	1.25	0.625
1,2-Dichloroethane	107-06-2	2.56	J	5.00	2.50	1.25
1,1-Dichloroethene	75-35-4	701		10.0	5.00	2.50
cis-1,2-Dichloroethene	156-59-2	22.1		5.00	2.50	1.25

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Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	2.50	U	5.00	2.50	1.25
1,2-Dichloropropane	78-87-5	2.00	U	5.00	2.00	1.00
1,3-Dichloropropane	142-28-9	2.00	U	5.00	2.00	1.00
2,2-Dichloropropane	594-20-7	2.50	U	5.00	2.50	1.25
cis-1,3-Dichloropropene	10061-01-5	2.50	U	5.00	2.50	1.25
trans-1,3-Dichloropropene	10061-02-6	5.00	U	10.0	5.00	2.50
1,1-Dichloropropene	563-58-6	2.50	U	5.00	2.50	1.25
Ethylbenzene	100-41-4	2.50	U	5.00	2.50	1.25
2-Hexanone	591-78-6	25.0	U	50.0	25.0	12.5
Hexachlorobutadiene	87-68-3	2.50	U	5.00	2.50	1.25
Isopropylbenzene	98-82-8	2.50	U	5.00	2.50	1.25
p-Isopropyltoluene	99-87-6	2.50	U	5.00	2.50	1.25
4-Methyl-2-pentanone	108-10-1	25.0	U	50.0	25.0	12.5
Methylene chloride	75-09-2	2.50	U	5.00	2.50	1.25
Naphthalene	91-20-3	2.00	U	5.00	2.00	1.00
n-Propylbenzene	103-65-1	1.25	U	5.00	1.25	0.625
Styrene	100-42-5	1.25	U	5.00	1.25	0.625
1,1,1,2-Tetrachloroethane	630-20-6	2.50	U	5.00	2.50	1.25
1,1,2,2-Tetrachloroethane	79-34-5	2.00	U	5.00	2.00	1.00
Tetrachloroethene	127-18-4	2.50	U	5.00	2.50	1.25
Toluene	108-88-3	2.50	U	5.00	2.50	1.25
1,2,3-Trichlorobenzene	87-61-6	1.50	U	5.00	1.50	0.750
1,2,4-Trichlorobenzene	120-82-1	2.00	U	5.00	2.00	1.00
1,1,1-Trichloroethane	71-55-6	2.50	U	5.00	2.50	1.25
1,1,2-Trichloroethane	79-00-5	7.72		5.00	2.50	1.25
Trichloroethene	79-01-6	71.6		5.00	2.50	1.25
Trichlorofluoromethane	75-69-4	2.50	U	5.00	2.50	1.25
1,2,3-Trichloropropane	96-18-4	5.00	U	10.0	5.00	2.50
1,2,4-Trimethylbenzene	95-63-6	2.50	U	5.00	2.50	1.25
1,3,5-Trimethylbenzene	108-67-8	2.50	U	5.00	2.50	1.25
Vinyl chloride	75-01-4	21.8		5.00	2.50	1.25
o-Xylene	95-47-6	2.50	U	5.00	2.50	1.25
m-,p-Xylene	179601-23-1	5.00	U	10.0	5.00	2.50

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	96.4	85	115	
1,2-Dichloroethane-d4	94.6	70	120	
Toluene-d8	98.5	85	120	
4-Bromofluorobenzene	94.2	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-07	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	35AWW16-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/26/2016 18:51
Workgroup #:	WG587315	**Analyst:**	TMB	**Run Date:**	10/12/2016 20:21
Collect Date:	10/04/2016 13:15	**Dilution:**	1	**File ID:**	6M142666
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	2.82	J	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	Q	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	110	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	98.5	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	35AWW16FD-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/26/2016 18:51
Workgroup #:	WG587315	**Analyst:**	TMB	**Run Date:**	10/12/2016 19:49
Collect Date:	10/04/2016 13:15	**Dilution:**	1	**File ID:**	6M142665
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

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Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	Q	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	110	85	115	
1,2-Dichloroethane-d4	104	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	96.1	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-09	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	35AWW21-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/26/2016 18:51
Workgroup #:	WG587315	**Analyst:**	TMB	**Run Date:**	10/12/2016 19:17
Collect Date:	10/04/2016 14:10	**Dilution:**	1	**File ID:**	6M142664
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	Q	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	109	85	115	
1,2-Dichloroethane-d4	102	70	120	
Toluene-d8	103	85	120	
4-Bromofluorobenzene	97.0	75	120	

Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-10	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	35AWW21FD-100416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/26/2016 18:51
Workgroup #:	WG587315	**Analyst:**	TMB	**Run Date:**	10/12/2016 18:45
Collect Date:	10/04/2016 14:10	**Dilution:**	1	**File ID:**	6M142663
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	U	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	Q	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	109	85	115	
1,2-Dichloroethane-d4	103	70	120	
Toluene-d8	103	85	120	
4-Bromofluorobenzene	95.9	75	120	

Q	One or more quality control criteria failed. See narrative.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-11	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	TRIP BLANK	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	09/26/2016 18:51
Workgroup #:	WG587315	**Analyst:**	TMB	**Run Date:**	10/12/2016 18:13
Collect Date:	10/04/2016 00:01	**Dilution:**	1	**File ID:**	6M142662
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	9.24	J	10.0	5.00	2.50
Benzene	71-43-2	0.250	U	1.00	0.250	0.125
Bromobenzene	108-86-1	0.250	U	1.00	0.250	0.125
Bromochloromethane	74-97-5	0.400	U	1.00	0.400	0.200
Bromodichloromethane	75-27-4	0.500	U	1.00	0.500	0.250
Bromoform	75-25-2	1.00	U	2.00	1.00	0.500
Bromomethane	74-83-9	1.00	Q	2.00	1.00	0.500
2-Butanone	78-93-3	5.00	U	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	Q	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	107	85	115	
1,2-Dichloroethane-d4	101	70	120	
Toluene-d8	103	85	120	
4-Bromofluorobenzene	97.1	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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

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Instrument Run Log

Instrument: HPMS6 Dataset: 042416
Analyst1: JDS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 23
Method: 624 SOP: MSV10 Rev: 14
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID:

Internal Standard: STD75498 Surrogate Standard: STD75498
CCV: STD75791 LCS: STD75801 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG566155

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M138749	RINSE	NA	1	1		04/24/16 16:05
6M138750	WG566155-01 50ng BFB 826-A9	NA	1	1	STD75485	04/24/16 16:33
6M138751	WG566155-02 5ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 16:59
6M138752	WG566155-03 20ug/L STD 826-A	NA	1	1	STD75791	04/24/16 17:31
6M138753	WG566155-04 50ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 18:03
6M138754	WG566155-05 100ug/L STD 826-A	NA	1	1	STD75791	04/24/16 18:36
6M138755	WG566155-06 200ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 19:08
6M138756	WG566155-07 300ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 19:40
6M138757	WG566155-08 400ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 20:12
6M138758	WG566155-09 500ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 20:44
6M138759	RINSE	NA	1	1		04/24/16 21:16
6M138760	RINSE	NA	1	1		04/24/16 21:49
6M138761	WG566155-10 100ug/L ALT SRC	NA	1	1	STD75801	04/24/16 22:21
6M138762	RINSE	NA	1	1		04/24/16 22:53
6M138763	RINSE	NA	1	1		04/24/16 23:25

Approved: April 29, 2016

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Instrument Run Log

Instrument: HPMS11 Dataset: 081516
Analyst1: JDS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 25
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD77497 Surrogate Standard: STD77498
CCV: STD77502 LCS: STD77604 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG580279 WG580280

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M13626	XG580279-01 50ng BFB STD 8260	NA	1	1	STD77509	08/15/16 14:37
11M13628	WG580279-01 50ng BFB STD 8260	NA	1	1	STD77509	08/15/16 14:52
11M13629	WG580279-02 5ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 15:17
11M13630	WG580279-03 20ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 15:46
11M13631	WG580279-04 50ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 16:16
11M13632	WG580279-05 100ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 16:45
11M13633	WG580279-06 200ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 17:14
11M13634	WG580279-07 300ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 17:43
11M13635	WG580279-08 400ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 18:12
11M13636	WG580279-09 500ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 18:41
11M13637	RINSE	NA	1	1		08/15/16 19:10
11M13638	WG580279-10 100ug/L ALT SRC 8260-A9	NA	1	1	STD77604	08/15/16 19:39
11M13639	RINSE	NA	1	1		08/15/16 20:08
11M13640	WG580280-01 BLANK STD 8260-A9	NA	1	1		08/15/16 20:37
11M13641	L16080201-01 50ug/L JDS DOC 8260-A9	NA	1	1	STD77604	08/15/16 21:06
11M13642	L16080201-02 50ug/L JDS DOC 8260-A9	NA	1	1	STD77604	08/15/16 21:34
11M13643	L16080201-03 50ug/L JDS DOC 8260-A9	NA	1	1	STD77604	08/15/16 22:03
11M13644	L16080201-04 50ug/L JDS DOC 8260-A9	NA	1	1	STD77604	08/15/16 22:32
11M13645	RINSE	NA	1	1		08/15/16 23:01
11M13646	RINSE	NA	1	1		08/15/16 23:30
11M13647	L16080563-01 2.5ug/L MDL 8260-A9	NA	1	1	STD77604	08/15/16 23:58
11M13648	RINSE	NA	1	1		08/16/16 00:27
11M13649	RINSE	NA	1	1		08/16/16 00:56
11M13650	RINSE	NA	1	1		08/16/16 01:25

Approved: August 26, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 092616
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: 624 SOP: MSV10 Rev: 15
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID: 53908

Internal Standard: STD77923 Surrogate Standard: STD77923
CCV: STD78143 LCS: STD78193 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG584797

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M142171	BFB CHECK	NA	1	1	STD77992	09/26/16 08:57
6M142172	BFB CHECK	NA	1	1	STD77992	09/26/16 09:11
6M142173	BFB CHECK	NA	1	1	STD77992	09/26/16 09:26
6M142174	RINSE	NA	1	1		09/26/16 09:51
6M142175	RINSE	NA	1	1		09/26/16 10:33
6M142176	RINSE	NA	1	1		09/26/16 11:14
6M142177	WG584797-01 50ng BFB STD 8260	NA	1	1	STD77992	09/26/16 13:29
6M142178	WG584797-02 0.3ug/L STD 8260	NA	1	1	STD78143	09/26/16 13:54
6M142179	WG584797-03 0.4ug/L STD 8260	NA	1	1	STD78143	09/26/16 14:35
6M142180	WG584797-04 1ug/L STD 8260	NA	1	1	STD78143	09/26/16 15:07
6M142181	WG584797-05 2ug/L STD 8260	NA	1	1	STD78143	09/26/16 15:39
6M142182	WG584797-06 5ug/L STD 8260	NA	1	1	STD78143	09/26/16 16:11
6M142183	WG584797-07 20ug/L STD 8260	NA	1	1	STD78143	09/26/16 16:43
6M142184	WG584797-08 50ug/L STD 8260	NA	1	1	STD78143	09/26/16 17:15
6M142185	WG584797-09 100ug/L STD 8260	NA	1	1	STD78143	09/26/16 17:47
6M142186	WG584797-10 200ug/L STD 8260	NA	1	1	STD78143	09/26/16 18:19
6M142187	WG584797-11 300ug/L STD 8260	NA	1	1	STD78143	09/26/16 18:51
6M142188	RINSE	NA	1	1		09/26/16 19:23
6M142189	RINSE	NA	1	1		09/26/16 19:55
6M142190	WG584797-12 50ug/L ALT SRC STD 8260	NA	1	1	STD78183	09/26/16 20:27
6M142191	RINSE	NA	1	1	STD78144	09/26/16 20:59

Approved: September 29, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 101216
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: 624 SOP: MSV10 Rev: 15
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID: 53930

Internal Standard: STD78347 Surrogate Standard: STD78347
CCV: STD78428 LCS: STD78472 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG587315

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M142652	WG587314-01 50ng BFB STD 8260	NA	1	1	STD77992	10/12/16 13:46
6M142653	WG587314-01 50ng BFB STD 8260	NA	1	1	STD77992	10/12/16 14:01
6M142654	WG587314-01 50ng BFB STD 8260	NA	1	1	STD77992	10/12/16 14:16
6M142655	WG587314-01 50ng BFB STD 8260	NA	1	1	STD77992	10/12/16 14:33
6M142656	WG587314-02 50ug/L CCV STD 8260	NA	1	1	STD78428	10/12/16 14:59
6M142657	WG587314-02 50ug/L CCV STD 8260	NA	1	1	STD78469	10/12/16 15:32
6M142658	WG000000-01 100ug/L A9 CCV STD 8260	NA	1	1	STD78417	10/12/16 16:03
6M142659	WG587315-01 VBLK1012 BLANK STD 826	NA	1	1		10/12/16 16:35
6M142660	L16090922-01 B 826-REF-BLK	<2	1	1		10/12/16 17:08
6M142661	L16100123-09 A TB 826-LOW	<2	1	1		10/12/16 17:41
6M142662	L16100194-11 A TB 826-LOW	<2	1	1		10/12/16 18:13
6M142663	L16100194-10 A 826-LOW	<2	1	1		10/12/16 18:45
6M142664	L16100194-09 A 826-LOW	<2	1	1		10/12/16 19:17
6M142665	L16100194-08 A 826-LOW	<2	1	1		10/12/16 19:49
6M142666	L16100194-07 A 826-LOW	<2	1	1		10/12/16 20:21
6M142667	L16100123-08 A 826-LOW	<2	1	1		10/12/16 20:53
6M142668	L16100123-07 A 826-LOW	<2	1	1		10/12/16 21:25
6M142669	L16100123-05 A 826-LOW	<2	1	1		10/12/16 21:58
6M142670	L16100123-03 A 826-LOW	<2	1	1		10/12/16 22:30
6M142671	L16100123-01 A 826-LOW	<2	1	1		10/12/16 23:02
6M142672	L16100194-01 A 25X 826-LOW	7	1	25		10/12/16 23:34
6M142673	L16100194-03 A 25X 826-LOW	6	1	25		10/13/16 00:06
6M142674	L16100194-05 A 20X 826-LOW	2.5	1	20		10/13/16 00:38
6M142675	L16100194-06 A 50X 826-LOW	<2	1	50		10/13/16 01:10
6M142676	WG587315-02 20ug/L LCS STD 8260	NA	1	1	STD78472	10/13/16 01:42
6M142677	WG587315-03 20ug/L LCS2 STD 8260	NA	1	1	STD78472	10/13/16 02:14
6M142678	RINSE	NA	1	1		10/13/16 02:46
6M142679	WG587315-04 VBLK1012 BLANK STD 624	NA	2	1		10/13/16 03:18
6M142680	L16100466-09 B 624	<2	2	1		10/13/16 03:50
6M142681	L16100466-08 B 624	5	2	1		10/13/16 04:22
6M142682	L16100466-07 B 50X 624 D1	<2	2	50		10/13/16 04:54
6M142683	L16100566-01 A 624-SPE	6	2	1		10/13/16 05:26
6M142684	L16100565-01 A 624-SPE1	<2	2	1		10/13/16 05:58
6M142685	LCS	NA	1	1		10/13/16 06:30

Approved: October 14, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 101216
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: 624 SOP: MSV10 Rev: 15
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID: 53930

Internal Standard: STD78347 Surrogate Standard: STD78347
CCV: STD78428 LCS: STD78472 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG587315

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M142686	RINSE	NA	1	1		10/13/16 07:02
6M142687	RINSE	NA	1	1		10/13/16 07:34

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			
File ID: 6M142652				
	Tune failed, DNR.			
2	X			
File ID: 6M142653				
	Tune failed, DNR. Changed the septa.			
3	X			
File ID: 6M142654				
	Tune failed, DNR.			
5	X			
File ID: 6M142656				
	DNR.			
7				
File ID: 6M142658				
	Not needed. DNR.			
21	X	10	Analyzed too dilute	
File ID: 6M142672				
	Dark brown sample.			
22	X	10	Analyzed too dilute	
File ID: 6M142673				
	Brown foamy sample.			
24	X	5	Analyzed too dilute	
File ID: 6M142675				
33	X	10	Internal standard and surrogate standard failure	
File ID: 6M142684				
	Sample foamed.			

Approved: October 14, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 101316
Analyst1: FJB Analyst2: JDS
Method: 8260B SOP: MSV01 Rev: 23
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Method: 624 SOP: MSV10 Rev: 14
Maintenance Log ID: 53932

Internal Standard: STD78415 Surrogate Standard: STD78416
CCV: STD78143 LCS: STD78362 MS/MSD: STD78362

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG587480

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M14497	WG587480-01 BFB 50ng 8260	NA	1	1	STD78474	10/13/16 11:16
11M14498	WG587480-02 50ug/L CCV STD 8260	NA	1	1	STD78477	10/13/16 11:41
11M14499	WG587480-01 BFB 50ng 8260	NA	1	1	STD78474	10/13/16 12:50
11M14500	RINSE	NA	1	1		10/13/16 13:14
11M14501	WG587480-02 0.3ug/L STD 8260	NA	1	1	STD78477	10/13/16 13:42
11M14502	WG587480-03 0.4ug/L STD 8260	NA	1	1	STD78477	10/13/16 14:11
11M14503	WG587480-04 1ug/L STD 8260	NA	1	1	STD78477	10/13/16 14:40
11M14504	WG587480-05 2ug/L STD 8260	NA	1	1	STD78477	10/13/16 15:09
11M14505	WG587480-06 5ug/L STD 8260	NA	1	1	STD78477	10/13/16 15:38
11M14506	WG587480-07 20ug/L STD 8260	NA	1	1	STD78477	10/13/16 16:07
11M14507	WG587480-08 50ug/L STD 8260	NA	1	1	STD78477	10/13/16 16:36
11M14508	WG587480-09 100ug/L STD 8260	NA	1	1	STD78477	10/13/16 17:05
11M14509	WG587480-10 200ug/L STD 8260	NA	1	1	STD78477	10/13/16 17:33
11M14510	WG587480-11 300ug/L STD 8260	NA	1	1	STD78477	10/13/16 18:03
11M14511	RINSE	NA	1	1		10/13/16 18:32
11M14512	WG587480-12 50ug/L ICV 8260	NA	1	1	STD78491	10/13/16 19:00
11M14513	RINSE	NA	1	1		10/13/16 19:29
11M14514	WG587598-01 BLANK 8260	NA	1	1		10/13/16 19:58
11M14515	WG587598-02 20ug/L LCS 8260	NA	1	1	STD78491	10/13/16 20:27
11M14516	WG587598-03 20ug/L LCS2 8260	NA	1	1	STD78491	10/13/16 20:57
11M14517	L16100269-01 25X B 826-SPE	6	1	25		10/13/16 21:26
11M14518	L16100512-02 TB A 826-LOW	<2	1	1		10/13/16 21:55
11M14519	L16100194-01 10X B 826-LOW	6	1	10		10/13/16 22:24
11M14520	L16100194-03 10X B 826-LOW	6	1	10		10/13/16 22:54
11M14521	L16100194-06 5X B 826-LOW	<2	1	5		10/13/16 23:23
11M14522	L16100512-01 A 826-LOW	<2	1	1		10/13/16 23:52
11M14523	RINSE	NA	2	1		10/14/16 00:21
11M14524	WG587598-04 624 BLANK	NA	2	1		10/14/16 00:49
11M14525	L16100687-01 A 624-SPE	<2	2	1		10/14/16 01:18
11M14526	L16100565-01 10X B 624-SPE1	<2	2	10		10/14/16 01:47
11M14527	RINSE	NA	1	1		10/14/16 02:16
11M14528	RINSE	NA	1	1		10/14/16 02:45
11M14529	RINSE	NA	1	1		10/14/16 03:13

Approved: October 17, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 101716
Analyst1: FJB Analyst2: TMB
Method: 8260B SOP: MSV01 Rev: 24
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Method: 624 SOP: MSV10 Rev: 15
Maintenance Log ID:

Internal Standard: STD78415 Surrogate Standard: STD78416
CCV: STD78477 LCS: STD78491 MS/MSD: STD78491

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG587867, WG587876

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M14555	RINSE W/MEOH	NA	1	1		10/17/16 10:19
11M14556	RINSE	NA	1	1		10/17/16 10:48
11M14557	WG587866-01 BFB 50ng 8260	NA	1	1	STD78474	10/17/16 12:08
11M14558	WG587866-02 50ug/L CCV 8260	NA	1	1	STD78477	10/17/16 12:33
11M14559	WG587866-02 50ug/L CCV 8260	NA	1	1	STD78477	10/17/16 13:05
11M14560	WG587XXX-01 100ug/L CCV A9	NA	1	1	STDXXXXX	10/17/16 13:38
11M14561	WG587867-01 BLANK 8260	NA	1	1		10/17/16 14:07
11M14562	WG587867-02 20ug/L LCS 8260	NA	1	1	STD78491	10/17/16 14:36
11M14563	L16100409-02 A MS 826-LOW	<2	1	1	STD78491	10/17/16 15:05
11M14564	L16100409-03 A MSD 826-LOW	<2	1	1	STD78491	10/17/16 15:34
11M14565	L16100409-06 A MS 826-LOW	<2	1	1	STD78491	10/17/16 16:03
11M14566	L16100409-07 A MSD 826-LOW	<2	1	1	STD78491	10/17/16 16:32
11M14567	L16100628-01 A 10X 826-TC	NA	17	10		10/17/16 17:01
11M14568	L16100394-04 A TB 826-SPE	<2	1	1		10/17/16 17:29
11M14569	L16100409-01 A REF 826-LOW	<2	1	1		10/17/16 17:58
11M14570	L16100409-05 A REF 826-LOW	<2	1	1		10/17/16 18:27
11M14571	L16100409-04 A 826-LOW	<2	1	1		10/17/16 18:55
11M14572	L16100409-08 A 826-LOW	<2	1	1		10/17/16 19:24
11M14573	L16100409-09 A 826-LOW	<2	1	1		10/17/16 19:53
11M14574	L16100409-10 A 826-LOW	<2	1	1		10/17/16 20:22
11M14575	L16100409-11 A 826-LOW	<2	1	1		10/17/16 20:51
11M14576	L16100409-12 A 826-LOW	<2	1	1		10/17/16 21:20
11M14577	L16100409-13 A 826-LOW	<2	1	1		10/17/16 21:49
11M14578	L16100194-01 C 10X 826-SPE	7	1	10		10/17/16 22:18
11M14579	L16100394-03 A 5X 826-SPE	<2	1	5		10/17/16 22:47
11M14580	L16100394-02 A 10X 826-SPE	<2	1	10		10/17/16 23:16
11M14581	L16100394-01 A 20X 826-SPE	<2	1	20		10/17/16 23:45
11M14582	RINSE	NA	1	1		10/18/16 00:14
11M14583	WG587876-01 20ug/L LCS STD 624	NA	2	1	STD78491	10/18/16 00:43
11M14584	WG587876-02 20ug/L LCS2 STD 624	NA	2	1	STD78491	10/18/16 01:12
11M14585	RINSE	NA	2	1		10/18/16 01:41
11M14586	WG587876-03 VBLK1017 BLANK STD 624	NA	2	1		10/18/16 02:10
11M14587	L16100790-03 A 624	<2	2	1		10/18/16 02:38
11M14588	L16100790-02 A 624	<2	2	1		10/18/16 03:07

Approved: October 19, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 101716
Analyst1: FJB Analyst2: TMB
Method: 8260B SOP: MSV01 Rev: 24
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Method: 624 SOP: MSV10 Rev: 15
Maintenance Log ID:

Internal Standard: STD78415 Surrogate Standard: STD78416
CCV: STD78477 LCS: STD78491 MS/MSD: STD78491

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG587867, WG587876

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M14589	L16100767-01 A 624-SPE	5	2	1		10/18/16 03:36
11M14590	L16100767-02 A 624-SPE	5	2	1		10/18/16 04:05
11M14591	CCV	NA	2	1		10/18/16 04:34
11M14592	RINSE	NA	2	1		10/18/16 05:04
11M14593	RINSE	NA	1	1		10/18/16 05:32

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4	X			
File ID: 11M14558				
	Ketones and 1,4-dioxane were low, DNR.			
6				
File ID: 11M14560				
	Not needed, DNR.			
14	X	1		
File ID: 11M14568				
	Rerun to confirm acetone and 1,4-dioxane.			
25	X	1	Analyzed too dilute	
File ID: 11M14579				
26	X	25	Over Calibration Range	naph
File ID: 11M14580				
27	X	20		
File ID: 11M14581				
	Rerun to confirm acetone and 1,4-dioxane.			

Approved: October 19, 2016

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Microbac Laboratories Inc.

Data Checklist

Date: 24-APR-2016
Analyst: JDS
Analyst: NA
Method: 8260B/624
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 74754
Analytical Workgroups: WG566155

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	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	FJB
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:
27-APR-2016
Tiffany Bailey

Secondary Reviewer:
29-APR-2016

CHECKLIST1 - Modified 03/05/2008
Generated: APR-29-2016 12:29:57

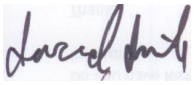
Microbac Laboratories Inc.

Data Checklist

Date: 15-AUG-2016
Analyst: JDS
Analyst: NA
Method: 8260B
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 76933
Analytical Workgroups: WG580279 WG580280

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	NA
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	NA
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	NA
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	JDS
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	FJB
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:
26-AUG-2016



Secondary Reviewer:
26-AUG-2016

CHECKLIST1 - Modified 03/05/2008
Generated: AUG-26-2016 13:41:28

Microbac Laboratories Inc.

Data Checklist

Date: 26-SEP-2016
Analyst: TMB
Analyst: NA
Method: 8260B/624/OVAP
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 77708
Analytical Workgroups: WG584797

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	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	NA
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	FJB
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:
27-SEP-2016

Tiffany Bailey

Secondary Reviewer:
29-SEP-2016

CHECKLIST1 - Modified 03/05/2008
Generated: SEP-29-2016 12:40:36

Microbac Laboratories Inc.

Data Checklist

Date: 12-OCT-2016
Analyst: TMB
Analyst: NA
Method: 8260B/624
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 78063
Analytical Workgroups: WG587315

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	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
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	TMB
Secondary Reviewer	WTD
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:
13-OCT-2016
Tiffany Bailey

Secondary Reviewer:
14-OCT-2016
Wade T. Dy

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-14-2016 11:50:34

Microbac Laboratories Inc.

Data Checklist

Date: 13-OCT-2016
Analyst: FJB
Analyst: JDS
Method: 8260B/624
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 78081
Analytical Workgroups: WG587480

System Performance Check	X
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	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	FJB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
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	FJB
Secondary Reviewer	WTD
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:
14-OCT-2016

Secondary Reviewer:
17-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-17-2016 12:02:17

Microbac Laboratories Inc.

Data Checklist

Date: 17-OCT-2016
Analyst: FJB
Analyst: TMB
Method: 8260B/624
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 78134
Analytical Workgroups: WG587867; WG587876

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	TMB/FJB
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	TMB
Secondary Reviewer	WTD
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:
18-OCT-2016
Tiffany Bailey

Secondary Reviewer:
19-OCT-2016
Wade D

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-19-2016 09:41:21

Microbac

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B **AAB#:** WG587315

Login Number: L16100194

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
35AWW20-100416	05	10/04/16					10/13/2016	8.6	14		10/13/16	8.6	14	
35AWW16-100416	07	10/04/16					10/12/2016	8.3	14		10/12/16	8.3	14	
35AWW16FD-100416	08	10/04/16					10/12/2016	8.3	14		10/12/16	8.3	14	
35AWW21-100416	09	10/04/16					10/12/2016	8.2	14		10/12/16	8.2	14	
35AWW21FD-100416	10	10/04/16					10/12/2016	8.2	14		10/12/16	8.2	14	
TRIP BLANK	11	10/04/16					10/12/2016	8.8	14		10/12/16	8.8	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4974601
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B **AAB#:** WG587598

Login Number: L16100194

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
03WW01-100416	03	10/04/16					10/13/2016	9.6	14		10/13/16	9.6	14	
LHSMW07-100416	06	10/04/16					10/13/2016	9.5	14		10/13/16	9.5	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4974601
Report generated 10/20/2016 09:24

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG587867

Login Number: L16100194

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
35AWW08-100416	01	10/04/16					10/17/2016	13.6	14		10/17/16	13.6	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4974601
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L16100194
Instrument Id: HPMS11
Workgroup (AAB#): WG587598

Method: 8260
CAL ID: HPMS11-13-OCT-16
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16100194-03	10.0	DL01	94.1	97.6	94.7	99.2
L16100194-06	5.00	DL01	94.6	96.4	94.2	98.5
WG587598-01	1.00	01	90.3	93.8	95.3	96.3
WG587598-02	1.00	01	90.6	94.7	95.1	98.8
WG587598-03	1.00	01	92.8	97.2	97.1	99.0
WG587598-04	1.00	01	93.0	95.3	94.9	95.9

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 4974607
Report generated: 10/20/2016 09:24

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L16100194
Instrument Id: HPMS6
Workgroup (AAB#): WG587315

Method: 8260
CAL ID: HPMS6-26-SEP-16
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16100194-05	20.0	DL01	102	108	96.8	103
L16100194-07	1.00	01	103	110	98.5	101
L16100194-08	1.00	01	104	110	96.1	102
L16100194-09	1.00	01	102	109	97.0	103
L16100194-10	1.00	01	103	109	95.9	103
L16100194-11	1.00	01	101	107	97.1	103
WG587315-01	1.00	01	102	108	98.7	102
WG587315-02	1.00	01	101	109	90.0	103
WG587315-03	1.00	01	99.2	109	91.3	101
WG587315-04	1.00	01	103	109	97.0	102

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 4974607
Report generated: 10/20/2016 09:24

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L16100194
Instrument Id: HPMS11
Workgroup (AAB#): WG587867

Method: 8260
CAL ID: HPMS11-13-OCT-16
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16100194-01	10.0	DL01	89.0	91.8	92.4	94.6
WG587867-01	1.00	01	89.4	93.9	101	99.8
WG587867-02	1.00	01	88.1	91.3	89.9	94.0

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 4974607
Report generated: 10/20/2016 09:24

METHOD BLANK SUMMARY

Login Number: L16100194
Blank File ID: 11M14514
Prep Date: 10/13/16 19:58
Analyzed Date: 10/13/16 19:58
Analyst: FJB

Work Group: WG587598
Blank Sample ID: WG587598-01
Instrument ID: HPMS11
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG587598-02	11M14515	10/13/16 20:27	01
LCS2	WG587598-03	11M14516	10/13/16 20:57	01
03WW01-100416	L16100194-03	11M14520	10/13/16 22:54	DL01
LHSMW07-100416	L16100194-06	11M14521	10/13/16 23:23	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 4976995
Report generated 10/20/2016 09:24

METHOD BLANK SUMMARY

Login Number:	L16100194	Work Group:	WG587867
Blank File ID:	11M14561	Blank Sample ID:	WG587867-01
Prep Date:	10/17/16 14:07	Instrument ID:	HPMS11
Analyzed Date:	10/17/16 14:07	Method:	8260B
Analyst:	FJB		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG587867-02	11M14562	10/17/16 14:36	01
35AWW08-100416	L16100194-01	11M14578	10/17/16 22:18	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 4976995
Report generated 10/20/2016 09:24

METHOD BLANK SUMMARY

Login Number: L16100194
Work Group: WG587315
Blank File ID: 6M142659
Blank Sample ID: WG587315-01
Prep Date: 10/12/16 16:35
Instrument ID: HPMS6
Analyzed Date: 10/12/16 16:35
Method: 8260B
Analyst: TMB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
TRIP BLANK	L16100194-11	6M142662	10/12/16 18:13	01
35AWW21FD-100416	L16100194-10	6M142663	10/12/16 18:45	01
35AWW21-100416	L16100194-09	6M142664	10/12/16 19:17	01
35AWW16FD-100416	L16100194-08	6M142665	10/12/16 19:49	01
35AWW16-100416	L16100194-07	6M142666	10/12/16 20:21	01
35AWW20-100416	L16100194-05	6M142674	10/13/16 00:38	DL01
LCS	WG587315-02	6M142676	10/13/16 01:42	01
LCS2	WG587315-03	6M142677	10/13/16 02:14	01

Report Name: BLANK_SUMMARY
PDF File ID: 4976995
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L16100194 Prep Date:10/13/16 19:58 Sample ID:WG587598-01
Instrument ID:HPMS11 Run Date:10/13/16 19:58 Prep Method:5030B/5030C/503
File ID:11M14514 Analyst:FJB Method:8260B
Workgroup (AAB#):WG587598 Matrix:Water Units:ug/L
Contract #: Cal ID:HPMS11-13-OCT-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.144	1	J
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.489	1	J
sec-Butylbenzene	0.250	1.00	0.259	1	J
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.632	1	J
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.167	1	J
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.214	1	J
4-Chlorotoluene	0.250	1.00	0.297	1	J
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.210	1	J
1,3-Dichlorobenzene	0.250	1.00	0.295	1	J
1,4-Dichlorobenzene	0.125	1.00	0.387	1	J
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.604	1	*
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 4974602
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Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L16100194 Prep Date:10/13/16 19:58 Sample ID:WG587598-01
Instrument ID:HPMS11 Run Date:10/13/16 19:58 Prep Method:5030B/5030C/503
File ID:11M14514 Analyst:FJB Method:8260B
Workgroup (AAB#):WG587598 Matrix:Water Units:ug/L
Contract #: Cal ID:HPMS11-13-OCT-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.325	1	J
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.214	1	J
n-Propylbenzene	0.125	1.00	0.280	1	J
Styrene	0.125	1.00	0.143	1	J
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.342	1	J
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.416	1	J
1,2,4-Trichlorobenzene	0.200	1.00	0.636	1	*
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	93.8	85 - 115	PASS
1,2-Dichloroethane-d4	90.3	70 - 120	PASS
Toluene-d8	96.3	85 - 120	PASS
4-Bromofluorobenzene	95.3	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4974602
20-OCT-2016 09:24

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number:L16100194 Prep Date:10/17/16 14:07 Sample ID:WG587867-01
Instrument ID:HPMS11 Run Date:10/17/16 14:07 Prep Method:5030B/5030C/503
File ID:11M14561 Analyst:FJB Method:8260B
Workgroup (AAB#):WG587867 Matrix:Water Units:ug/L
Contract #: Cal ID:HPMS11-13-OCT-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.137	1	J
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
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Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16100194 Prep Date: 10/17/16 14:07 Sample ID: WG587867-01
Instrument ID: HPMS11 Run Date: 10/17/16 14:07 Prep Method: 5030B/5030C/503
File ID: 11M14561 Analyst: FJB Method: 8260B
Workgroup (AAB#): WG587867 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS11-13-OCT-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.165	1	J
1,2,4-Trichlorobenzene	0.200	1.00	0.251	1	J
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	93.9	85 - 115	PASS
1,2-Dichloroethane-d4	89.4	70 - 120	PASS
Toluene-d8	99.8	85 - 120	PASS
4-Bromofluorobenzene	101	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4974602
20-OCT-2016 09:24

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16100194 Prep Date: 10/12/16 16:35 Sample ID: WG587315-01
Instrument ID: HPMS6 Run Date: 10/12/16 16:35 Prep Method: 5030B/5030C/503
File ID: 6M142659 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG587315 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS6-26-SEP-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Acetone	2.50	10.0	2.50	1	U
Benzene	0.125	1.00	0.125	1	U
Bromobenzene	0.125	1.00	0.125	1	U
Bromochloromethane	0.200	1.00	0.200	1	U
Bromodichloromethane	0.250	1.00	0.250	1	U
Bromoform	0.500	2.00	0.500	1	U
Bromomethane	0.500	2.00	0.500	1	U
2-Butanone	2.50	10.0	2.50	1	U
n-Butylbenzene	0.250	1.00	0.250	1	U
sec-Butylbenzene	0.250	1.00	0.250	1	U
tert-Butylbenzene	0.250	1.00	0.250	1	U
Carbon disulfide	0.500	2.00	0.500	1	U
Carbon tetrachloride	0.250	1.00	0.250	1	U
Chlorobenzene	0.125	1.00	0.125	1	U
Chlorodibromomethane	0.250	1.00	0.250	1	U
Chloroethane	0.500	2.00	0.500	1	U
Chloroform	0.125	1.00	0.125	1	U
Chloromethane	0.500	2.00	0.500	1	U
2-Chlorotoluene	0.125	1.00	0.125	1	U
4-Chlorotoluene	0.250	1.00	0.250	1	U
1,2-Dibromo-3-chloropropane	1.00	5.00	1.00	1	U
1,2-Dibromoethane	0.250	1.00	0.250	1	U
Dibromomethane	0.250	1.00	0.250	1	U
1,2-Dichlorobenzene	0.125	1.00	0.125	1	U
1,3-Dichlorobenzene	0.250	1.00	0.250	1	U
1,4-Dichlorobenzene	0.125	1.00	0.125	1	U
Dichlorodifluoromethane	0.250	1.00	0.250	1	U
1,1-Dichloroethane	0.125	1.00	0.125	1	U
1,2-Dichloroethane	0.250	1.00	0.250	1	U
1,1-Dichloroethene	0.500	2.00	0.500	1	U
cis-1,2-Dichloroethene	0.250	1.00	0.250	1	U
trans-1,2-Dichloroethene	0.250	1.00	0.250	1	U
1,2-Dichloropropane	0.200	1.00	0.200	1	U
1,3-Dichloropropane	0.200	1.00	0.200	1	U
2,2-Dichloropropane	0.250	1.00	0.250	1	U
cis-1,3-Dichloropropene	0.250	1.00	0.250	1	U
trans-1,3-Dichloropropene	0.500	2.00	0.500	1	U
1,1-Dichloropropene	0.250	1.00	0.250	1	U
Ethylbenzene	0.250	1.00	0.250	1	U
2-Hexanone	2.50	10.0	2.50	1	U
Hexachlorobutadiene	0.250	1.00	0.250	1	U
Isopropylbenzene	0.250	1.00	0.250	1	U

Report Name:BLANK
PDF ID: 4974602
20-OCT-2016 09:24

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16100194 Prep Date: 10/12/16 16:35 Sample ID: WG587315-01
Instrument ID: HPMS6 Run Date: 10/12/16 16:35 Prep Method: 5030B/5030C/503
File ID: 6M142659 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG587315 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS6-26-SEP-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
p-Isopropyltoluene	0.250	1.00	0.250	1	U
4-Methyl-2-pentanone	2.50	10.0	2.50	1	U
Methylene chloride	0.250	1.00	0.250	1	U
Naphthalene	0.200	1.00	0.200	1	U
n-Propylbenzene	0.125	1.00	0.125	1	U
Styrene	0.125	1.00	0.125	1	U
1,1,1,2-Tetrachloroethane	0.250	1.00	0.250	1	U
1,1,2,2-Tetrachloroethane	0.200	1.00	0.200	1	U
Tetrachloroethene	0.250	1.00	0.250	1	U
Toluene	0.250	1.00	0.250	1	U
1,2,3-Trichlorobenzene	0.150	1.00	0.150	1	U
1,2,4-Trichlorobenzene	0.200	1.00	0.200	1	U
1,1,1-Trichloroethane	0.250	1.00	0.250	1	U
1,1,2-Trichloroethane	0.250	1.00	0.250	1	U
Trichloroethene	0.250	1.00	0.250	1	U
Trichlorofluoromethane	0.250	1.00	0.250	1	U
1,2,3-Trichloropropane	0.500	2.00	0.500	1	U
1,2,4-Trimethylbenzene	0.250	1.00	0.250	1	U
1,3,5-Trimethylbenzene	0.250	1.00	0.250	1	U
Vinyl chloride	0.250	1.00	0.250	1	U
o-Xylene	0.250	1.00	0.250	1	U
m-,p-Xylene	0.500	2.00	0.500	1	U

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	108	85 - 115	PASS
1,2-Dichloroethane-d4	102	70 - 120	PASS
Toluene-d8	102	85 - 120	PASS
4-Bromofluorobenzene	98.7	75 - 120	PASS

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4974602
20-OCT-2016 09:24

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100194 Run Date: 10/17/2016 Sample ID: WG587867-02
Instrument ID: HPMS11 Run Time: 14:36 Prep Method: 5030B/5030C/503
File ID: 11M14562 Analyst: FJB Method: 8260B
Workgroup (AAB#): WG587867 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD78491 Cal ID: HPMS11-13-OCT-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	18.4	92.2	40 - 140	
Benzene	20.0	21.0	105	80 - 120	
Bromobenzene	20.0	20.5	103	75 - 125	
Bromochloromethane	20.0	20.5	103	65 - 130	
Bromodichloromethane	20.0	19.9	99.7	75 - 120	
Bromoform	20.0	19.0	94.8	70 - 130	
Bromomethane	20.0	22.2	111	30 - 145	
2-Butanone	20.0	19.0	94.8	30 - 150	
n-Butylbenzene	20.0	21.4	107	70 - 135	
sec-Butylbenzene	20.0	22.2	111	70 - 125	
tert-Butylbenzene	20.0	22.7	113	70 - 130	
Carbon disulfide	20.0	18.1	90.5	35 - 160	
Carbon tetrachloride	20.0	20.5	103	65 - 140	
Chlorobenzene	20.0	20.4	102	80 - 120	
Chlorodibromomethane	20.0	19.6	98.2	60 - 135	
Chloroethane	20.0	21.3	107	60 - 135	
Chloroform	20.0	20.1	101	65 - 135	
Chloromethane	20.0	20.1	100	40 - 125	
2-Chlorotoluene	20.0	21.1	106	75 - 125	
4-Chlorotoluene	20.0	22.2	111	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	18.5	92.4	50 - 130	
1,2-Dibromoethane	20.0	20.1	100	80 - 120	
Dibromomethane	20.0	19.8	99.2	75 - 125	
1,2-Dichlorobenzene	20.0	20.6	103	70 - 120	
1,3-Dichlorobenzene	20.0	20.6	103	75 - 125	
1,4-Dichlorobenzene	20.0	20.2	101	75 - 125	
Dichlorodifluoromethane	20.0	16.6	83.1	30 - 155	
1,1-Dichloroethane	20.0	20.5	102	70 - 135	
1,2-Dichloroethane	20.0	19.9	99.5	70 - 130	
1,1-Dichloroethene	20.0	19.8	99.0	70 - 130	
cis-1,2-Dichloroethene	20.0	20.9	105	70 - 125	
trans-1,2-Dichloroethene	20.0	20.5	102	60 - 140	
1,2-Dichloropropane	20.0	20.9	104	75 - 125	
1,3-Dichloropropane	20.0	20.8	104	75 - 125	
2,2-Dichloropropane	20.0	20.6	103	70 - 135	
cis-1,3-Dichloropropene	20.0	22.3	111	70 - 130	
trans-1,3-Dichloropropene	20.0	19.9	99.6	55 - 140	
1,1-Dichloropropene	20.0	20.9	105	75 - 130	
Ethylbenzene	20.0	21.1	106	75 - 125	
2-Hexanone	20.0	17.3	86.4	55 - 130	
Hexachlorobutadiene	20.0	21.7	109	50 - 140	

LCS - Modified 03/06/2008
PDF File ID: 4981395
Report generated: 10/18/2016 15:44

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100194 Run Date: 10/17/2016 Sample ID: WG587867-02
Instrument ID: HPMS11 Run Time: 14:36 Prep Method: 5030B/5030C/503
File ID: 11M14562 Analyst: FJB Method: 8260B
Workgroup (AAB#): WG587867 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD78491 Cal ID: HPMS11-13-OCT-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	21.2	106	75 - 125	
p-Isopropyltoluene	20.0	22.8	114	75 - 130	
4-Methyl-2-pentanone	20.0	18.6	93.2	60 - 135	
Methylene chloride	20.0	20.1	100	55 - 140	
Naphthalene	20.0	21.2	106	55 - 140	
n-Propylbenzene	20.0	22.6	113	70 - 130	
Styrene	20.0	21.7	108	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	20.4	102	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.4	96.9	65 - 130	
Tetrachloroethene	20.0	20.9	104	45 - 150	
Toluene	20.0	21.2	106	75 - 120	
1,2,3-Trichlorobenzene	20.0	19.9	99.7	55 - 140	
1,2,4-Trichlorobenzene	20.0	20.2	101	65 - 135	
1,1,1-Trichloroethane	20.0	21.3	106	65 - 130	
1,1,2-Trichloroethane	20.0	20.5	103	75 - 125	
Trichloroethene	20.0	20.7	103	70 - 125	
Trichlorofluoromethane	20.0	19.8	98.9	60 - 145	
1,2,3-Trichloropropane	20.0	20.4	102	75 - 125	
1,2,4-Trimethylbenzene	20.0	22.1	111	75 - 130	
1,3,5-Trimethylbenzene	20.0	22.7	113	75 - 130	
Vinyl chloride	20.0	20.8	104	50 - 145	
o-Xylene	20.0	21.5	107	80 - 120	
m-,p-Xylene	40.0	42.9	107	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	91.3	85 - 115	PASS
1,2-Dichloroethane-d4	88.1	70 - 120	PASS
Toluene-d8	94.0	85 - 120	PASS
4-Bromofluorobenzene	89.9	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 4981395
Report generated: 10/18/2016 15:44

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100194 Analyst: FJB Prep Method: 5030B/5030C/503
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG587598 Units: ug/L
QC Key: DOD4 Lot #: STD78491

Sample ID: WG587598-02 LCS File ID: 11M14515 Run Date: 10/13/2016 20:27
Sample ID: WG587598-03 LCS2 File ID: 11M14516 Run Date: 10/13/2016 20:57

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1,2-Tetrachloroethane	20.0	19.5	97.5	20.0	20.2	101	3.29	80 - 130	30	
1,1,1-Trichloroethane	20.0	19.8	98.8	20.0	20.8	104	4.96	65 - 130	30	
1,1,2,2-Tetrachloroethane	20.0	19.0	94.8	20.0	20.0	100	5.49	65 - 130	30	
1,1,2-Trichloroethane	20.0	19.7	98.5	20.0	20.3	102	3.16	75 - 125	30	
1,1-Dichloroethane	20.0	19.3	96.7	20.0	19.8	98.9	2.21	70 - 135	30	
1,1-Dichloroethene	20.0	18.4	92.0	20.0	19.3	96.7	4.99	70 - 130	30	
1,1-Dichloropropene	20.0	19.0	94.8	20.0	19.9	99.5	4.79	75 - 130	30	
1,2,3-Trichlorobenzene	20.0	20.1	101	20.0	21.5	107	6.48	55 - 140	30	
1,2,3-Trichloropropane	20.0	20.0	100	20.0	21.3	107	6.14	75 - 125	30	
1,2,4-Trichlorobenzene	20.0	20.6	103	20.0	21.3	107	3.62	65 - 135	30	
1,2,4-Trimethylbenzene	20.0	21.0	105	20.0	22.0	110	4.82	75 - 130	30	
1,2-Dibromo-3-chloropropane	20.0	19.7	98.3	20.0	19.9	99.6	1.34	50 - 130	30	
1,2-Dibromoethane	20.0	19.0	95.0	20.0	20.4	102	6.84	80 - 120	30	
1,2-Dichlorobenzene	20.0	20.1	100	20.0	20.6	103	2.72	70 - 120	30	
1,2-Dichloroethane	20.0	19.1	95.5	20.0	20.2	101	5.41	70 - 130	30	
1,2-Dichloropropane	20.0	19.4	96.8	20.0	20.2	101	4.41	75 - 125	30	
1,3,5-Trimethylbenzene	20.0	21.3	106	20.0	21.9	110	2.83	75 - 130	30	
1,3-Dichlorobenzene	20.0	20.0	100	20.0	20.7	104	3.50	75 - 125	30	
1,3-Dichloropropane	20.0	20.1	100	20.0	20.8	104	3.53	75 - 125	30	
1,4-Dichlorobenzene	20.0	19.5	97.4	20.0	20.5	103	5.16	75 - 125	30	
2,2-Dichloropropane	20.0	19.0	94.8	20.0	19.3	96.5	1.80	70 - 135	30	
2-Butanone	20.0	19.5	97.4	20.0	20.8	104	6.49	30 - 150	30	
2-Chlorotoluene	20.0	20.6	103	20.0	21.4	107	3.88	75 - 125	30	
2-Hexanone	20.0	18.2	91.2	20.0	19.5	97.6	6.85	55 - 130	30	
4-Chlorotoluene	20.0	20.8	104	20.0	21.8	109	4.65	75 - 130	30	
4-Methyl-2-pentanone	20.0	18.0	90.1	20.0	20.1	100	10.9	60 - 135	30	
Acetone	20.0	20.7	103	20.0	22.1	111	6.65	40 - 140	30	
Benzene	20.0	19.7	98.4	20.0	20.5	102	3.90	80 - 120	30	
Bromobenzene	20.0	19.7	98.5	20.0	20.2	101	2.40	75 - 125	30	
Bromochloromethane	20.0	19.5	97.5	20.0	20.2	101	3.40	65 - 130	30	
Bromodichloromethane	20.0	18.6	92.8	20.0	19.1	95.7	3.05	75 - 120	30	
Bromoform	20.0	18.3	91.7	20.0	19.6	98.0	6.55	70 - 130	30	
Bromomethane	20.0	18.9	94.4	20.0	19.2	95.8	1.50	30 - 145	30	
Carbon disulfide	20.0	17.5	87.5	20.0	18.1	90.4	3.18	35 - 160	30	
Carbon tetrachloride	20.0	19.4	96.9	20.0	20.0	99.9	3.10	65 - 140	30	
Chlorobenzene	20.0	19.7	98.6	20.0	20.0	100	1.62	80 - 120	30	
Chloroethane	20.0	20.6	103	20.0	21.3	106	3.25	60 - 135	30	
Chloroform	20.0	19.4	96.9	20.0	19.9	99.4	2.58	65 - 135	30	
Chloromethane	20.0	19.4	97.0	20.0	19.8	98.9	1.90	40 - 125	30	
cis-1,2-Dichloroethene	20.0	20.0	100	20.0	20.6	103	3.02	70 - 125	30	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4974603
Report generated: 10/20/2016 09:24

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100194 Analyst: FJB Prep Method: 5030B/5030C/503
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG587598 Units: ug/L
QC Key: DOD4 Lot #: STD78491

Sample ID: WG587598-02 LCS File ID: 11M14515 Run Date: 10/13/2016 20:27
Sample ID: WG587598-03 LCS2 File ID: 11M14516 Run Date: 10/13/2016 20:57

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
cis-1,3-Dichloropropene	20.0	20.6	103	20.0	21.6	108	4.75	70 - 130	30	
Chlorodibromomethane	20.0	19.3	96.5	20.0	19.7	98.5	2.01	60 - 135	30	
Dibromomethane	20.0	18.7	93.7	20.0	20.1	100	6.98	75 - 125	30	
Dichlorodifluoromethane	20.0	20.8	104	20.0	21.6	108	3.93	30 - 155	30	
Ethylbenzene	20.0	20.2	101	20.0	20.3	102	0.946	75 - 125	30	
Hexachlorobutadiene	20.0	19.3	96.6	20.0	20.2	101	4.60	50 - 140	30	
Isopropylbenzene	20.0	20.0	100	20.0	20.5	102	2.41	75 - 125	30	
m-,p-Xylene	40.0	40.7	102	40.0	42.1	105	3.51	75 - 130	30	
Methylene chloride	20.0	19.3	96.4	20.0	20.0	99.8	3.50	55 - 140	30	
n-Butylbenzene	20.0	20.2	101	20.0	21.0	105	3.96	70 - 135	30	
n-Propylbenzene	20.0	21.1	106	20.0	22.1	110	4.53	70 - 130	30	
Naphthalene	20.0	21.9	110	20.0	23.7	118	7.71	55 - 140	30	
o-Xylene	20.0	20.2	101	20.0	21.1	106	4.55	80 - 120	30	
p-Isopropyltoluene	20.0	21.0	105	20.0	22.1	110	4.78	75 - 130	30	
sec-Butylbenzene	20.0	20.7	104	20.0	21.5	107	3.40	70 - 125	30	
Styrene	20.0	20.7	103	20.0	21.1	105	2.00	65 - 135	30	
tert-Butylbenzene	20.0	20.4	102	20.0	21.1	105	3.08	70 - 130	30	
Tetrachloroethene	20.0	19.2	96.0	20.0	20.1	101	4.60	45 - 150	30	
Toluene	20.0	20.1	101	20.0	20.8	104	3.14	75 - 120	30	
trans-1,2-Dichloroethene	20.0	18.8	93.9	20.0	20.0	99.9	6.18	60 - 140	30	
trans-1,3-Dichloropropene	20.0	19.5	97.3	20.0	20.0	100	2.93	55 - 140	30	
Trichloroethene	20.0	19.3	96.3	20.0	19.9	99.3	3.09	70 - 125	30	
Trichlorofluoromethane	20.0	19.0	94.8	20.0	19.6	98.0	3.28	60 - 145	30	
Vinyl chloride	20.0	20.9	105	20.0	21.6	108	3.18	50 - 145	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	90.6	92.8	70 - 120	PASS
Dibromofluoromethane	94.7	97.2	85 - 115	PASS
4-Bromofluorobenzene	95.1	97.1	75 - 120	PASS
Toluene-d8	98.8	99.0	85 - 120	PASS

* EXCEEDS %REC LIMIT

\# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4974603
Report generated: 10/20/2016 09:24

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100194 Analyst: TMB Prep Method: 5030B/5030C/503
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG587315 Units: ug/L
QC Key: DOD4 Lot #: STD78362

Sample ID: WG587315-02 LCS File ID: 6M142676 Run Date: 10/13/2016 01:42
Sample ID: WG587315-03 LCS2 File ID: 6M142677 Run Date: 10/13/2016 02:14

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1,2-Tetrachloroethane	20.0	19.8	98.9	20.0	18.8	93.9	5.16	80 - 130	30	
1,1,1-Trichloroethane	20.0	20.0	99.8	20.0	19.0	95.0	4.96	65 - 130	30	
1,1,2,2-Tetrachloroethane	20.0	17.2	86.1	20.0	16.3	81.4	5.72	65 - 130	30	
1,1,2-Trichloroethane	20.0	19.9	99.7	20.0	18.3	91.6	8.37	75 - 125	30	
1,1-Dichloroethane	20.0	18.2	91.2	20.0	17.7	88.3	3.29	70 - 135	30	
1,1-Dichloroethene	20.0	17.7	88.5	20.0	16.7	83.6	5.62	70 - 130	30	
1,1-Dichloropropene	20.0	18.3	91.4	20.0	17.4	86.9	5.04	75 - 130	30	
1,2,3-Trichlorobenzene	20.0	19.1	95.3	20.0	18.4	91.8	3.66	55 - 140	30	
1,2,3-Trichloropropane	20.0	18.9	94.6	20.0	18.3	91.6	3.22	75 - 125	30	
1,2,4-Trichlorobenzene	20.0	18.2	91.0	20.0	17.8	89.1	2.08	65 - 135	30	
1,2,4-Trimethylbenzene	20.0	18.4	92.2	20.0	18.1	90.5	1.88	75 - 130	30	
1,2-Dibromo-3-chloropropane	20.0	17.7	88.6	20.0	17.9	89.5	0.946	50 - 130	30	
1,2-Dibromoethane	20.0	19.0	95.0	20.0	18.1	90.4	4.99	80 - 120	30	
1,2-Dichlorobenzene	20.0	19.4	96.9	20.0	18.9	94.3	2.72	70 - 120	30	
1,2-Dichloroethane	20.0	18.8	94.1	20.0	18.0	90.0	4.41	70 - 130	30	
1,2-Dichloropropane	20.0	18.5	92.3	20.0	17.9	89.6	3.05	75 - 125	30	
1,3,5-Trimethylbenzene	20.0	18.0	90.2	20.0	17.5	87.7	2.73	75 - 130	30	
1,3-Dichlorobenzene	20.0	19.0	94.9	20.0	18.6	92.8	2.24	75 - 125	30	
1,3-Dichloropropane	20.0	19.4	97.0	20.0	18.6	93.1	4.04	75 - 125	30	
1,4-Dichlorobenzene	20.0	19.6	98.0	20.0	19.1	95.6	2.47	75 - 125	30	
2,2-Dichloropropane	20.0	15.5	77.5	20.0	14.8	74.2	4.36	70 - 135	30	
2-Butanone	20.0	21.4	107	20.0	20.4	102	4.84	30 - 150	30	
2-Chlorotoluene	20.0	18.3	91.7	20.0	16.4	82.2	10.9	75 - 125	30	
2-Hexanone	20.0	18.8	93.8	20.0	18.3	91.3	2.63	55 - 130	30	
4-Chlorotoluene	20.0	16.9	84.6	20.0	17.8	89.2	5.37	75 - 130	30	
4-Methyl-2-pentanone	20.0	19.6	97.8	20.0	18.3	91.7	6.41	60 - 135	30	
Acetone	20.0	24.1	121	20.0	23.7	118	1.97	40 - 140	30	
Benzene	20.0	18.9	94.4	20.0	17.9	89.7	5.13	80 - 120	30	
Bromobenzene	20.0	19.1	95.3	20.0	18.4	92.2	3.22	75 - 125	30	
Bromochloromethane	20.0	20.6	103	20.0	19.8	99.0	4.11	65 - 130	30	
Bromodichloromethane	20.0	18.7	93.6	20.0	18.2	91.0	2.86	75 - 120	30	
Bromoform	20.0	18.0	89.8	20.0	16.7	83.6	7.21	70 - 130	30	
Bromomethane	20.0	13.5	67.3	20.0	14.3	71.4	5.91	30 - 145	30	
Carbon disulfide	20.0	18.4	91.9	20.0	17.5	87.3	5.06	35 - 160	30	
Carbon tetrachloride	20.0	21.5	107	20.0	19.8	98.8	8.34	65 - 140	30	
Chlorobenzene	20.0	19.2	96.0	20.0	18.2	90.9	5.46	80 - 120	30	
Chloroethane	20.0	22.1	110	20.0	21.0	105	4.85	60 - 135	30	
Chloroform	20.0	19.2	95.9	20.0	18.4	92.2	3.93	65 - 135	30	
Chloromethane	20.0	17.0	84.9	20.0	17.0	85.1	0.235	40 - 125	30	
cis-1,2-Dichloroethene	20.0	18.9	94.7	20.0	18.1	90.5	4.54	70 - 125	30	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4974603
Report generated: 10/20/2016 09:24

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100194 Analyst: TMB Prep Method: 5030B/5030C/503
Instrument ID: HPMS6 Matrix: Water Method: 8260B
Workgroup (AAB#): WG587315 Units: ug/L
QC Key: DOD4 Lot #: STD78362

Sample ID: WG587315-02 LCS File ID: 6M142676 Run Date: 10/13/2016 01:42
Sample ID: WG587315-03 LCS2 File ID: 6M142677 Run Date: 10/13/2016 02:14

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
cis-1,3-Dichloropropene	20.0	18.8	93.8	20.0	18.0	89.8	4.28	70 - 130	30	
Chlorodibromomethane	20.0	19.7	98.7	20.0	18.6	93.2	5.66	60 - 135	30	
Dibromomethane	20.0	20.2	101	20.0	19.4	96.8	4.36	75 - 125	30	
Dichlorodifluoromethane	20.0	24.0	120	20.0	24.2	121	0.635	30 - 155	30	
Ethylbenzene	20.0	18.7	93.7	20.0	17.6	87.8	6.50	75 - 125	30	
Hexachlorobutadiene	20.0	18.3	91.6	20.0	17.9	89.6	2.21	50 - 140	30	
Isopropylbenzene	20.0	19.2	95.9	20.0	18.0	90.0	6.37	75 - 125	30	
m-,p-Xylene	40.0	38.7	96.8	40.0	36.6	91.5	5.71	75 - 130	30	
Methylene chloride	20.0	18.7	93.7	20.0	18.2	90.9	3.05	55 - 140	30	
n-Butylbenzene	20.0	17.8	88.8	20.0	17.2	85.8	3.37	70 - 135	30	
n-Propylbenzene	20.0	18.1	90.6	20.0	17.3	86.5	4.64	70 - 130	30	
Naphthalene	20.0	18.2	91.2	20.0	18.0	90.1	1.22	55 - 140	30	
o-Xylene	20.0	18.7	93.3	20.0	17.7	88.6	5.16	80 - 120	30	
p-Isopropyltoluene	20.0	18.9	94.7	20.0	18.3	91.3	3.62	75 - 130	30	
sec-Butylbenzene	20.0	18.3	91.3	20.0	17.7	88.5	3.11	70 - 125	30	
Styrene	20.0	19.5	97.5	20.0	18.6	92.8	4.89	65 - 135	30	
tert-Butylbenzene	20.0	18.8	93.8	20.0	18.1	90.4	3.63	70 - 130	30	
Tetrachloroethene	20.0	20.8	104	20.0	19.0	95.2	8.84	45 - 150	30	
Toluene	20.0	19.0	94.8	20.0	18.0	89.8	5.41	75 - 120	30	
trans-1,2-Dichloroethene	20.0	18.9	94.6	20.0	17.9	89.5	5.56	60 - 140	30	
trans-1,3-Dichloropropene	20.0	17.6	88.1	20.0	16.7	83.5	5.42	55 - 140	30	
Trichloroethene	20.0	20.5	102	20.0	19.7	98.5	3.87	70 - 125	30	
Trichlorofluoromethane	20.0	27.0	135	20.0	24.7	123	8.95	60 - 145	30	
Vinyl chloride	20.0	24.6	123	20.0	23.3	116	5.57	50 - 145	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	101	99.2	70 - 120	PASS
Dibromofluoromethane	109	109	85 - 115	PASS
4-Bromofluorobenzene	90.0	91.3	75 - 120	PASS
Toluene-d8	103	101	85 - 120	PASS

* EXCEEDS %REC LIMIT

\# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4974603
Report generated: 10/20/2016 09:24

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16100194
Instrument: HPMS11
Analyst: JDS
Workgroup: WG580279

Tune ID: WG580279-01
Run Date: 08/15/2016
Run Time: 14:52
File ID: 11M13628
Cal ID: HPMS11-15-AUG-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	18.7	13531	PASS
75.0	95.0	30.0	60.0	47.0	33928	PASS
95.0	95.0	100	100	100	72218	PASS
96.0	95.0	5.00	9.00	6.65	4803	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	99.7	72018	PASS
175	174	5.00	9.00	7.96	5730	PASS
176	174	95.0	101	97.1	69941	PASS
177	176	5.00	9.00	6.46	4520	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG580279-02	STD	01	08/15/2016 15:17	
WG580279-03	STD	01	08/15/2016 15:46	
WG580279-04	STD	01	08/15/2016 16:16	
WG580279-05	STD-CCV	01	08/15/2016 16:45	
WG580279-06	STD	01	08/15/2016 17:14	
WG580279-07	STD	01	08/15/2016 17:43	
WG580279-08	STD	01	08/15/2016 18:12	
WG580279-09	STD	01	08/15/2016 18:41	
WG580279-10	SSCV	01	08/15/2016 19:39	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4974605
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16100194
Instrument: HPMS11
Analyst: FJB
Workgroup: WG587480

Tune ID: WG587480-01
Run Date: 10/13/2016
Run Time: 12:50
File ID: 11M14499
Cal ID: HPMS11-13-OCT-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	25.3	15619	PASS
75.0	95.0	30.0	60.0	46.1	28389	PASS
95.0	95.0	100	100	100	61637	PASS
96.0	95.0	5.00	9.00	6.76	4166	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	90.3	55672	PASS
175	174	5.00	9.00	7.65	4260	PASS
176	174	95.0	101	97.7	54378	PASS
177	176	5.00	9.00	6.22	3381	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG587480-02	STD	01	10/13/2016 13:42	
WG587480-03	STD	01	10/13/2016 14:11	
WG587480-04	STD	01	10/13/2016 14:40	
WG587480-05	STD	01	10/13/2016 15:09	
WG587480-06	STD	01	10/13/2016 15:38	
WG587480-07	STD	01	10/13/2016 16:07	
WG587480-08	STD-CCV	01	10/13/2016 16:36	
WG587480-09	STD	01	10/13/2016 17:05	
WG587480-10	STD	01	10/13/2016 17:33	
WG587480-11	STD	01	10/13/2016 18:03	
WG587480-12	SSCV	01	10/13/2016 19:00	
WG587598-01	BLANK	01	10/13/2016 19:58	
WG587598-02	LCS	01	10/13/2016 20:27	
WG587598-03	LCS2	01	10/13/2016 20:57	
L16100194-03	03WW01-100416	DL01	10/13/2016 22:54	
L16100194-06	LHSMW07-100416	DL01	10/13/2016 23:23	
WG587598-04	BLANK2	01	10/14/2016 00:49	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4974605
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16100194
Instrument: HPMS11
Analyst: FJB
Workgroup: WG587866

Tune ID: WG587866-01
Run Date: 10/17/2016
Run Time: 12:08
File ID: 11M14557
Cal ID: HPMS11-13-OCT-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	25.2	8728	PASS
75.0	95.0	30.0	60.0	46.9	16284	PASS
95.0	95.0	100	100	100	34690	PASS
96.0	95.0	5.00	9.00	6.72	2331	PASS
173	174	0	2.00	0.335	102	PASS
174	95.0	50.0	100	87.9	30490	PASS
175	174	5.00	9.00	8.62	2627	PASS
176	174	95.0	101	96.2	29341	PASS
177	176	5.00	9.00	6.77	1987	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG587866-02	CCV	01	10/17/2016 13:05	
WG587867-01	BLANK	01	10/17/2016 14:07	
WG587867-02	LCS	01	10/17/2016 14:36	
L16100194-01	35AWW08-100416	DL01	10/17/2016 22:18	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4974605
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16100194
Instrument: HPMS6
Analyst: JDS
Workgroup: WG566155

Tune ID: WG566155-01
Run Date: 04/24/2016
Run Time: 16:33
File ID: 6M138750
Cal ID: HPMS6-24-APR-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	22.5	10010	PASS
75.0	95.0	30.0	60.0	52.0	23152	PASS
95.0	95.0	100	100	100	44552	PASS
96.0	95.0	5.00	9.00	6.92	3085	PASS
173	174	0	2.00	0.346	113	PASS
174	95.0	50.0	100	73.2	32632	PASS
175	174	5.00	9.00	7.16	2336	PASS
176	174	95.0	101	99.2	32384	PASS
177	176	5.00	9.00	6.95	2251	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG566155-02	STD	01	04/24/2016 16:59	
WG566155-03	STD	01	04/24/2016 17:31	
WG566155-04	STD	01	04/24/2016 18:03	
WG566155-05	STD-CCV	01	04/24/2016 18:36	
WG566155-06	STD	01	04/24/2016 19:08	
WG566155-07	STD	01	04/24/2016 19:40	
WG566155-08	STD	01	04/24/2016 20:12	
WG566155-09	STD	01	04/24/2016 20:44	
WG566155-10	SSCV	01	04/24/2016 22:21	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4974605
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16100194
Instrument: HPMS6
Analyst: TMB
Workgroup: WG584797

Tune ID: WG584797-01
Run Date: 09/26/2016
Run Time: 13:29
File ID: 6M142177
Cal ID: HPMS6-26-SEP-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	20.0	10661	PASS
75.0	95.0	30.0	60.0	46.1	24528	PASS
95.0	95.0	100	100	100	53242	PASS
96.0	95.0	5.00	9.00	6.79	3617	PASS
173	174	0	2.00	0.445	192	PASS
174	95.0	50.0	100	81.1	43162	PASS
175	174	5.00	9.00	7.62	3287	PASS
176	174	95.0	101	101	43386	PASS
177	176	5.00	9.00	6.85	2974	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG584797-02	STD	01	09/26/2016 13:54	
WG584797-03	STD	01	09/26/2016 14:35	
WG584797-04	STD	01	09/26/2016 15:07	
WG584797-05	STD	01	09/26/2016 15:39	
WG584797-06	STD	01	09/26/2016 16:11	
WG584797-07	STD	01	09/26/2016 16:43	
WG584797-08	STD-CCV	01	09/26/2016 17:15	
WG584797-09	STD	01	09/26/2016 17:47	
WG584797-10	STD	01	09/26/2016 18:19	
WG584797-11	STD	01	09/26/2016 18:51	
WG584797-12	SSCV	01	09/26/2016 20:27	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4974605
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16100194
Instrument: HPMS6
Analyst: TMB
Workgroup: WG587314

Tune ID: WG587314-01
Run Date: 10/12/2016
Run Time: 14:33
File ID: 6M142655
Cal ID: HPMS6-26-SEP-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	20.6	10040	PASS
75.0	95.0	30.0	60.0	47.6	23243	PASS
95.0	95.0	100	100	100	48837	PASS
96.0	95.0	5.00	9.00	7.11	3473	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	93.2	45528	PASS
175	174	5.00	9.00	7.82	3559	PASS
176	174	95.0	101	101	45952	PASS
177	176	5.00	9.00	6.89	3167	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG587314-02	CCV	01	10/12/2016 15:32	
WG587315-01	BLANK	01	10/12/2016 16:35	
L16100194-11	TRIP BLANK	01	10/12/2016 18:13	
L16100194-10	35AWW21FD-100416	01	10/12/2016 18:45	
L16100194-09	35AWW21-100416	01	10/12/2016 19:17	
L16100194-08	35AWW16FD-100416	01	10/12/2016 19:49	
L16100194-07	35AWW16-100416	01	10/12/2016 20:21	
L16100194-05	35AWW20-100416	DL01	10/13/2016 00:38	
WG587315-02	LCS	01	10/13/2016 01:42	
WG587315-03	LCS2	01	10/13/2016 02:14	
WG587315-04	BLANK2	01	10/13/2016 03:18	*

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 4974605
Report generated 10/20/2016 09:24

Calibration Table Report
Method: A9FOOWT.M
Title: Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Calibration: Tue Aug 16 08:51:14 2016
Curve: WG580279
Calibration Files

	Compound	5 11M13629.D	20 11M13630.D	50 11M13631.D	100 11M13632.D	200 11M13633.D	300 11M13634.D	400 11M13635.D	500 11M13636.D	Avg	%RSD	Linear	Quadratic
I	Fluorobenzene	ISTD											
T	Acetonitrile	0.023	0.028	0.031	0.032	0.030	0.030	0.031	0.031	0.030	9.602		
T	3-Chloro-1-propene	0.458	0.455	0.479	0.505	0.501	0.481	0.479	0.471	0.479	3.715		
T	2-Chloro-1,3-butadiene	0.450	0.440	0.476	0.519	0.524	0.502	0.502	0.496	0.489	6.315		
T	Methacrylonitrile	0.156	0.164	0.181	0.186	0.186	0.180	0.181	0.184	0.177	6.206		
T	Isobutyl Alcohol		0.009	0.011	0.011	0.011	0.011	0.012	0.012	0.011	8.727		
T	1-Butanol			0.005	0.006	0.006	0.006	0.006	0.007	0.006	10.257		
T	Cyclohexanone		0.013	0.017	0.017	0.018	0.018	0.019	0.020	0.017	11.772		
T	2-Nitropropane			0.076	0.085	0.089	0.087	0.089	0.091	0.086	6.168		
T	Ethyl Acetate	0.201	0.224	0.244	0.257	0.258	0.249	0.251	0.255	0.242	8.192		
T	Methyl methacrylate	0.177	0.197	0.221	0.234	0.238	0.230	0.233	0.236	0.221	10.109		
I	Chlorobenzene-d5	ISTD											
I	1,4-Dichlorobenzene-d4	ISTD											

Tue Aug 16 09:27:52 2016

Calibration Table Report
Method: 8260WT.M
Title: 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Calibration: Fri Oct 14 09:20:10 2016
Curve: WG587480
Calibration Files

	Compound	0.3 11M14501.D	0.4 11M14502.D	1 11M14503.D	2 11M14504.D	5 11M14505.D	20 11M14506.D	50 11M14507.D	100 11M14508.D	200 11M14509.D	300 11M14510.D	Avg	%RSD	Linear	Quadratic
I	Fluorobenzene	ISTD													
T	Dichlorodifluoromethane			0.401	0.356	0.382	0.443	0.465	0.462	0.447	0.436	0.424	9.339		
P	Chloromethane			0.600	0.411	0.448	0.450	0.446	0.436			0.465	14.492		
C	Vinyl Chloride		0.444	0.414	0.383	0.405	0.414	0.432	0.425	0.414	0.402	0.415	4.276		
T	1,3-Butadiene					0.396	0.400	0.340	0.299	0.293	0.298	0.338	14.694		
T	Bromomethane			0.198	0.189	0.186	0.177	0.196	0.212	0.221	0.229	0.201	8.942		
T	Chloroethane			0.234	0.236	0.242	0.245	0.252	0.248	0.244	0.243	0.243	2.364		
T	Trichlorofluoromethane		0.405	0.496	0.460	0.506	0.486	0.507	0.502	0.490	0.494	0.483	6.725		
T	Diethyl ether			0.221	0.229	0.247	0.241	0.239	0.240		0.236	0.236	3.739		
T	Isoprene					0.431	0.443	0.444	0.445	0.436	0.445	0.441	1.343		
T	Acrolein			0.023	0.017	0.021	0.019	0.018	0.019		0.020	0.020	10.804		
T	1,1,2-Trichloro-1,2,2-Trifluor			0.246	0.240	0.259	0.262	0.274	0.269	0.262	0.266	0.260	4.446		
T	Acetone					0.110	0.094	0.091	0.094	0.100	0.094	0.097	7.304		
C	1,1-Dichloroethene		0.497	0.484	0.509	0.519	0.515	0.539	0.537	0.519	0.525	0.516	3.420		
T	Tert-Butyl Alcohol			0.023	0.023	0.027	0.026	0.024	0.026		0.027	0.025	7.707		
T	Dimethyl Sulfide					0.352	0.353	0.354	0.357	0.351	0.354	0.354	0.652		
T	Iodomethane			0.145	0.169	0.230	0.334	0.349	0.339	0.305	0.284	0.269	29.353		1.000
T	Methyl acetate				0.275	0.302	0.289	0.274	0.284	0.287	0.292	0.286	3.435		
T	Methylene Chloride		0.310	0.311	0.286	0.289	0.290	0.297	0.290	0.283	0.284	0.293	3.636		
T	Carbon Disulfide			0.886	0.836	0.845	0.870	0.871	0.867	0.837	0.830	0.855	2.402		
T	Acrylonitrile			0.117	0.116	0.131	0.132	0.134	0.137		0.146	0.130	8.262		
T	Methyl Tert Butyl Ether			0.682	0.669	0.721	0.738	0.737	0.739	0.740	0.743	0.721	4.063		
T	trans-1,2-Dichloroethene		0.301	0.287	0.293	0.294	0.284	0.296	0.296	0.288	0.291	0.292	1.802		
T	n-Hexane				0.471	0.478	0.520	0.516	0.512	0.493	0.509	0.500	3.901		
T	Diisopropyl ether			1.361	1.391	1.483	1.466	1.443	1.423		1.331	1.414	3.949		
T	Vinyl Acetate					0.769	0.767	0.764	0.751	0.757	0.728	0.756	2.003		
P	1,1-Dichloroethane		0.623	0.591	0.567	0.614	0.597	0.617	0.606	0.588	0.589	0.599	2.948		
T	Ethyl-Tert-Butyl ether			0.992	1.028	1.092	1.079	1.060	1.060		1.030	1.049	3.286		
T	2-Butanone					0.171	0.164	0.158	0.161	0.164	0.161	0.163	2.798		
T	Propionitrile			0.045	0.042	0.047	0.047	0.044	0.046		0.046	0.045	3.842		
T	2,2-Dichloropropane		0.467	0.393	0.387	0.412	0.396	0.413	0.408	0.399	0.401	0.408	5.773		
T	cis-1,2-Dichloroethene		0.342	0.281	0.326	0.324	0.319	0.335	0.329	0.320	0.321	0.322	5.277		
C	Chloroform	0.591	0.531	0.549	0.500	0.533	0.510	0.523	0.515	0.503	0.502	0.526	5.310		
T	1-Bromopropane				0.049	0.053	0.056	0.056	0.058	0.056	0.059	0.055	5.845		
T	Bromochloromethane		0.209	0.200	0.210	0.211	0.212	0.209	0.207	0.204	0.206	0.208	1.767		
T	Tetrahydrofuran			0.166	0.112	0.117	0.115	0.107	0.109		0.108	0.119	17.669	0.999	
S	Dibromofluoromethane				0.288	0.307	0.308	0.305	0.307	0.293	0.296	0.301	2.637		
T	1,1,1-Trichloroethane		0.459	0.460	0.440	0.454	0.454	0.480	0.479	0.472	0.474	0.464	2.918		
T	Cyclohexane		0.638	0.670	0.662	0.708	0.686	0.695	0.695	0.676	0.687	0.680	3.076		
T	1,1-Dichloropropene		0.402	0.392	0.357	0.390	0.371	0.394	0.389	0.379	0.380	0.384	3.525		
T	Carbon Tetrachloride		0.413	0.434	0.402	0.427	0.432	0.454	0.448	0.442	0.445	0.433	3.928		
T	Tert-Amyl-Methyl ether			0.672	0.675	0.739	0.737	0.715	0.723		0.710	0.710	3.826		
S	1,2-Dichloroethane-d4				0.332	0.343	0.349	0.341	0.341	0.327	0.331	0.338	2.297		
T	1,2-Dichloroethane		0.440	0.453	0.422	0.463	0.460	0.464	0.462	0.454	0.448	0.452	3.049		
T	Benzene		1.150	1.207	1.118	1.174	1.146	1.171	1.139	1.076	1.022	1.134	4.926		
T	Trichloroethene		0.343	0.319	0.311	0.334	0.325	0.333	0.332	0.324	0.329	0.328	2.809		
T	Methylcyclohexane		0.411	0.454	0.418	0.439	0.459	0.456	0.461	0.446	0.456	0.444	4.104		
C	1,2-Dichloropropane		0.329	0.323	0.316	0.350	0.339	0.343	0.341	0.333	0.334	0.334	3.170		
T	1,4-Dioxane				0.002	0.002	0.002	0.002	0.002		0.003	0.002	10.172		
T	Bromodichloromethane		0.400	0.386	0.363	0.405	0.395	0.412	0.409	0.402	0.403	0.397	3.746		
T	Dibromomethane		0.198	0.166	0.174	0.171	0.174	0.178	0.180	0.175	0.176	0.177	4.959		
T	2-Chloroethyl Vinyl Ether					0.182	0.194	0.194	0.201	0.203	0.201	0.196	3.929		
T	4-Methyl-2-Pentanone					0.114	0.116	0.115	0.121	0.127	0.128	0.120	5.086		
T	cis-1,3-Dichloropropene		0.423	0.405	0.392	0.437	0.456	0.466	0.463	0.456	0.454	0.439	6.087		
T	Dimethyl Disulfide					0.219	0.255	0.268	0.277	0.279	0.283	0.264	9.215		

I	Chlorobenzene-d5	ISTD											
S	Toluene-d8				1.329	1.388	1.379	1.343	1.346	1.248	1.240	1.325	4.444
C	Toluene		1.590	1.657	1.547	1.684	1.662	1.627	1.587	1.463	1.352	1.574	6.824
T	Ethyl Methacrylate			0.318	0.370	0.392	0.434	0.412	0.425	0.436	0.431	0.402	10.197
T	trans-1,3-Dichloropropene			0.481	0.479	0.515	0.536	0.533	0.535	0.529	0.516	0.515	4.559
T	1,1,2-Trichloroethane		0.276	0.310	0.286	0.321	0.325	0.316	0.310	0.309	0.304	0.306	5.213
T	2-Hexanone					0.328	0.323	0.306	0.325	0.349	0.350	0.330	5.055
T	1,3-Dichloropropane		0.564	0.503	0.475	0.544	0.532	0.514	0.511	0.502	0.488	0.515	5.413
T	Tetrachloroethene		0.357	0.390	0.314	0.339	0.346	0.337	0.335	0.328	0.330	0.342	6.393
T	Dibromochloromethane		0.397	0.375	0.376	0.416	0.429	0.420	0.428	0.429	0.425	0.411	5.410
T	1,2-Dibromoethane		0.323	0.295	0.293	0.319	0.334	0.317	0.320	0.320	0.317	0.315	4.182
T	1-Chlorohexane		0.473	0.516	0.461	0.512	0.529	0.523	0.525	0.518	0.515	0.508	4.714
P	Chlorobenzene		1.234	1.172	1.089	1.173	1.134	1.124	1.104	1.048	0.977	1.117	6.729
T	1,1,1,2-Tetrachloroethane		0.334	0.391	0.388	0.426	0.411	0.412	0.410	0.410	0.404	0.398	6.717
C	Ethylbenzene		0.553	0.607	0.537	0.582	0.585	0.588	0.573	0.567	0.549	0.571	3.886
T	m-,p-Xylene		0.695	0.678	0.665	0.716	0.707	0.694	0.684	0.635	0.583	0.673	6.156
T	o-Xylene		0.629	0.672	0.600	0.669	0.688	0.691	0.686	0.673	0.650	0.662	4.620
T	Styrene		1.061	1.059	1.044	1.159	1.191	1.196	1.187	1.147	1.070	1.124	5.688
P	Bromoform			0.223	0.229	0.254	0.273	0.273	0.278	0.298	0.303	0.266	10.978
T	Isopropylbenzene		1.737	1.686	1.635	1.777	1.780	1.780	1.760	1.644	1.465	1.696	6.131
I	1,4-Dichlorobenzene-d4	ISTD											
P	1,1,2,2-Tetrachloroethane		0.736	0.683	0.668	0.745	0.724	0.696	0.718	0.693	0.683	0.705	3.745
S	p-Bromofluorobenzene				1.024	1.101	1.033	0.999	1.034	0.918	0.893	1.000	7.208
T	1,2,3-Trichloropropane			0.191	0.206	0.228	0.226	0.214	0.220	0.214	0.210	0.214	5.547
T	trans-1,4-Dichloro-2-Butene			0.250	0.250	0.272	0.316	0.295	0.311	0.306	0.304	0.288	9.383
T	n-Propylbenzene		3.897	3.725	3.669	4.141	4.053	4.048	3.949	3.271	2.723	3.720	12.310
T	Bromobenzene	1.078	1.052	0.932	0.941	0.973	0.962	0.942	0.952	0.872	0.830	0.953	7.692
T	1,3,5-Trimethylbenzene		2.705	2.533	2.644	2.815	2.903	2.856	2.853	2.504	2.198	2.668	8.522
T	2-Chlorotoluene		2.556	2.381	2.372	2.557	2.499	2.459	2.413	2.101	1.846	2.354	9.971
T	4-Chlorotoluene		2.512	2.623	2.353	2.695	2.559	2.536	2.490	2.213	1.594	2.397	13.898
T	a-Methylstyrene			1.535	1.396	1.581	1.678	1.639	1.685	1.554	1.477	1.568	6.380
T	tert-Butylbenzene		0.512	0.572	0.570	0.646	0.609	0.617	0.612	0.568	0.546	0.584	7.055
T	1,2,4-Trimethylbenzene		2.790	2.701	2.623	2.973	2.949	2.943	2.917	2.562	2.242	2.745	8.807
T	sec-Butylbenzene			3.527	3.319	3.664	3.587	3.624	3.586	3.083	2.638	3.378	10.557
T	p-Isopropyltoluene			2.850	2.872	3.164	3.118	3.166	3.160	2.780	2.410	2.940	9.098
T	1,3-Dichlorobenzene		1.939	1.745	1.670	1.831	1.825	1.783	1.803	1.658	1.565	1.758	6.373
T	1,4-Dichlorobenzene	1.992	1.832	1.939	1.755	1.868	1.788	1.791	1.818	1.664	1.563	1.801	6.911
T	n-Butylbenzene		2.959	2.701	2.657	2.875	2.875	2.919	2.924	2.623	2.290	2.758	7.817
T	1,2-Dichlorobenzene	1.777	1.675	1.662	1.599	1.787	1.702	1.684	1.740	1.619	1.545	1.679	4.612
T	1,2-Dibromo-3-Chloropropane				0.121	0.127	0.134	0.132	0.141	0.147	0.146	0.136	7.229
T	1,2,4-Trichlorobenzene		1.356	1.210	1.068	1.225	1.224	1.248	1.311	1.319	1.246	1.245	6.695
T	Hexachlorobutadiene		0.541	0.460	0.439	0.496	0.465	0.472	0.508	0.511	0.495	0.487	6.436
T	Naphthalene		2.466	2.353	2.270	2.667	2.788	2.758	2.883	2.765	2.348	2.589	8.875
T	1,2,3-Trichlorobenzene	1.536	1.173	1.135	1.049	1.125	1.176	1.155	1.233	1.256	1.177	1.201	10.880

Fri Oct 14 09:30:30 2016

Calibration Table Report
Method: A9FOOWT.M
Title: A9-FOO Water - IC: 042416 - HPMS6
Last Calibration: Wed Apr 27 16:03:33 2016
Curve: WG566155
Calibration Files

	Compound	5 6M138751.D	20 6M138752.D	50 6M138753.D	100 6M138754.D	200 6M138755.D	300 6M138756.D	400 6M138757.D	500 6M138758.D	Avg	%RSD
I	Fluorobenzene	ISTD									
T	Acetonitrile	0.036	0.037	0.039	0.038	0.038	0.038	0.038	0.036	0.037	2.606
T	3-Chloro-1-propene	0.567	0.621	0.656	0.672	0.635	0.622	0.617	0.603	0.624	5.157
T	2-Chloro-1,3-butadiene	0.415	0.507	0.558	0.590	0.558	0.553	0.556	0.548	0.535	10.001
T	Ethyl Acetate	0.229	0.259	0.279	0.281	0.277	0.272	0.279	0.268	0.268	6.419
T	Methacrylonitrile	0.071	0.089	0.099	0.099	0.097	0.095	0.096	0.093	0.092	9.852
T	Isobutyl Alcohol		0.008	0.008	0.007	0.007	0.008	0.010	0.010	0.009	13.654
T	1-Butanol									0.000	0.000
T	Methyl methacrylate	0.159	0.200	0.231	0.244	0.244	0.241	0.246	0.236	0.225	13.591
T	2-Nitropropane			0.079	0.082	0.085	0.085	0.088	0.084	0.084	3.643
I	Chlorobenzene-d5	ISTD									
I	1,4-Dichlorobenzene-d4	ISTD									
T	Cyclohexanone			0.026	0.027	0.032	0.034	0.035	0.033	0.031	12.127

Wed Apr 27 16:05:59 2016

Calibration Table Report
Method: 8260WTR.M
Title: 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Calibration: Tue Sep 27 09:13:49 2016
Curve: WG584797
Calibration Files

	Compound	0.3 6M142178.D	0.4 6M142179.D	1 6M142180.D	2 6M142181.D	5 6M142182.D	20 6M142183.D	50 6M142184.D	100 6M142185.D	200 6M142186.D	300 6M142187.D	Avg	%RSD	Linear	Quad
I	Fluorobenzene	ISTD													
T	Dichlorodifluoromethane			0.392	0.333	0.376	0.471	0.449	0.456	0.462	0.428	0.421	11.668		
P	Chloromethane			0.557	0.471	0.485	0.548	0.496	0.443	0.454	0.426	0.485	9.744		
C	Vinyl Chloride		0.314	0.325	0.289	0.297	0.310	0.292	0.293	0.287	0.265	0.297	5.932		
T	1,3-Butadiene					0.244	0.222	0.171	0.157	0.152	0.141	0.181	23.228	0.994	
T	Bromomethane			0.184	0.157	0.160	0.157	0.164	0.176	0.192	0.193	0.173	8.851		
T	Chloroethane			0.195	0.168	0.182	0.203	0.195	0.184	0.187	0.187	0.188	5.565		
T	Trichlorofluoromethane		0.433	0.406	0.371	0.417	0.462	0.441	0.416	0.415	0.416	0.420	5.981		
T	Diethyl ether			0.210	0.200	0.206	0.204	0.207	0.207		0.216	0.207	2.522		
T	Isoprene					0.369	0.373	0.398	0.391	0.395	0.414	0.390	4.357		
T	Acrolein				0.027	0.028	0.026	0.028	0.029		0.034	0.029	10.061		
T	1,1,2-Trichloro-1,2,2-Trifluoroet			0.243	0.215	0.246	0.262	0.256	0.263	0.267	0.266	0.252	6.927		
T	Acetone					0.084	0.060	0.058	0.054	0.056	0.056	0.061	18.334	0.996	
C	1,1-Dichloroethene		0.419	0.420	0.373	0.399	0.438	0.416	0.421	0.430	0.429	0.416	4.725		
T	Tert-Butyl Alcohol			0.013	0.013	0.015	0.015	0.015	0.014		0.014	0.014	5.411		
T	Dimethyl Sulfide					0.263	0.262	0.281	0.272	0.279	0.281	0.273	3.192		
T	Iodomethane			0.063	0.076	0.136	0.269	0.317	0.314	0.312	0.294	0.223	50.049	0.995	
T	Methyl acetate					0.186	0.169	0.178	0.172	0.172	0.176	0.176	3.289		
T	Methylene Chloride			0.275	0.251	0.263	0.281	0.266	0.271	0.279	0.276	0.270	3.665		
T	Carbon Disulfide			0.817	0.697	0.777	0.769	0.822	0.800	0.820	0.800	0.788	5.262		
T	Acrylonitrile			0.072	0.071	0.074	0.077	0.082	0.081		0.091	0.078	8.747		
T	Methyl Tert Butyl Ether			0.601	0.549	0.596	0.636	0.619	0.615	0.620	0.623	0.607	4.408		
T	trans-1,2-Dichloroethene		0.247	0.260	0.239	0.259	0.280	0.266	0.271	0.276	0.276	0.264	5.283		
T	n-Hexane					0.349	0.325	0.355	0.344	0.347	0.353	0.346	3.107		
T	Diisopropyl ether			1.055	0.966	0.980	0.965	0.981	0.976		0.959	0.983	3.335		
T	Vinyl Acetate					0.480	0.468	0.490	0.466	0.474	0.523	0.483	4.372		
P	1,1-Dichloroethane		0.486	0.482	0.450	0.474	0.512	0.488	0.497	0.502	0.501	0.488	3.772		
T	Ethyl-Tert-Butyl ether			0.786	0.742	0.770	0.774	0.788	0.787		0.785	0.776	2.136		
T	2-Butanone					0.103	0.090	0.092	0.088	0.089	0.089	0.092	6.135		
T	Propionitrile			0.023	0.024	0.025	0.025	0.026	0.025		0.025	0.025	4.572		
T	2,2-Dichloropropane		0.339	0.351	0.313	0.350	0.362	0.361	0.371	0.378	0.382	0.356	6.023		
T	cis-1,2-Dichloroethene		0.285	0.280	0.267	0.289	0.309	0.294	0.298	0.303	0.301	0.292	4.478		
C	Chloroform	0.537	0.479	0.469	0.424	0.454	0.483	0.461	0.465	0.468	0.461	0.470	6.057		
T	1-Bromopropane			0.037	0.043	0.048	0.054	0.057	0.056	0.057	0.058	0.051	14.993		
T	Bromochloromethane		0.155	0.171	0.163	0.175	0.192	0.184	0.188	0.190	0.189	0.179	7.393		
T	Tetrahydrofuran			0.082	0.065	0.065	0.063	0.064	0.062		0.065	0.067	10.523		
S	Dibromofluoromethane			0.226	0.238	0.257	0.271	0.267	0.271	0.267	0.269	0.258	6.637		
T	1,1,1-Trichloroethane		0.380	0.408	0.355	0.396	0.425	0.414	0.421	0.434	0.434	0.407	6.475		
T	Cyclohexane			0.455	0.397	0.438	0.422	0.460	0.451	0.467	0.477	0.446	5.814		
T	1,1-Dichloropropene			0.358	0.313	0.338	0.360	0.348	0.351	0.358	0.358	0.348	4.614		
T	Tert-Amyl-Methyl ether			0.586	0.553	0.582	0.592	0.609	0.617		0.635	0.596	4.518		
T	Carbon Tetrachloride		0.334	0.353	0.301	0.358	0.4	0.395	0.41	0.407	0.419	0.3752	10.805		
S	1,2-Dichloroethane-d4				0.261	0.262	0.265	0.259	0.259	0.253	0.255	0.2592	1.5553		
T	Heptane											0	0		
T	1,2-Dichloroethane		0.306	0.343	0.319	0.345	0.365	0.347	0.351	0.354	0.349	0.3421	5.3422		
T	Benzene		1.062	1.037	0.952	0.991	1.06	1.009	1.018	1.005	0.95	1.0093	4.0406		
T	Trichloroethene		0.285	0.294	0.265	0.287	0.317	0.301	0.307	0.31	0.303	0.2967	5.3618		
T	Methylcyclohexane					0.388	0.369	0.399	0.39	0.396	0.397	0.39	2.7886		
C	1,2-Dichloropropane		0.241	0.256	0.247	0.262	0.28	0.268	0.271	0.276	0.274	0.2638	5.1359		
T	1,4-Dioxane					0.001	0.002	0.002	0.002		0.001	0.0016	10.527		
T	Bromodichloromethane		0.323	0.332	0.301	0.339	0.373	0.362	0.363	0.371	0.362	0.3473	7.1746		
T	Dibromomethane		0.127	0.135	0.135	0.145	0.157	0.152	0.153	0.157	0.155	0.1463	7.667		
T	2-Chloroethyl Vinyl Ether				0.1	0.114	0.131	0.134	0.129	0.131	0.12	0.1227	9.9213		
T	4-Methyl-2-Pentanone					0.067	0.07	0.073	0.072	0.075	0.074	0.0721	4.1696		
T	cis-1,3-Dichloropropene		0.332	0.361	0.337	0.384	0.423	0.409	0.414	0.423	0.413	0.3884	9.4205		
T	Dimethyl Disulfide					0.204	0.221	0.246	0.243	0.253	0.255	0.2369	8.5476		
I	Chlorobenzene-d5	ISTD													
S	Toluene-d8			1.177	1.113	1.125	1.148	1.11	1.131	1.088	1.103	1.1245	2.4916		
C	Toluene		1.39	1.451	1.281	1.347	1.437	1.367	1.375	1.319	1.221	1.3541	5.3883		
T	Ethyl Methacrylate			0.274	0.263	0.313	0.33	0.359	0.354	0.354	0.363	0.3261	12.136		
T	Paraldehyde											0	0		
T	trans-1,3-Dichloropropene			0.396	0.382	0.422	0.477	0.463	0.471	0.471	0.472	0.4443	8.6277		
T	1,1,2-Trichloroethane		0.227	0.245	0.231	0.257	0.273	0.261	0.262	0.26	0.259	0.2527	6.0672		
T	2-Hexanone					0.184	0.183	0.185	0.181	0.187	0.191	0.185	1.9334		
T	1,3-Dichloropropane		0.355	0.439	0.4	0.434	0.456	0.435	0.434	0.429	0.425	0.4231	6.9431		
T	Tetrachloroethene		0.379	0.368	0.353	0.376	0.399	0.382	0.389	0.389	0.394	0.3811	3.7409		
T	Dibromochloromethane		0.299	0.312	0.301	0.334	0.374	0.365	0.375	0.374	0.372	0.3451	9.6885		
T	1,2-Dibromoethane		0.227	0.26	0.253	0.262	0.285	0.277	0.277	0.275	0.269	0.265	6.6277		
T	1-Chlorohexane		0.38	0.446	0.373	0.415	0.422	0.459	0.451	0.456	0.453	0.4283	7.7203		
P	Chlorobenzene		0.94	0.99	0.915	0.961	1.025	0.979	0.996	0.982	0.915	0.9671	3.8823		
T	1,1,1,2-Tetrachloroethane		0.294	0.347	0.309	0.34	0.389	0.384	0.395	0.406	0.392	0.3619	11.243		
C	Ethylbenzene		0.487	0.508	0.47	0.496	0.545	0.521	0.545	0.56	0.536	0.5187	5.8544		
T	m-,p-Xylene		0.597	0.623	0.573	0.609	0.652	0.634	0.651	0.634	0.561	0.6149	5.2909		
T	o-Xylene			0.583	0.534	0.589	0.644	0.623	0.637	0.654	0.622	0.6107	6.5158		
T	Styrene		0.951	1	0.936	1.013	1.124	1.093	1.122	1.122	1.024	1.0427	7.175		
P	Bromoform			0.176	0.166	0.197	0.235	0.24	0.248	0.258	0.26	0.2226	16.827		
T	Isopropylbenzene		1.471	1.529	1.376	1.493	1.604	1.544	1.568	1.521	1.332	1.4933	5.9329		
I	1,4-Dichlorobenzene-d4	ISTD													
P	1,1,2,2-Tetrachloroethane		0.489	0.519	0.486	0.547	0.568	0.549	0.536	0.544	0.553	0.5323	5.3529		
S	p-Bromofluorobenzene			0.885	0.81	0.829	0.833	0.808	0.815	0.806	0.817	0.8253	3.1739		

T	1,2,3-Trichloropropane			0.149	0.15	0.162	0.173	0.168	0.165	0.166	0.167	0.1626	5.2951
T	trans-1,4-Dichloro-2-Butene			0.114	0.134	0.154	0.158	0.172	0.173	0.176	0.181	0.1577	14.683
T	n-Propylbenzene		3.193	3.28	2.925	3.093	3.233	3.069	3.062	2.851	2.447	3.0169	8.4322
T	Bromobenzene	0.828	0.733	0.769	0.706	0.766	0.824	0.784	0.791	0.8	0.785	0.7786	4.8409
T	1,3,5-Trimethylbenzene		2.169	2.343	2.071	2.244	2.382	2.285	2.325	2.258	2.036	2.2349	5.3757
T	2-Chlorotoluene		2.052	2.026	1.804	2.048	2.006	2.05	2.013	1.958	1.876	1.9814	4.3965
T	4-Chlorotoluene		1.975	2.195	1.976	1.92	2.148	1.911	1.988	1.957	1.742	1.9792	6.6865
T	a-Methylstyrene					1.272	1.294	1.402	1.396	1.392	1.344	1.35	4.1595
T	tert-Butylbenzene			0.509	0.461	0.501	0.537	0.518	0.534	0.548	0.539	0.5184	5.4103
T	1,2,4-Trimethylbenzene			2.401	2.171	2.34	2.502	2.417	2.454	2.352	2.093	2.3412	6.0037
T	sec-Butylbenzene			2.819	2.475	2.738	2.877	2.738	2.769	2.633	2.329	2.6722	6.9251
T	p-Isopropyltoluene			2.362	2.168	2.398	2.569	2.461	2.505	2.369	2.117	2.3685	6.6239
T	1,3-Dichlorobenzene		1.514	1.484	1.403	1.478	1.576	1.503	1.521	1.492	1.404	1.486	3.6825
T	1,4-Dichlorobenzene		1.493	1.556	1.401	1.515	1.577	1.5	1.521	1.485	1.393	1.4934	4.1721
T	n-Butylbenzene			2.074	1.863	2.055	2.198	2.098	2.147	2.061	1.879	2.0469	5.7845
T	1,2-Dichlorobenzene	1.524	1.363	1.453	1.289	1.375	1.47	1.391	1.41	1.375	1.3	1.3949	5.235
T	1,2-Dibromo-3-Chloropropane				0.065	0.086	0.096	0.098	0.097	0.098	0.097	0.0911	13.48
T	1,2,4-Trichlorobenzene	1.049	0.994	1.01	0.922	0.998	1.08	1.014	1.044	1.048	1.016	1.0173	4.2358
T	Hexachlorobutadiene		0.347	0.395	0.344	0.375	0.398	0.373	0.39	0.393	0.395	0.3789	5.525
T	Naphthalene		1.629	1.69	1.645	1.881	2.093	2.029	2.027	1.928	1.727	1.8499	9.7683
T	1,2,3-Trichlorobenzene	0.932	0.837	0.884	0.826	0.892	0.979	0.93	0.95	0.951	0.919	0.9101	5.4725

Tue Sep 27 10:32:17 2016

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number:L16100194 Run Date:10/13/2016 Sample ID:WG587480-12
Instrument ID:HPMS11 Run Time:19:00 Method:8260B
File ID:11M14512 Analyst:FJB QC Key:DOD4
ICal Workgroup:WG587480 Cal ID:HPMS11 - 13-OCT-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	51.0	ug/L	0.536	1.90	20	
1,1-Dichloroethene	CCC	50.0	50.2	ug/L	0.518	0.300	20	
1,2-Dichloropropane	CCC	50.0	51.4	ug/L	0.344	2.80	20	
Ethylbenzene	CCC	50.0	50.9	ug/L	0.582	1.90	20	
Toluene	CCC	50.0	51.6	ug/L	1.62	3.10	20	
Vinyl Chloride	CCC	50.0	55.5	ug/L	0.460	11.0	20	
Bromoform	SPCC	50.0	50.2	ug/L	0.268	0.500	20	
Chlorobenzene	SPCC	50.0	49.5	ug/L	1.11	1.00	20	
Chloromethane	SPCC	50.0	51.7	ug/L	0.481	3.30	20	
1,1-Dichloroethane	SPCC	50.0	51.1	ug/L	0.613	2.30	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	50.9	ug/L	0.718	1.90	20	
Acetone		50.0	51.9	ug/L	0.101	3.80	20	
Benzene		50.0	52.0	ug/L	1.18	4.00	20	
Bromobenzene		50.0	47.9	ug/L	0.914	4.10	20	
Bromochloromethane		50.0	51.9	ug/L	0.216	3.80	20	
Bromodichloromethane		50.0	50.1	ug/L	0.398	0.300	20	
Bromomethane		50.0	51.9	ug/L	0.209	3.90	20	
2-Butanone		50.0	52.5	ug/L	0.171	4.90	20	
n-Butylbenzene		50.0	52.4	ug/L	2.89	4.70	20	
sec-Butylbenzene		50.0	51.6	ug/L	3.49	3.30	20	
tert-Butylbenzene		50.0	51.7	ug/L	0.603	3.30	20	
Carbon Disulfide		50.0	47.8	ug/L	0.817	4.50	20	
Carbon Tetrachloride		50.0	52.9	ug/L	0.458	5.70	20	
Dibromochloromethane		50.0	50.3	ug/L	0.413	0.500	20	
Chloroethane		50.0	55.1	ug/L	0.268	10.2	20	
2-Chlorotoluene		50.0	50.9	ug/L	2.40	1.80	20	
4-Chlorotoluene		50.0	51.6	ug/L	2.48	3.20	20	
1,2-Dibromo-3-Chloropropane		50.0	55.5	ug/L	0.150	10.9	20	
1,2-Dibromoethane		50.0	50.1	ug/L	0.316	0.300	20	
Dibromomethane		50.0	51.2	ug/L	0.181	2.40	20	
1,2-Dichlorobenzene		50.0	52.8	ug/L	1.77	5.60	20	
1,3-Dichlorobenzene		50.0	50.3	ug/L	1.77	0.600	20	
1,4-Dichlorobenzene		50.0	50.3	ug/L	1.81	0.600	20	
Dichlorodifluoromethane		50.0	56.2	ug/L	0.477	12.4	20	
1,2-Dichloroethane		50.0	50.8	ug/L	0.459	1.60	20	
cis-1,2-Dichloroethene		50.0	51.8	ug/L	0.334	3.60	20	
trans-1,2-Dichloroethene		50.0	51.8	ug/L	0.303	3.60	20	
1,3-Dichloropropane		50.0	51.8	ug/L	0.533	3.50	20	
2,2-Dichloropropane		50.0	53.4	ug/L	0.436	6.80	20	
cis-1,3-Dichloropropene		50.0	56.8	ug/L	0.499	13.5	20	
trans-1,3-Dichloropropene		50.0	51.4	ug/L	0.530	2.80	20	
1,1-Dichloropropene		50.0	52.0	ug/L	0.399	4.10	20	

ALT - Modified 09/06/2007
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Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16100194 Run Date: 10/13/2016 Sample ID: WG587480-12
Instrument ID: HPMS11 Run Time: 19:00 Method: 8260B
File ID: 11M14512 Analyst: FJB QC Key: DOD4
ICal Workgroup: WG587480 Cal ID: HPMS11 - 13-OCT-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone		50.0	50.7	ug/L	0.335	1.40	20	
Hexachlorobutadiene		50.0	56.2	ug/L	0.548	12.4	20	
Isopropylbenzene		50.0	51.9	ug/L	1.76	3.80	20	
p-Isopropyltoluene		50.0	53.7	ug/L	3.16	7.40	20	
4-Methyl-2-Pentanone		50.0	52.1	ug/L	0.125	4.10	20	
Methylene Chloride		50.0	50.2	ug/L	0.295	0.500	20	
Naphthalene		50.0	62.7	ug/L	3.24	25.3	20	*
n-Propylbenzene		50.0	53.1	ug/L	3.95	6.20	20	
Styrene		50.0	53.5	ug/L	1.20	7.00	20	
1,1,1,2-Tetrachloroethane		50.0	50.5	ug/L	0.402	0.900	20	
Tetrachloroethene		50.0	51.2	ug/L	0.350	2.50	20	
1,2,3-Trichlorobenzene		50.0	57.2	ug/L	1.38	14.5	20	
1,2,4-Trichlorobenzene		50.0	58.2	ug/L	1.45	16.3	20	
1,1,1-Trichloroethane		50.0	54.1	ug/L	0.502	8.30	20	
1,1,2-Trichloroethane		50.0	50.8	ug/L	0.311	1.50	20	
Trichloroethene		50.0	51.3	ug/L	0.337	2.60	20	
Trichlorofluoromethane		50.0	51.8	ug/L	0.500	3.60	20	
1,2,3-Trichloropropane		50.0	51.9	ug/L	0.222	3.80	20	
1,2,4-Trimethylbenzene		50.0	52.4	ug/L	2.88	4.80	20	
1,3,5-Trimethylbenzene		50.0	52.4	ug/L	2.80	4.80	20	
o-Xylene		50.0	52.5	ug/L	0.695	5.00	20	
m-,p-Xylene		100	106	ug/L	0.710	5.50	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4974604
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16100194 Run Date: 09/26/2016 Sample ID: WG584797-12
Instrument ID: HPMS6 Run Time: 20:27 Method: 8260B
File ID: 6M142190 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG584797 Cal ID: HPMS6 - 26-SEP-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	45.9	ug/L	0.431	8.30	20	
1,1-Dichloroethene	CCC	50.0	41.9	ug/L	0.349	16.1	20	
1,2-Dichloropropane	CCC	50.0	49.9	ug/L	0.263	0.200	20	
Ethylbenzene	CCC	50.0	48.0	ug/L	0.498	4.10	20	
Toluene	CCC	50.0	47.7	ug/L	1.29	4.60	20	
Vinyl Chloride	CCC	50.0	52.8	ug/L	0.313	5.60	20	
Bromoform	SPCC	50.0	44.0	ug/L	0.222	12.1	20	
Chlorobenzene	SPCC	50.0	49.3	ug/L	0.954	1.30	20	
Chloromethane	SPCC	50.0	47.4	ug/L	0.460	5.10	20	
1,1-Dichloroethane	SPCC	50.0	44.4	ug/L	0.433	11.3	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	51.3	ug/L	0.546	2.60	20	
Acetone		50.0	56.2	ug/L	0.0644	12.4	20	
Benzene		50.0	46.8	ug/L	0.945	6.30	20	
Bromobenzene		50.0	47.8	ug/L	0.745	4.30	20	
Bromochloromethane		50.0	48.7	ug/L	0.174	2.60	20	
Bromodichloromethane		50.0	49.2	ug/L	0.342	1.70	20	
Bromomethane		50.0	45.3	ug/L	0.157	9.30	20	
2-Butanone		50.0	53.4	ug/L	0.0982	6.80	20	
n-Butylbenzene		50.0	49.5	ug/L	2.03	1.00	20	
sec-Butylbenzene		50.0	50.0	ug/L	2.67	0	20	
tert-Butylbenzene		50.0	49.6	ug/L	0.514	0.800	20	
Carbon Disulfide		50.0	41.2	ug/L	0.649	17.6	20	
Carbon Tetrachloride		50.0	48.4	ug/L	0.363	3.30	20	
Dibromochloromethane		50.0	50.9	ug/L	0.352	1.80	20	
Chloroethane		50.0	55.1	ug/L	0.207	10.2	20	
2-Chlorotoluene		50.0	46.5	ug/L	1.84	7.00	20	
4-Chlorotoluene		50.0	50.8	ug/L	2.01	1.50	20	
1,2-Dibromo-3-Chloropropane		50.0	55.9	ug/L	0.102	11.7	20	
1,2-Dibromoethane		50.0	50.7	ug/L	0.269	1.50	20	
Dibromomethane		50.0	47.5	ug/L	0.139	4.90	20	
1,2-Dichlorobenzene		50.0	51.7	ug/L	1.44	3.30	20	
1,3-Dichlorobenzene		50.0	49.9	ug/L	1.48	0.100	20	
1,4-Dichlorobenzene		50.0	50.9	ug/L	1.52	1.90	20	
Dichlorodifluoromethane		50.0	56.3	ug/L	0.474	12.7	20	
1,2-Dichloroethane		50.0	48.4	ug/L	0.331	3.10	20	
cis-1,2-Dichloroethene		50.0	48.8	ug/L	0.285	2.40	20	
trans-1,2-Dichloroethene		50.0	46.9	ug/L	0.248	6.10	20	
1,3-Dichloropropane		50.0	52.4	ug/L	0.444	4.90	20	
2,2-Dichloropropane		50.0	45.6	ug/L	0.325	8.90	20	
cis-1,3-Dichloropropene		50.0	53.8	ug/L	0.418	7.60	20	
trans-1,3-Dichloropropene		50.0	50.0	ug/L	0.444	0	20	
1,1-Dichloropropene		50.0	45.2	ug/L	0.315	9.60	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4974604
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Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16100194 Run Date: 09/26/2016 Sample ID: WG584797-12
Instrument ID: HPMS6 Run Time: 20:27 Method: 8260B
File ID: 6M142190 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG584797 Cal ID: HPMS6 - 26-SEP-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone		50.0	52.7	ug/L	0.195	5.50	20	
Hexachlorobutadiene		50.0	53.9	ug/L	0.408	7.70	20	
Isopropylbenzene		50.0	49.9	ug/L	1.49	0.200	20	
p-Isopropyltoluene		50.0	50.1	ug/L	2.38	0.300	20	
4-Methyl-2-Pentanone		50.0	53.4	ug/L	0.0769	6.70	20	
Methylene Chloride		50.0	46.0	ug/L	0.249	8.00	20	
Naphthalene		50.0	51.1	ug/L	1.89	2.30	20	
n-Propylbenzene		50.0	49.7	ug/L	3.00	0.600	20	
Styrene		50.0	50.4	ug/L	1.05	0.800	20	
1,1,1,2-Tetrachloroethane		50.0	50.5	ug/L	0.365	0.900	20	
Tetrachloroethene		50.0	47.7	ug/L	0.364	4.60	20	
1,2,3-Trichlorobenzene		50.0	52.1	ug/L	0.948	4.10	20	
1,2,4-Trichlorobenzene		50.0	51.5	ug/L	1.05	3.00	20	
1,1,1-Trichloroethane		50.0	47.3	ug/L	0.386	5.30	20	
1,1,2-Trichloroethane		50.0	50.2	ug/L	0.254	0.400	20	
Trichloroethene		50.0	49.7	ug/L	0.295	0.600	20	
Trichlorofluoromethane		50.0	49.8	ug/L	0.418	0.500	20	
1,2,3-Trichloropropane		50.0	52.1	ug/L	0.170	4.20	20	
1,2,4-Trimethylbenzene		50.0	48.9	ug/L	2.29	2.20	20	
1,3,5-Trimethylbenzene		50.0	49.4	ug/L	2.21	1.20	20	
o-Xylene		50.0	50.2	ug/L	0.613	0.400	20	
m-,p-Xylene		100	99.6	ug/L	0.613	0.400	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4974604
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587314-02
Instrument ID: HPMS6 Run Time: 15:32 Method: 8260B
File ID: 6M142657 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG587315 Cal ID: HPMS6 - 26-SEP-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	48.6	ug/L	0.457	2.87	20	
1,1-Dichloroethene	CCC	50.0	49.5	ug/L	0.412	0.971	20	
1,2-Dichloropropane	CCC	50.0	48.6	ug/L	0.257	2.77	20	
Ethylbenzene	CCC	50.0	48.9	ug/L	0.507	2.20	20	
Toluene	CCC	50.0	49.0	ug/L	1.33	2.04	20	
Vinyl Chloride	CCC	50.0	50.9	ug/L	0.303	1.87	20	
Bromoform	SPCC	50.0	48.6	ug/L	0.246	2.87	20	
Chlorobenzene	SPCC	50.0	49.9	ug/L	0.965	0.213	20	
Chloromethane	SPCC	50.0	42.3	ug/L	0.411	15.3	20	
1,1-Dichloroethane	SPCC	50.0	48.8	ug/L	0.477	2.30	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.7	ug/L	0.508	4.55	20	
Xylenes		150	149	ug/L	0.608	0.533	20	
Acetone		50.0	53.5	ug/L	0.0614	7.07	20	
Benzene		50.0	48.8	ug/L	0.984	2.50	20	
Bromobenzene		50.0	49.3	ug/L	0.768	1.41	20	
Bromochloromethane		50.0	52.6	ug/L	0.188	5.28	20	
Bromodichloromethane		50.0	50.5	ug/L	0.351	1.07	20	
Bromomethane		50.0	39.3	ug/L	0.136	21.5	20	*
2-Butanone		50.0	50.9	ug/L	0.0936	1.80	20	
n-Butylbenzene		50.0	48.3	ug/L	1.98	3.36	20	
sec-Butylbenzene		50.0	48.4	ug/L	2.59	3.21	20	
tert-Butylbenzene		50.0	48.2	ug/L	0.500	3.59	20	
Carbon Disulfide		50.0	49.2	ug/L	0.774	1.69	20	
Carbon Tetrachloride		50.0	54.7	ug/L	0.411	9.43	20	
Dibromochloromethane		50.0	52.8	ug/L	0.364	5.52	20	
Chloroethane		50.0	47.4	ug/L	0.178	5.26	20	
2-Chlorotoluene		50.0	48.4	ug/L	1.92	3.20	20	
4-Chlorotoluene		50.0	44.4	ug/L	1.76	11.2	20	
1,2-Dibromo-3-Chloropropane		50.0	47.2	ug/L	0.0859	5.65	20	
1,2-Dibromoethane		50.0	50.2	ug/L	0.266	0.424	20	
Dibromomethane		50.0	51.1	ug/L	0.150	2.20	20	
1,2-Dichlorobenzene		50.0	49.1	ug/L	1.37	1.78	20	
1,3-Dichlorobenzene		50.0	50.1	ug/L	1.49	0.107	20	
1,4-Dichlorobenzene		50.0	49.8	ug/L	1.49	0.324	20	
Dichlorodifluoromethane		50.0	55.5	ug/L	0.468	11.1	20	
1,2-Dichloroethane		50.0	48.9	ug/L	0.335	2.17	20	
cis-1,2-Dichloroethene		50.0	49.7	ug/L	0.290	0.501	20	
trans-1,2-Dichloroethene		50.0	50.8	ug/L	0.268	1.50	20	
1,3-Dichloropropane		50.0	48.5	ug/L	0.410	3.03	20	
2,2-Dichloropropane		50.0	52.5	ug/L	0.375	5.06	20	
cis-1,3-Dichloropropene		50.0	50.5	ug/L	0.393	1.08	20	
trans-1,3-Dichloropropene		50.0	49.8	ug/L	0.443	0.334	20	

CCV - Modified 03/05/2008
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Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587314-02
Instrument ID: HPMS6 Run Time: 15:32 Method: 8260B
File ID: 6M142657 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG587315 Cal ID: HPMS6 - 26-SEP-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	49.0	ug/L	0.341	1.93	20	
2-Hexanone		50.0	49.1	ug/L	0.182	1.82	20	
Hexachlorobutadiene		50.0	48.4	ug/L	0.367	3.20	20	
Isopropylbenzene		50.0	51.0	ug/L	1.52	1.93	20	
p-Isopropyltoluene		50.0	49.6	ug/L	2.35	0.725	20	
4-Methyl-2-Pentanone		50.0	49.8	ug/L	0.0718	0.415	20	
Methylene Chloride		50.0	48.9	ug/L	0.265	2.14	20	
Naphthalene		50.0	49.1	ug/L	1.82	1.85	20	
n-Propylbenzene		50.0	47.4	ug/L	2.86	5.12	20	
Styrene		50.0	50.5	ug/L	1.05	1.06	20	
1,1,1,2-Tetrachloroethane		50.0	53.3	ug/L	0.386	6.58	20	
Tetrachloroethene		50.0	52.2	ug/L	0.398	4.45	20	
1,2,3-Trichlorobenzene		50.0	49.3	ug/L	0.898	1.37	20	
1,2,4-Trichlorobenzene		50.0	48.4	ug/L	0.985	3.19	20	
1,1,1-Trichloroethane		50.0	51.2	ug/L	0.417	2.32	20	
1,1,2-Trichloroethane		50.0	50.1	ug/L	0.253	0.164	20	
Trichloroethene		50.0	51.5	ug/L	0.305	2.94	20	
Trichlorofluoromethane		50.0	60.4	ug/L	0.507	20.7	20	*
1,2,3-Trichloropropane		50.0	48.0	ug/L	0.156	3.99	20	
1,2,4-Trimethylbenzene		50.0	49.0	ug/L	2.30	1.92	20	
1,3,5-Trimethylbenzene		50.0	48.0	ug/L	2.15	3.99	20	
o-Xylene		50.0	49.3	ug/L	0.602	1.39	20	
m-,p-Xylene		100	99.9	ug/L	0.614	0.106	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4974606
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/17/2016 Sample ID: WG587866-02
Instrument ID: HPMS11 Run Time: 13:05 Method: 8260B
File ID: 11M14559 Analyst: FJB QC Key: DOD4
Workgroup (AAB#): WG587867 Cal ID: HPMS11 - 13-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	45.7	ug/L	0.481	8.51	20	
1,1-Dichloroethene	CCC	50.0	48.7	ug/L	0.502	2.69	20	
1,2-Dichloropropane	CCC	50.0	48.0	ug/L	0.321	4.02	20	
Ethylbenzene	CCC	50.0	49.9	ug/L	0.570	0.215	20	
Toluene	CCC	50.0	50.1	ug/L	1.58	0.210	20	
Vinyl Chloride	CCC	50.0	49.1	ug/L	0.407	1.88	20	
Bromoform	SPCC	50.0	46.9	ug/L	0.250	6.23	20	
Chlorobenzene	SPCC	50.0	48.4	ug/L	1.08	3.15	20	
Chloromethane	SPCC	50.0	46.8	ug/L	0.435	6.50	20	
1,1-Dichloroethane	SPCC	50.0	47.7	ug/L	0.572	4.62	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.7	ug/L	0.673	4.59	20	
Xylenes		150	151	ug/L	0.675	0.981	20	
Acetone		50.0	34.5	ug/L	0.0669	31.0	20	*
Benzene		50.0	48.6	ug/L	1.10	2.76	20	
Bromobenzene		50.0	48.7	ug/L	0.929	2.53	20	
Bromochloromethane		50.0	46.9	ug/L	0.195	6.29	20	
Bromodichloromethane		50.0	47.5	ug/L	0.377	5.03	20	
Bromomethane		50.0	57.0	ug/L	0.229	14.1	20	
2-Butanone		50.0	38.8	ug/L	0.127	22.4	20	*
n-Butylbenzene		50.0	53.7	ug/L	2.96	7.43	20	
sec-Butylbenzene		50.0	54.4	ug/L	3.68	8.88	20	
tert-Butylbenzene		50.0	53.5	ug/L	0.624	6.97	20	
Carbon Disulfide		50.0	48.2	ug/L	0.824	3.68	20	
Carbon Tetrachloride		50.0	48.7	ug/L	0.422	2.68	20	
Dibromochloromethane		50.0	48.5	ug/L	0.399	2.91	20	
Chloroethane		50.0	48.3	ug/L	0.235	3.49	20	
2-Chlorotoluene		50.0	50.5	ug/L	2.38	0.962	20	
4-Chlorotoluene		50.0	53.4	ug/L	2.56	6.75	20	
1,2-Dibromo-3-Chloropropane		50.0	44.1	ug/L	0.120	11.7	20	
1,2-Dibromoethane		50.0	46.7	ug/L	0.294	6.70	20	
Dibromomethane		50.0	45.8	ug/L	0.162	8.33	20	
1,2-Dichlorobenzene		50.0	49.7	ug/L	1.67	0.655	20	
1,3-Dichlorobenzene		50.0	50.3	ug/L	1.77	0.699	20	
1,4-Dichlorobenzene		50.0	48.8	ug/L	1.76	2.39	20	
Dichlorodifluoromethane		50.0	50.6	ug/L	0.429	1.20	20	
1,2-Dichloroethane		50.0	46.0	ug/L	0.416	7.91	20	
cis-1,2-Dichloroethene		50.0	48.7	ug/L	0.314	2.55	20	
trans-1,2-Dichloroethene		50.0	47.6	ug/L	0.278	4.79	20	
1,3-Dichloropropane		50.0	46.4	ug/L	0.478	7.12	20	
2,2-Dichloropropane		50.0	51.4	ug/L	0.420	2.81	20	
cis-1,3-Dichloropropene		50.0	49.4	ug/L	0.434	1.27	20	
trans-1,3-Dichloropropene		50.0	49.4	ug/L	0.509	1.18	20	

CCV - Modified 03/05/2008
PDF File ID: 4974606
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/17/2016 Sample ID: WG587866-02
Instrument ID: HPMS11 Run Time: 13:05 Method: 8260B
File ID: 11M14559 Analyst: FJB QC Key: DOD4
Workgroup (AAB#): WG587867 Cal ID: HPMS11 - 13-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	48.5	ug/L	0.372	3.05	20	
2-Hexanone		50.0	38.5	ug/L	0.254	23.0	20	*
Hexachlorobutadiene		50.0	55.5	ug/L	0.541	11.0	20	
Isopropylbenzene		50.0	51.6	ug/L	1.75	3.14	20	
p-Isopropyltoluene		50.0	55.1	ug/L	3.24	10.2	20	
4-Methyl-2-Pentanone		50.0	41.5	ug/L	0.0997	17.0	20	
Methylene Chloride		50.0	46.9	ug/L	0.275	6.12	20	
Naphthalene		50.0	50.5	ug/L	2.61	0.940	20	
n-Propylbenzene		50.0	54.2	ug/L	4.03	8.39	20	
Styrene		50.0	51.1	ug/L	1.15	2.25	20	
1,1,1,2-Tetrachloroethane		50.0	49.7	ug/L	0.396	0.633	20	
Tetrachloroethene		50.0	48.9	ug/L	0.334	2.19	20	
1,2,3-Trichlorobenzene		50.0	48.3	ug/L	1.16	3.39	20	
1,2,4-Trichlorobenzene		50.0	50.1	ug/L	1.25	0.176	20	
1,1,1-Trichloroethane		50.0	48.5	ug/L	0.450	2.93	20	
1,1,2-Trichloroethane		50.0	48.1	ug/L	0.294	3.87	20	
Trichloroethene		50.0	47.5	ug/L	0.311	5.05	20	
Trichlorofluoromethane		50.0	49.5	ug/L	0.478	0.925	20	
1,2,3-Trichloropropane		50.0	47.7	ug/L	0.204	4.51	20	
1,2,4-Trimethylbenzene		50.0	53.7	ug/L	2.95	7.41	20	
1,3,5-Trimethylbenzene		50.0	54.3	ug/L	2.90	8.58	20	
o-Xylene		50.0	50.7	ug/L	0.672	1.48	20	
m-,p-Xylene		100	101	ug/L	0.678	0.731	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4974606
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16100194
Instrument ID: HPMS6
Workgroup (AAB#): WG587315

ICAL CCV Number: WG584797-08
CAL ID: HPMS6-26-SEP-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG584797-08	NA	NA	358963	623465	791212
Upper Limit	NA	NA	717926	1246930	1582424
Lower Limit	NA	NA	179482	311733	395606
L16100194-05	20.0	DL01	246968	460655	594729
L16100194-07	1.00	01	252817	474518	605584
L16100194-08	1.00	01	255337	475262	612095
L16100194-09	1.00	01	255717	478489	618096
L16100194-10	1.00	01	260116	481172	616875
L16100194-11	1.00	01	262934	491989	638554
WG587315-01	1.00	01	275383	513733	660535
WG587315-02	1.00	01	306991	498165	621588
WG587315-03	1.00	01	310406	516481	642986

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

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 4976999
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16100194
Instrument ID: HPMS11
Workgroup (AAB#): WG587598

ICAL CCV Number: WG587480-08
CAL ID: HPMS11-13-OCT-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG587480-08	NA	NA	300608	570241	727439
Upper Limit	NA	NA	601216	1140482	1454878
Lower Limit	NA	NA	150304	285121	363720
L16100194-03	10.0	DL01	273163	519134	677074
L16100194-06	5.00	DL01	267281	513082	675014
WG587598-01	1.00	01	279662	545415	715244
WG587598-02	1.00	01	285272	550250	720522
WG587598-03	1.00	01	274597	535090	693096

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

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 4976999
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16100194
Instrument ID: HPMS11
Workgroup (AAB#): WG587867

ICAL CCV Number: WG587480-08
CAL ID: HPMS11-13-OCT-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG587480-08	NA	NA	300608	570241	727439
Upper Limit	NA	NA	601216	1140482	1454878
Lower Limit	NA	NA	150304	285121	363720
L16100194-01	10.0	DL01	262227	515969	676606
WG587867-01	1.00	01	267000	544201	726651
WG587867-02	1.00	01	284712	552337	716821

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

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 4976999
Report generated 10/20/2016 09:24

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16100194

Instrument ID: HPMS6

Workgroup (AAB#): WG587315

ICAL CCV Number: WG584797-08

CAL ID: HPMS6-26-SEP-16

Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG584797-08	NA	NA	18.79	15.22	10.75
Upper Limit	NA	NA	19.29	15.72	11.25
Lower Limit	NA	NA	18.29	14.72	10.25
L16100194-05	20.0	DL01	18.78	15.22	10.75
L16100194-07	1.00	01	18.78	15.22	10.75
L16100194-08	1.00	01	18.78	15.22	10.75
L16100194-09	1.00	01	18.78	15.22	10.75
L16100194-10	1.00	01	18.78	15.22	10.75
L16100194-11	1.00	01	18.78	15.22	10.75
WG587315-01	1.00	01	18.78	15.22	10.75
WG587315-02	1.00	01	18.79	15.22	10.75
WG587315-03	1.00	01	18.77	15.22	10.75

IS-1 - 1,4-Dichlorobenzene-d4

IS-2 - Chlorobenzene-d5

IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008

PDF File ID: 4977002

Report generated: 10/20/2016 09:24

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16100194
Instrument ID: HPMS11
Workgroup (AAB#): WG587598

ICAL CCV Number: WG587480-08
CAL ID: HPMS11-13-OCT-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG587480-08	NA	NA	17.01	14.2	10.57
Upper Limit	NA	NA	17.51	14.7	11.07
Lower Limit	NA	NA	16.51	13.7	10.07
L16100194-03	10.0	DL01	17.01	14.2	10.57
L16100194-06	5.00	DL01	17.01	14.2	10.57
WG587598-01	1.00	01	17.01	14.2	10.57
WG587598-02	1.00	01	17.01	14.2	10.57
WG587598-03	1.00	01	17.01	14.2	10.57

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

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 4977002
Report generated: 10/20/2016 09:24

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16100194
Instrument ID: HPMS11
Workgroup (AAB#): WG587867

ICAL CCV Number: WG587480-08
CAL ID: HPMS11-13-OCT-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG587480-08	NA	NA	17.01	14.2	10.57
Upper Limit	NA	NA	17.51	14.7	11.07
Lower Limit	NA	NA	16.51	13.7	10.07
L16100194-01	10.0	DL01	17.01	14.2	10.57
WG587867-01	1.00	01	17.02	14.2	10.57
WG587867-02	1.00	01	17.01	14.2	10.57

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

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 4977002
Report generated: 10/20/2016 09:24

2.1.1.3 Sample Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101716\11M14578.D Vial: 20
Acq On : 17 Oct 2016 22:18 Operator: FJB
Sample : L16100194-01 C 10X 826-SPE Inst : hpms11
Misc : 1,10 W/AF Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 18 14:47:13 2016 Quant Results File: 8260WT.RES

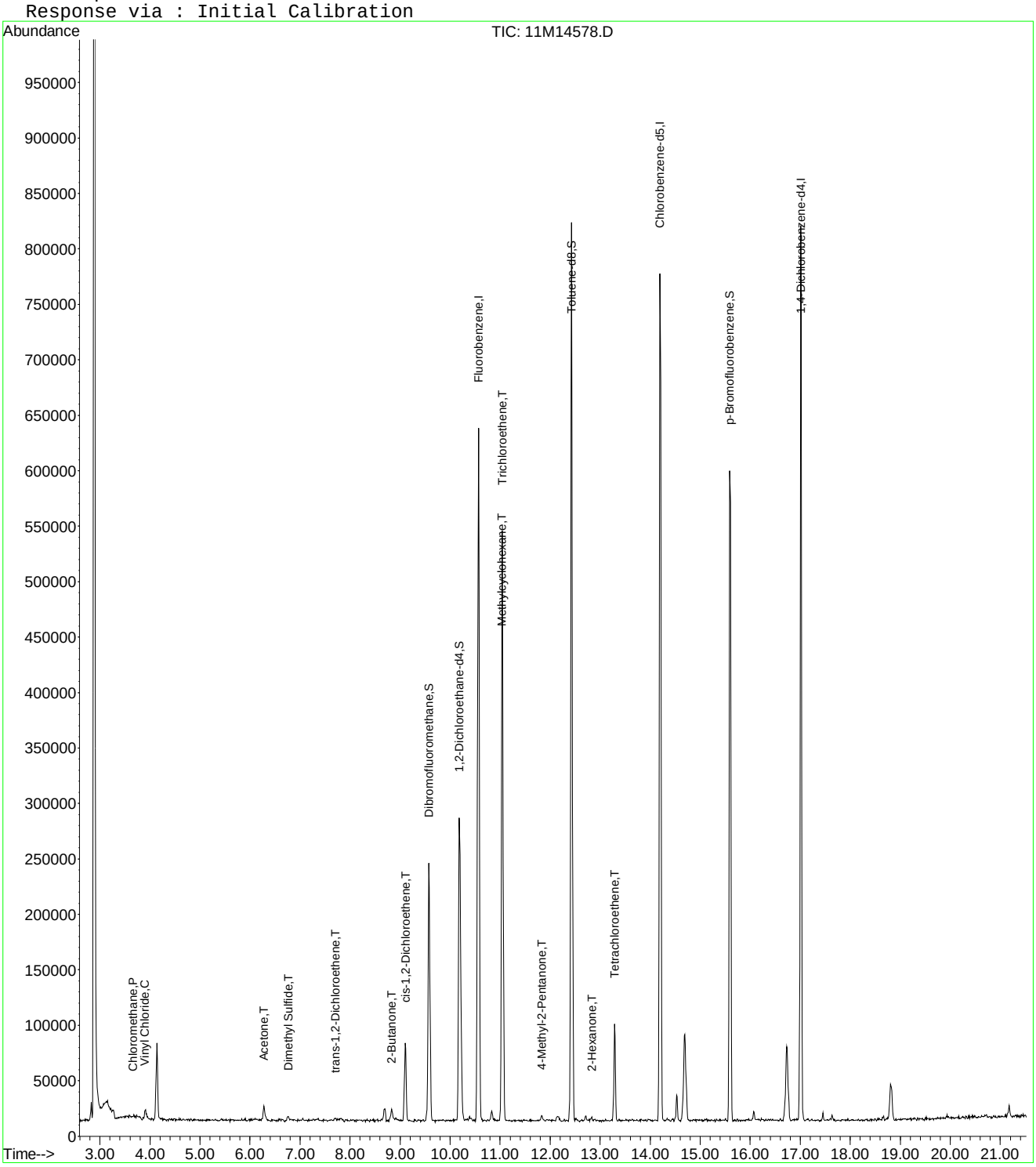
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

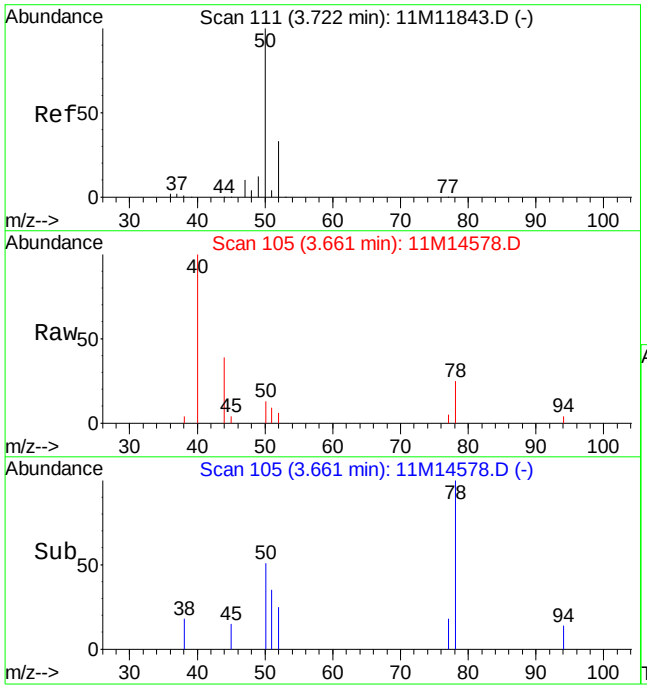
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	676606	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	515969	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	262227	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	186869	22.9599 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 91.84%		
43) 1,2-Dichloroethane-d4	10.18	65	203345	22.2538 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 89.00%		
57) Toluene-d8	12.43	98	646666	23.6503 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 94.60%		
78) p-Bromofluorobenzene	15.59	95	242343	23.1002 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 92.40%		
Target Compounds					Qvalue
3) Chloromethane	3.66	50	5077	0.4033 ug/L	100
4) Vinyl Chloride	3.90	62	8379	0.7464 ug/L	96
13) Acetone	6.28	43	25056	9.5451 ug/L	91
16) Dimethyl Sulfide	6.76	62	2328	0.2433 ug/L	87
23) trans-1,2-Dichloroethene	7.70	96	1281	0.1619 ug/L	99
29) 2-Butanone	8.83	43	17946	4.0688 ug/L	98
32) cis-1,2-Dichloroethene	9.11	96	36364	4.1729 ug/L	87
36) Tetrahydrofuran	9.54	42	7173	Below Cal	96
46) Trichloroethene	11.04	130	208389	23.4847 ug/L	100
47) Methylcyclohexane	11.03	83	2428	0.2018 ug/L #	1
53) 4-Methyl-2-Pentanone	11.83	58	1514	0.4656 ug/L #	72
62) 2-Hexanone	12.83	43	3110	0.4564 ug/L #	91
64) Tetrachloroethene	13.29	164	26024	3.6902 ug/L	99

(#) = qualifier out of range (m) = manual integration
11M14578.D 8260WT.M Tue Oct 18 14:47:14 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101716\11M14578.D Vial: 20
Acq On : 17 Oct 2016 22:18 Operator: FJB
Sample : L16100194-01 C 10X 826-SPE Inst : hpms11
Misc : 1,10 W/AF Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 18 14:47 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration

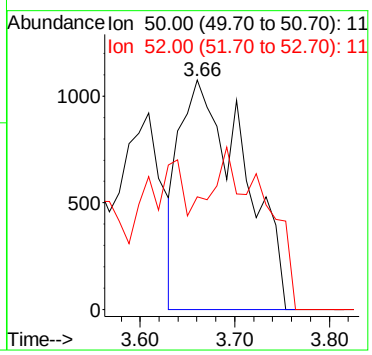


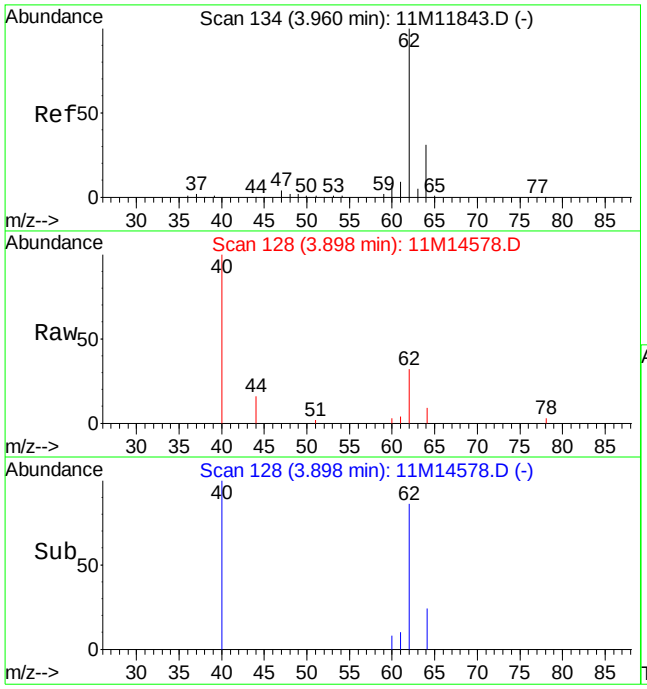


#3
Chloromethane
Concen: 0.40 ug/L
RT: 3.66 min Scan# 105
Delta R.T. 0.00 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion: 50 Resp: 5077

Ion	Ratio	Lower	Upper
50	100		
52	30.8	18.4	42.8

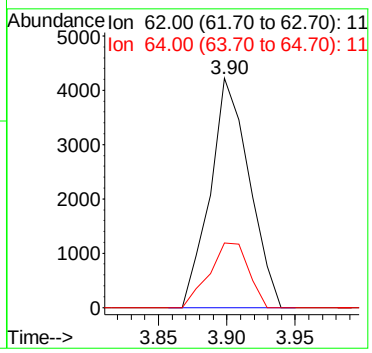


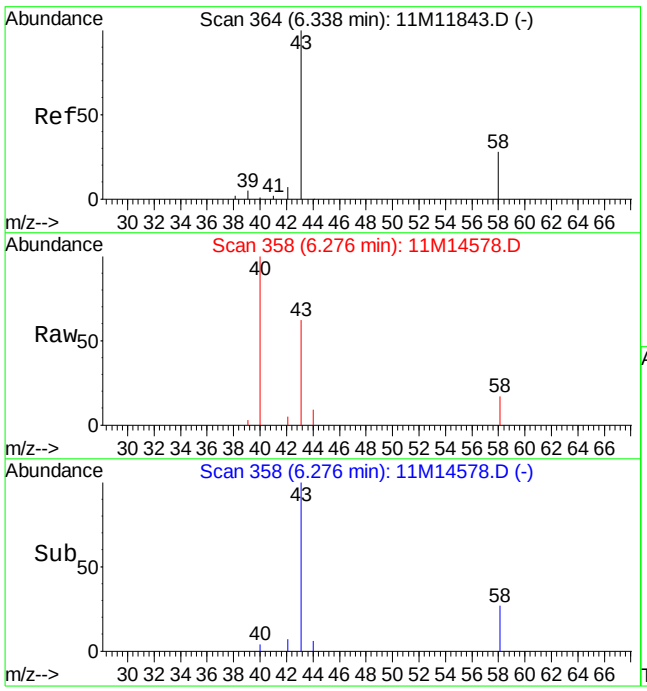


#4
Vinyl Chloride
Concen: 0.75 ug/L
RT: 3.90 min Scan# 128
Delta R.T. 0.00 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion: 62 Resp: 8379

Ion	Ratio	Lower	Upper
62	100		
64	28.3	18.2	42.6

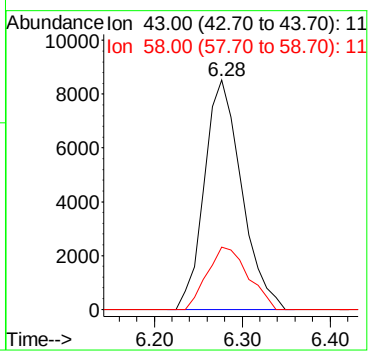


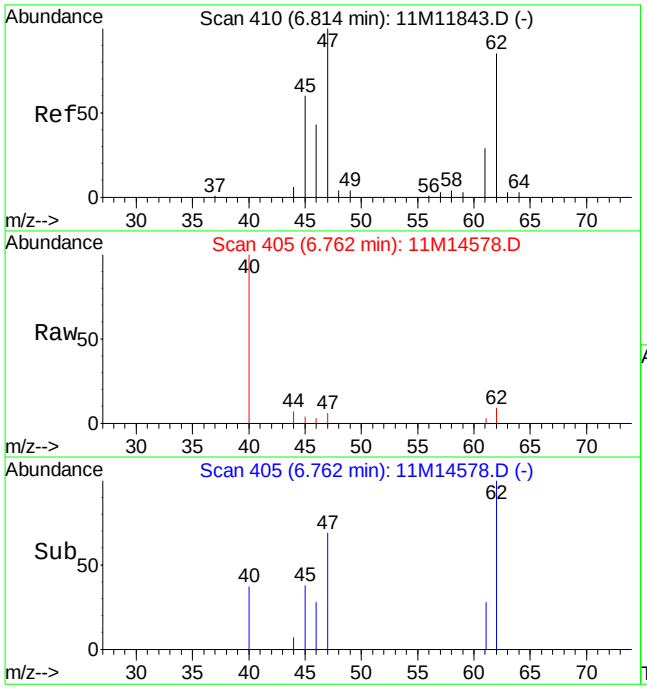


#13
Acetone
Concen: 9.55 ug/L
RT: 6.28 min Scan# 358
Delta R.T. 0.00 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion: 43 Resp: 25056

Ion	Ratio	Lower	Upper
43	100		
58	29.8	15.1	35.1

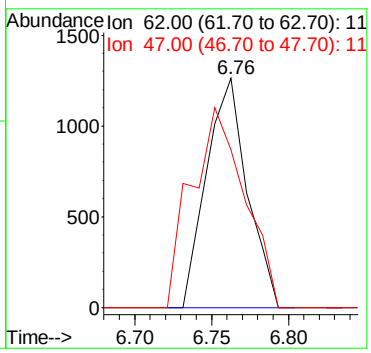


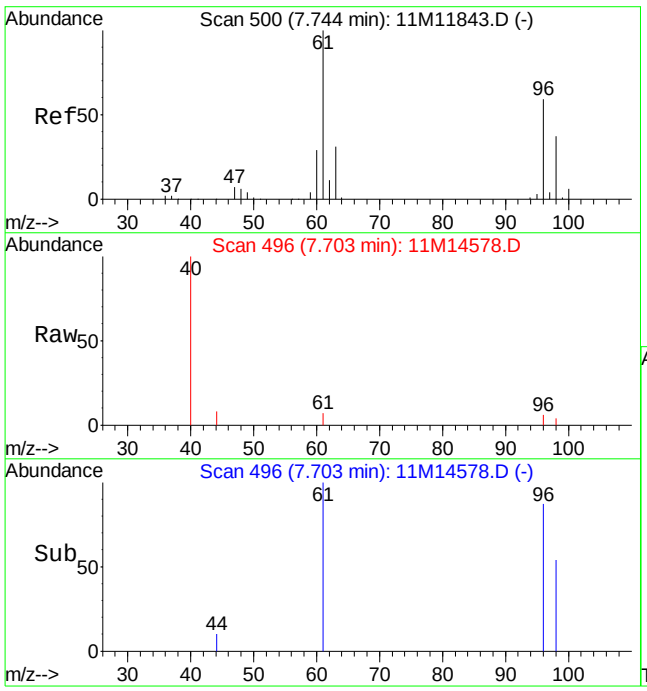


#16
Dimethyl Sulfide
Concen: 0.24 ug/L
RT: 6.76 min Scan# 405
Delta R.T. 0.01 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion: 62 Resp: 2328

Ion	Ratio	Lower	Upper
62	100		
47	113.8	77.3	180.3

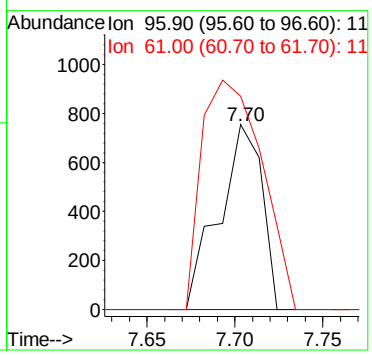


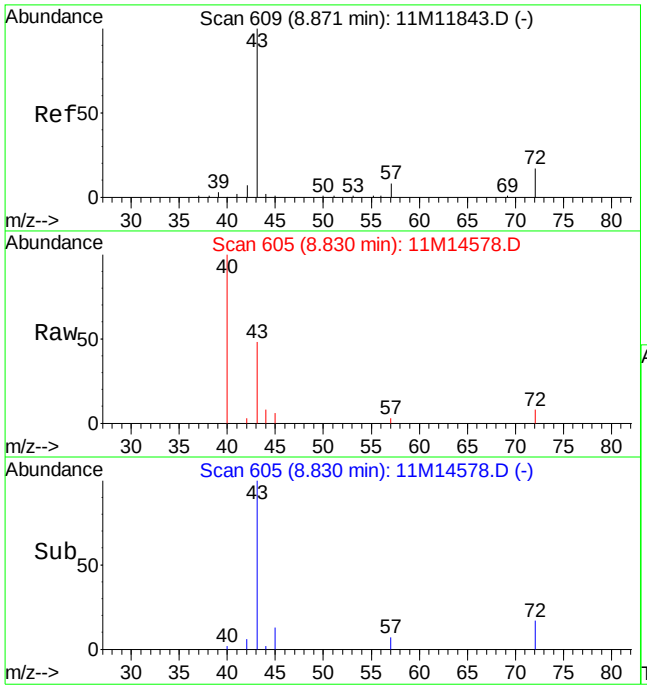


#23
trans-1,2-Dichloroethene
Concen: 0.16 ug/L
RT: 7.70 min Scan# 496
Delta R.T. 0.00 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion: 96 Resp: 1281

Ion	Ratio	Lower	Upper
96	100		
61	174.4	105.1	245.1

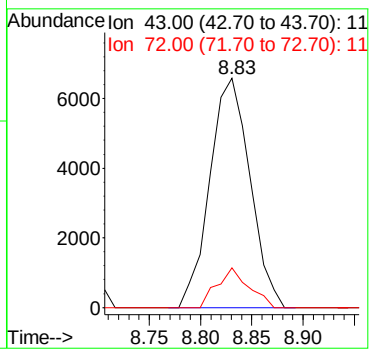


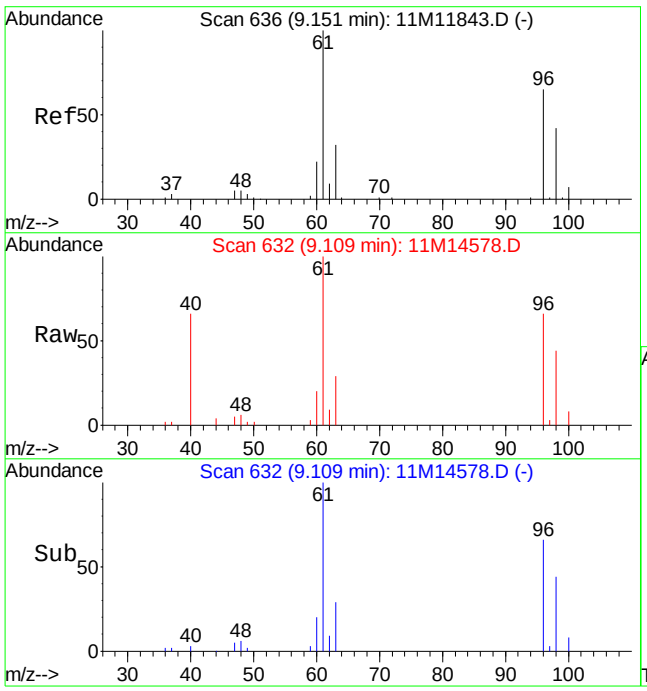


#29
2-Butanone
Concen: 4.07 ug/L
RT: 8.83 min Scan# 605
Delta R.T. 0.01 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion: 43 Resp: 17946

Ion	Ratio	Lower	Upper
43	100		
72	13.7	8.6	20.2

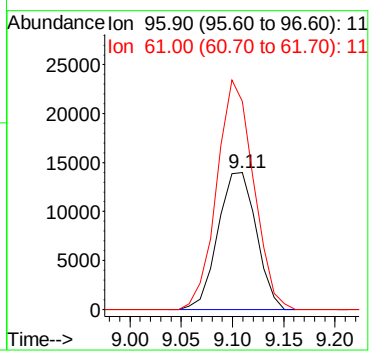


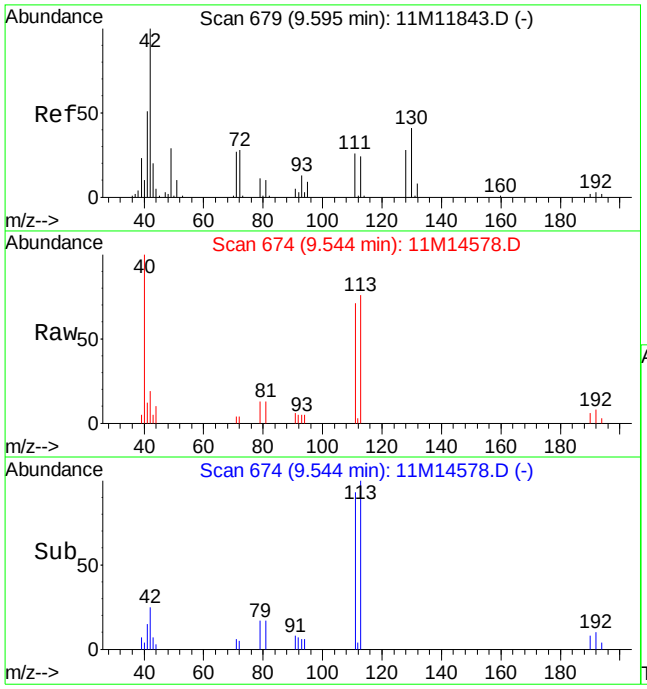


#32
cis-1,2-Dichloroethene
Concen: 4.17 ug/L
RT: 9.11 min Scan# 632
Delta R.T. 0.01 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion: 96 Resp: 36364

Ion	Ratio	Lower	Upper
96	100		
61	160.5	107.5	250.7

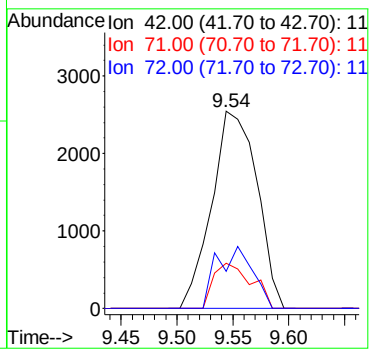


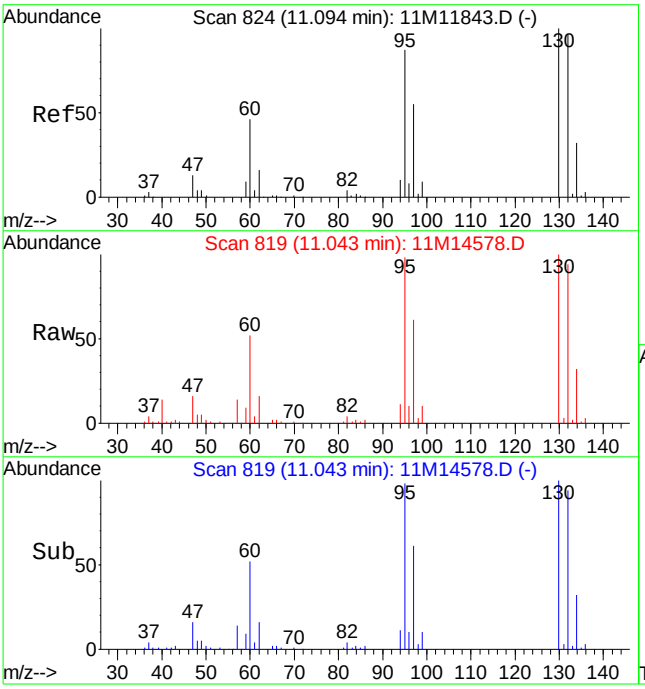


#36
Tetrahydrofuran
Concen: Below Cal
RT: 9.54 min Scan# 674
Delta R.T. 0.00 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion: 42 Resp: 7173

Ion	Ratio	Lower	Upper
42	100		
71	19.3	12.8	30.0
72	24.8	14.0	32.6

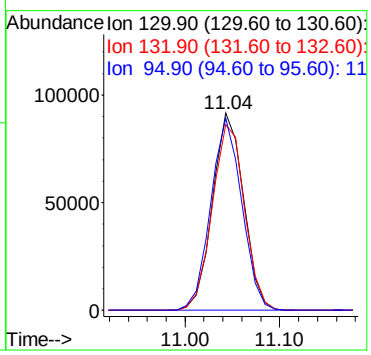


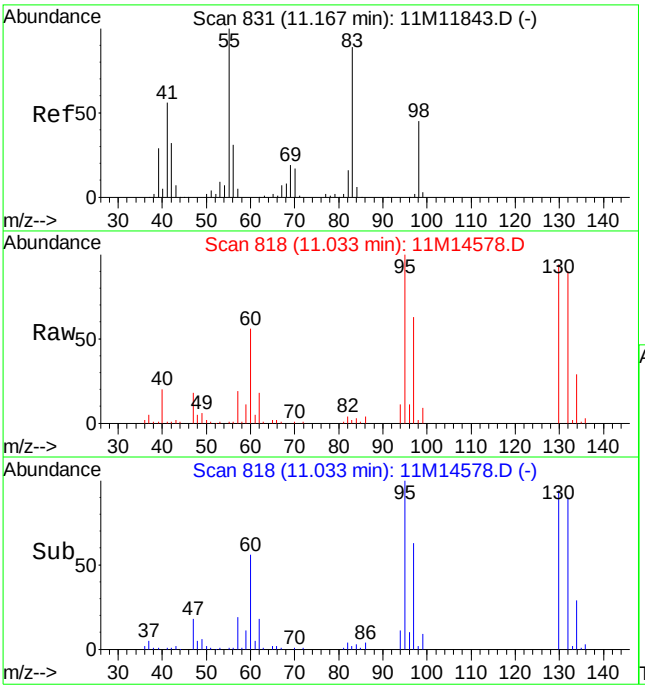


#46
Trichloroethene
Concen: 23.48 ug/L
RT: 11.04 min Scan# 819
Delta R.T. 0.00 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion:130 Resp: 208389

Ion	Ratio	Lower	Upper
130	100		
132	97.6	58.4	136.4
95	97.0	58.0	135.4

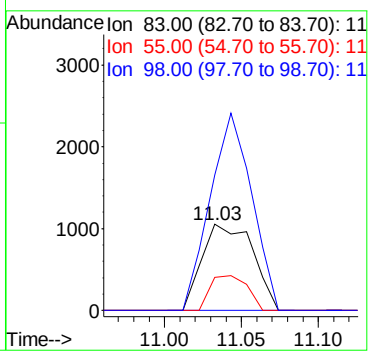


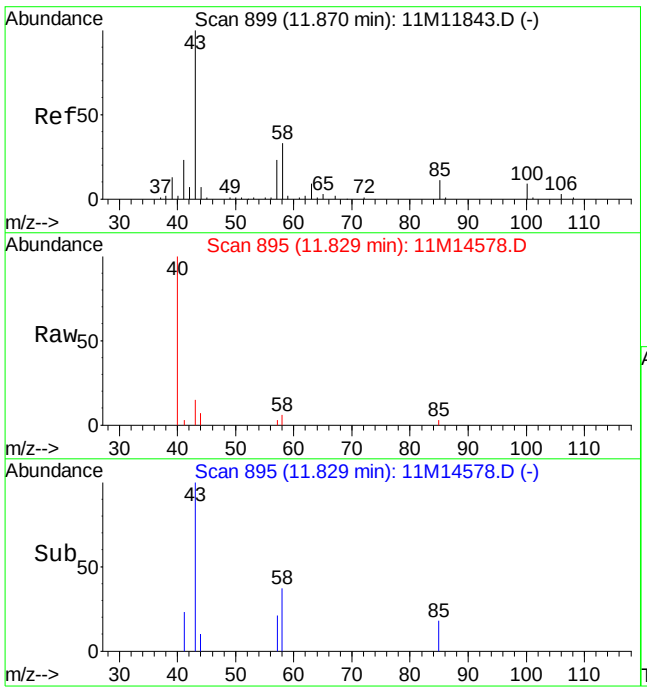


#47
Methylcyclohexane
Concen: 0.20 ug/L
RT: 11.03 min Scan# 818
Delta R.T. -0.09 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion: 83 Resp: 2428

Ion	Ratio	Lower	Upper
83	100		
55	29.4	70.3	164.1#
98	186.8	28.2	65.8#

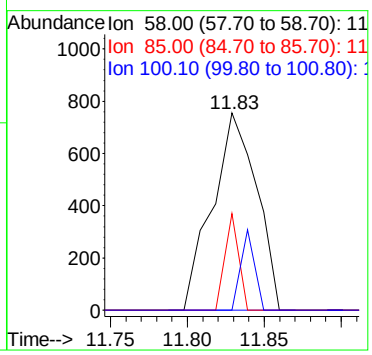


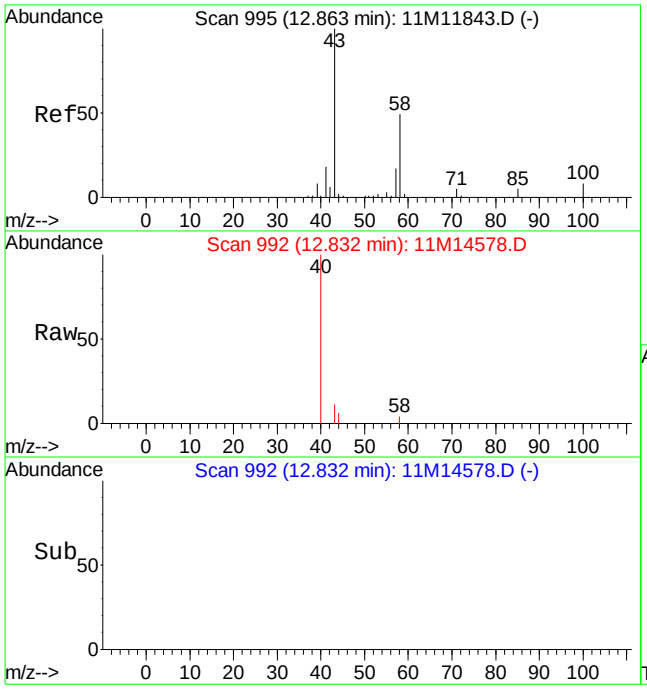


#53
4-Methyl-2-Pentanone
Concen: 0.47 ug/L
RT: 11.83 min Scan# 895
Delta R.T. 0.00 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion: 58 Resp: 1514

Ion	Ratio	Lower	Upper
58	100		
85	15.2	18.4	42.8#
100	12.6	16.4	38.4#

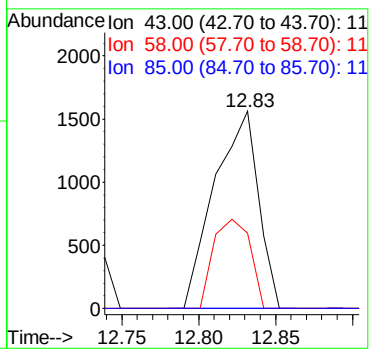


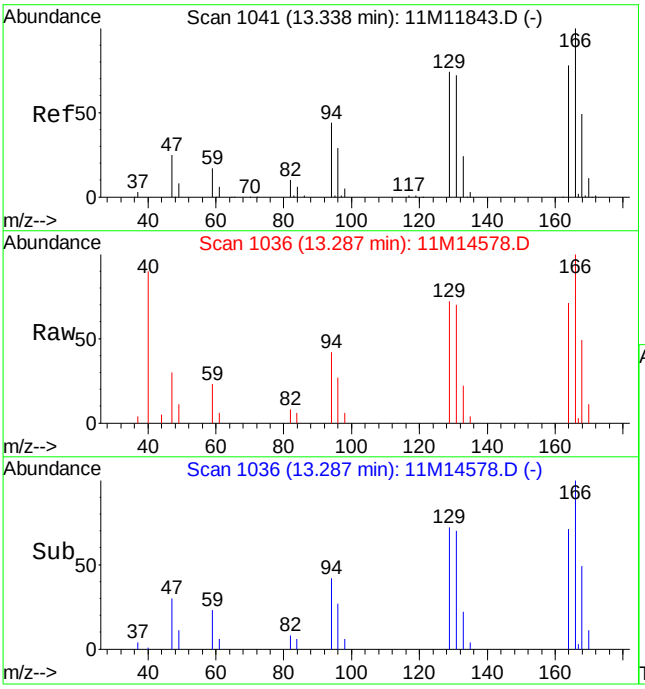


#62
2-Hexanone
Concen: 0.46 ug/L
RT: 12.83 min Scan# 992
Delta R.T. 0.01 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion: 43 Resp: 3110

Ion	Ratio	Lower	Upper
43	100		
58	37.8	25.9	60.3
85	0.0	3.2	7.4#

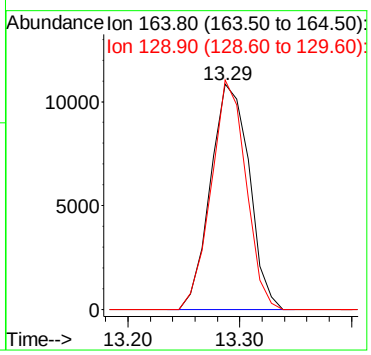




#64
Tetrachloroethene
Concen: 3.69 ug/L
RT: 13.29 min Scan# 1036
Delta R.T. 0.00 min
Lab File: 11M14578.D
Acq: 17 Oct 2016 22:18

Tgt Ion:164 Resp: 26024

Ion	Ratio	Lower	Upper
164	100		
129	91.3	55.3	129.1



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14520.D Vial: 22
Acq On : 13 Oct 2016 22:54 Operator: FJB
Sample : L16100194-03 10X B 826-LOW Inst : hpms11
Misc : 1,10 W/AF Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:49:43 2016 Quant Results File: 8260WT.RES

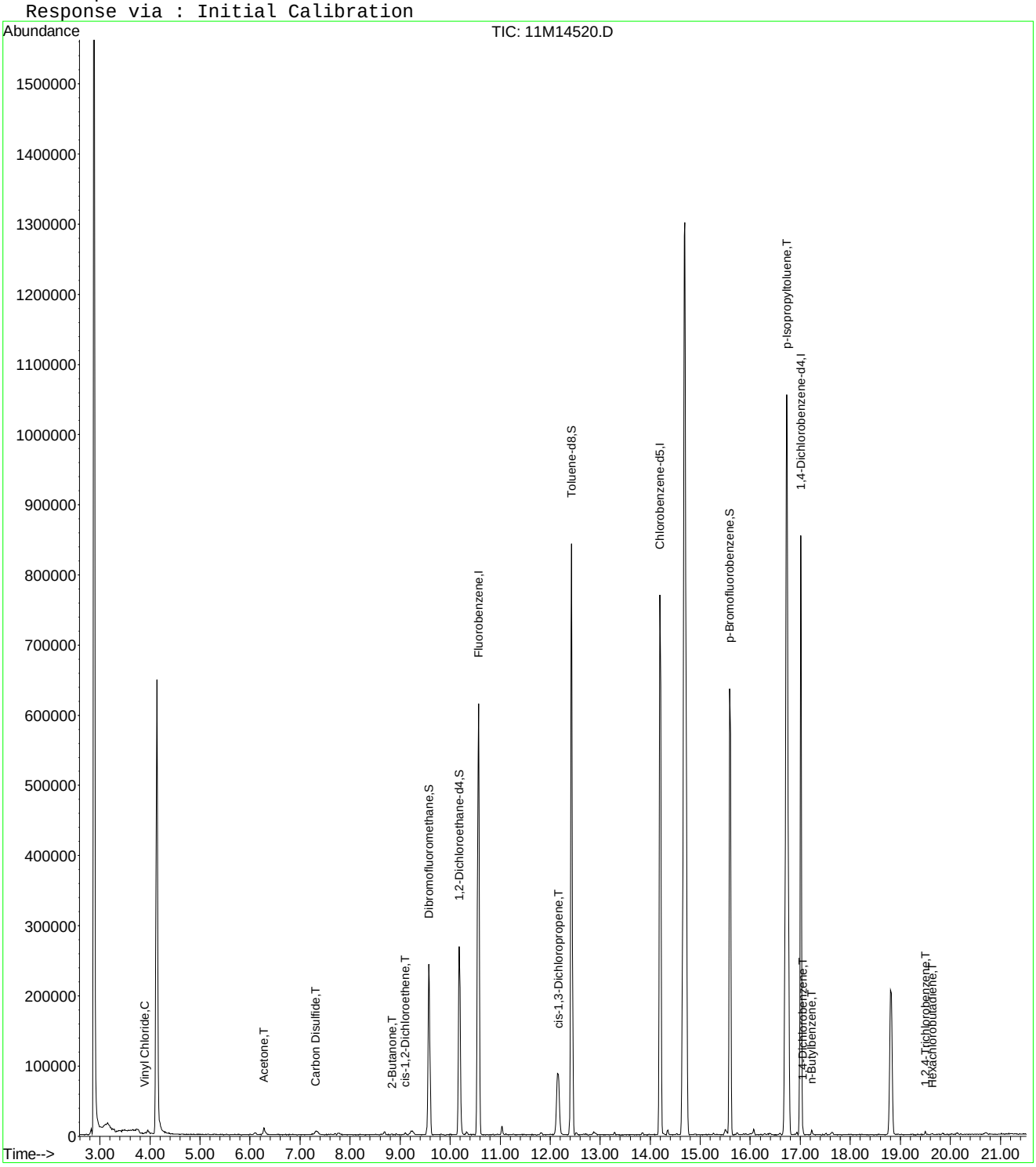
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

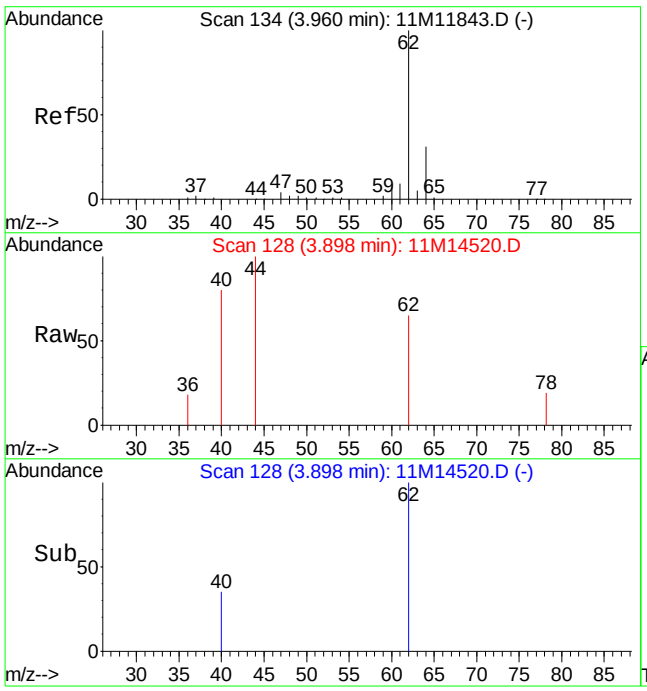
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	677074	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	519134	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	273163	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	198718	24.3989 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.60%		
43) 1,2-Dichloroethane-d4	10.18	65	215037	23.5171 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 94.08%		
57) Toluene-d8	12.43	98	682465	24.8073 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.24%		
78) p-Bromofluorobenzene	15.59	95	258643	23.6669 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 94.68%		
Target Compounds					Qvalue
4) Vinyl Chloride	3.90	62	1887	0.1680 ug/L #	44
13) Acetone	6.28	43	19268	7.3351 ug/L	90
20) Carbon Disulfide	7.31	76	5609	0.2422 ug/L	95
29) 2-Butanone	8.84	43	2074	0.4699 ug/L #	65
32) cis-1,2-Dichloroethene	9.10	96	1420	0.1628 ug/L	83
36) Tetrahydrofuran	9.54	42	7320	Below Cal	94
54) cis-1,3-Dichloropropene	12.16	75	2610	0.2195 ug/L #	43
90) p-Isopropyltoluene	16.73	119	16055	0.4998 ug/L	88
92) 1,4-Dichlorobenzene	17.05	146	2997	0.1523 ug/L #	1
93) n-Butylbenzene	17.23	91	5324	0.1767 ug/L #	93
96) 1,2,4-Trichlorobenzene	19.50	180	2125	0.1562 ug/L	90
97) Hexachlorobutadiene	19.64	225	661	0.1241 ug/L #	23

(#) = qualifier out of range (m) = manual integration
11M14520.D 8260WT.M Fri Oct 14 09:49:44 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14520.D Vial: 22
Acq On : 13 Oct 2016 22:54 Operator: FJB
Sample : L16100194-03 10X B 826-LOW Inst : hpms11
Misc : 1,10 W/AF Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:49 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration

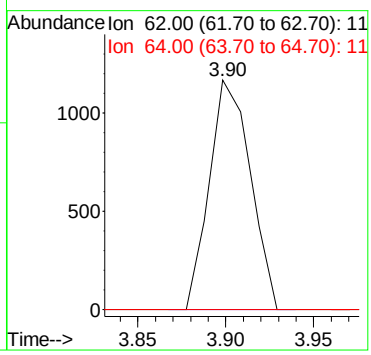


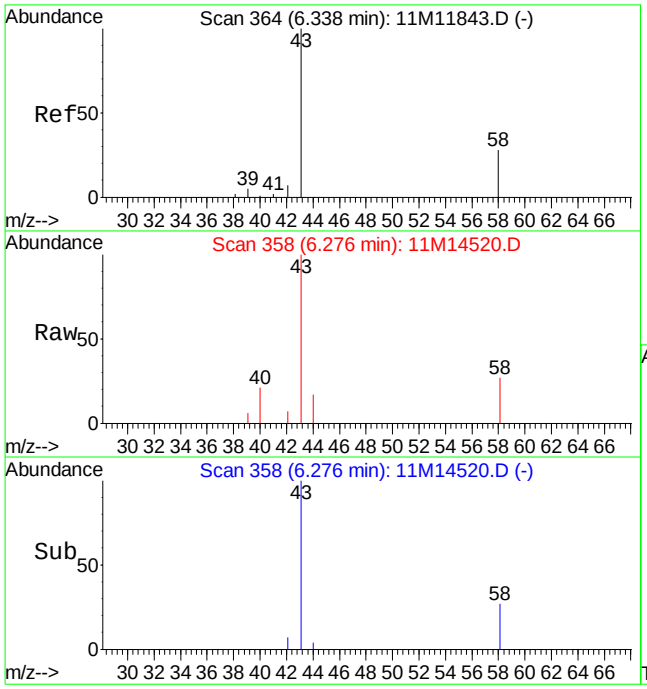


#4
Vinyl Chloride
Concen: 0.17 ug/L
RT: 3.90 min Scan# 128
Delta R.T. -0.00 min
Lab File: 11M14520.D
Acq: 13 Oct 2016 22:54

Tgt Ion: 62 Resp: 1887

Ion	Ratio	Lower	Upper
62	100		
64	0.0	18.2	42.6#

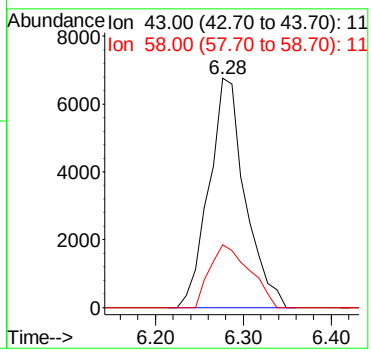


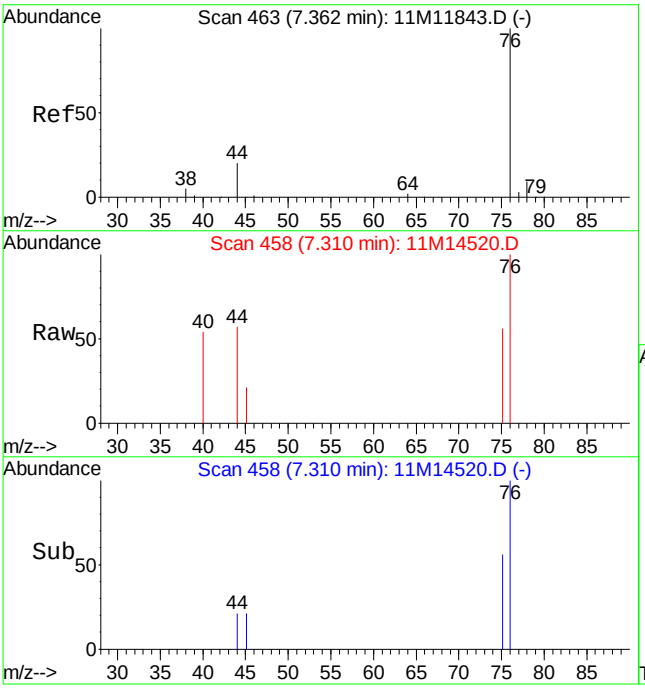


#13
Acetone
Concen: 7.34 ug/L
RT: 6.28 min Scan# 358
Delta R.T. -0.00 min
Lab File: 11M14520.D
Acq: 13 Oct 2016 22:54

Tgt Ion: 43 Resp: 19268

Ion	Ratio	Lower	Upper
43	100		
58	30.2	15.1	35.1

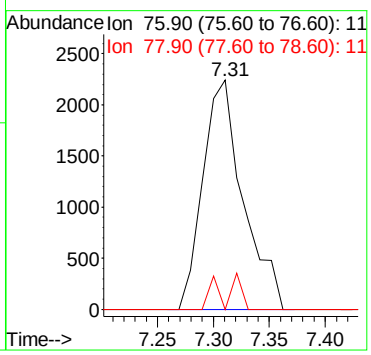


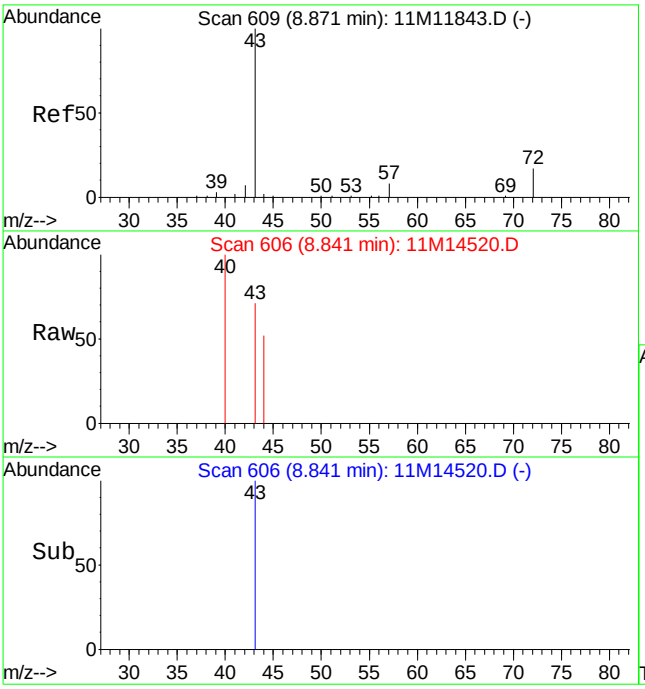


#20
Carbon Disulfide
Concen: 0.24 ug/L
RT: 7.31 min Scan# 458
Delta R.T. 0.00 min
Lab File: 11M14520.D
Acq: 13 Oct 2016 22:54

Tgt Ion: 76 Resp: 5609

Ion	Ratio	Lower	Upper
76	100		
78	7.6	5.6	13.0

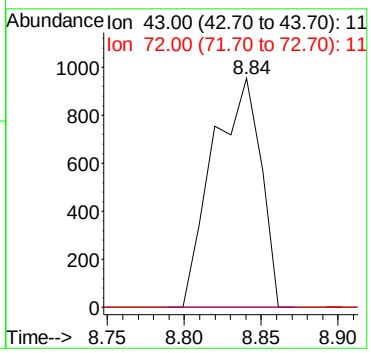


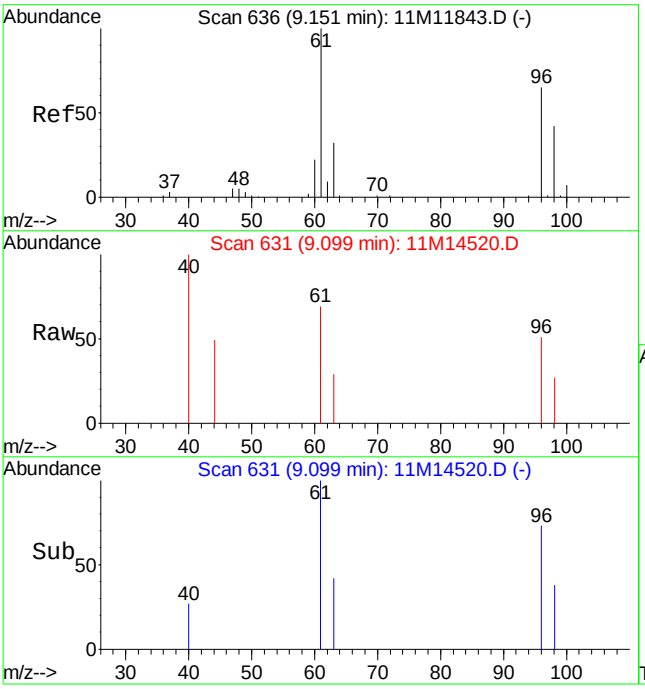


#29
2-Butanone
Concen: 0.47 ug/L
RT: 8.84 min Scan# 606
Delta R.T. 0.02 min
Lab File: 11M14520.D
Acq: 13 Oct 2016 22:54

Tgt Ion: 43 Resp: 2074

Ion	Ratio	Lower	Upper
43	100		
72	0.0	8.6	20.2#

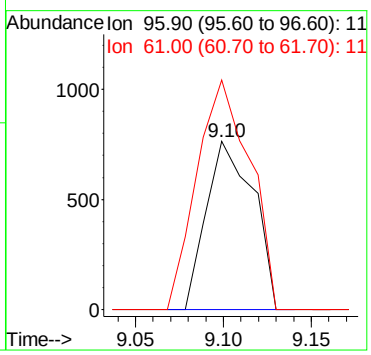


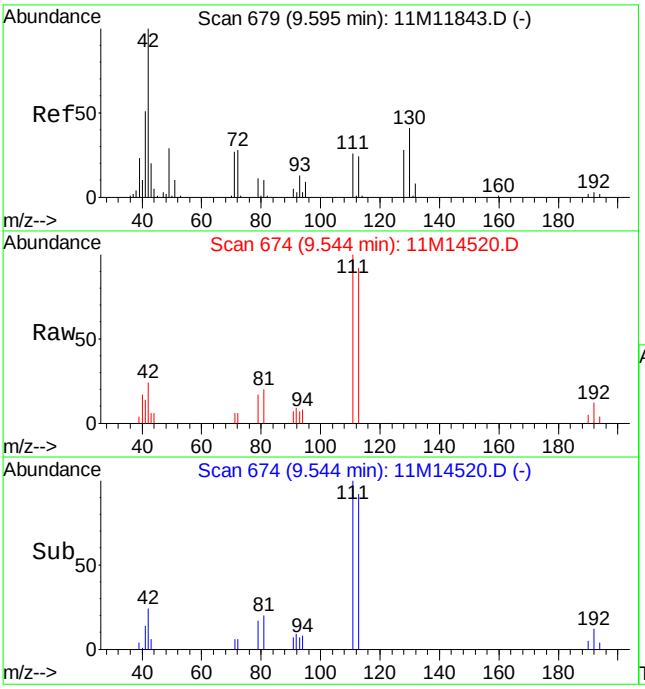


#32
cis-1,2-Dichloroethene
Concen: 0.16 ug/L
RT: 9.10 min Scan# 631
Delta R.T. 0.00 min
Lab File: 11M14520.D
Acq: 13 Oct 2016 22:54

Tgt Ion: 96 Resp: 1420

Ion	Ratio	Lower	Upper
96	100		
61	154.4	107.5	250.7

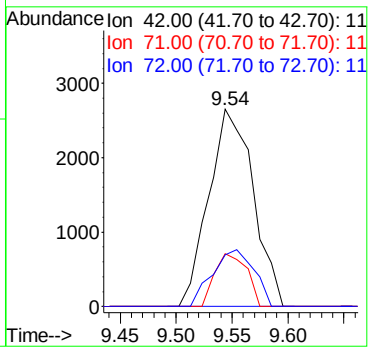


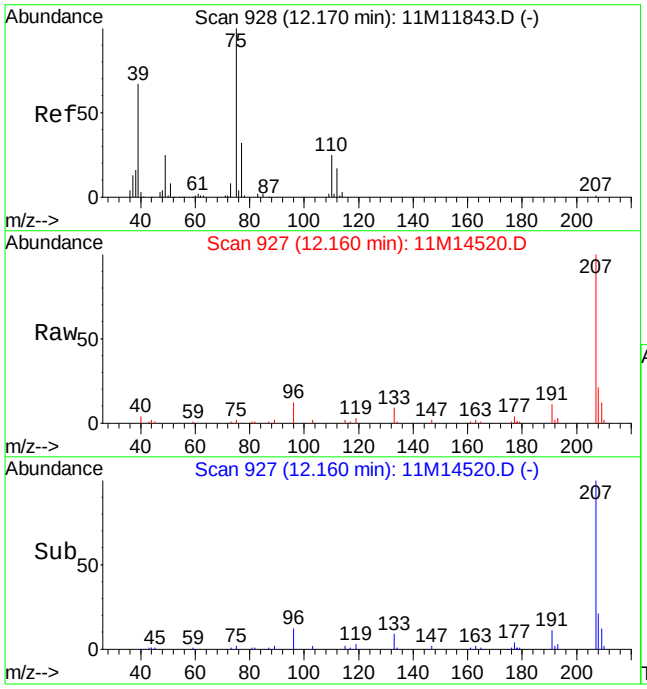


#36
Tetrahydrofuran
Concen: Below Cal
RT: 9.54 min Scan# 674
Delta R.T. 0.00 min
Lab File: 11M14520.D
Acq: 13 Oct 2016 22:54

Tgt Ion: 42 Resp: 7320

Ion	Ratio	Lower	Upper
42	100		
71	19.3	12.8	30.0
72	27.0	14.0	32.6

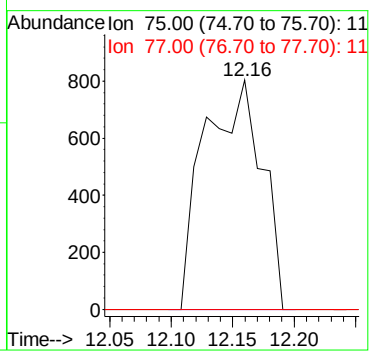


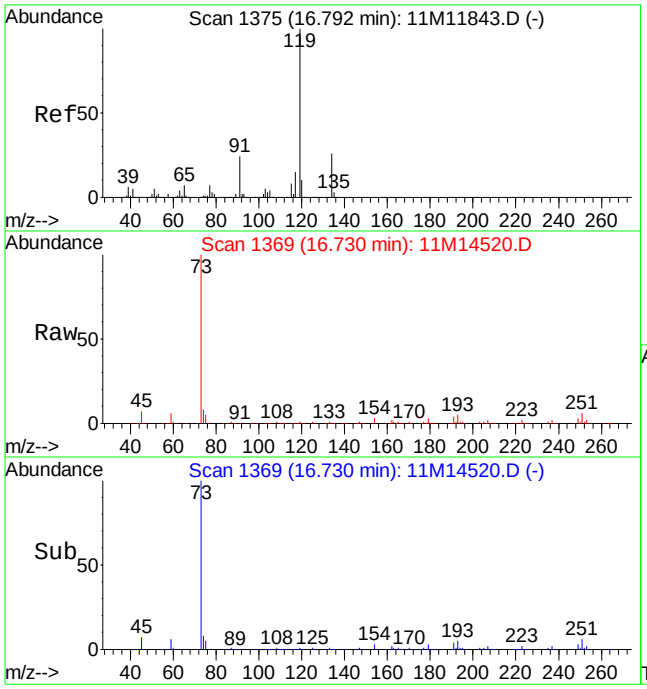


#54
cis-1,3-Dichloropropene
Concen: 0.22 ug/L
RT: 12.16 min Scan# 927
Delta R.T. 0.04 min
Lab File: 11M14520.D
Acq: 13 Oct 2016 22:54

Tgt Ion: 75 Resp: 2610

Ion	Ratio	Lower	Upper
75	100		
77	0.0	25.5	38.3#

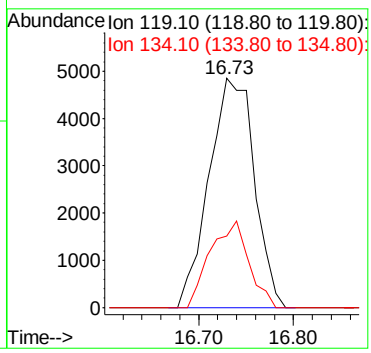


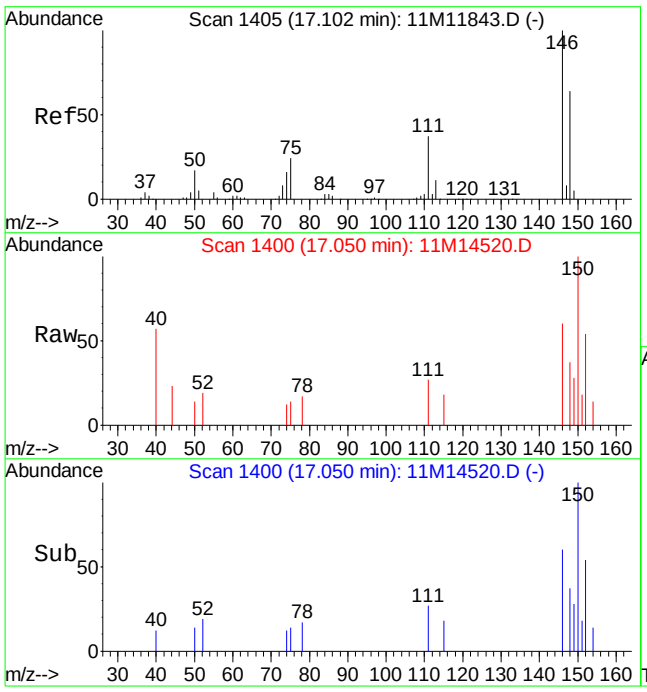


#90
p-Isopropyltoluene
Concen: 0.50 ug/L
RT: 16.73 min Scan# 1369
Delta R.T. -0.01 min
Lab File: 11M14520.D
Acq: 13 Oct 2016 22:54

Tgt Ion:119 Resp: 16055

Ion	Ratio	Lower	Upper
119	100		
134	32.1	15.7	36.7

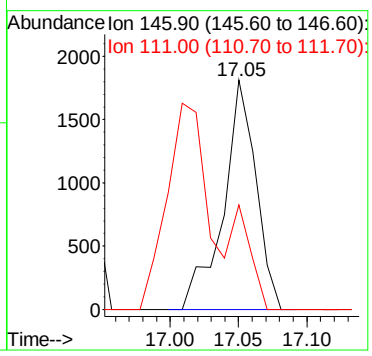


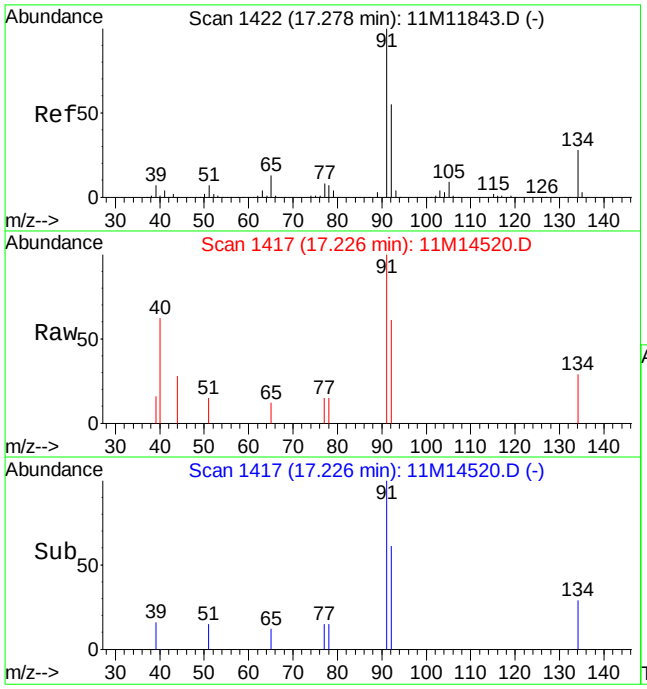


#92
1,4-Dichlorobenzene
Concen: 0.15 ug/L
RT: 17.05 min Scan# 1400
Delta R.T. 0.00 min
Lab File: 11M14520.D
Acq: 13 Oct 2016 22:54

Tgt Ion:146 Resp: 2997

Ion	Ratio	Lower	Upper
146	100		
111	139.1	23.3	54.5#

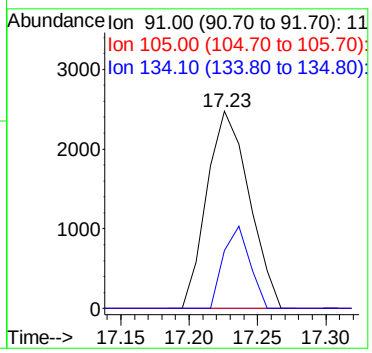


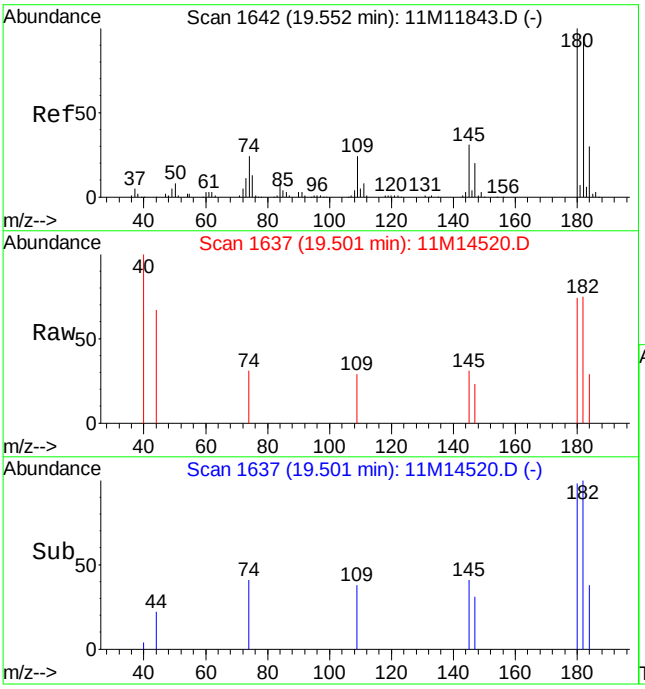


#93
n-Butylbenzene
Concen: 0.18 ug/L
RT: 17.23 min Scan# 1417
Delta R.T. -0.00 min
Lab File: 11M14520.D
Acq: 13 Oct 2016 22:54

Tgt Ion: 91 Resp: 5324

Ion	Ratio	Lower	Upper
91	100		
105	0.0	5.2	12.2#
134	25.9	16.0	37.4

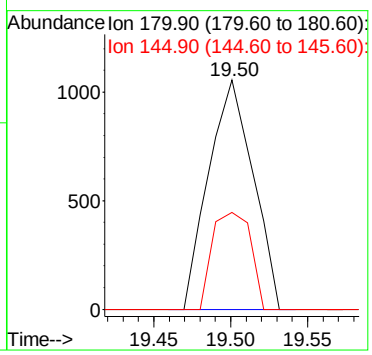


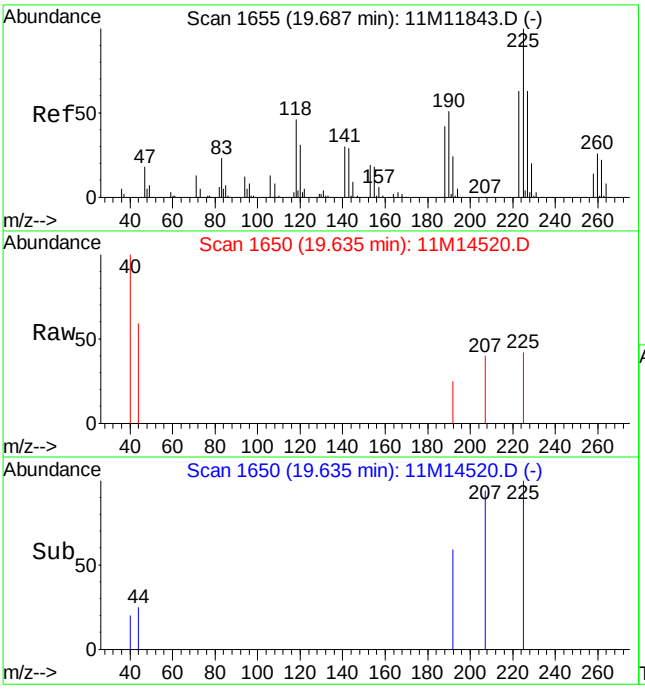


#96
1,2,4-Trichlorobenzene
Concen: 0.16 ug/L
RT: 19.50 min Scan# 1637
Delta R.T. 0.00 min
Lab File: 11M14520.D
Acq: 13 Oct 2016 22:54

Tgt Ion:180 Resp: 2125

Ion	Ratio	Lower	Upper
180	100		
145	36.4	18.5	43.3

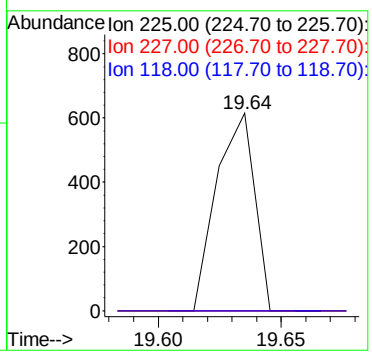




#97
Hexachlorobutadiene
Concen: 0.12 ug/L
RT: 19.64 min Scan# 1650
Delta R.T. -0.00 min
Lab File: 11M14520.D
Acq: 13 Oct 2016 22:54

Tgt Ion:225 Resp: 661

Ion	Ratio	Lower	Upper
225	100		
227	0.0	38.3	89.3#
118	0.0	28.2	65.8#



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142674.D Vial: 20
Acq On : 13 Oct 2016 00:38 Operator: TMB
Sample : L16100194-05 A 20X 826-LOW Inst : HPMS6
Misc : 1,20 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 09:27:35 2016 Quant Results File: 8260WTR.RES

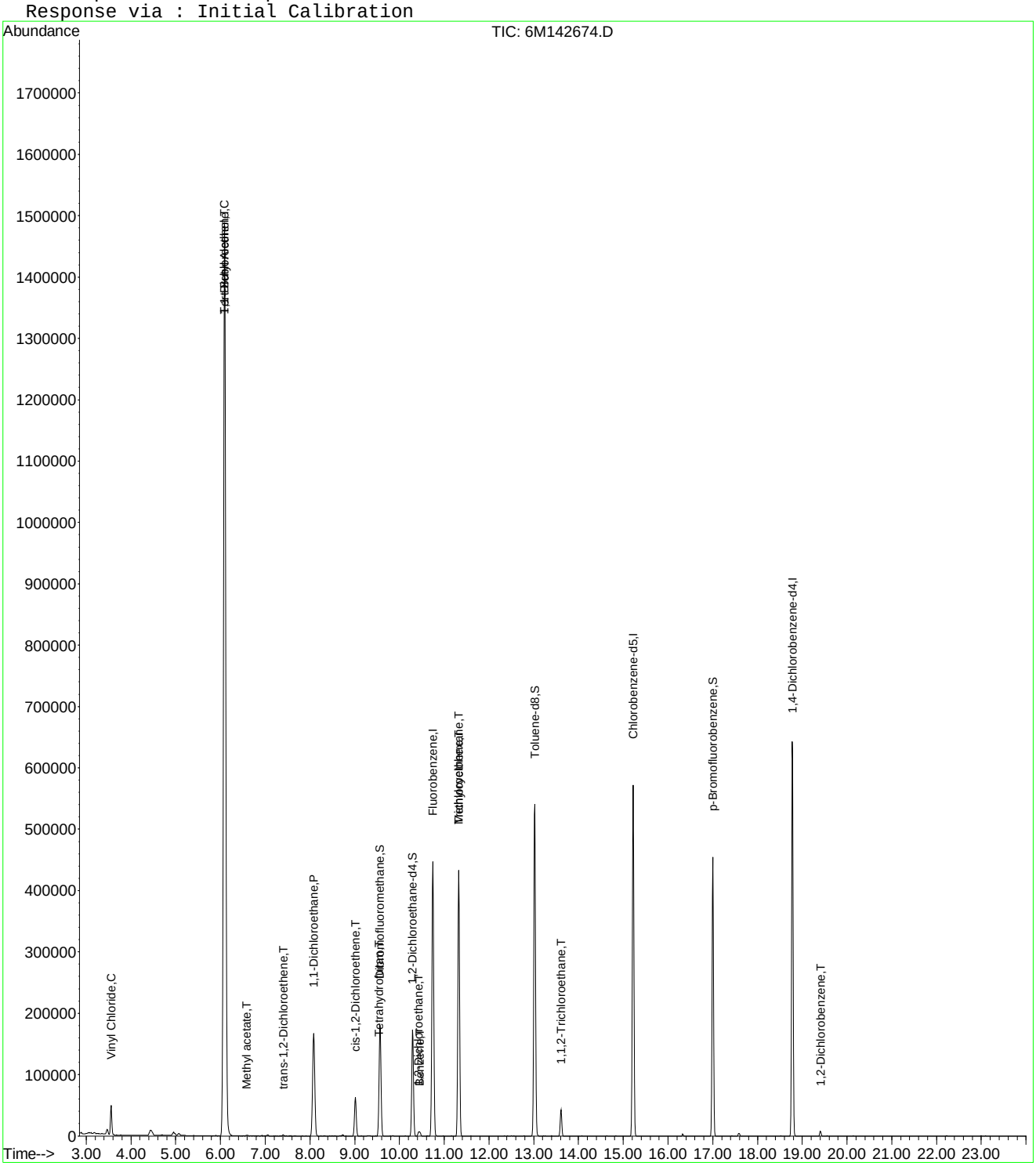
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

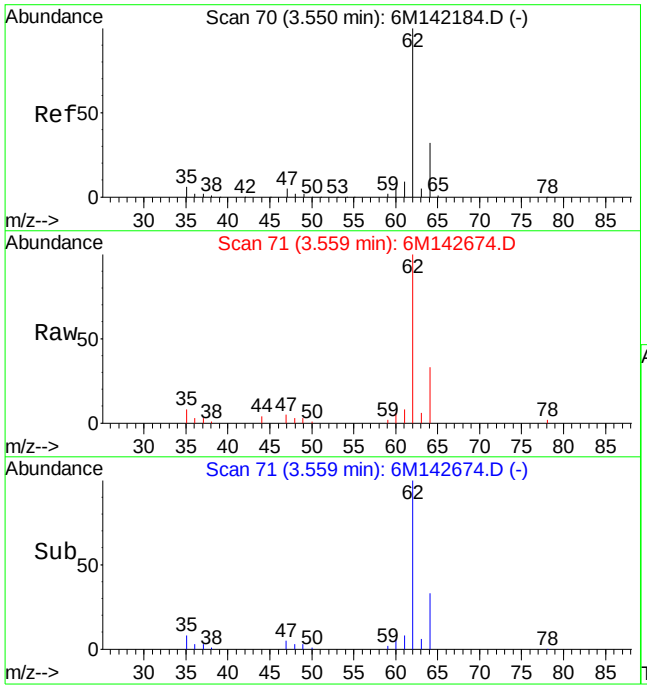
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.75	96	594729	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	460655	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	246968	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	166539	27.0932 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 108.36%		
43) 1,2-Dichloroethane-d4	10.29	65	157624	25.5658 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 102.28%		
58) Toluene-d8	13.03	98	531360	25.6456 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.60%		
80) p-Bromofluorobenzene	17.00	95	197274	24.1960 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 96.80%		
Target Compounds					Qvalue
4) Vinyl Chloride	3.56	62	58560	8.2900 ug/L	100
13) Acetone	5.89	43	423	Below Cal #	48
14) 1,1-Dichloroethene	6.09	61	1701987	171.9025 ug/L	89
15) Tert-Butyl Alcohol	6.09	59	63389	189.3007 ug/L #	57
18) Methyl acetate	6.58	43	1549	0.3709 ug/L #	66
23) trans-1,2-Dichloroethene	7.41	96	1088	0.1733 ug/L	96
27) 1,1-Dichloroethane	8.08	63	266214	22.9328 ug/L	100
32) cis-1,2-Dichloroethene	9.01	96	39855	5.7444 ug/L	84
36) Tetrahydrofuran	9.54	42	3467	2.1842 ug/L #	65
45) 1,2-Dichloroethane	10.42	62	7006	0.8608 ug/L #	86
46) Benzene	10.45	78	7676	0.3197 ug/L #	82
47) Trichloroethene	11.32	130	209673	29.7092 ug/L	86
48) Methylcyclohexane	11.32	83	1939	0.2090 ug/L #	1
63) 1,1,2-Trichloroethane	13.61	97	19251	4.1346 ug/L	98
96) 1,2-Dichlorobenzene	19.41	146	6735	0.4887 ug/L	93

(#) = qualifier out of range (m) = manual integration
6M142674.D 8260WTR.M Thu Oct 13 09:27:38 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142674.D Vial: 20
Acq On : 13 Oct 2016 00:38 Operator: TMB
Sample : L16100194-05 A 20X 826-LOW Inst : HPMS6
Misc : 1,20 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 9:27 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration

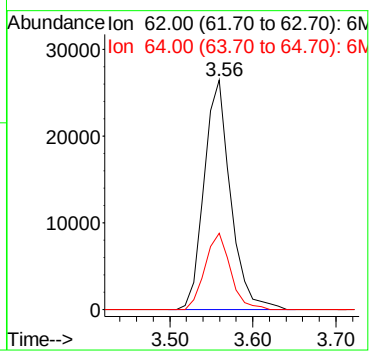


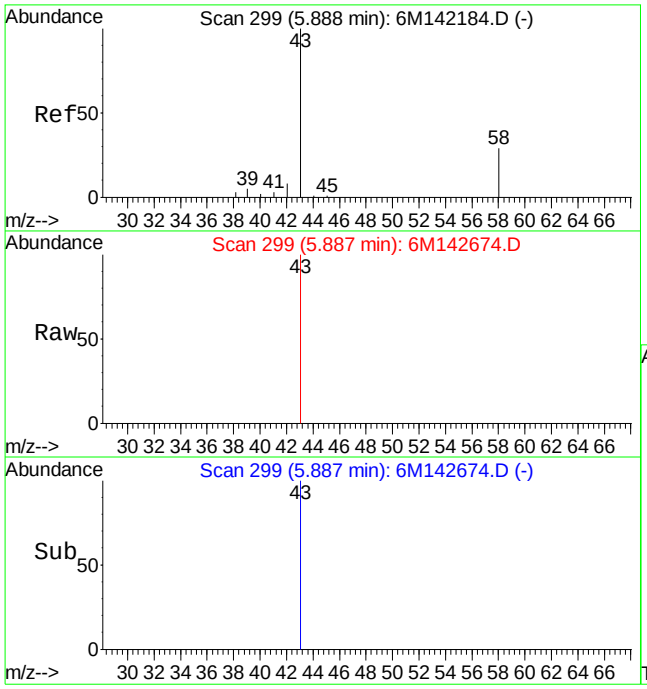


#4
Vinyl Chloride
Concen: 8.29 ug/L
RT: 3.56 min Scan# 71
Delta R.T. 0.02 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 62 Resp: 58560

Ion	Ratio	Lower	Upper
62	100		
64	32.0	19.3	45.1

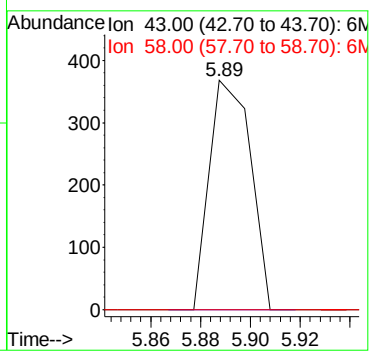


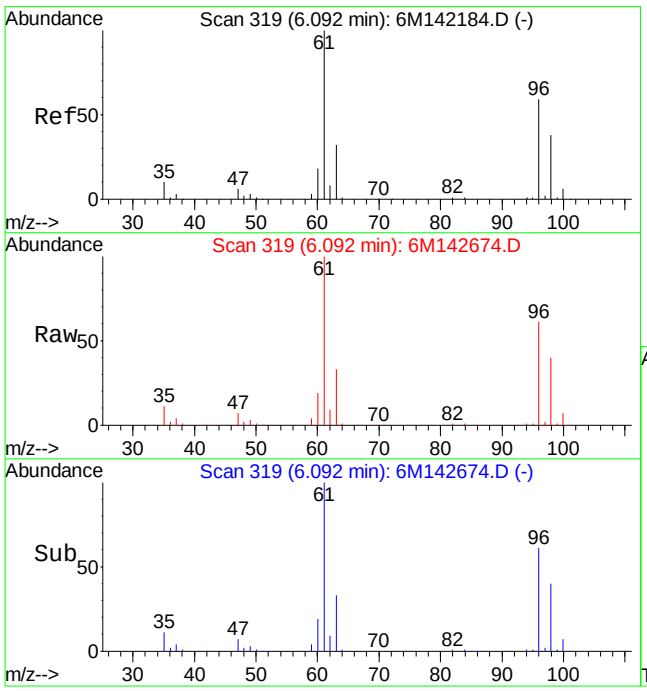


#13
Acetone
Concen: Below Cal
RT: 5.89 min Scan# 299
Delta R.T. -0.00 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 43 Resp: 423

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

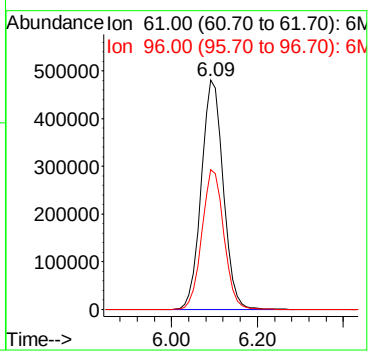


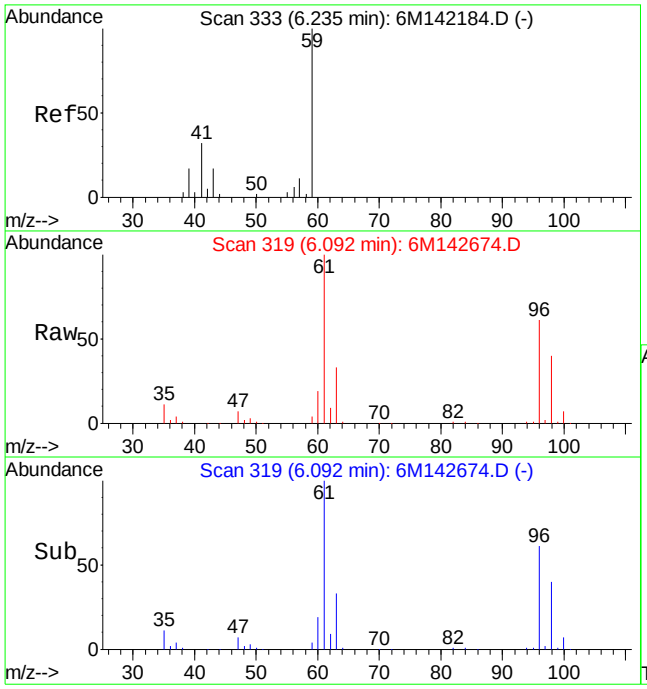


#14
1,1-Dichloroethene
Concen: 171.90 ug/L
RT: 6.09 min Scan# 319
Delta R.T. 0.01 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 61 Resp: 1701987

Ion	Ratio	Lower	Upper
61	100		
96	60.8	32.0	74.6

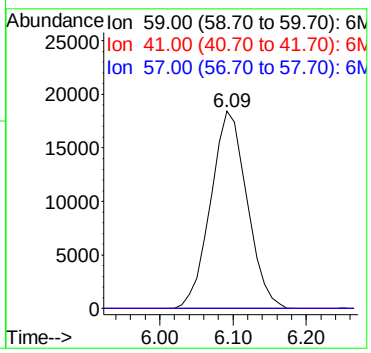


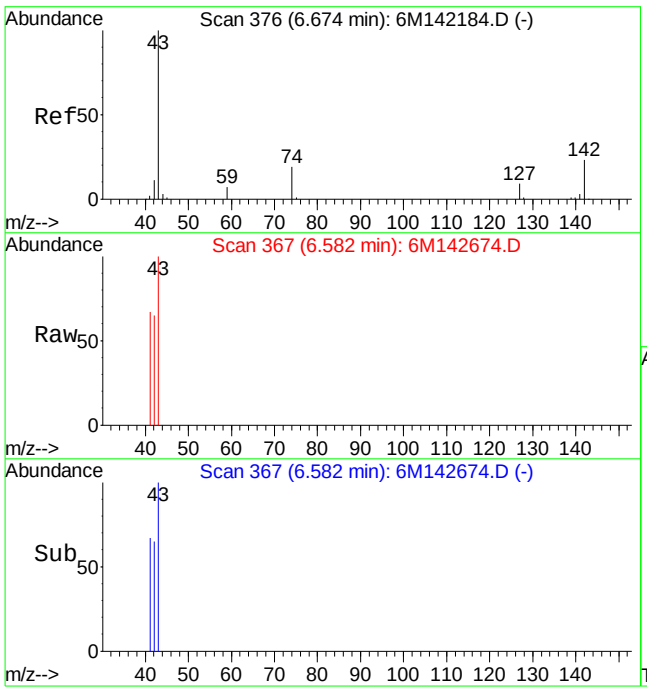


#15
Tert-Butyl Alcohol
Concen: 189.30 ug/L
RT: 6.09 min Scan# 319
Delta R.T. -0.17 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 59 Resp: 63389

Ion	Ratio	Lower	Upper
59	100		
41	0.0	14.6	34.0#
57	0.0	6.4	14.8#

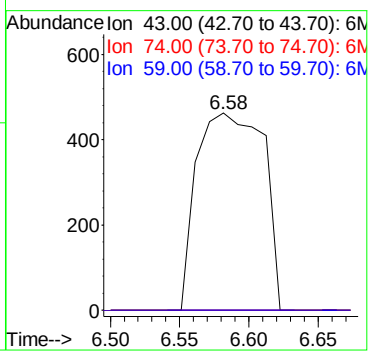


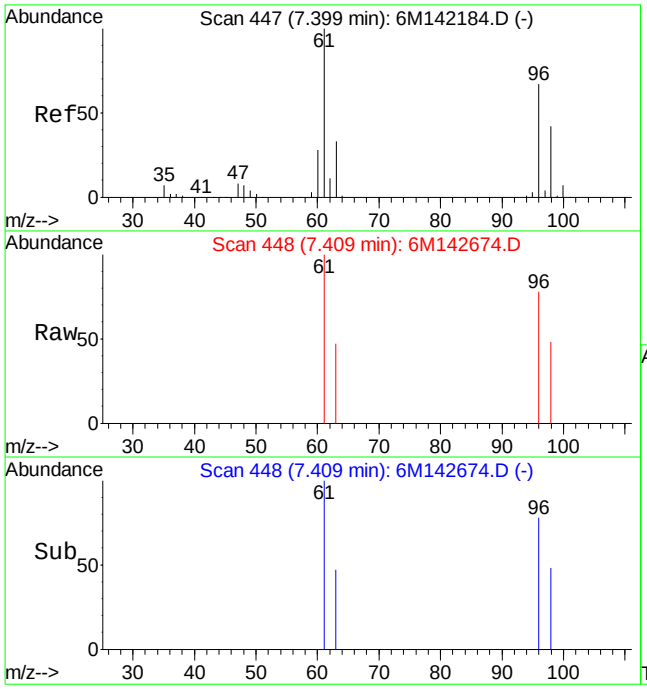


#18
Methyl acetate
Concen: 0.37 ug/L
RT: 6.58 min Scan# 367
Delta R.T. -0.08 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 43 Resp: 1549

Ion	Ratio	Lower	Upper
43	100		
74	0.0	10.3	23.9#
59	0.0	4.4	10.2#

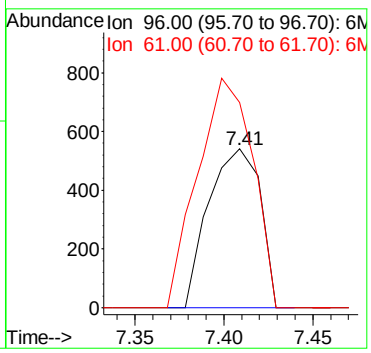


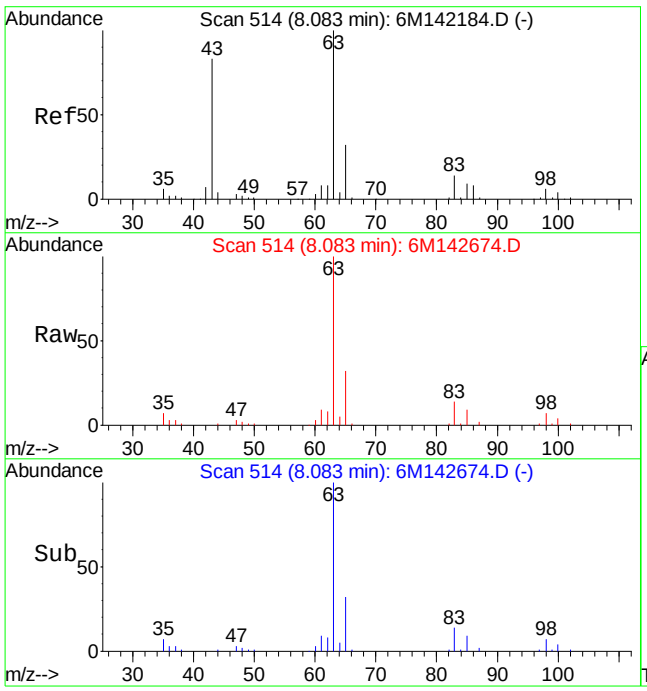


#23
trans-1,2-Dichloroethene
Concen: 0.17 ug/L
RT: 7.41 min Scan# 448
Delta R.T. 0.01 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 96 Resp: 1088

Ion	Ratio	Lower	Upper
96	100		
61	155.1	96.3	224.7

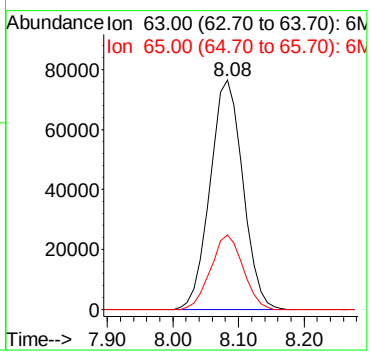


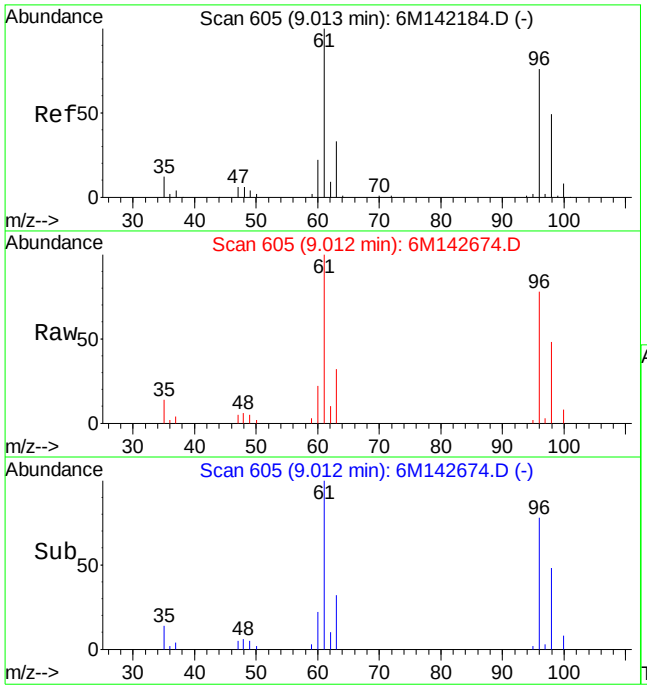


#27
1,1-Dichloroethane
Concen: 22.93 ug/L
RT: 8.08 min Scan# 514
Delta R.T. 0.01 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 63 Resp: 266214

Ion	Ratio	Lower	Upper
63	100		
65	31.9	19.3	44.9

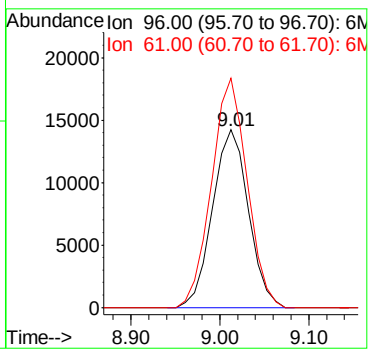


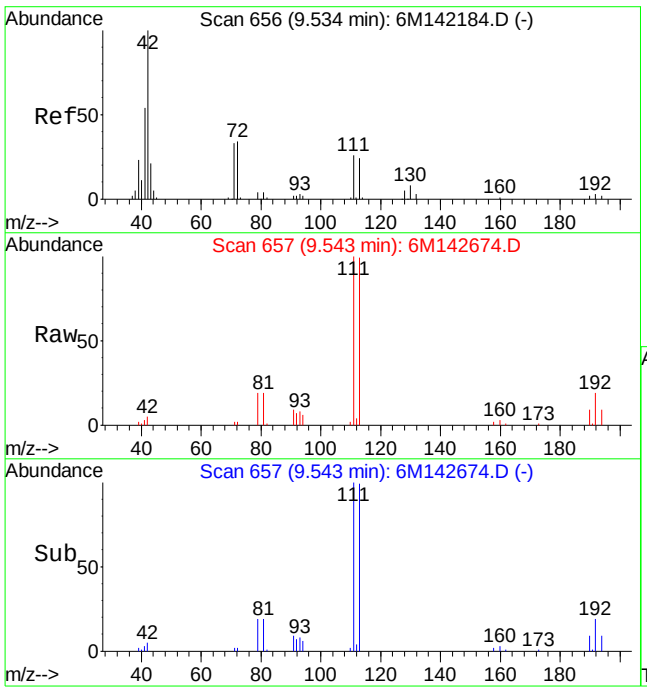


#32
cis-1,2-Dichloroethene
Concen: 5.74 ug/L
RT: 9.01 min Scan# 605
Delta R.T. 0.01 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 96 Resp: 39855

Ion	Ratio	Lower	Upper
96	100		
61	128.1	89.2	208.2

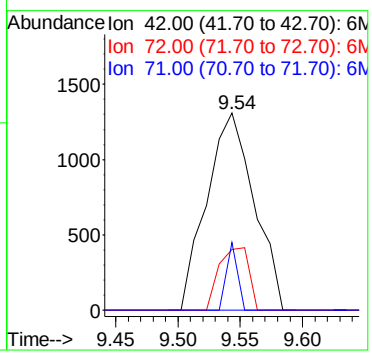


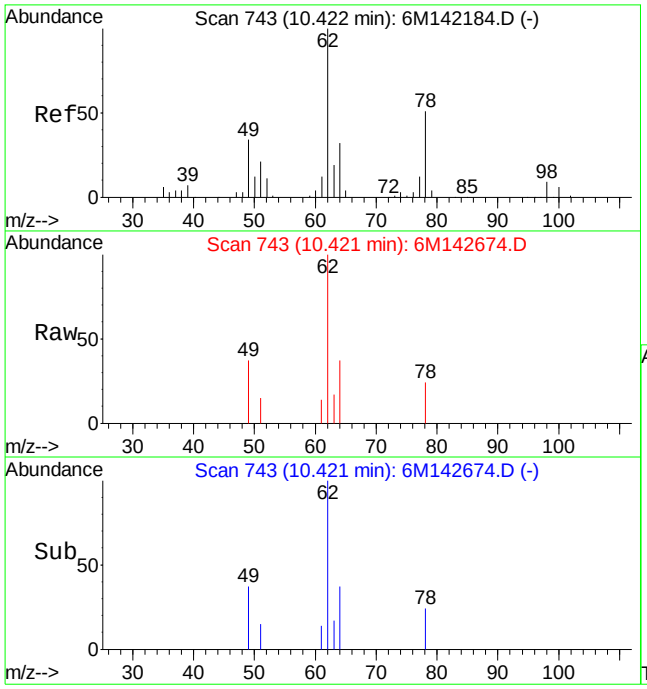


#36
Tetrahydrofuran
Concen: 2.18 ug/L
RT: 9.54 min Scan# 657
Delta R.T. 0.01 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 42 Resp: 3467

Ion	Ratio	Lower	Upper
42	100		
72	19.9	20.8	48.4#
71	8.0	19.9	46.5#

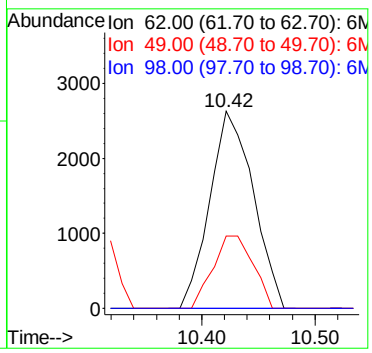


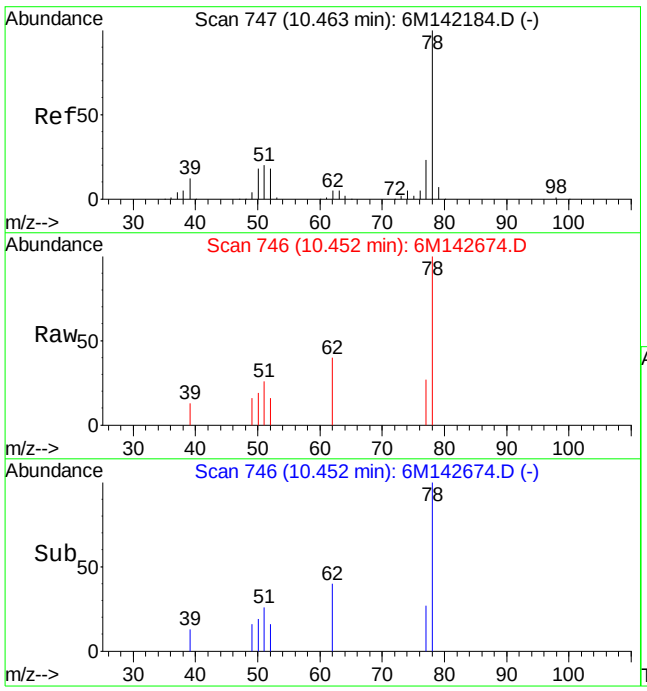


#45
1,2-Dichloroethane
Concen: 0.86 ug/L
RT: 10.42 min Scan# 743
Delta R.T. -0.00 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 62 Resp: 7006

Ion	Ratio	Lower	Upper
62	100		
49	34.1	25.1	58.5
98	0.0	5.2	12.0#

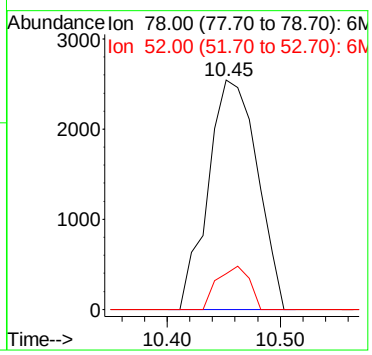


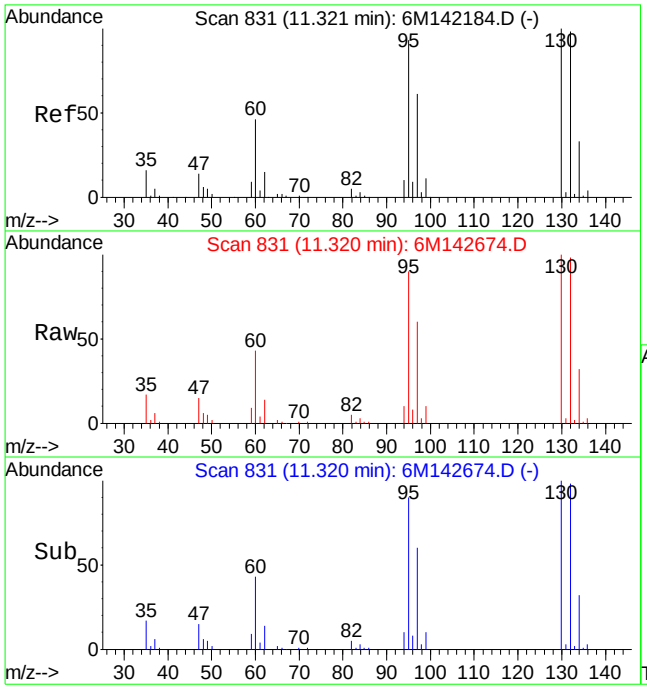


#46
Benzene
Concen: 0.32 ug/L
RT: 10.45 min Scan# 746
Delta R.T. -0.00 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 78 Resp: 7676

Ion	Ratio	Lower	Upper
78	100		
52	12.3	12.4	29.0#

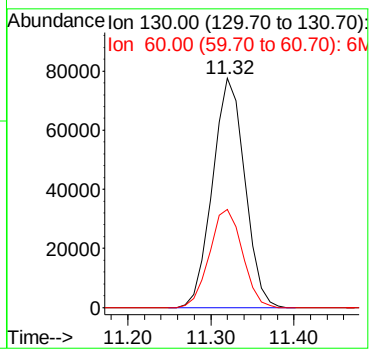


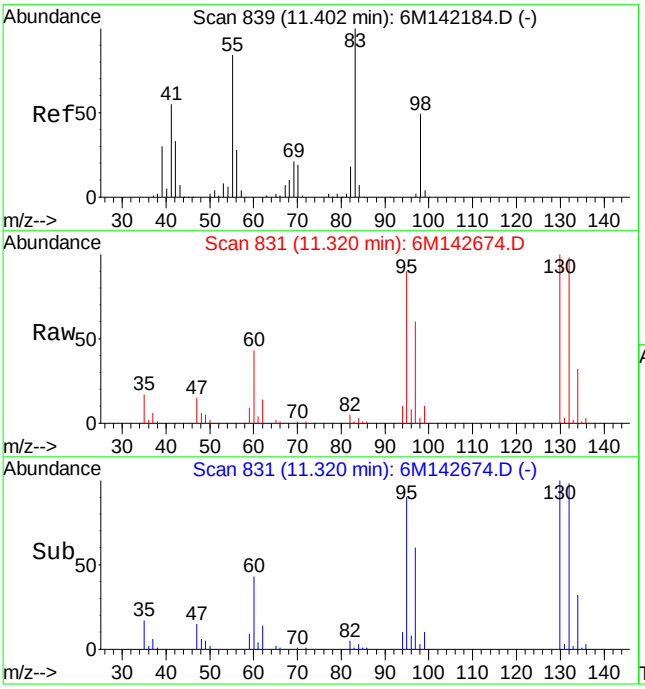


#47
Trichloroethene
Concen: 29.71 ug/L
RT: 11.32 min Scan# 831
Delta R.T. -0.00 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion:130 Resp: 209673

Ion	Ratio	Lower	Upper
130	100		
60	43.6	32.0	74.6

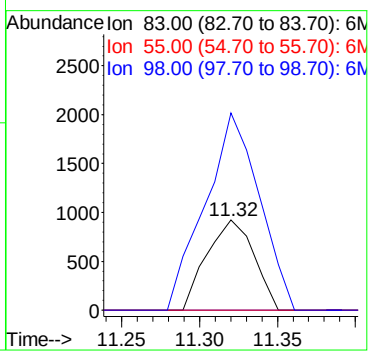


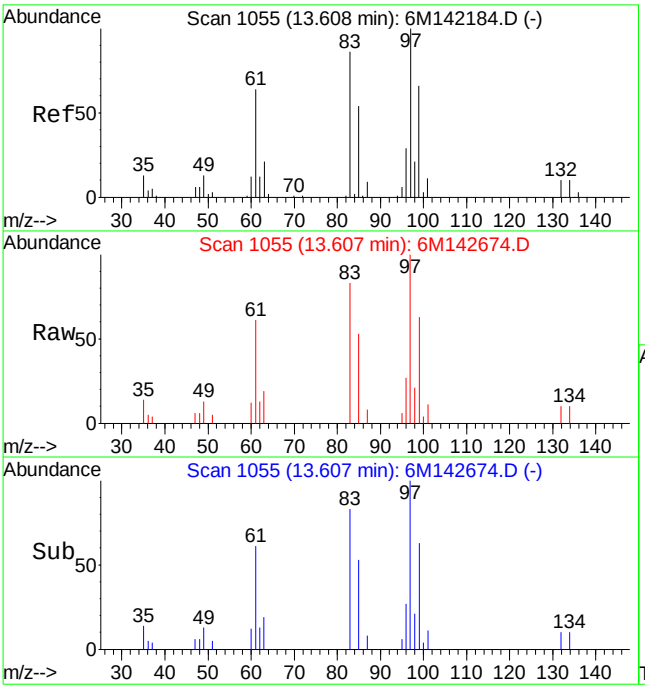


#48
Methylcyclohexane
Concen: 0.21 ug/L
RT: 11.32 min Scan# 831
Delta R.T. -0.08 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 83 Resp: 1939

Ion	Ratio	Lower	Upper
83	100		
55	0.0	56.3	131.3#
98	251.9	28.4	66.4#

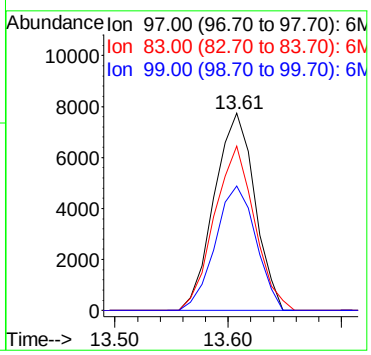


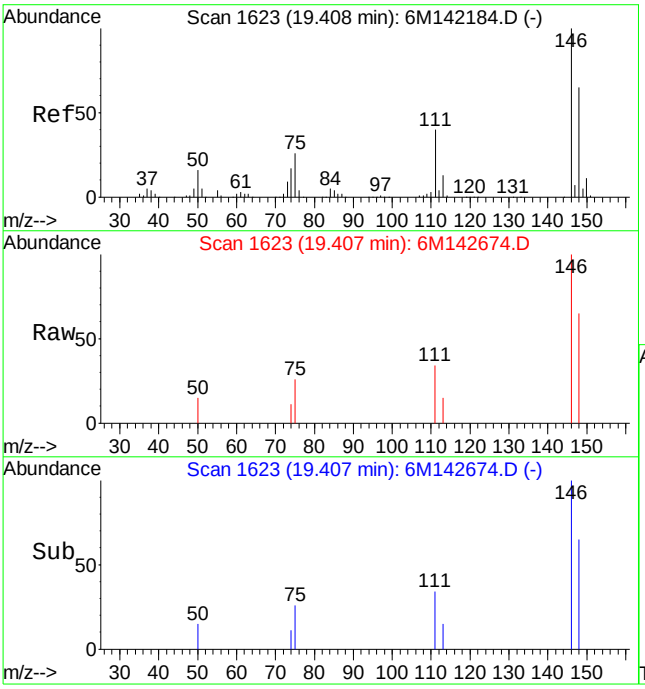


#63
1,1,2-Trichloroethane
Concen: 4.13 ug/L
RT: 13.61 min Scan# 1055
Delta R.T. -0.00 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion: 97 Resp: 19251

Ion	Ratio	Lower	Upper
97	100		
83	82.5	51.4	120.0
99	63.3	38.1	88.9

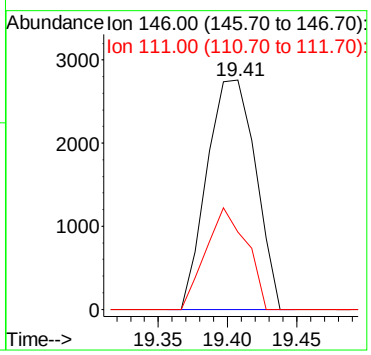




#96
1,2-Dichlorobenzene
Concen: 0.49 ug/L
RT: 19.41 min Scan# 1623
Delta R.T. -0.00 min
Lab File: 6M142674.D
Acq: 13 Oct 2016 00:38

Tgt Ion:146 Resp: 6735

Ion	Ratio	Lower	Upper
146	100		
111	37.1	24.9	58.1



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14521.D Vial: 23
Acq On : 13 Oct 2016 23:23 Operator: FJB
Sample : L16100194-06 5X B 826-LOW Inst : hpms11
Misc : 1,5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:49:50 2016 Quant Results File: 8260WT.RES

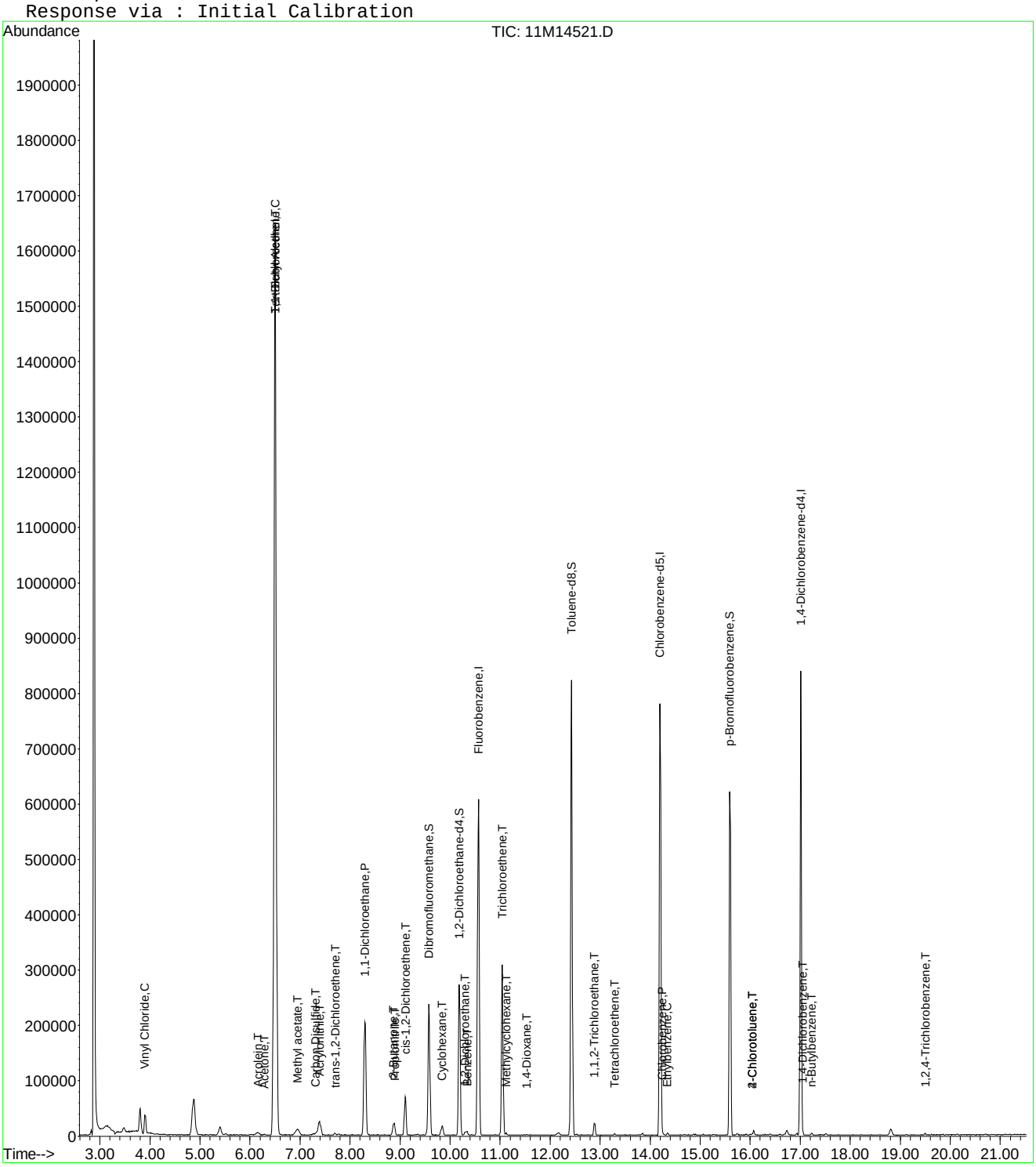
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

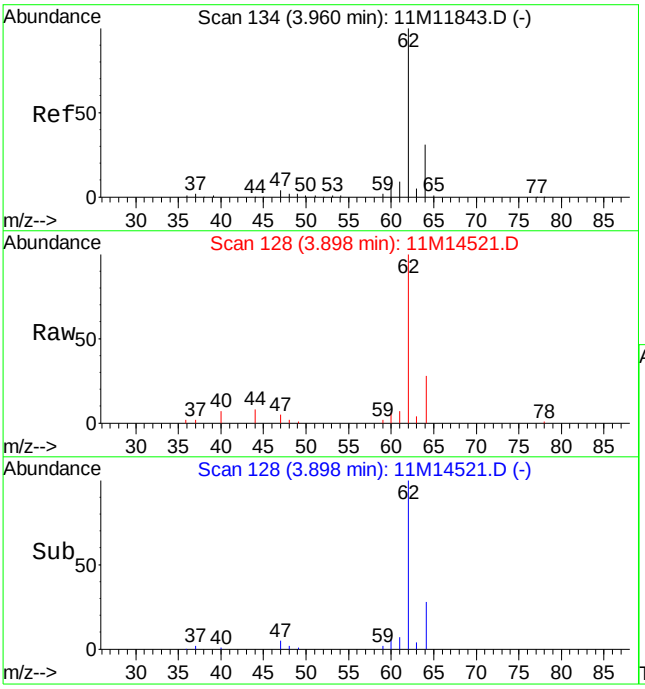
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	675014	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	513082	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	267281	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	195731	24.1055 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.44%		
43) 1,2-Dichloroethane-d4	10.18	65	215688	23.6603 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 94.64%		
57) Toluene-d8	12.43	98	669738	24.6319 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.52%		
78) p-Bromofluorobenzene	15.59	95	251869	23.5542 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 94.20%		
Target Compounds					Qvalue
4) Vinyl Chloride	3.90	62	48850	4.3615 ug/L	99
11) Acrolein	6.16	56	637	1.1998 ug/L #	59
13) Acetone	6.29	43	1996	0.7622 ug/L #	69
14) 1,1-Dichloroethene	6.50	61	1953287	140.2168 ug/L	97
15) Tert-Butyl Alcohol	6.50	59	69753	103.1943 ug/L #	52
18) Methyl acetate	6.95	43	22689	2.9378 ug/L #	73
20) Carbon Disulfide	7.31	76	4962	0.2149 ug/L #	88
21) Acrylonitrile	7.39	53	432	0.1228 ug/L #	10
23) trans-1,2-Dichloroethene	7.70	96	1854	0.2349 ug/L	81
27) 1,1-Dichloroethane	8.29	63	311244	19.2372 ug/L	100
29) 2-Butanone	8.87	43	2258	0.5132 ug/L #	65
30) Propionitrile	8.89	54	221	0.1813 ug/L #	1
32) cis-1,2-Dichloroethene	9.11	96	38376	4.4142 ug/L	81
36) Tetrahydrofuran	9.54	42	6983	Below Cal #	87
39) Cyclohexane	9.83	56	14071	0.7669 ug/L	98
44) 1,2-Dichloroethane	10.30	62	6251	0.5126 ug/L	82
45) Benzene	10.34	78	7181	0.2346 ug/L #	76
46) Trichloroethene	11.04	130	126760	14.3191 ug/L	98
47) Methylcyclohexane	11.13	83	1688	0.1407 ug/L #	62
49) 1,4-Dioxane	11.53	88	715	11.3692 ug/L #	37
61) 1,1,2-Trichloroethane	12.88	97	9709	1.5446 ug/L	90
64) Tetrachloroethene	13.29	164	894	0.1275 ug/L	72
68) Chlorobenzene	14.24	112	3341	0.1457 ug/L	84
70) Ethylbenzene	14.34	106	1439	0.1228 ug/L	69
84) 2-Chlorotoluene	16.04	91	3058	0.1215 ug/L #	72
85) 4-Chlorotoluene	16.04	91	3555	0.1387 ug/L #	65
92) 1,4-Dichlorobenzene	17.05	146	2529	0.1313 ug/L #	1
93) n-Butylbenzene	17.23	91	3541	0.1201 ug/L #	91
96) 1,2,4-Trichlorobenzene	19.50	180	2049	0.1539 ug/L	86

(#) = qualifier out of range (m) = manual integration
11M14521.D 8260WT.M Fri Oct 14 09:49:52 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14521.D Vial: 23
Acq On : 13 Oct 2016 23:23 Operator: FJB
Sample : L16100194-06 5X B 826-LOW Inst : hpms11
Misc : 1,5 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:49 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration

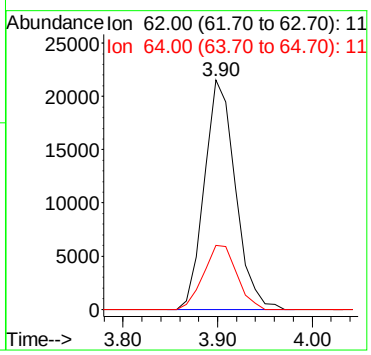


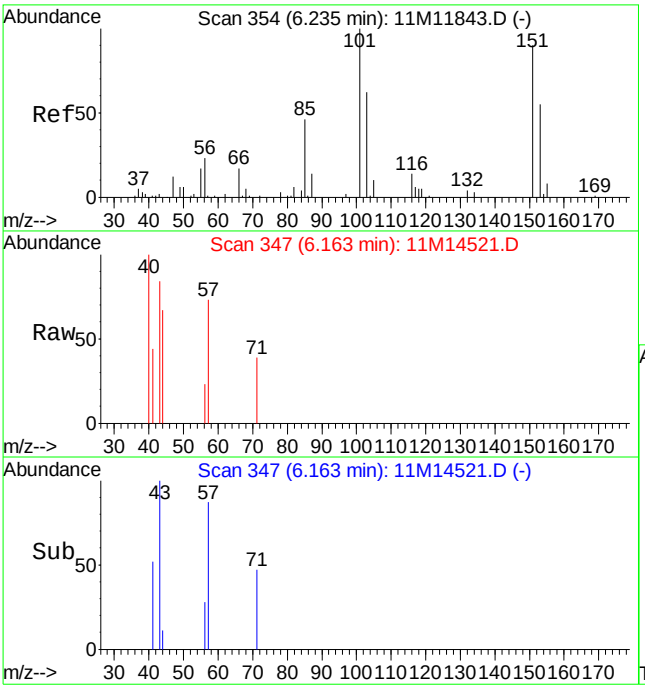


#4
Vinyl Chloride
Concen: 4.36 ug/L
RT: 3.90 min Scan# 128
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 62 Resp: 48850

Ion	Ratio	Lower	Upper
62	100		
64	29.9	18.2	42.6

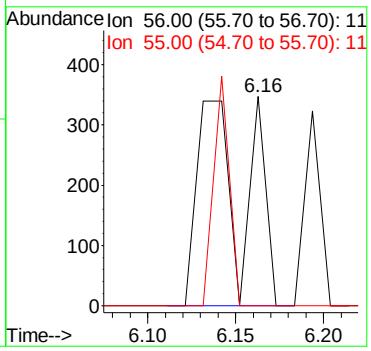


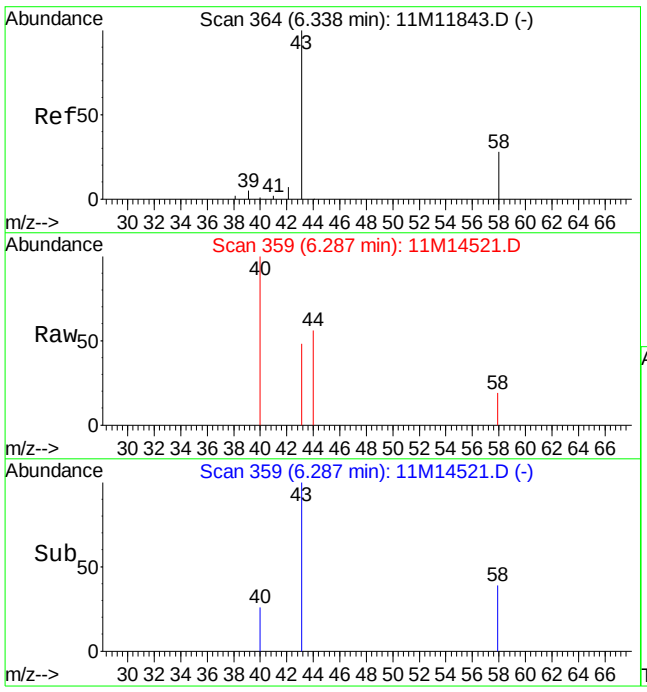


#11
Acrolein
Concen: 1.20 ug/L
RT: 6.16 min Scan# 347
Delta R.T. -0.01 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 56 Resp: 637

Ion	Ratio	Lower	Upper
56	100		
55	37.0	42.5	99.1#

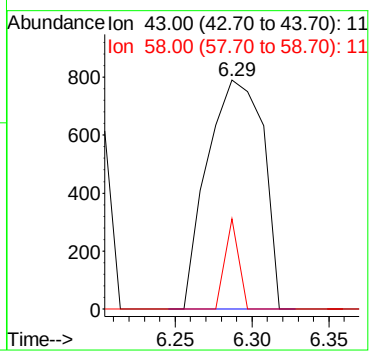


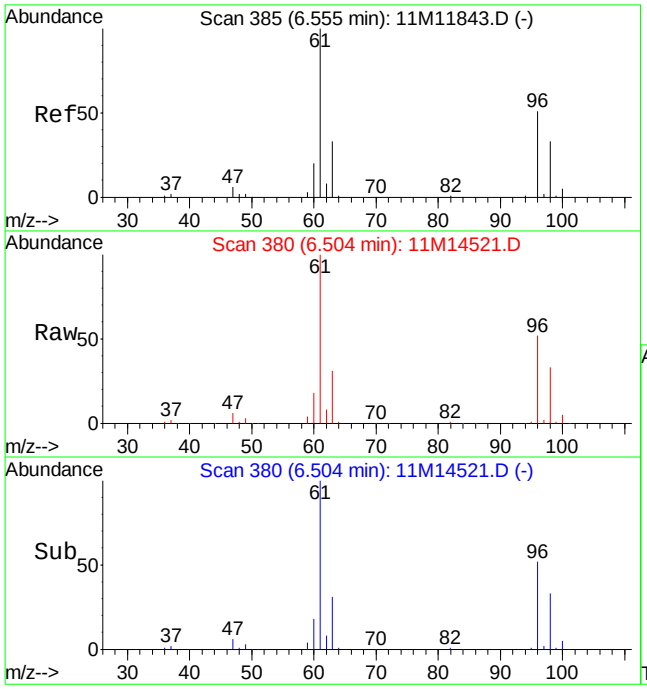


#13
Acetone
Concen: 0.76 ug/L
RT: 6.29 min Scan# 359
Delta R.T. 0.01 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 43 Resp: 1996

Ion	Ratio	Lower	Upper
43	100		
58	9.7	15.1	35.1#

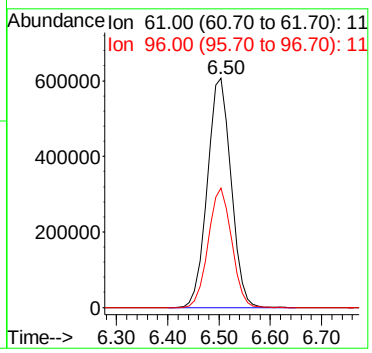


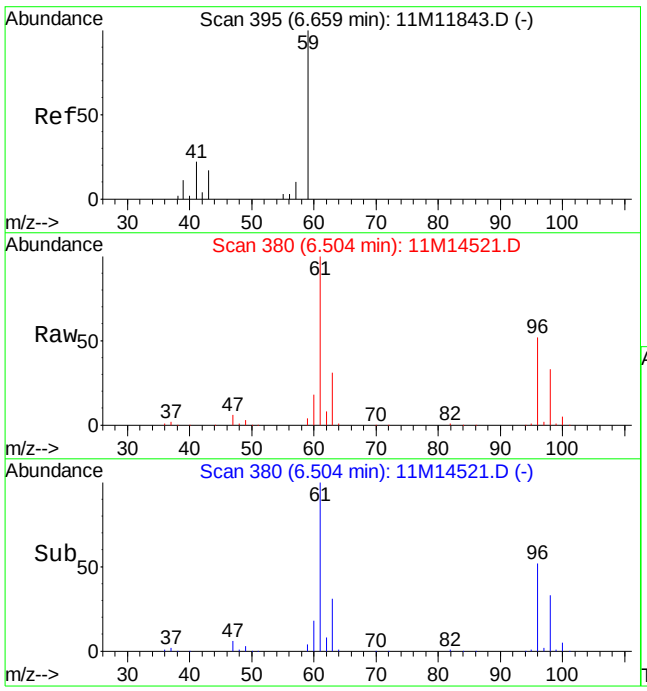


#14
1,1-Dichloroethene
Concen: 140.22 ug/L
RT: 6.50 min Scan# 380
Delta R.T. 0.01 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 61 Resp: 1953287

Ion	Ratio	Lower	Upper
61	100		
96	51.3	29.3	68.5

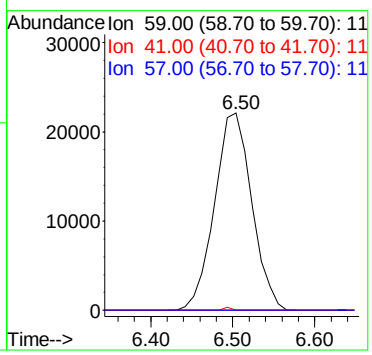


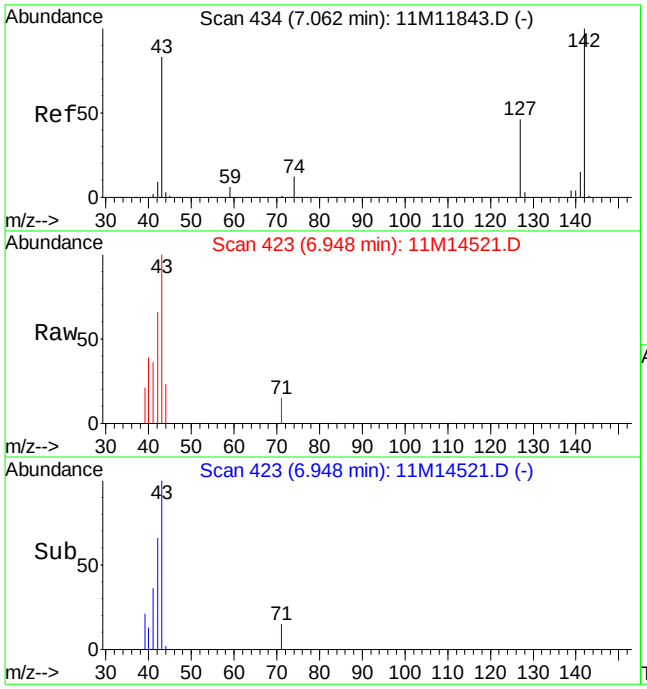


#15
Tert-Butyl Alcohol
Concen: 103.19 ug/L
RT: 6.50 min Scan# 380
Delta R.T. -0.09 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 59 Resp: 69753

Ion	Ratio	Lower	Upper
59	100		
41	0.3	17.8	41.6#
57	0.0	6.0	14.0#

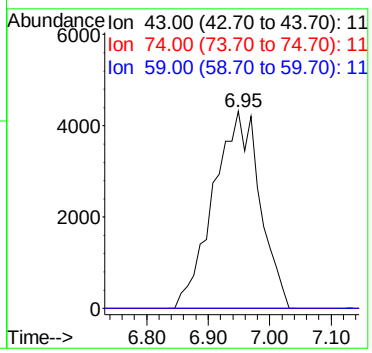


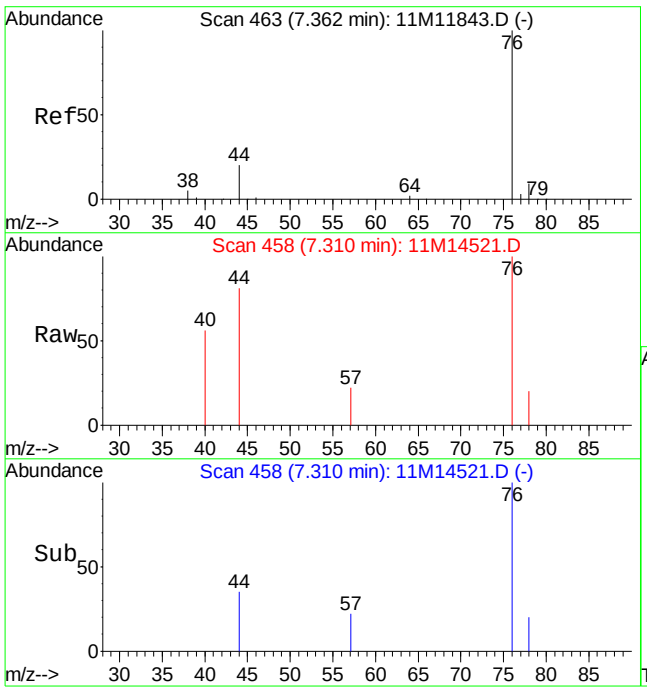


#18
Methyl acetate
Concen: 2.94 ug/L
RT: 6.95 min Scan# 423
Delta R.T. -0.06 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 43 Resp: 22689

Ion	Ratio	Lower	Upper
43	100		
74	0.0	7.2	16.8#
59	0.0	3.7	8.7#

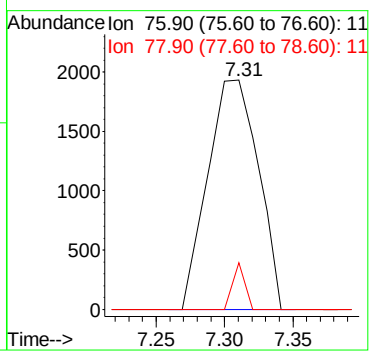


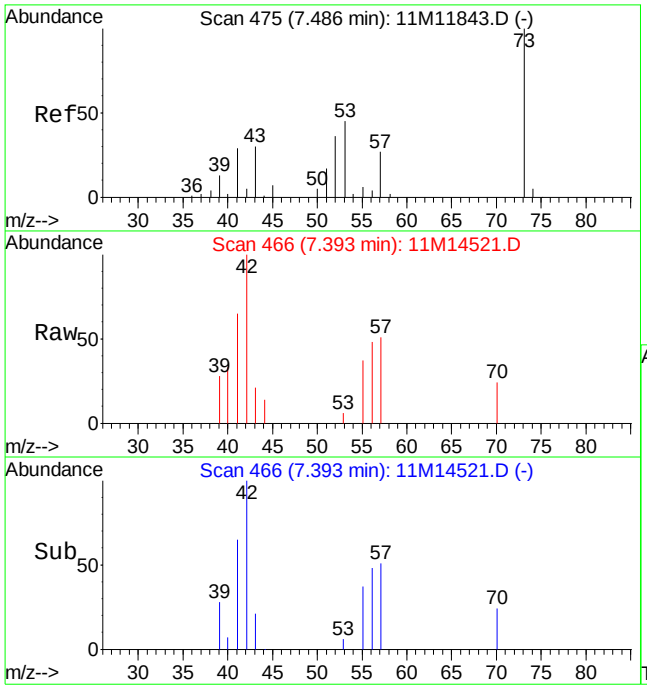


#20
Carbon Disulfide
Concen: 0.21 ug/L
RT: 7.31 min Scan# 458
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 76 Resp: 4962

Ion	Ratio	Lower	Upper
76	100		
78	4.9	5.6	13.0#

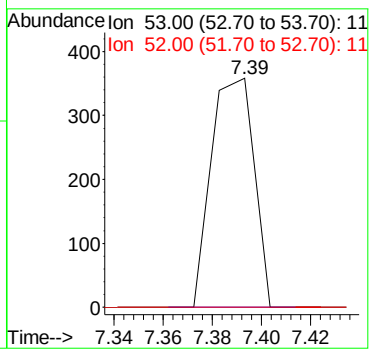


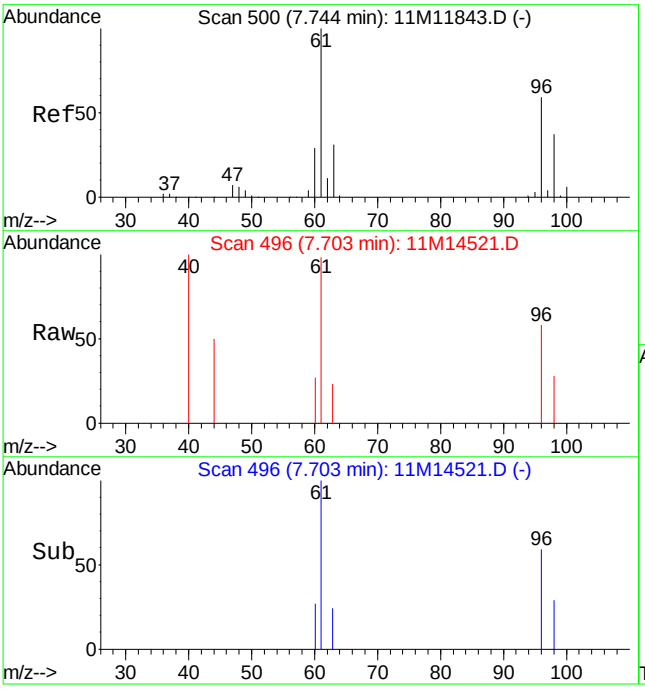


#21
Acrylonitrile
Concen: 0.12 ug/L
RT: 7.39 min Scan# 466
Delta R.T. -0.04 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 53 Resp: 432

Ion	Ratio	Lower	Upper
53	100		
52	0.0	47.2	110.2#

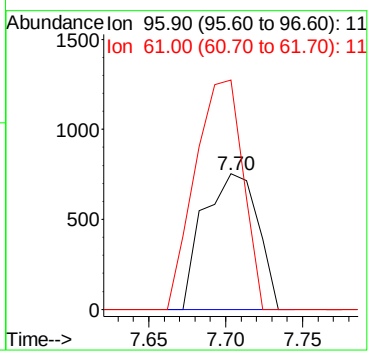


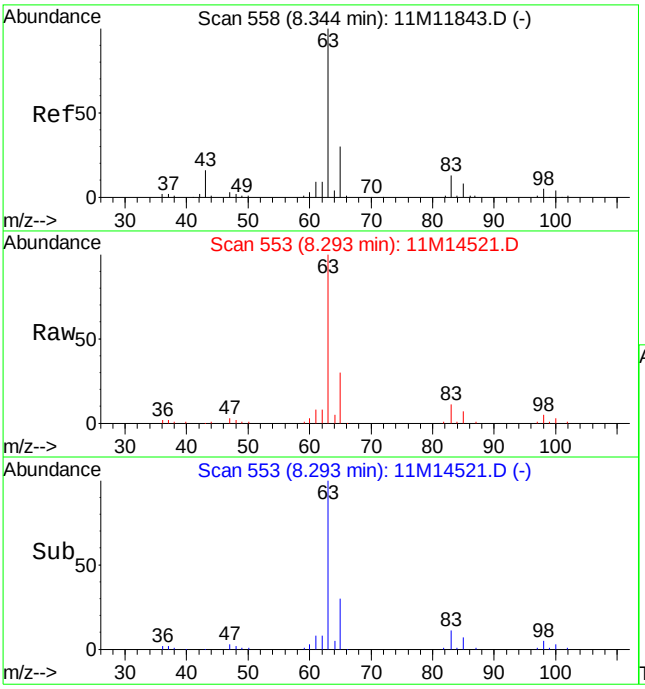


#23
trans-1,2-Dichloroethene
Concen: 0.23 ug/L
RT: 7.70 min Scan# 496
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 96 Resp: 1854

Ion	Ratio	Lower	Upper
96	100		
61	148.8	105.1	245.1

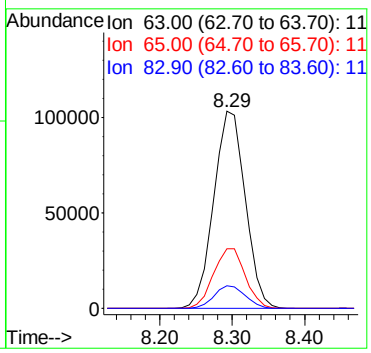


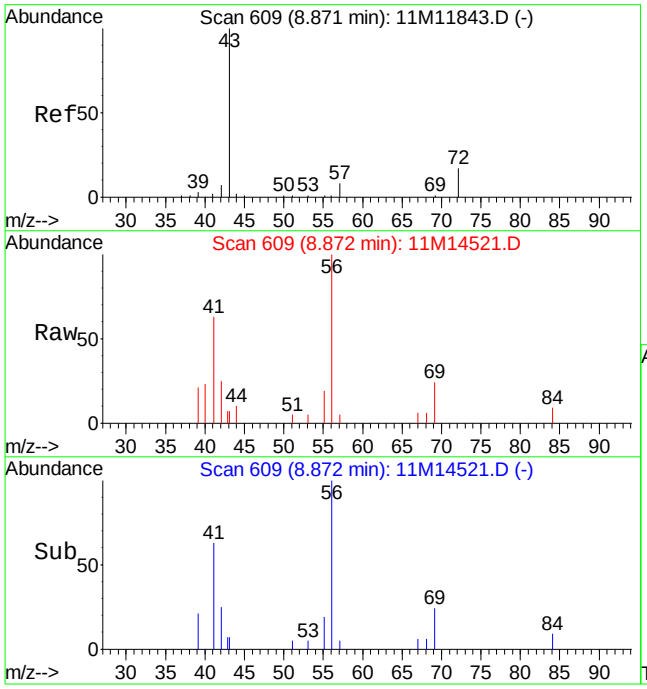


#27
1,1-Dichloroethane
Concen: 19.24 ug/L
RT: 8.29 min Scan# 553
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 63 Resp: 311244

Ion	Ratio	Lower	Upper
63	100		
65	30.6	18.4	43.0
83	11.3	6.8	16.0

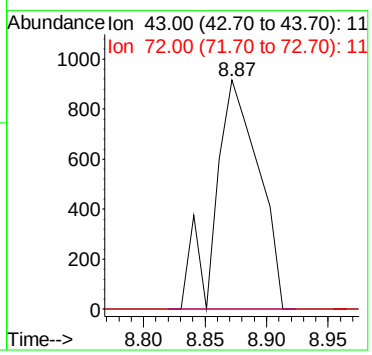


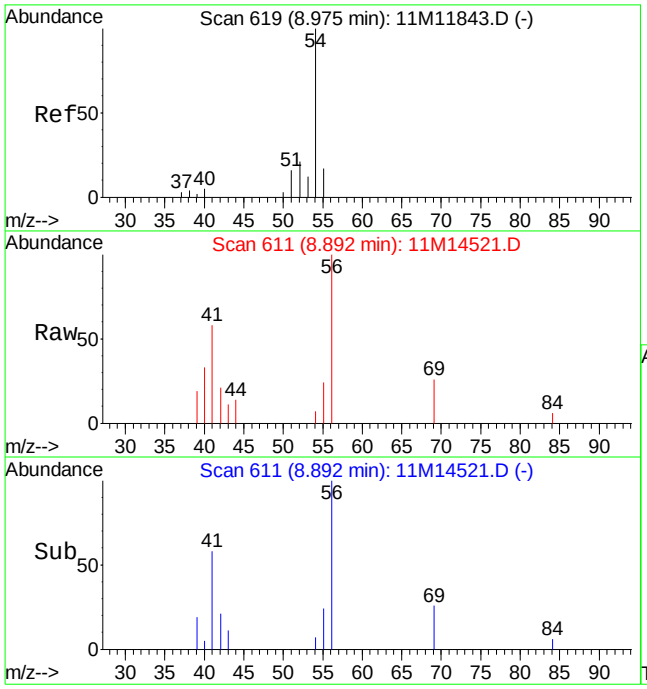


#29
2-Butanone
Concen: 0.51 ug/L
RT: 8.87 min Scan# 609
Delta R.T. 0.05 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 43 Resp: 2258

Ion	Ratio	Lower	Upper
43	100		
72	0.0	8.6	20.2#

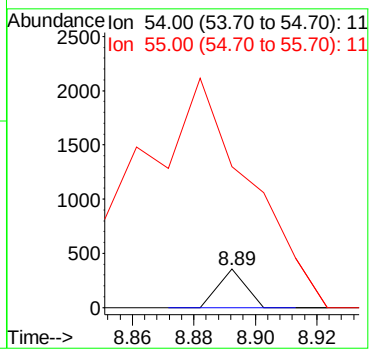


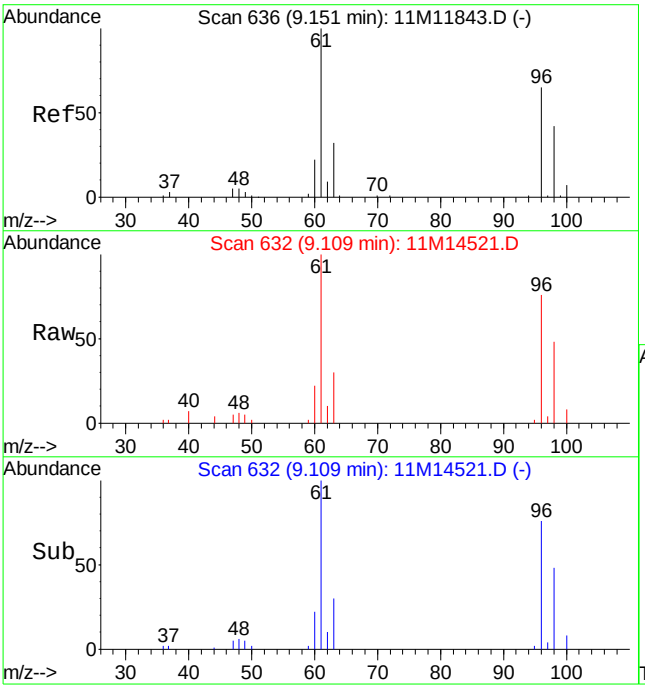


#30
Propionitrile
Concen: 0.18 ug/L
RT: 8.89 min Scan# 611
Delta R.T. -0.03 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 54 Resp: 221

Ion	Ratio	Lower	Upper
54	100		
55	2503.6	10.3	23.9#

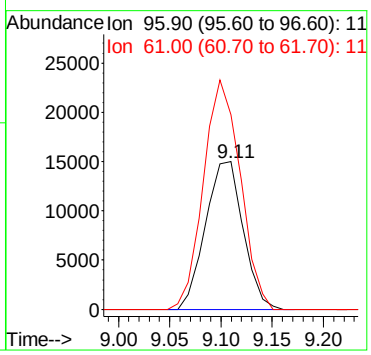


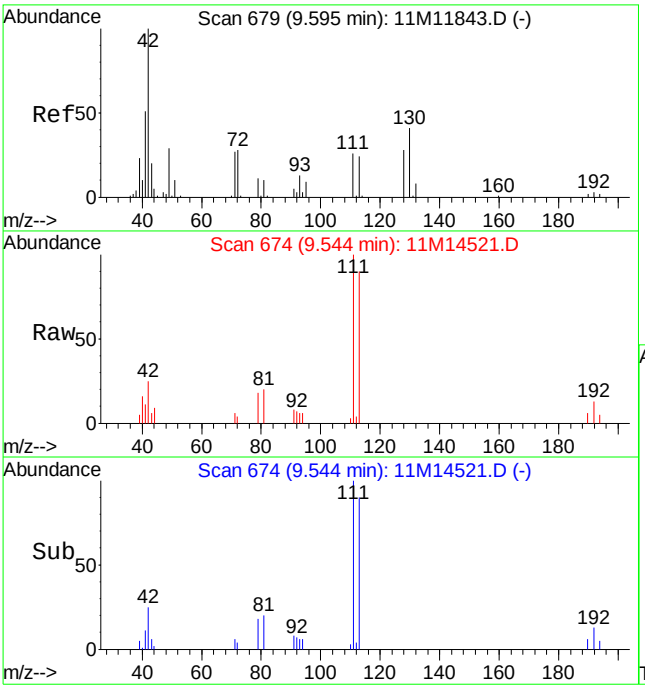


#32
cis-1,2-Dichloroethene
Concen: 4.41 ug/L
RT: 9.11 min Scan# 632
Delta R.T. 0.01 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 96 Resp: 38376

Ion	Ratio	Lower	Upper
96	100		
61	151.9	107.5	250.7

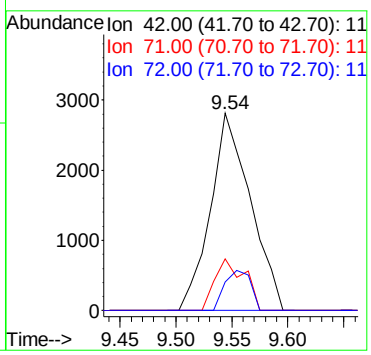


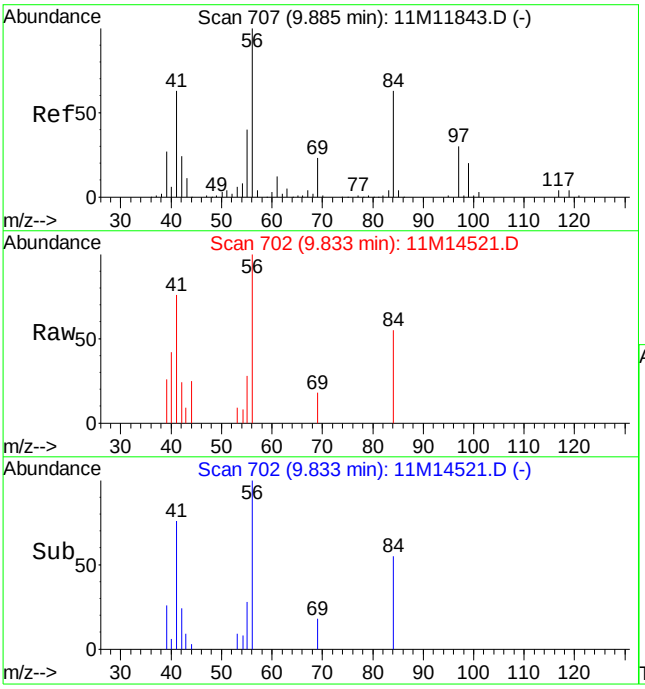


#36
Tetrahydrofuran
Concen: Below Cal
RT: 9.54 min Scan# 674
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 42 Resp: 6983

Ion	Ratio	Lower	Upper
42	100		
71	19.4	12.8	30.0
72	13.2	14.0	32.6#

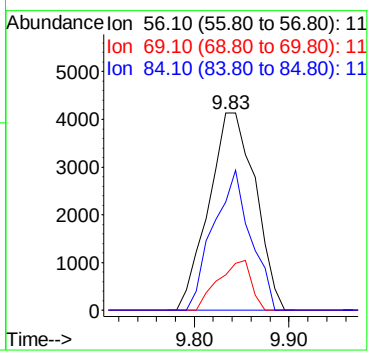


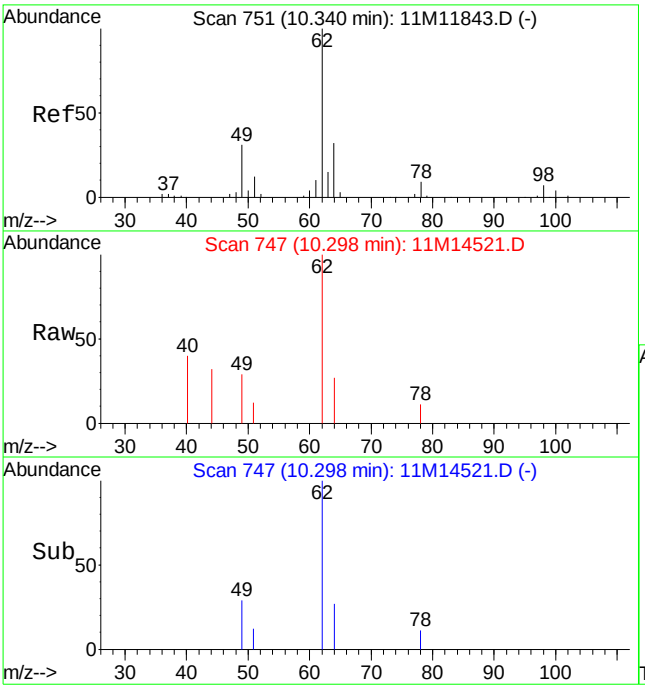


#39
Cyclohexane
Concen: 0.77 ug/L
RT: 9.83 min Scan# 702
Delta R.T. -0.01 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 56 Resp: 14071

Ion	Ratio	Lower	Upper
56	100		
69	18.0	12.4	29.0
84	56.9	34.7	81.1

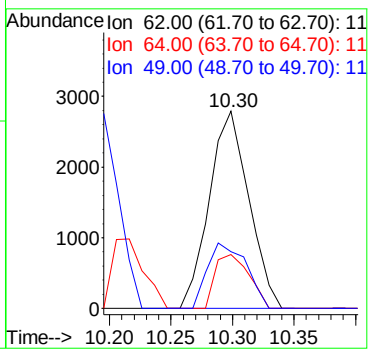


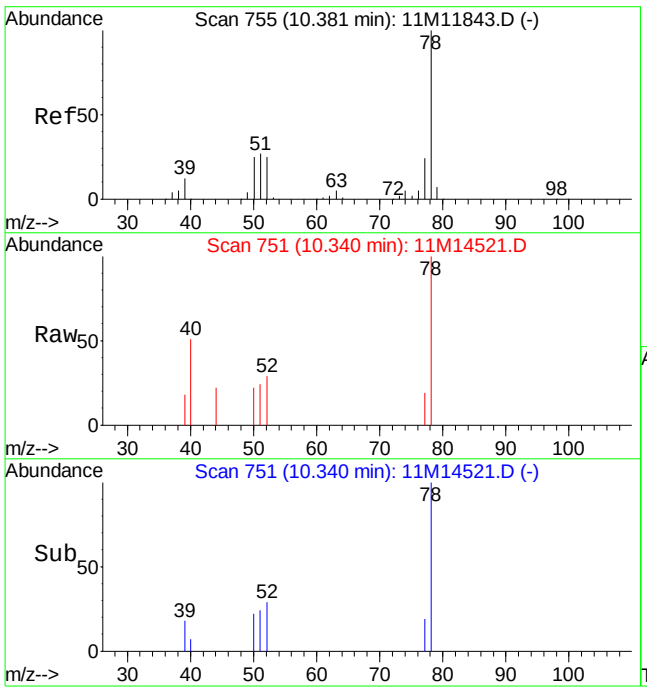


#44
1,2-Dichloroethane
Concen: 0.51 ug/L
RT: 10.30 min Scan# 747
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 62 Resp: 6251

Ion	Ratio	Lower	Upper
62	100		
64	23.4	18.6	43.4
49	32.6	28.1	65.7

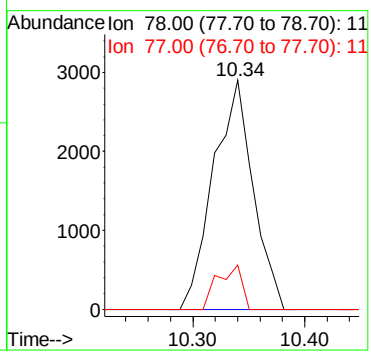


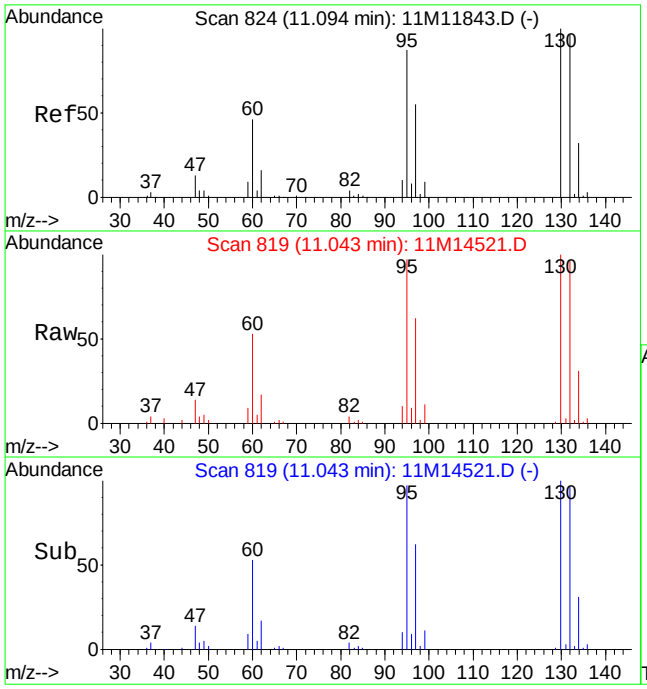


#45
Benzene
Concen: 0.23 ug/L
RT: 10.34 min Scan# 751
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 78 Resp: 7181

Ion	Ratio	Lower	Upper
78	100		
77	11.8	14.2	33.2#

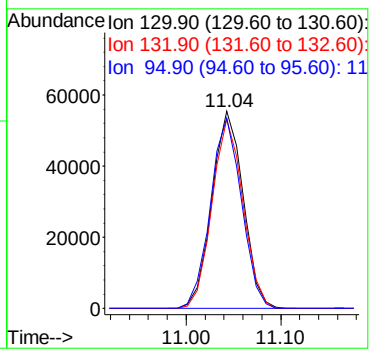


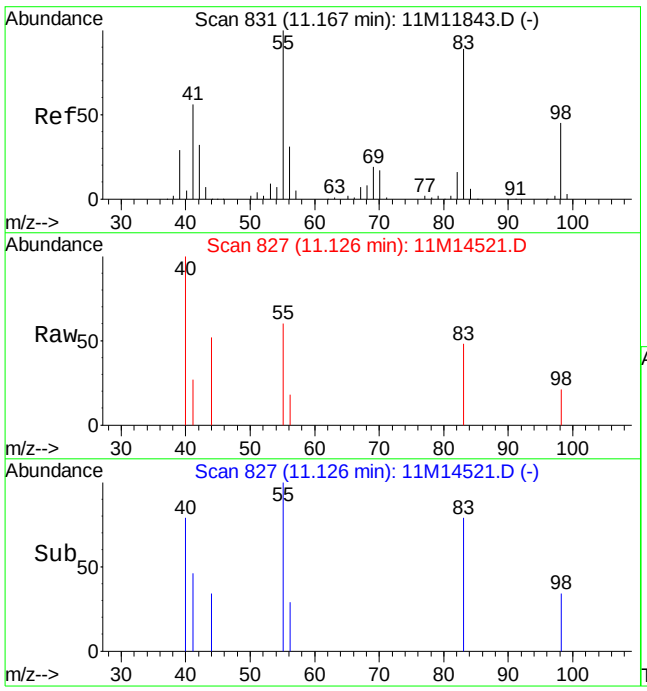


#46
Trichloroethene
Concen: 14.32 ug/L
RT: 11.04 min Scan# 819
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion:130 Resp: 126760

Ion	Ratio	Lower	Upper
130	100		
132	94.7	58.4	136.4
95	96.2	58.0	135.4

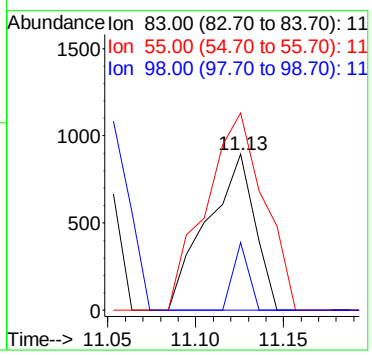


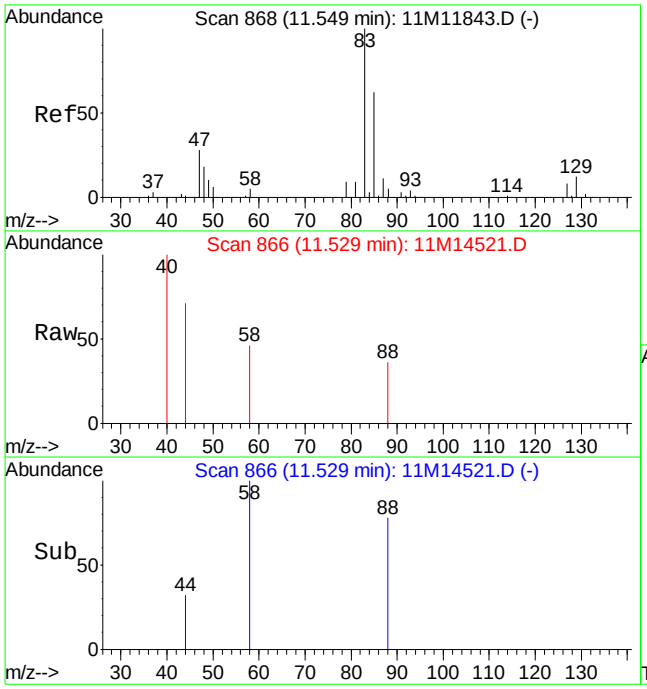


#47
Methylcyclohexane
Concen: 0.14 ug/L
RT: 11.13 min Scan# 827
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 83 Resp: 1688

Ion	Ratio	Lower	Upper
83	100		
55	154.6	70.3	164.1
98	14.3	28.2	65.8#

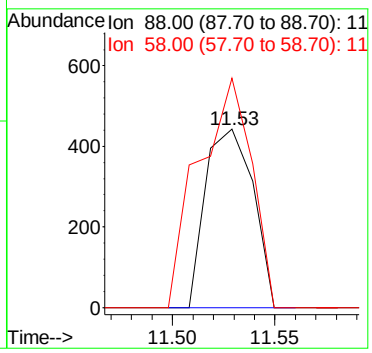


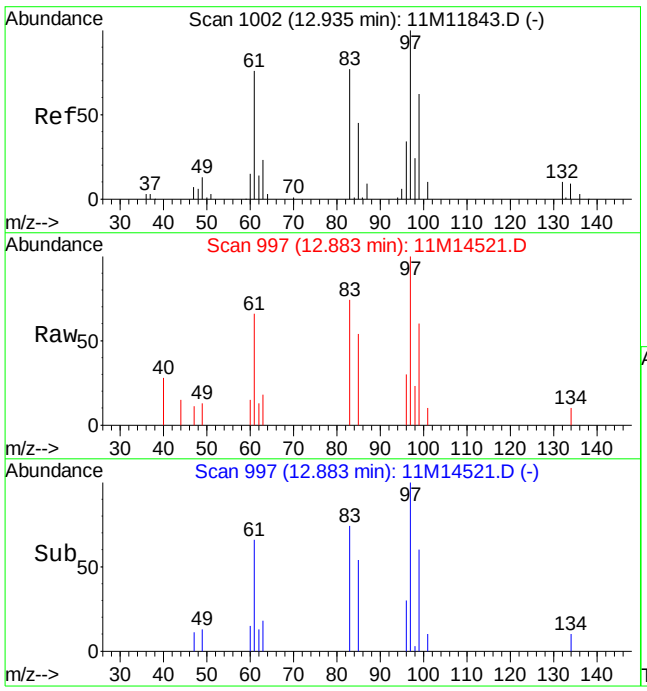


#49
1,4-Dioxane
Concen: 11.37 ug/L
RT: 11.53 min Scan# 866
Delta R.T. 0.02 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 88 Resp: 715

Ion	Ratio	Lower	Upper
88	100		
58	143.6	51.5	120.3#

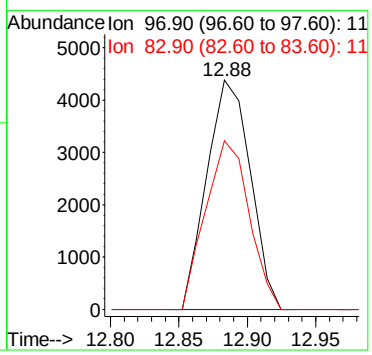


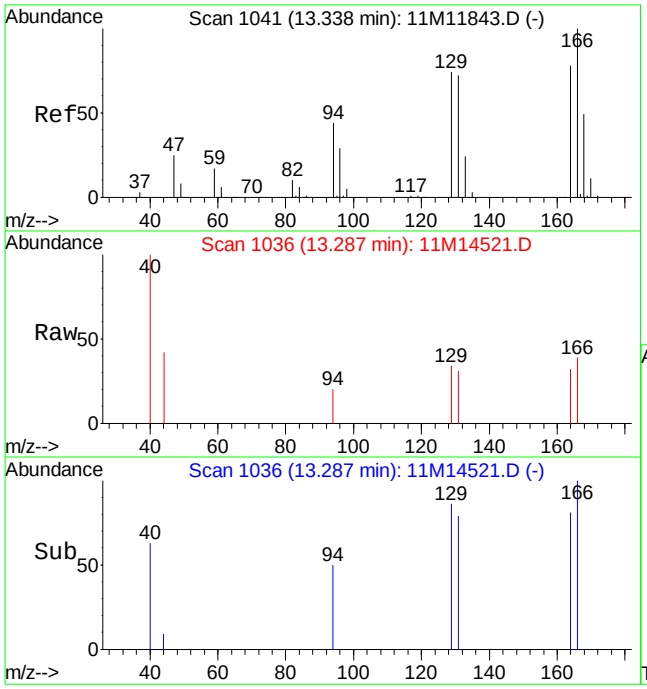


#61
1,1,2-Trichloroethane
Concen: 1.54 ug/L
RT: 12.88 min Scan# 997
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 97 Resp: 9709

Ion	Ratio	Lower	Upper
97	100		
83	73.7	49.4	115.4

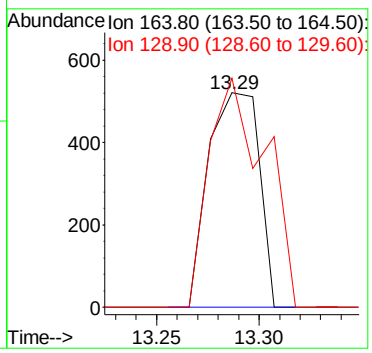


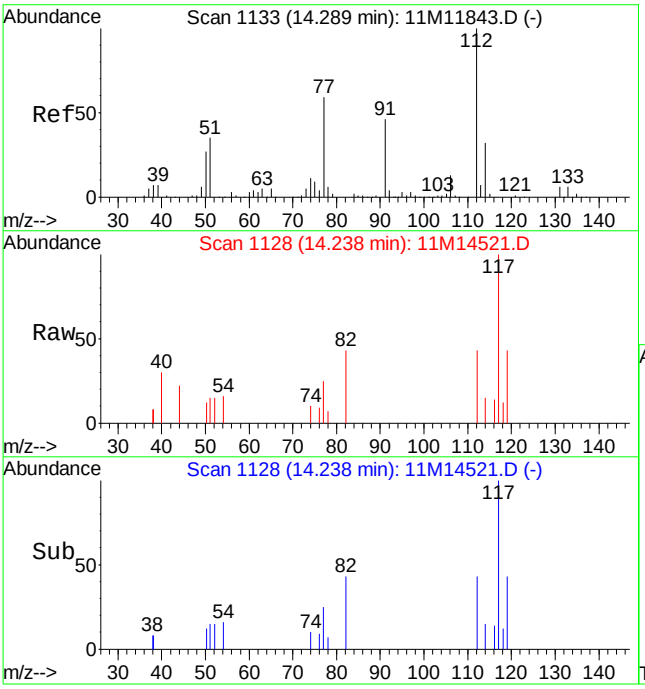


#64
Tetrachloroethene
Concen: 0.13 ug/L
RT: 13.29 min Scan# 1036
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion:164 Resp: 894

Ion	Ratio	Lower	Upper
164	100		
129	118.9	55.3	129.1

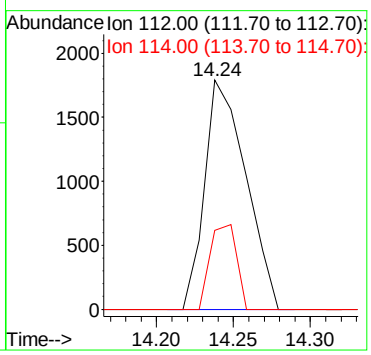


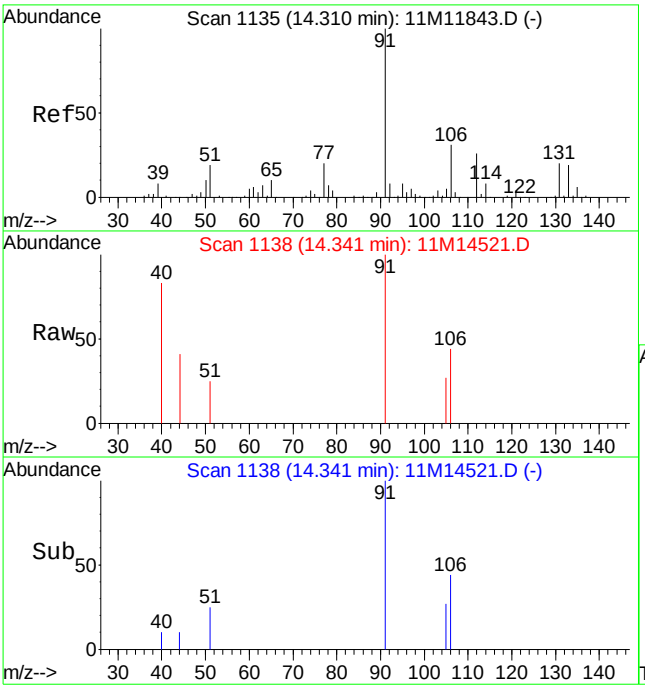


#68
Chlorobenzene
Concen: 0.15 ug/L
RT: 14.24 min Scan# 1128
Delta R.T. -0.01 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion:112 Resp: 3341

Ion	Ratio	Lower	Upper
112	100		
114	23.8	19.7	46.1

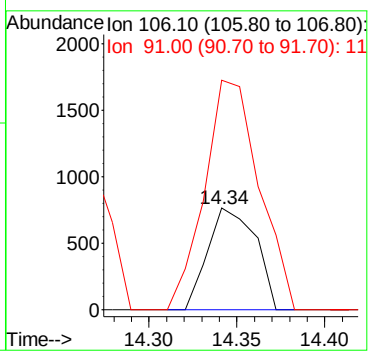


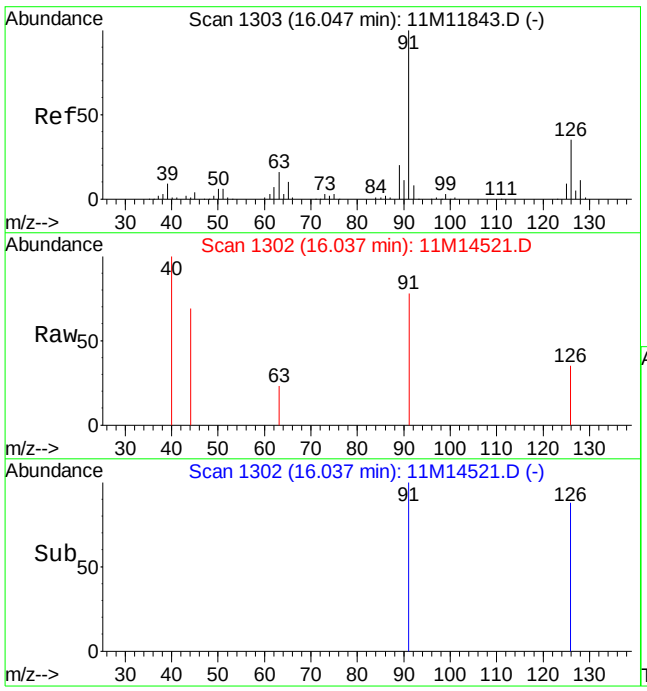


#70
Ethylbenzene
Concen: 0.12 ug/L
RT: 14.34 min Scan# 1138
Delta R.T. 0.07 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion:106 Resp: 1439

Ion	Ratio	Lower	Upper
106	100		
91	258.9	193.0	450.4

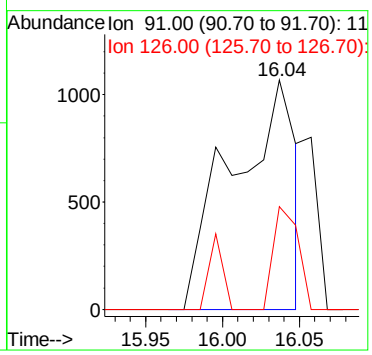


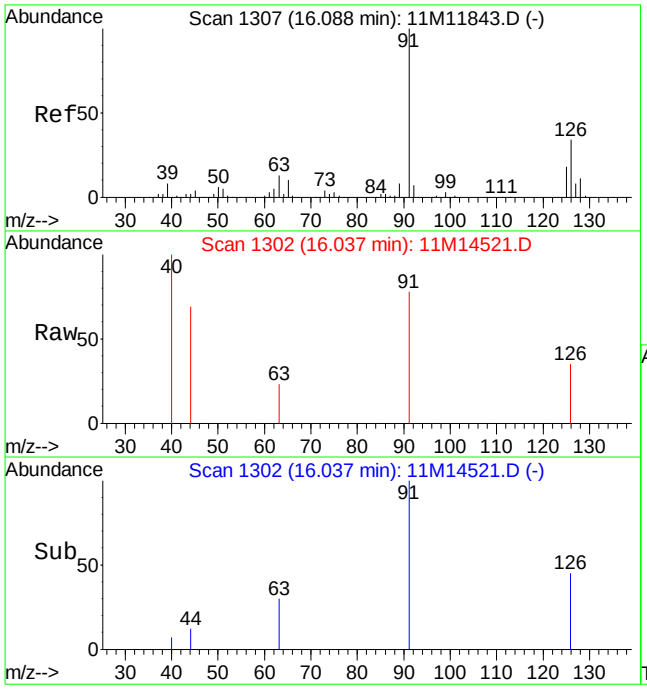


#84
2-Chlorotoluene
Concen: 0.12 ug/L
RT: 16.04 min Scan# 1302
Delta R.T. 0.04 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 91 Resp: 3058

Ion	Ratio	Lower	Upper
91	100		
126	17.7	20.4	47.6#

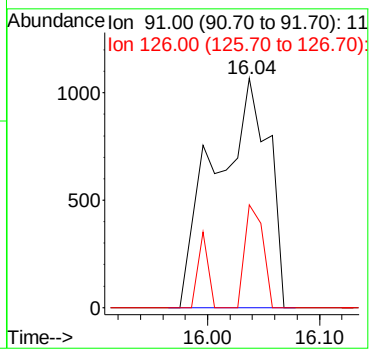


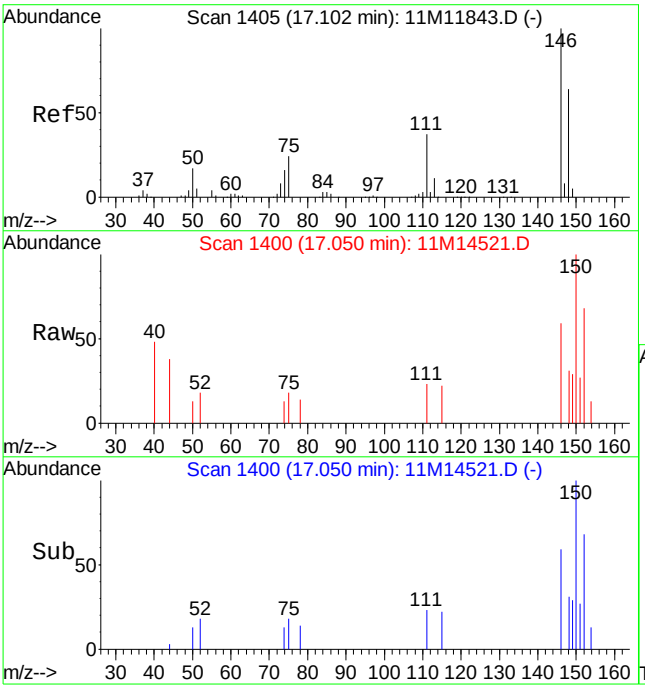


#85
4-Chlorotoluene
Concen: 0.14 ug/L
RT: 16.04 min Scan# 1302
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 91 Resp: 3555

Ion	Ratio	Lower	Upper
91	100		
126	15.2	21.5	50.1#

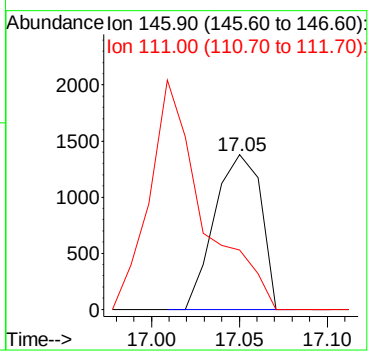


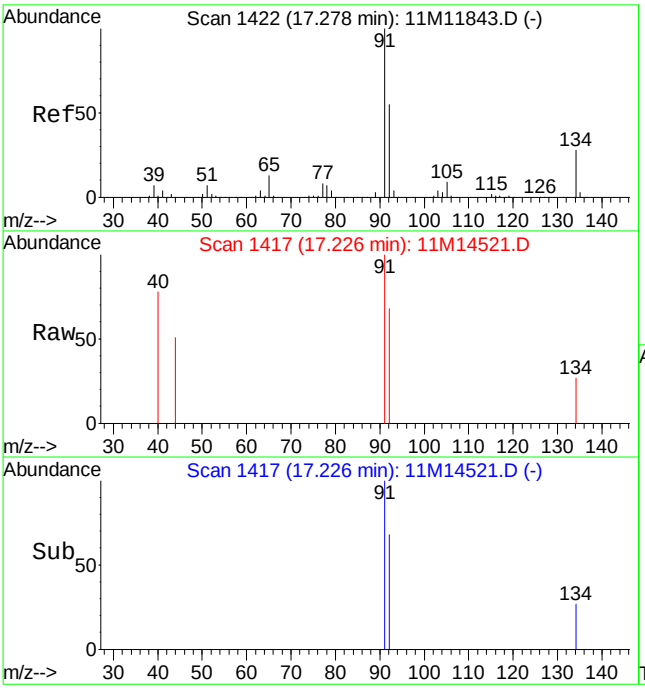


#92
1,4-Dichlorobenzene
Concen: 0.13 ug/L
RT: 17.05 min Scan# 1400
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion:146 Resp: 2529

Ion	Ratio	Lower	Upper
146	100		
111	172.0	23.3	54.5#

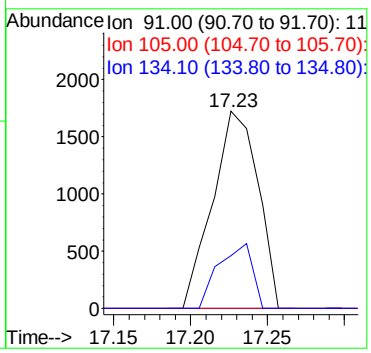


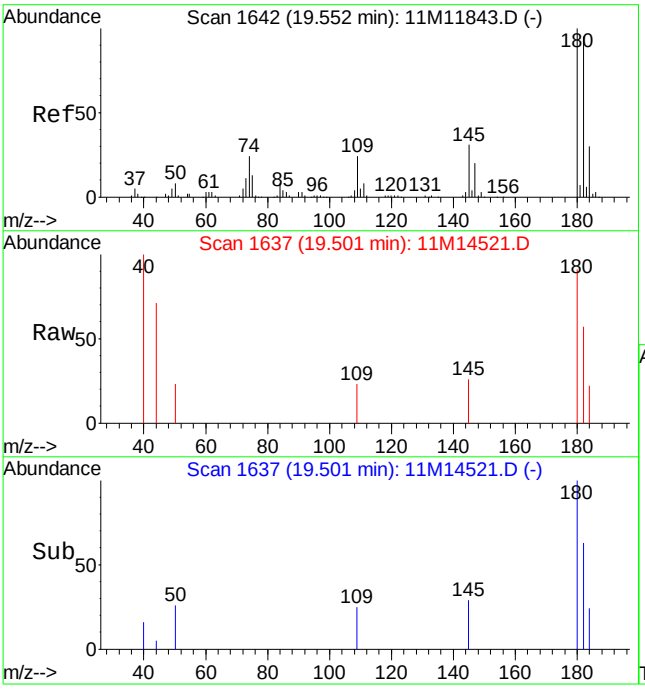


#93
n-Butylbenzene
Concen: 0.12 ug/L
RT: 17.23 min Scan# 1417
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion: 91 Resp: 3541

Ion	Ratio	Lower	Upper
91	100		
105	0.0	5.2	12.2#
134	24.4	16.0	37.4

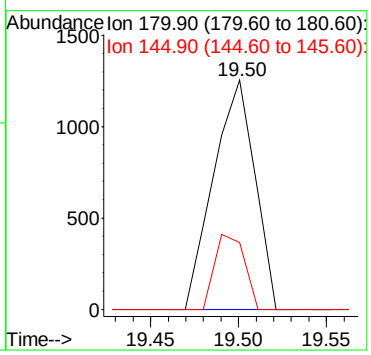




#96
1,2,4-Trichlorobenzene
Concen: 0.15 ug/L
RT: 19.50 min Scan# 1637
Delta R.T. 0.00 min
Lab File: 11M14521.D
Acq: 13 Oct 2016 23:23

Tgt Ion:180 Resp: 2049

Ion	Ratio	Lower	Upper
180	100		
145	23.4	18.5	43.3



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142666.D Vial: 12
Acq On : 12 Oct 2016 20:21 Operator: TMB
Sample : L16100194-07 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 09:26:38 2016 Quant Results File: 8260WTR.RES

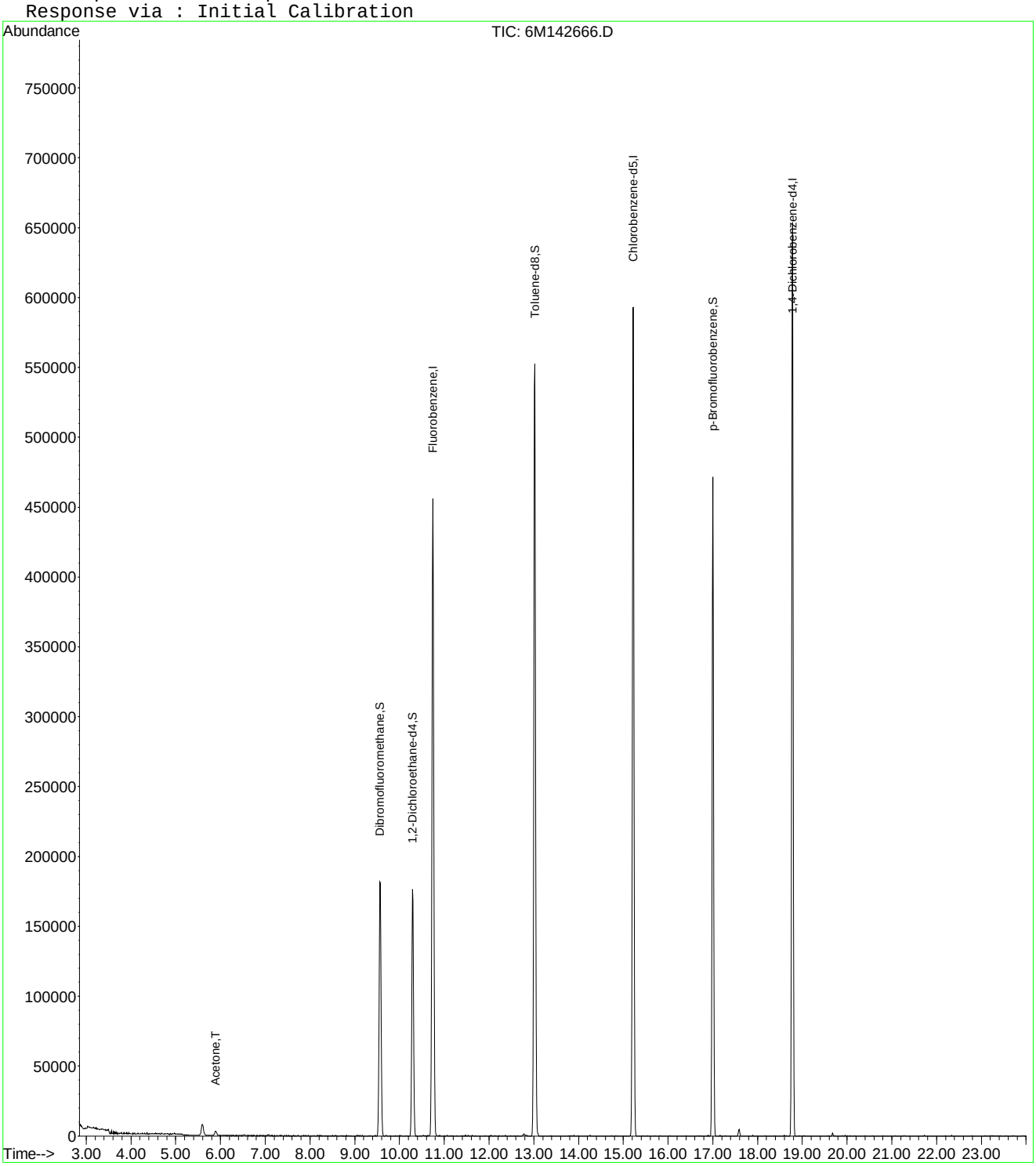
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

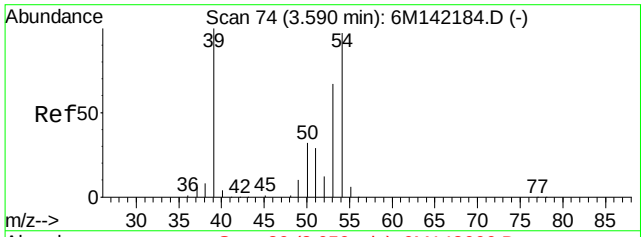
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.75	96	605584	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	474518	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	252817	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.56	111	171353	27.3767	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 109.52%			
43) 1,2-Dichloroethane-d4	10.29	65	161803	25.7732	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 103.08%			
58) Toluene-d8	13.02	98	540303	25.3154	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.28%			
80) p-Bromofluorobenzene	17.00	95	205426	24.6130	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.44%			
Target Compounds						Qvalue
5) 1,3-Butadiene	3.65	54	852	Below Cal	#	17
13) Acetone	5.89	43	6904	2.8192	ug/L	91

(#) = qualifier out of range (m) = manual integration
6M142666.D 8260WTR.M Thu Oct 13 09:26:41 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142666.D Vial: 12
Acq On : 12 Oct 2016 20:21 Operator: TMB
Sample : L16100194-07 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 9:26 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration

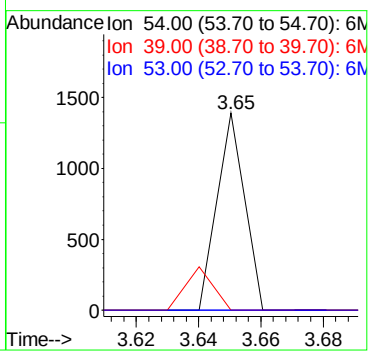


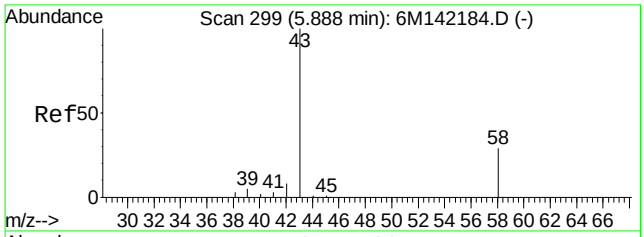


#5
1,3-Butadiene
Concen: Below Cal
RT: 3.65 min Scan# 80
Delta R.T. 0.07 min
Lab File: 6M142666.D
Acq: 12 Oct 2016 20:21

Tgt Ion: 54 Resp: 852

Ion	Ratio	Lower	Upper
54	100		
39	21.9	62.6	146.2#
53	0.0	42.5	99.1#

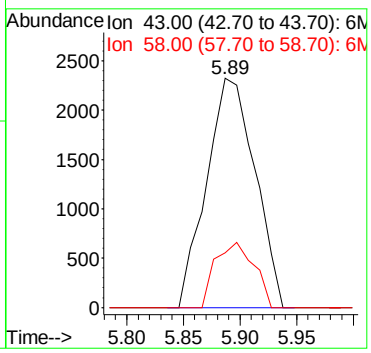




#13
Acetone
Concen: 2.82 ug/L
RT: 5.89 min Scan# 299
Delta R.T. -0.00 min
Lab File: 6M142666.D
Acq: 12 Oct 2016 20:21

Tgt Ion: 43 Resp: 6904

Ion	Ratio	Lower	Upper
43	100		
58	22.8	16.4	38.2



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142665.D Vial: 11
Acq On : 12 Oct 2016 19:49 Operator: TMB
Sample : L16100194-08 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 09:26:32 2016 Quant Results File: 8260WTR.RES

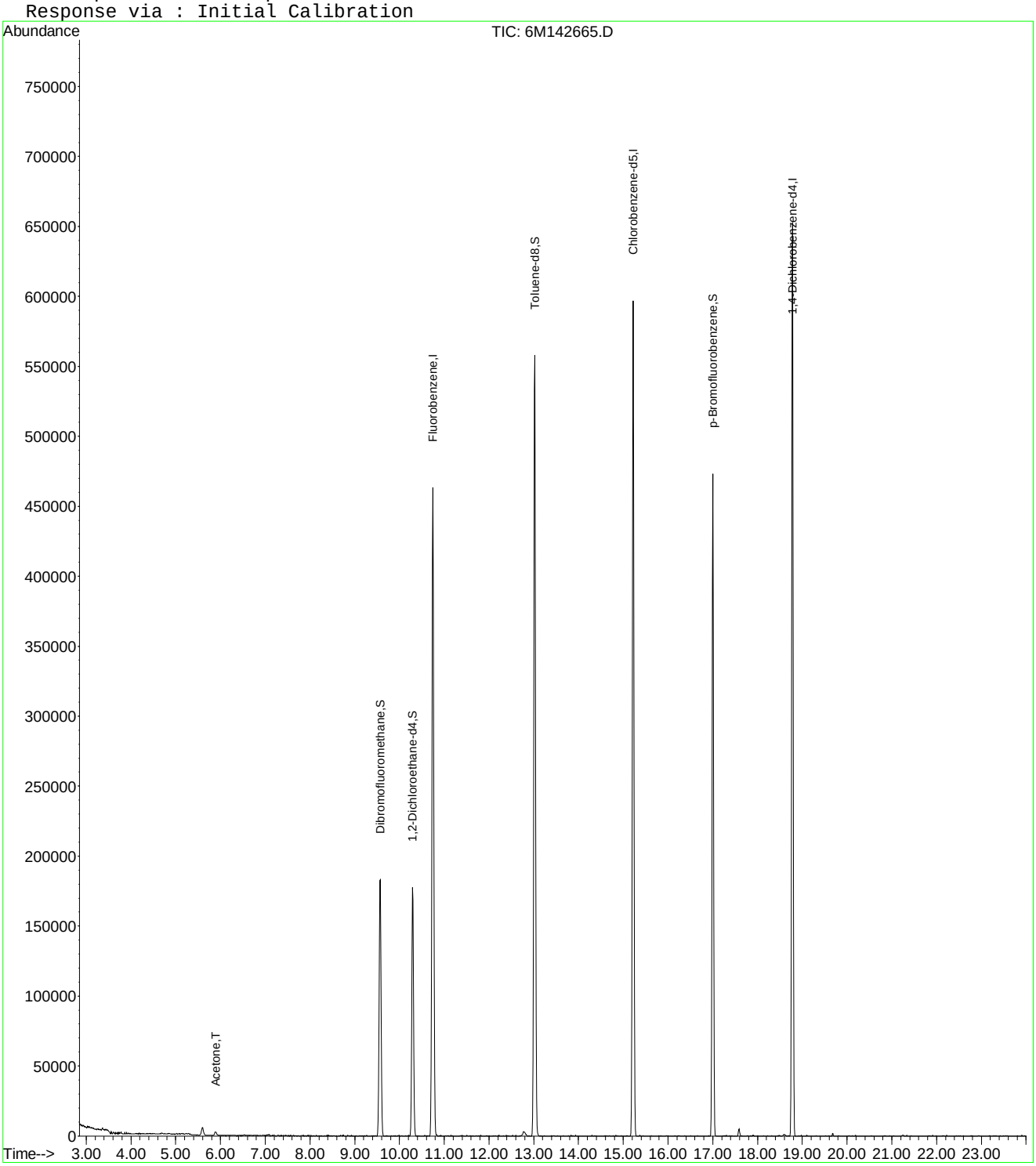
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

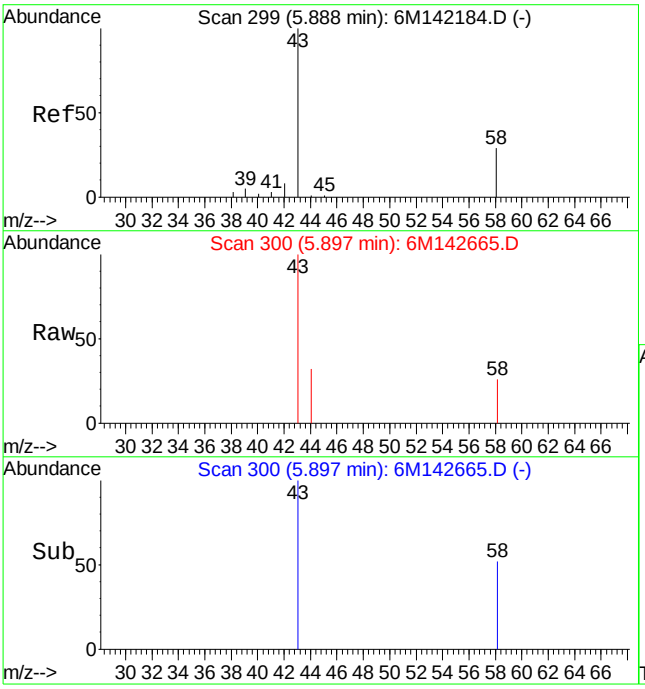
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.75	96	612095	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	475262	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	255337	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	173696	27.4558	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 109.84%			
43) 1,2-Dichloroethane-d4	10.29	65	165306	26.0511	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 104.20%			
58) Toluene-d8	13.02	98	545777	25.5318	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.12%			
80) p-Bromofluorobenzene	17.00	95	202471	24.0195	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 96.08%			
Target Compounds						Qvalue
13) Acetone	5.90	43	5976	2.0743	ug/L	85

(#) = qualifier out of range (m) = manual integration
6M142665.D 8260WTR.M Thu Oct 13 09:26:35 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142665.D Vial: 11
Acq On : 12 Oct 2016 19:49 Operator: TMB
Sample : L16100194-08 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 9:26 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration

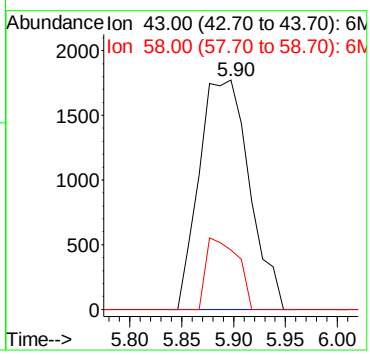




#13
Acetone
Concen: 2.07 ug/L
RT: 5.90 min Scan# 300
Delta R.T. 0.01 min
Lab File: 6M142665.D
Acq: 12 Oct 2016 19:49

Tgt Ion: 43 Resp: 5976

Ion	Ratio	Lower	Upper
43	100		
58	19.7	16.4	38.2



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142664.D Vial: 10
Acq On : 12 Oct 2016 19:17 Operator: TMB
Sample : L16100194-09 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 09:26:25 2016 Quant Results File: 8260WTR.RES

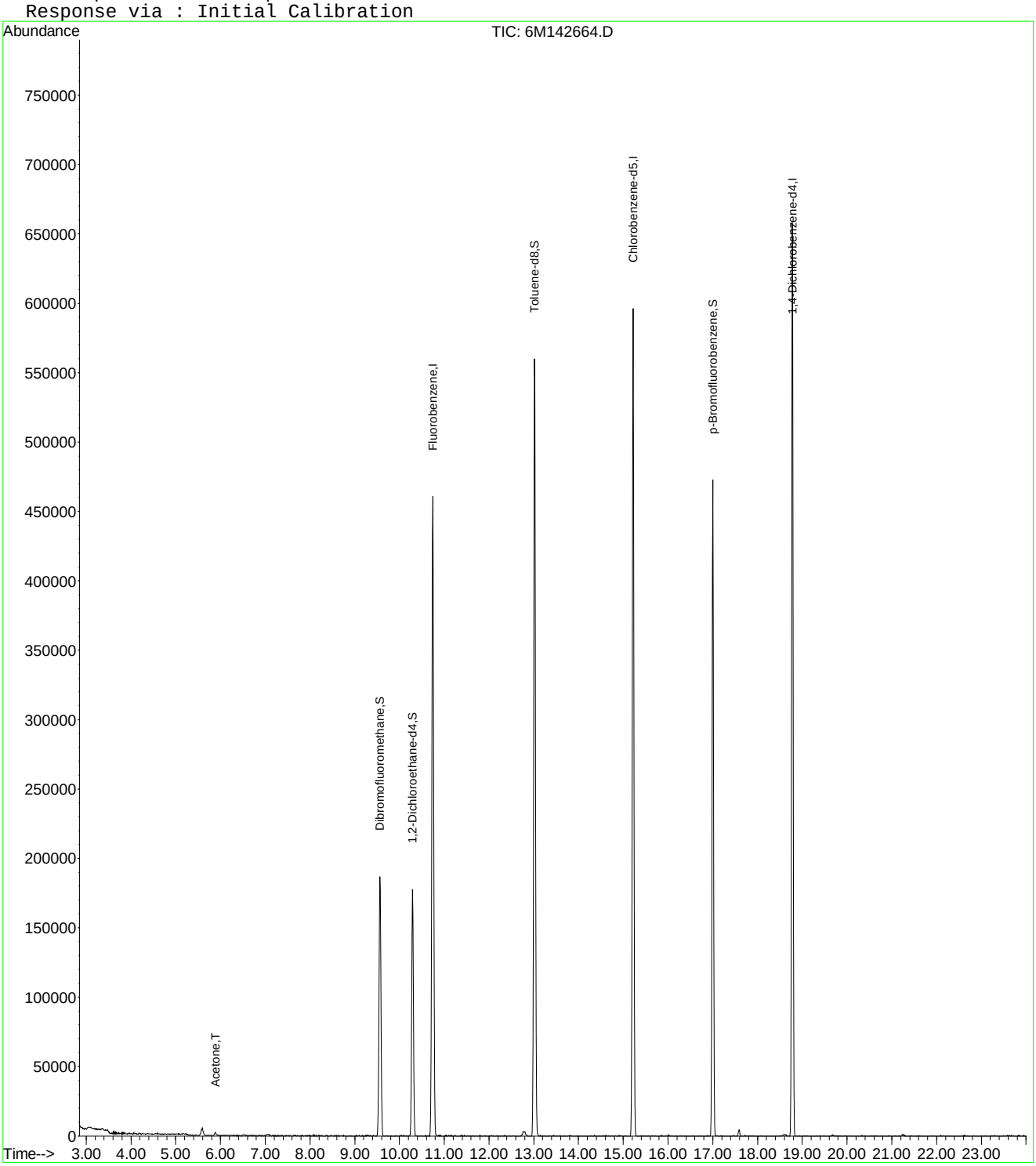
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

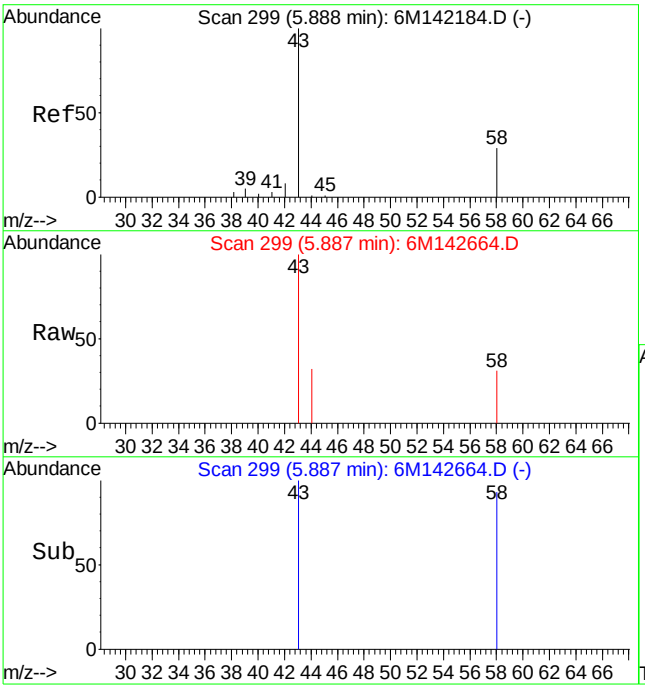
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.75	96	618096	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	478489	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	255717	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.56	111	173380	27.1398	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 108.56%			
43) 1,2-Dichloroethane-d4	10.29	65	163648	25.5394	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 102.16%			
58) Toluene-d8	13.01	98	553106	25.7002	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.80%			
80) p-Bromofluorobenzene	17.00	95	204620	24.2384	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 96.96%			
Target Compounds						Qvalue
13) Acetone	5.89	43	4208	0.7299	ug/L	81

(#) = qualifier out of range (m) = manual integration

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142664.D Vial: 10
Acq On : 12 Oct 2016 19:17 Operator: TMB
Sample : L16100194-09 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 9:26 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration

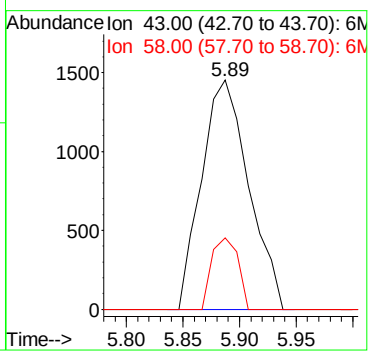




#13
Acetone
Concen: 0.73 ug/L
RT: 5.89 min Scan# 299
Delta R.T. -0.00 min
Lab File: 6M142664.D
Acq: 12 Oct 2016 19:17

Tgt Ion: 43 Resp: 4208

Ion	Ratio	Lower	Upper
43	100		
58	17.4	16.4	38.2



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142663.D Vial: 9
Acq On : 12 Oct 2016 18:45 Operator: TMB
Sample : L16100194-10 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 09:26:17 2016 Quant Results File: 8260WTR.RES

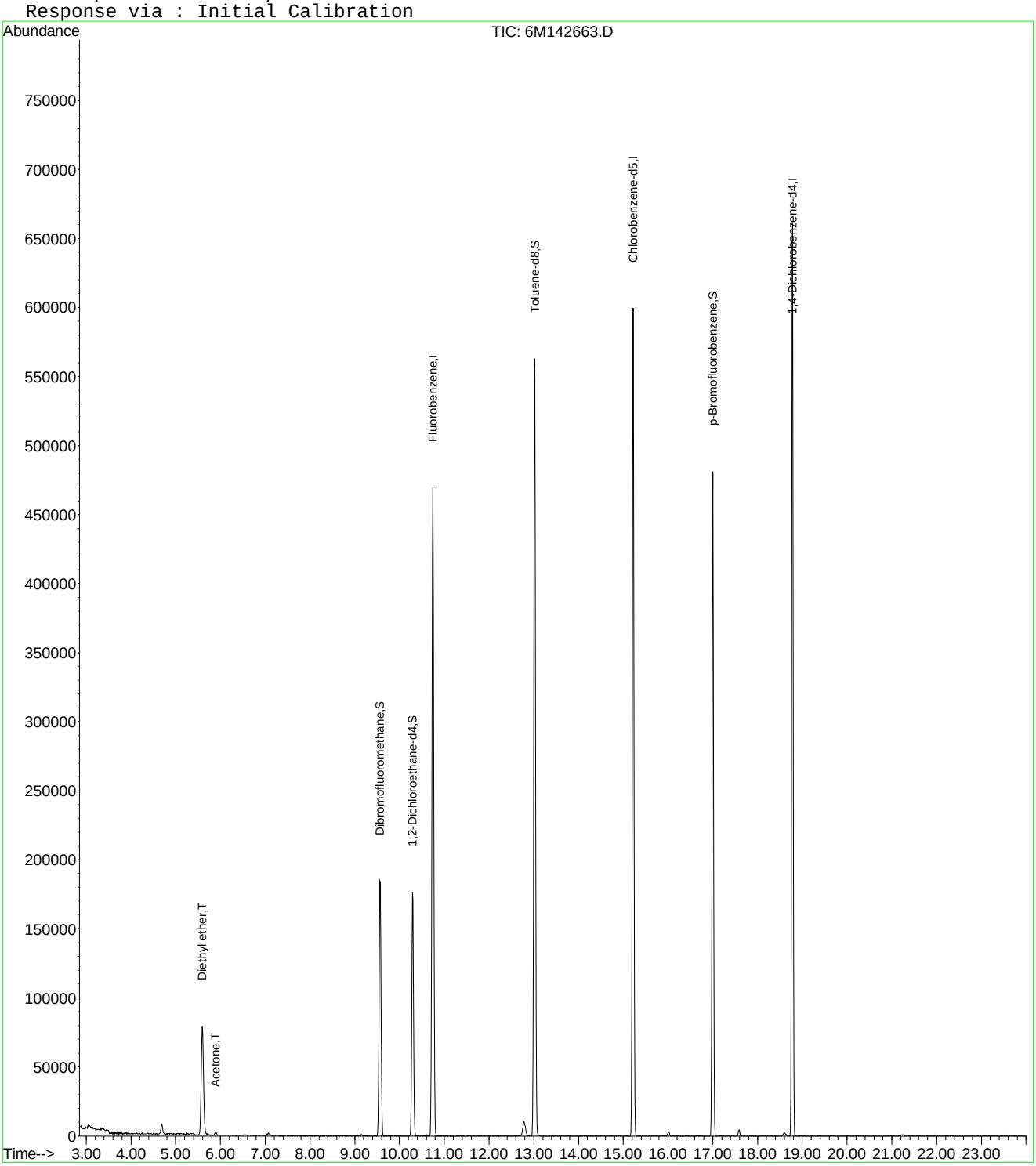
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

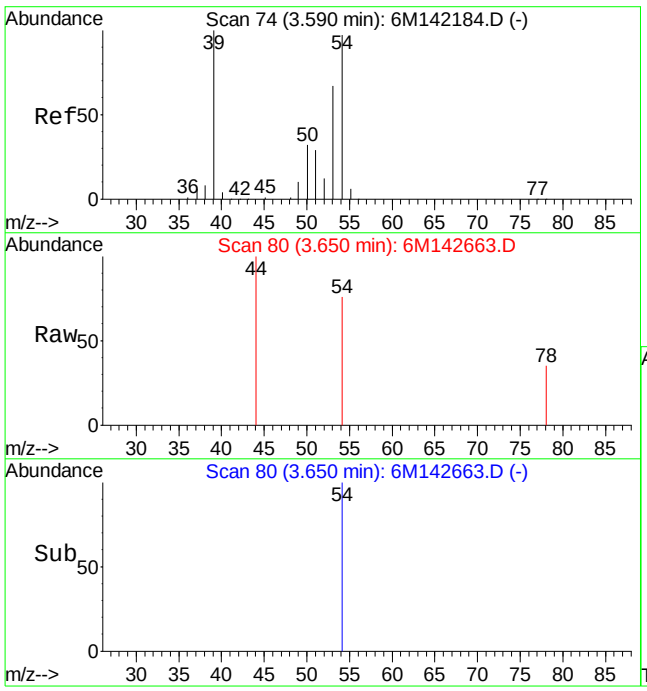
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.75	96	616875	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	481172	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	260116	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.56	111	174199	27.3219	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 109.28%			
43) 1,2-Dichloroethane-d4	10.29	65	163963	25.6392	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 102.56%			
58) Toluene-d8	13.02	98	556964	25.7351	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.96%			
80) p-Bromofluorobenzene	17.00	95	205858	23.9726	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.88%			
Target Compounds						Qvalue
5) 1,3-Butadiene	3.65	54	540	Below Cal	#	5
9) Diethyl ether	5.59	59	6140	1.2019	ug/L #	1
13) Acetone	5.89	43	5023	1.3371	ug/L	81

(#) = qualifier out of range (m) = manual integration
6M142663.D 8260WTR.M Thu Oct 13 09:26:21 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142663.D Vial: 9
Acq On : 12 Oct 2016 18:45 Operator: TMB
Sample : L16100194-10 A 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 9:26 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration

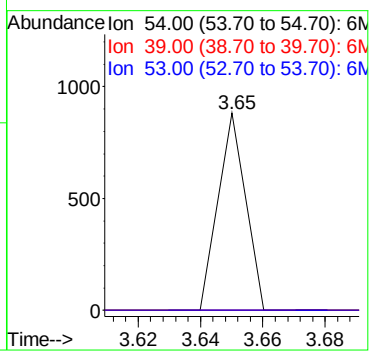


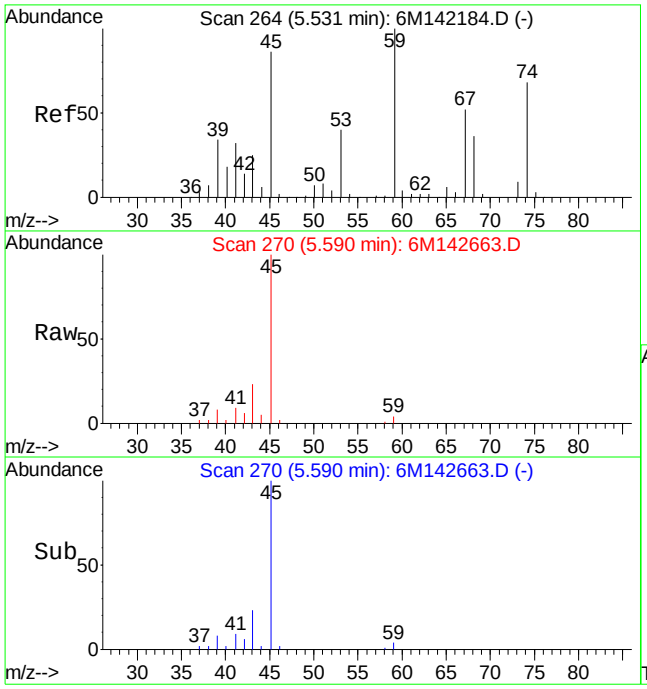


#5
1,3-Butadiene
Concen: Below Cal
RT: 3.65 min Scan# 80
Delta R.T. 0.07 min
Lab File: 6M142663.D
Acq: 12 Oct 2016 18:45

Tgt Ion: 54 Resp: 540

Ion	Ratio	Lower	Upper
54	100		
39	0.0	62.6	146.2#
53	0.0	42.5	99.1#

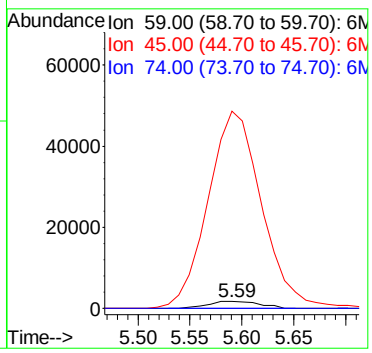


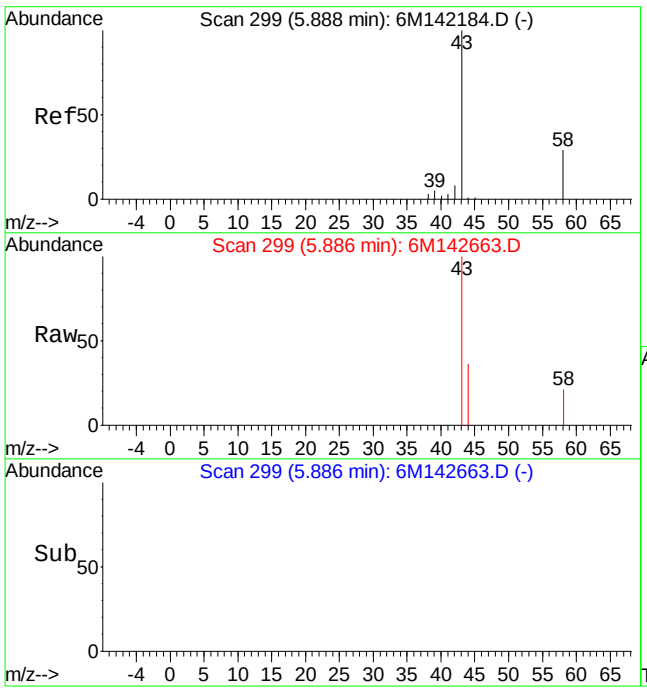


#9
Diethyl ether
Concen: 1.20 ug/L
RT: 5.59 min Scan# 270
Delta R.T. 0.06 min
Lab File: 6M142663.D
Acq: 12 Oct 2016 18:45

Tgt Ion: 59 Resp: 6140

Ion	Ratio	Lower	Upper
59	100		
45	2880.9	51.5	120.3#
74	0.0	38.5	89.7#

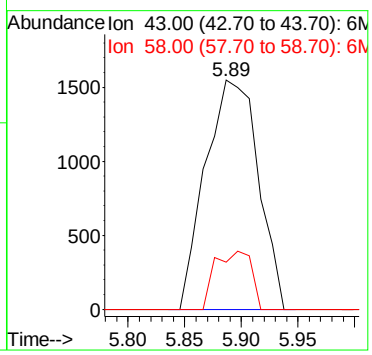




#13
Acetone
Concen: 1.34 ug/L
RT: 5.89 min Scan# 299
Delta R.T. -0.00 min
Lab File: 6M142663.D
Acq: 12 Oct 2016 18:45

Tgt Ion: 43 Resp: 5023

Ion	Ratio	Lower	Upper
43	100		
58	17.4	16.4	38.2



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142662.D Vial: 8
Acq On : 12 Oct 2016 18:13 Operator: TMB
Sample : L16100194-11 A TB 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 09:26:10 2016 Quant Results File: 8260WTR.RES

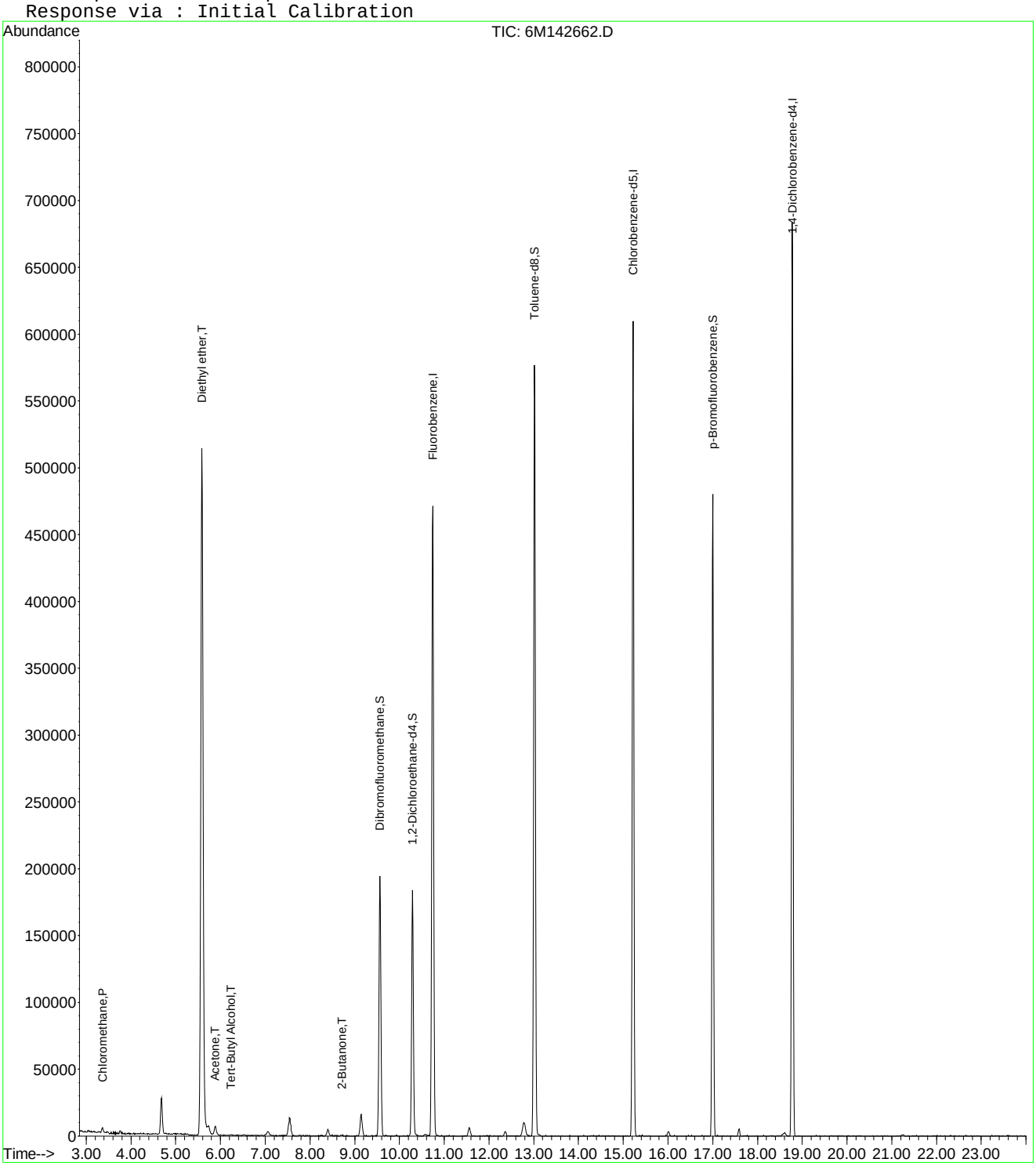
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

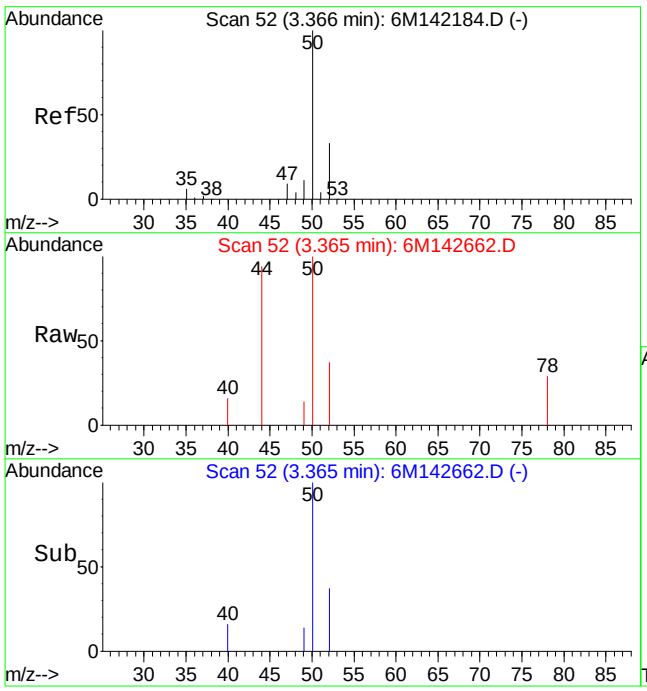
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.75	96	638554	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	491989	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	262934	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.56	111	177095	26.8332	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 107.32%			
43) 1,2-Dichloroethane-d4	10.29	65	167618	25.3209	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 101.28%			
58) Toluene-d8	13.02	98	568672	25.6984	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.80%			
80) p-Bromofluorobenzene	17.00	95	210706	24.2742	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.08%			
Target Compounds						Qvalue
3) Chloromethane	3.37	50	5959	0.4809	ug/L	97
9) Diethyl ether	5.58	59	42178	7.9760	ug/L #	1
13) Acetone	5.88	43	16291	9.2392	ug/L	92
15) Tert-Butyl Alcohol	6.23	59	1603	4.4585	ug/L #	57
29) 2-Butanone	8.72	43	1194	0.5085	ug/L #	57

(#) = qualifier out of range (m) = manual integration
6M142662.D 8260WTR.M Thu Oct 13 09:26:13 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142662.D Vial: 8
Acq On : 12 Oct 2016 18:13 Operator: TMB
Sample : L16100194-11 A TB 826-LOW Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 9:26 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration

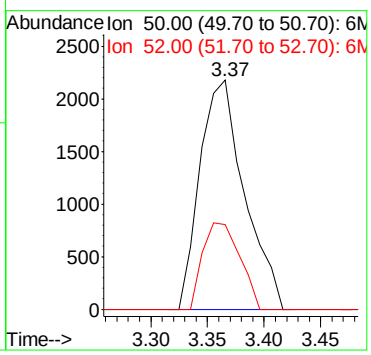


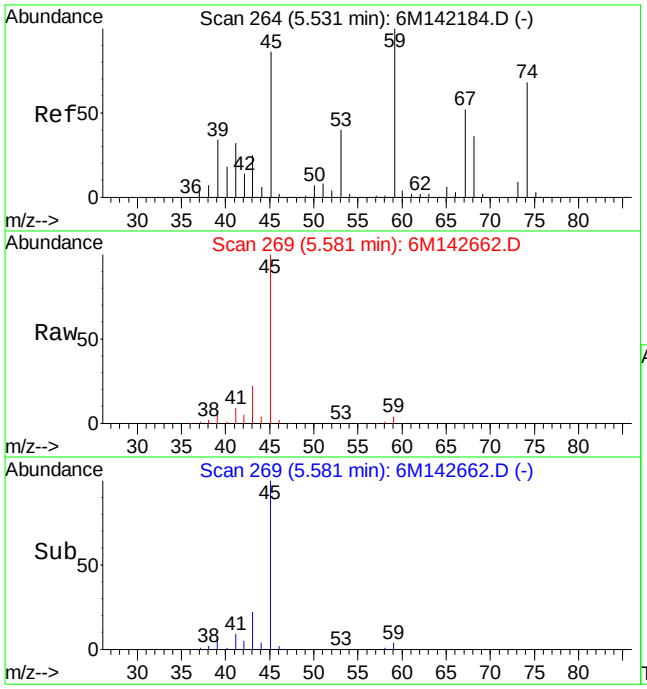


#3
Chloromethane
Concen: 0.48 ug/L
RT: 3.37 min Scan# 52
Delta R.T. 0.01 min
Lab File: 6M142662.D
Acq: 12 Oct 2016 18:13

Tgt Ion: 50 Resp: 5959

Ion	Ratio	Lower	Upper
50	100		
52	31.4	19.8	46.2

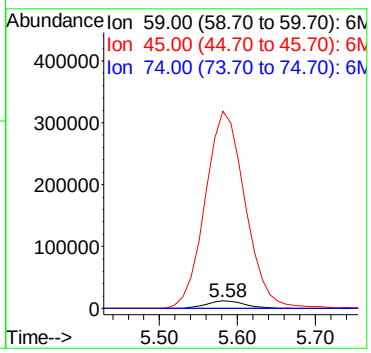


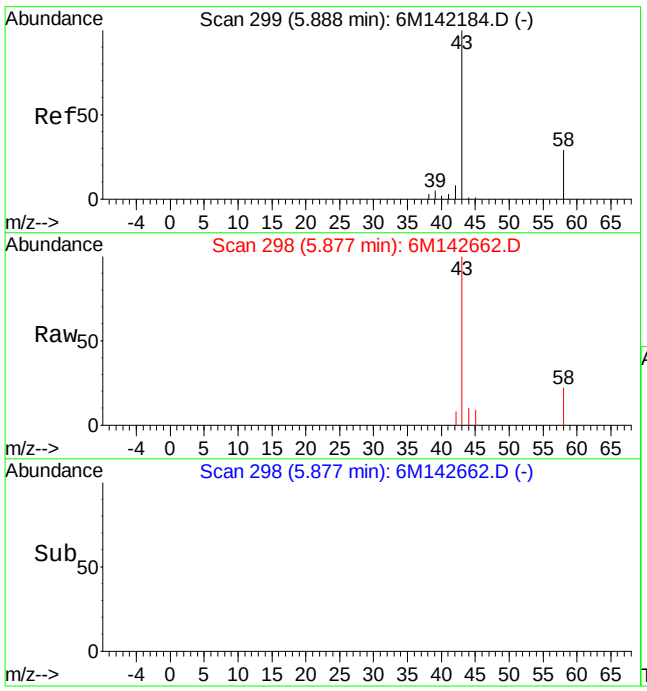


#9
Diethyl ether
Concen: 7.98 ug/L
RT: 5.58 min Scan# 269
Delta R.T. 0.05 min
Lab File: 6M142662.D
Acq: 12 Oct 2016 18:13

Tgt Ion: 59 Resp: 42178

Ion	Ratio	Lower	Upper
59	100		
45	2723.1	51.5	120.3#
74	0.0	38.5	89.7#

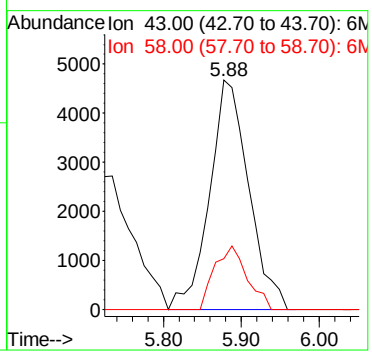


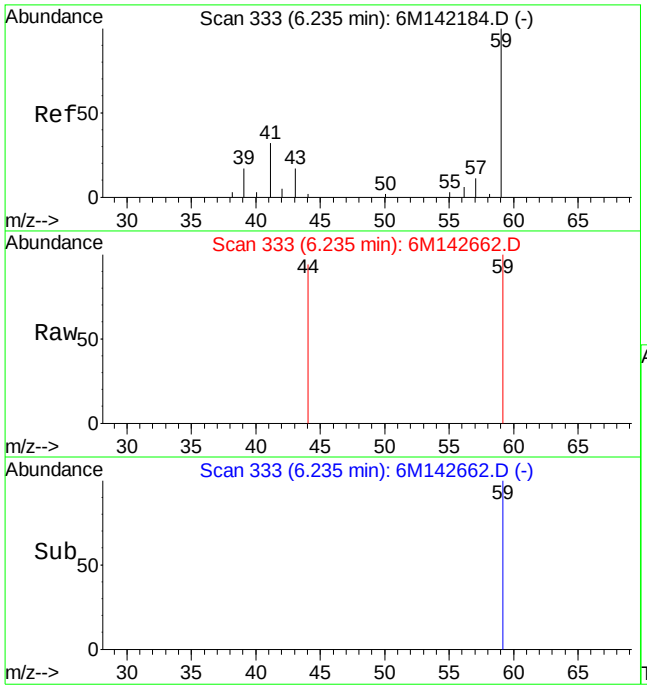


#13
Acetone
Concen: 9.24 ug/L
RT: 5.88 min Scan# 298
Delta R.T. -0.01 min
Lab File: 6M142662.D
Acq: 12 Oct 2016 18:13

Tgt Ion: 43 Resp: 16291

Ion	Ratio	Lower	Upper
43	100		
58	22.9	16.4	38.2

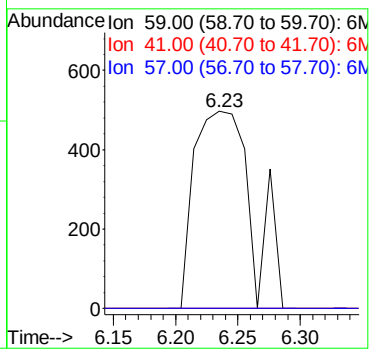


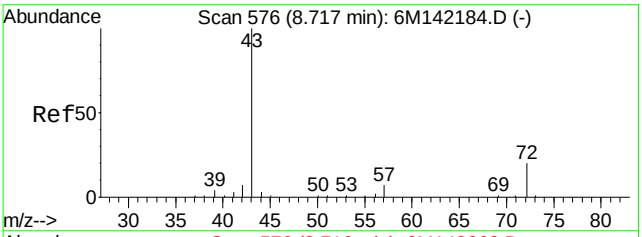


#15
Tert-Butyl Alcohol
Concen: 4.46 ug/L
RT: 6.23 min Scan# 333
Delta R.T. -0.02 min
Lab File: 6M142662.D
Acq: 12 Oct 2016 18:13

Tgt Ion: 59 Resp: 1603

Ion	Ratio	Lower	Upper
59	100		
41	0.0	14.6	34.0#
57	0.0	6.4	14.8#

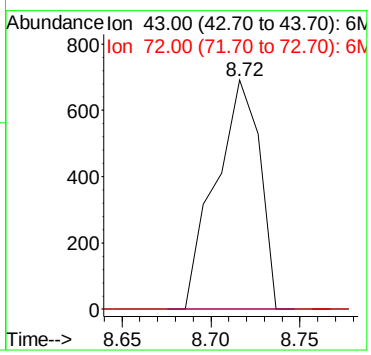




#29
2-Butanone
Concen: 0.51 ug/L
RT: 8.72 min Scan# 576
Delta R.T. -0.00 min
Lab File: 6M142662.D
Acq: 12 Oct 2016 18:13

Tgt Ion: 43 Resp: 1194

Ion	Ratio	Lower	Upper
43	100		
72	0.0	11.9	27.9#



2.1.1.4 Standards Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D Vial: 2
Acq On : 15 Aug 2016 15:17 Operator: JDS
Sample : WG580279-02 5ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:31 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Thu Jul 21 09:27:59 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

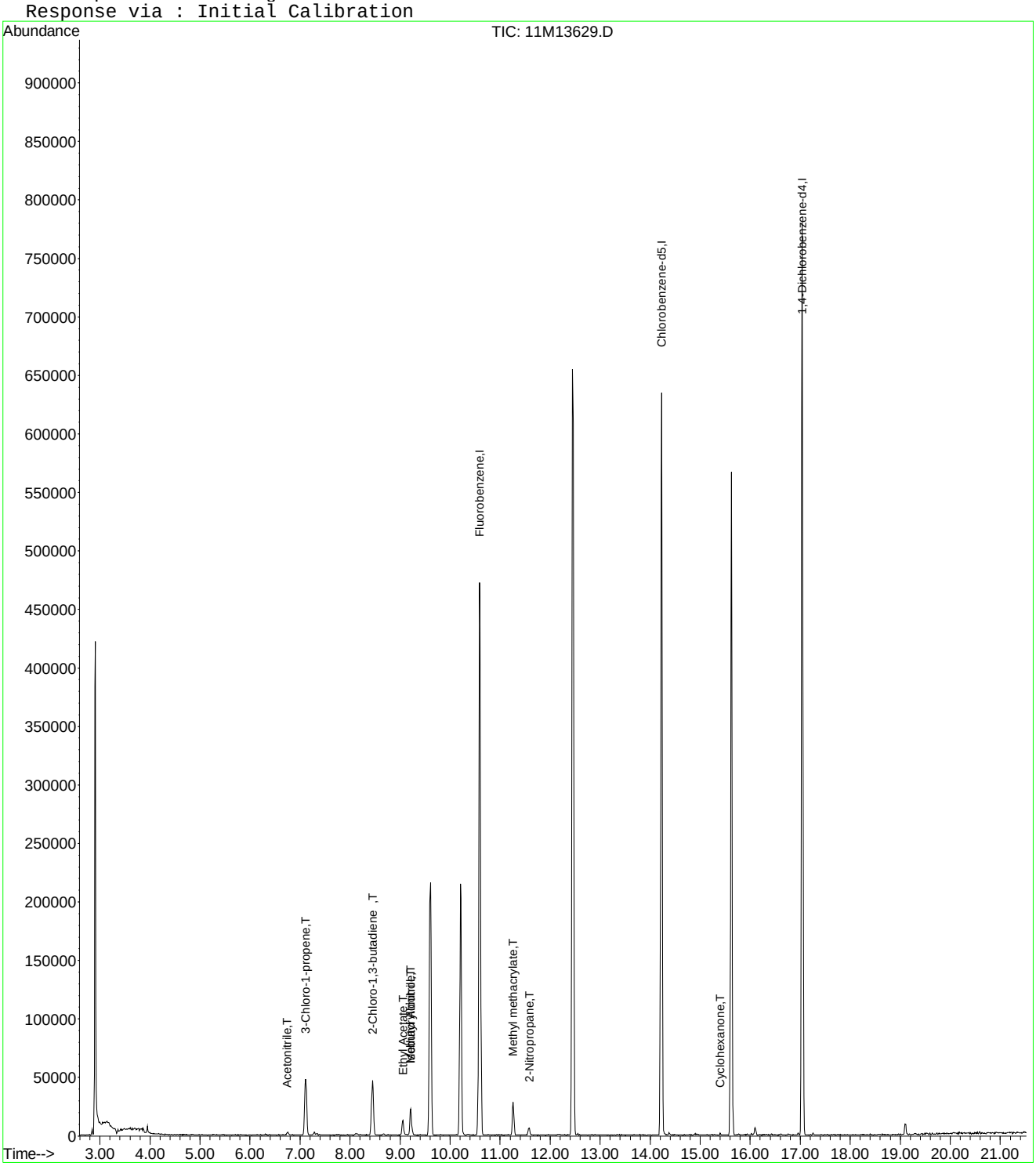
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	549582	25.00	ug/L		-0.02
12) Chlorobenzene-d5	14.23	117	468851	25.00	ug/L		-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	272643	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	2526	5.1600	ug/L		83
3) 3-Chloro-1-propene	7.11	41	50299	4.8501	ug/L		93
4) 2-Chloro-1,3-butadiene	8.45	53	49466	4.6039	ug/L		99
5) Methacrylonitrile	9.21	41	17182	5.6819	ug/L		93
6) Isobutyl Alcohol	9.21	43	1768	11.0361	ug/L		73
8) Cyclohexanone	15.40	55	717	7.3303	ug/L	#	60
9) 2-Nitropropane	11.58	43	5543	4.2855	ug/L		86
10) Ethyl Acetate	9.06	43	22100	5.6341	ug/L	#	94
11) Methyl methacrylate	11.26	41	19419	5.3684	ug/L		89

(#) = qualifier out of range (m) = manual integration
11M13629.D A9FOOWT.M Tue Aug 16 08:48:31 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D Vial: 2
Acq On : 15 Aug 2016 15:17 Operator: JDS
Sample : WG580279-02 5ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D Vial: 2
Acq On : 15 Aug 2016 15:17 Operator: JDS
Sample : WG580279-02 5ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:12 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

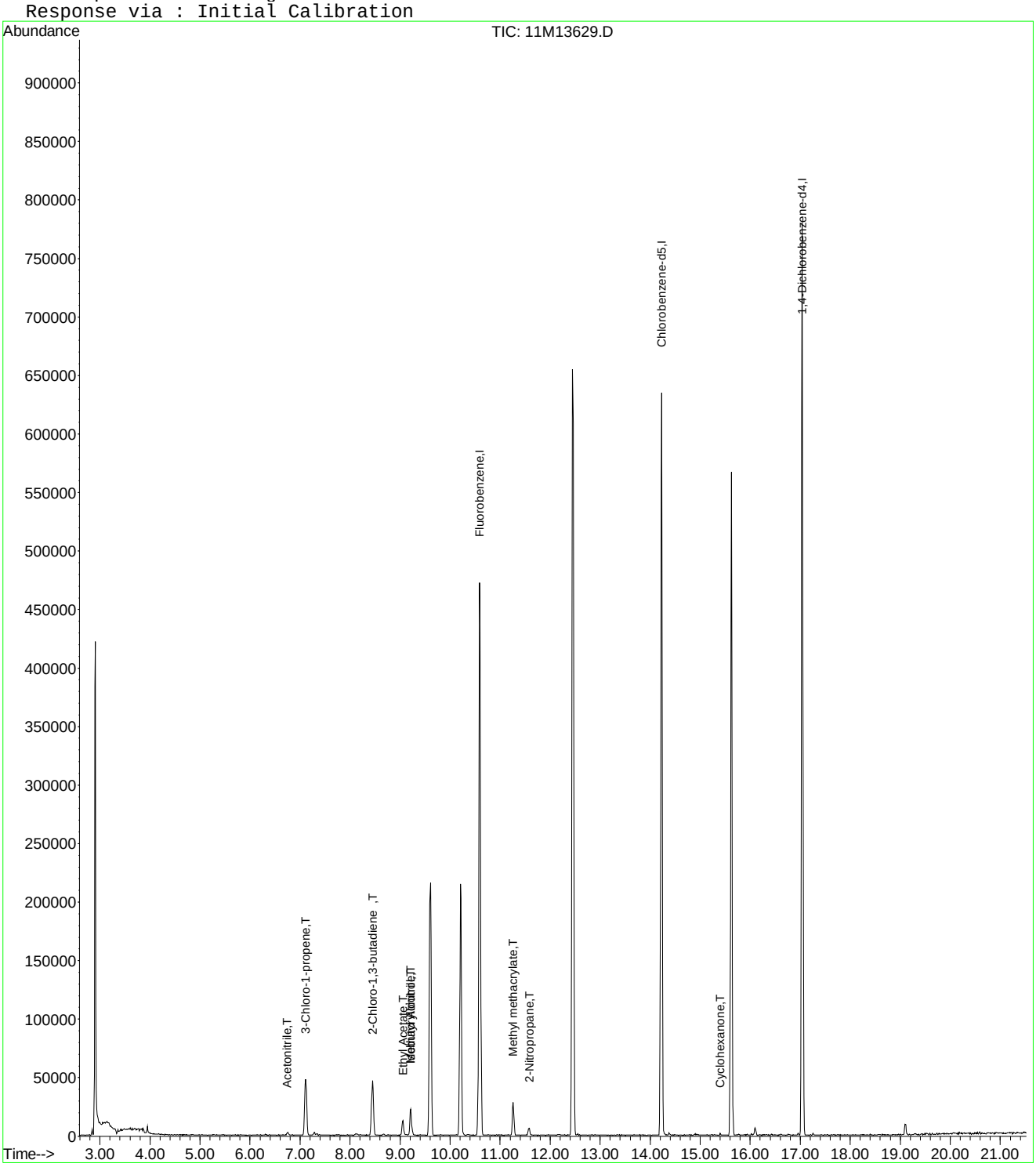
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	549582	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.23	117	468851	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	272643	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	2526	3.8896	ug/L		83
3) 3-Chloro-1-propene	7.11	41	50299	4.7813	ug/L		99
4) 2-Chloro-1,3-butadiene	8.45	53	49466	4.6042	ug/L		96
5) Methacrylonitrile	9.21	41	17182	4.4063	ug/L		100
6) Isobutyl Alcohol	9.21	43	1768	7.3489	ug/L		78
8) Cyclohexanone	15.40	55	717	1.8852	ug/L	#	66
9) 2-Nitropropane	11.58	43	5543	2.9247	ug/L		85
10) Ethyl Acetate	9.06	43	22100	4.1473	ug/L		97
11) Methyl methacrylate	11.26	41	19419	4.0017	ug/L		97

(#) = qualifier out of range (m) = manual integration
11M13629.D A9FOOWT.M Tue Aug 16 08:59:13 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D Vial: 2
Acq On : 15 Aug 2016 15:17 Operator: JDS
Sample : WG580279-02 5ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D Vial: 2
Acq On : 15 Aug 2016 15:17 Operator: JDS
Sample : WG580279-02 5ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:19 2016 Quant Results File: A9FOOWT.RES

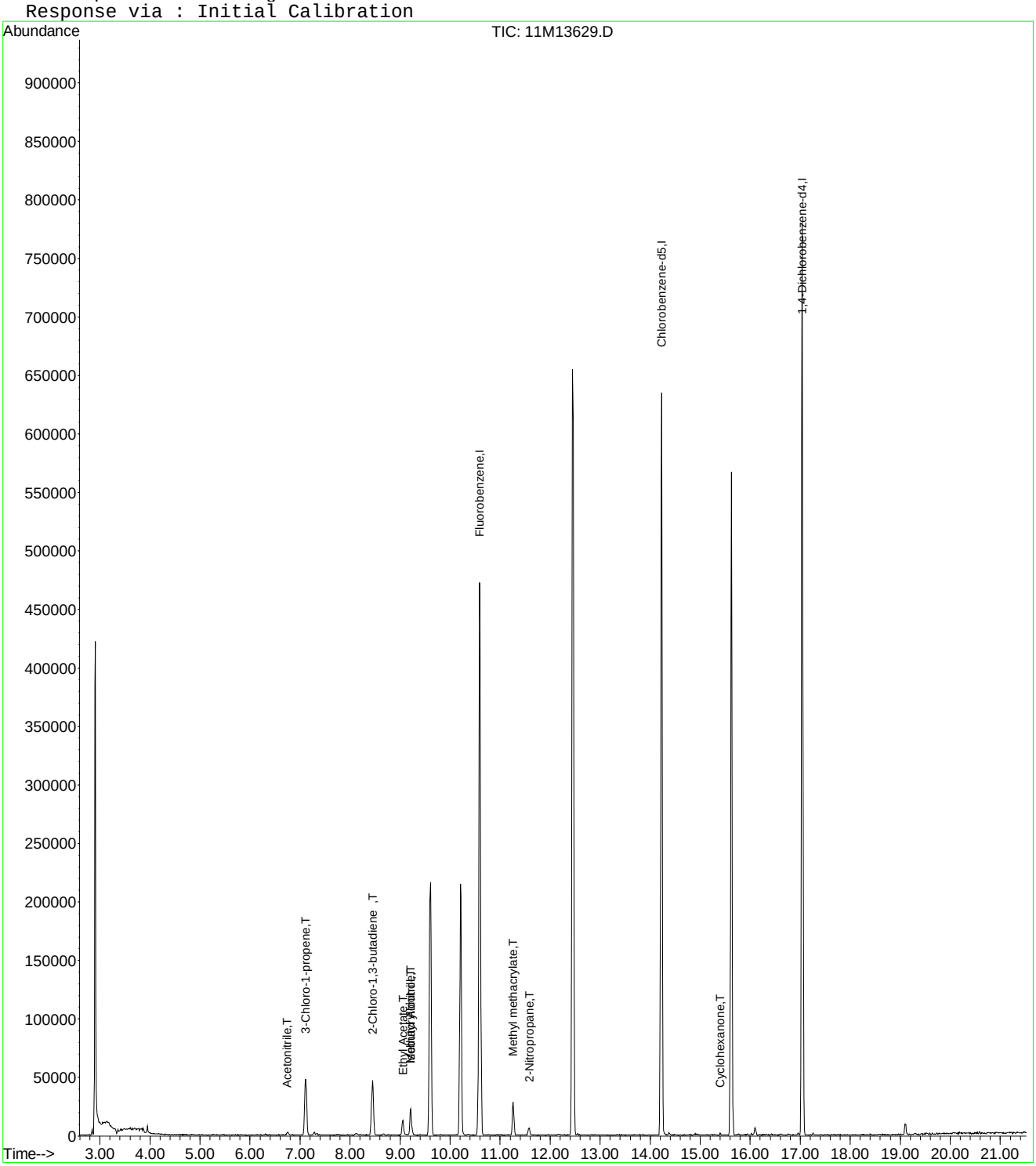
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	549582	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.23	117	468851	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	272643	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	2526	3.8896	ug/L		83
3) 3-Chloro-1-propene	7.11	41	50299	4.7813	ug/L		99
4) 2-Chloro-1,3-butadiene	8.45	53	49466	4.6042	ug/L		96
5) Methacrylonitrile	9.21	41	17182	4.4063	ug/L		100
6) Isobutyl Alcohol	9.21	43	1768	7.3489	ug/L		78
8) Cyclohexanone	15.40	55	717	1.8852	ug/L	#	66
9) 2-Nitropropane	11.58	43	5543	2.9247	ug/L		85
10) Ethyl Acetate	9.06	43	22100	4.1473	ug/L		97
11) Methyl methacrylate	11.26	41	19419	4.0017	ug/L		97

(#) = qualifier out of range (m) = manual integration
11M13629.D A9FOOWT.M Tue Aug 16 09:05:20 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D Vial: 2
Acq On : 15 Aug 2016 15:17 Operator: JDS
Sample : WG580279-02 5ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D Vial: 3
Acq On : 15 Aug 2016 15:46 Operator: JDS
Sample : WG580279-03 20ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:33 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

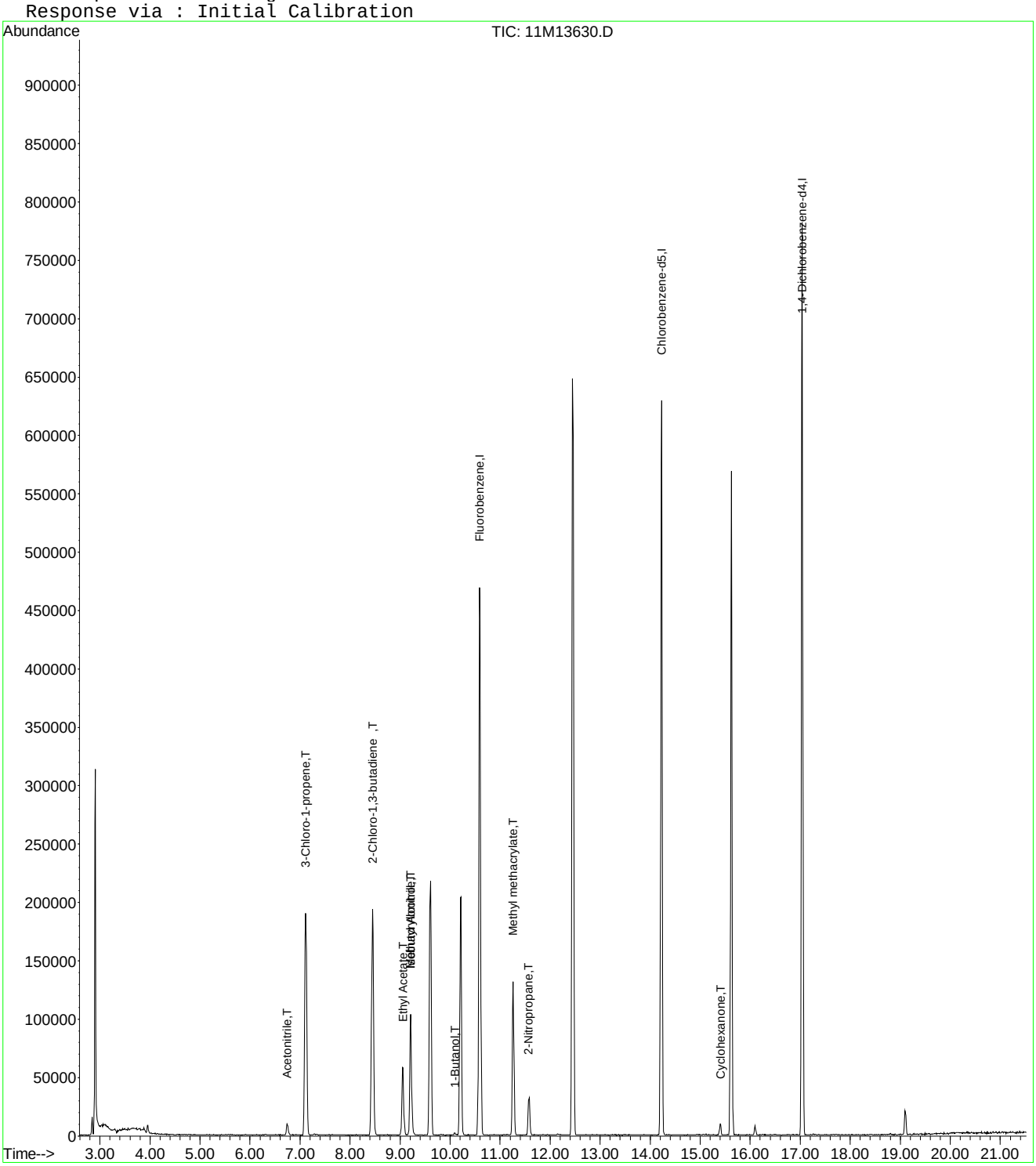
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	551890	25.00	ug/L		-0.02
12) Chlorobenzene-d5	14.23	117	465436	25.00	ug/L		-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	274738	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	12517	25.4621	ug/L		92
3) 3-Chloro-1-propene	7.11	41	200905	19.2915	ug/L		93
4) 2-Chloro-1,3-butadiene	8.45	53	194207	17.9997	ug/L		94
5) Methacrylonitrile	9.21	41	72509	23.8778	ug/L		92
6) Isobutyl Alcohol	9.21	43	7908	49.1562	ug/L		96
7) 1-Butanol	10.10	56	1209	16.1143	ug/L	#	69
8) Cyclohexanone	15.41	55	5806	59.1102	ug/L	#	80
9) 2-Nitropropane	11.57	43	30103	23.1762	ug/L		99
10) Ethyl Acetate	9.06	43	99065	25.1496	ug/L		99
11) Methyl methacrylate	11.26	41	86765	23.8858	ug/L		90

(#) = qualifier out of range (m) = manual integration
11M13630.D A9FOOWT.M Tue Aug 16 08:48:34 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D Vial: 3
Acq On : 15 Aug 2016 15:46 Operator: JDS
Sample : WG580279-03 20ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D Vial: 3
Acq On : 15 Aug 2016 15:46 Operator: JDS
Sample : WG580279-03 20ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:15 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

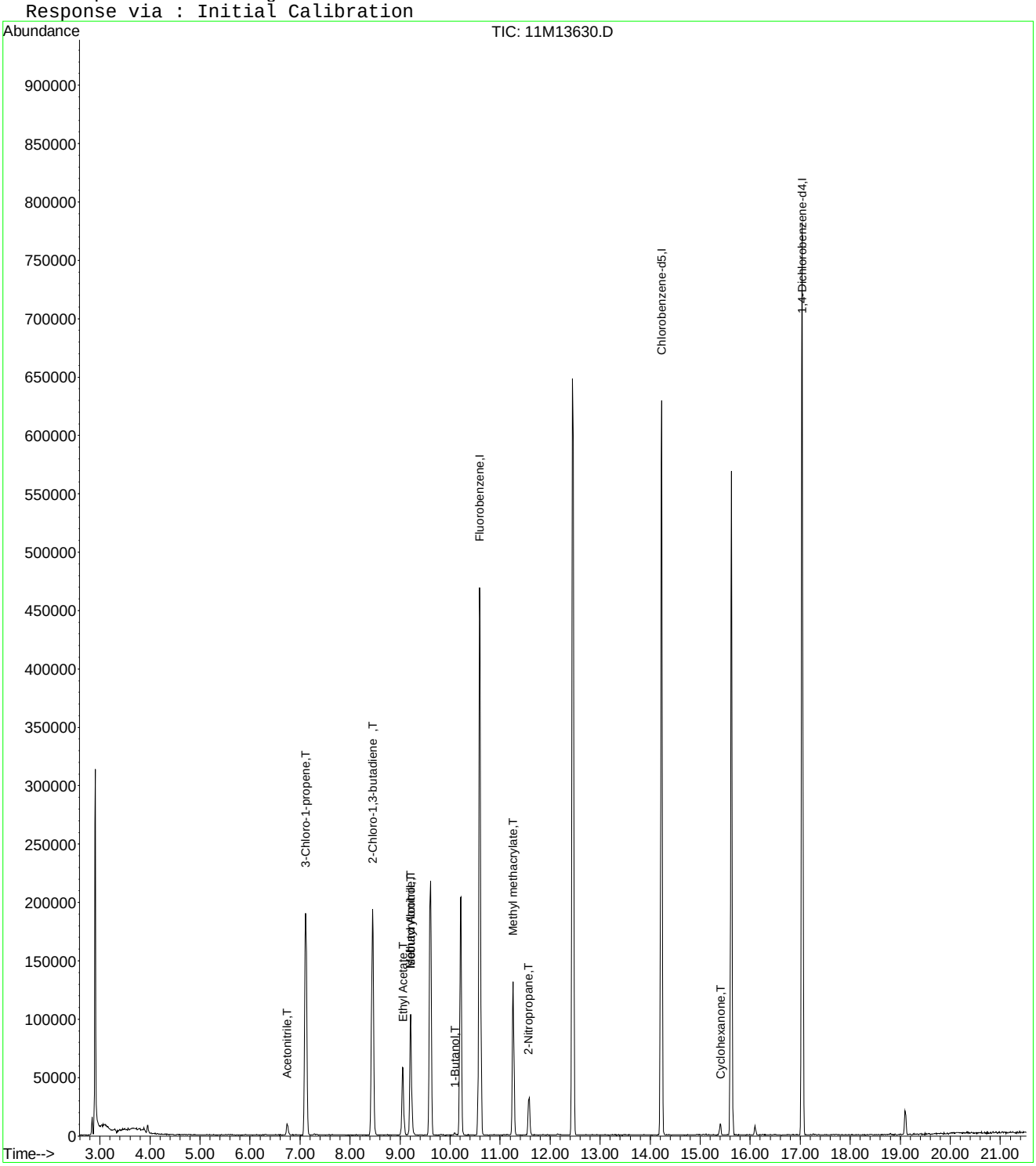
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	551890	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.23	117	465436	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	274738	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	12517	19.1932	ug/L		92
3) 3-Chloro-1-propene	7.11	41	200905	19.0176	ug/L		98
4) 2-Chloro-1,3-butadiene	8.45	53	194207	18.0008	ug/L		98
5) Methacrylonitrile	9.21	41	72509	18.5172	ug/L		99
6) Isobutyl Alcohol	9.21	43	7908	32.7331	ug/L		90
7) 1-Butanol	10.10	56	1209	9.1419	ug/L	#	53
8) Cyclohexanone	15.41	55	5806	15.2018	ug/L		92
9) 2-Nitropropane	11.57	43	30103	15.8172	ug/L		98
10) Ethyl Acetate	9.06	43	99065	18.5130	ug/L		99
11) Methyl methacrylate	11.26	41	86765	17.8050	ug/L		99

(#) = qualifier out of range (m) = manual integration
11M13630.D A9FOOWT.M Tue Aug 16 08:59:16 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D Vial: 3
Acq On : 15 Aug 2016 15:46 Operator: JDS
Sample : WG580279-03 20ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D Vial: 3
Acq On : 15 Aug 2016 15:46 Operator: JDS
Sample : WG580279-03 20ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:22 2016 Quant Results File: A9FOOWT.RES

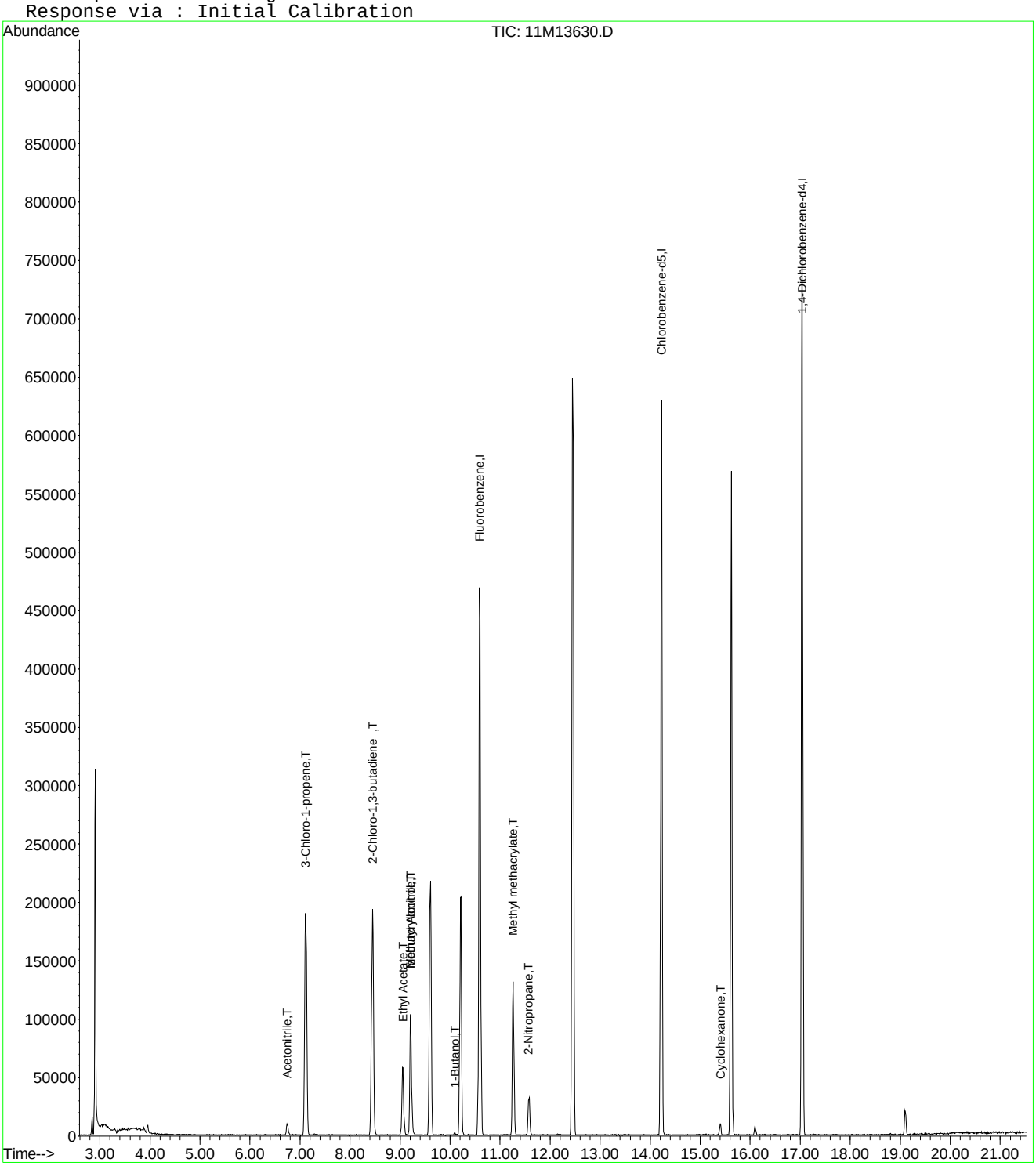
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	551890	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.23	117	465436	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	274738	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	12517	19.1932	ug/L		92
3) 3-Chloro-1-propene	7.11	41	200905	19.0176	ug/L		98
4) 2-Chloro-1,3-butadiene	8.45	53	194207	18.0008	ug/L		98
5) Methacrylonitrile	9.21	41	72509	18.5172	ug/L		99
6) Isobutyl Alcohol	9.21	43	7908	32.7331	ug/L		90
7) 1-Butanol	10.10	56	1209	9.1419	ug/L	#	53
8) Cyclohexanone	15.41	55	5806	15.2018	ug/L		92
9) 2-Nitropropane	11.57	43	30103	15.8172	ug/L		98
10) Ethyl Acetate	9.06	43	99065	18.5130	ug/L		99
11) Methyl methacrylate	11.26	41	86765	17.8050	ug/L		99

(#) = qualifier out of range (m) = manual integration
11M13630.D A9FOOWT.M Tue Aug 16 09:05:23 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D Vial: 3
Acq On : 15 Aug 2016 15:46 Operator: JDS
Sample : WG580279-03 20ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D Vial: 4
Acq On : 15 Aug 2016 16:16 Operator: JDS
Sample : WG580279-04 50ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:36 2016 Quant Results File: A9FOOWT.RES

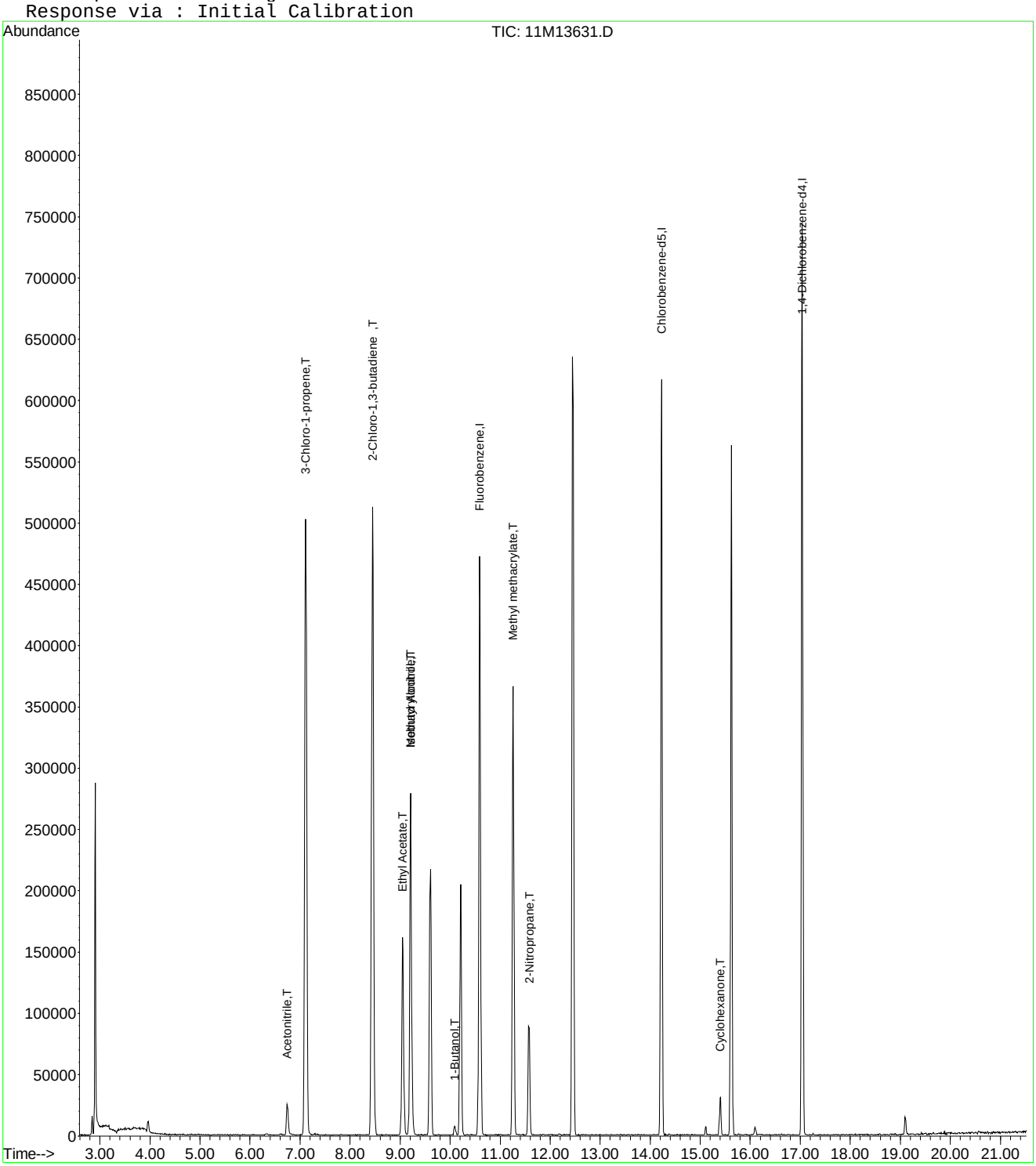
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551775	25.00	ug/L	-0.02
12) Chlorobenzene-d5	14.23	117	455520	25.00	ug/L	-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	260750	25.00	ug/L	-0.02
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	33841	68.8537	ug/L	99
3) 3-Chloro-1-propene	7.11	41	528428	50.7518	ug/L	96
4) 2-Chloro-1,3-butadiene	8.45	53	525312	48.6978	ug/L	96
5) Methacrylonitrile	9.21	41	199367	65.6668	ug/L	93
6) Isobutyl Alcohol	9.21	43	24706	153.6047	ug/L	90
7) 1-Butanol	10.09	56	5861	78.1353	ug/L	91
8) Cyclohexanone	15.40	55	18904	192.4994	ug/L	92
9) 2-Nitropropane	11.58	43	84236	64.8665	ug/L	99
10) Ethyl Acetate	9.05	43	269000	68.3052	ug/L	97
11) Methyl methacrylate	11.26	41	244240	67.2515	ug/L	91

(#) = qualifier out of range (m) = manual integration
11M13631.D A9FOOWT.M Tue Aug 16 08:48:36 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D Vial: 4
Acq On : 15 Aug 2016 16:16 Operator: JDS
Sample : WG580279-04 50ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D Vial: 4
Acq On : 15 Aug 2016 16:16 Operator: JDS
Sample : WG580279-04 50ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:18 2016 Quant Results File: A9FOOWT.RES

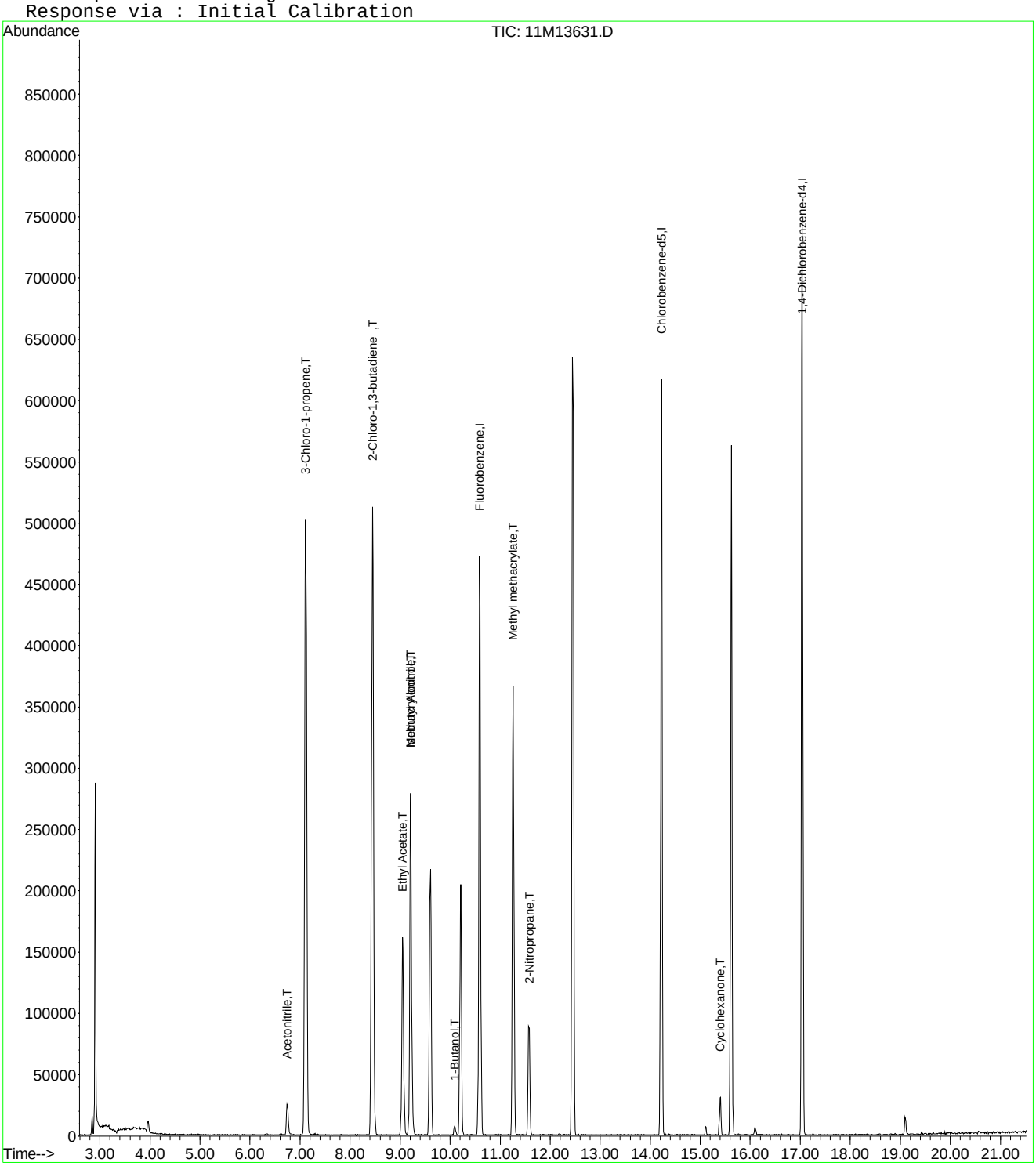
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551775	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	455520	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	260750	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	33841	51.9017	ug/L	98
3) 3-Chloro-1-propene	7.11	41	528428	50.0313	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	525312	48.7008	ug/L	100
5) Methacrylonitrile	9.21	41	199367	50.9245	ug/L	99
6) Isobutyl Alcohol	9.21	43	24706	102.2853	ug/L	95
7) 1-Butanol	10.09	56	5861	44.3274	ug/L	96
8) Cyclohexanone	15.40	55	18904	49.5064	ug/L	97
9) 2-Nitropropane	11.58	43	84236	44.2698	ug/L	99
10) Ethyl Acetate	9.05	43	269000	50.2803	ug/L	100
11) Methyl methacrylate	11.26	41	244240	50.1308	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13631.D A9FOOWT.M Tue Aug 16 08:59:19 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D Vial: 4
Acq On : 15 Aug 2016 16:16 Operator: JDS
Sample : WG580279-04 50ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D Vial: 4
Acq On : 15 Aug 2016 16:16 Operator: JDS
Sample : WG580279-04 50ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:25 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

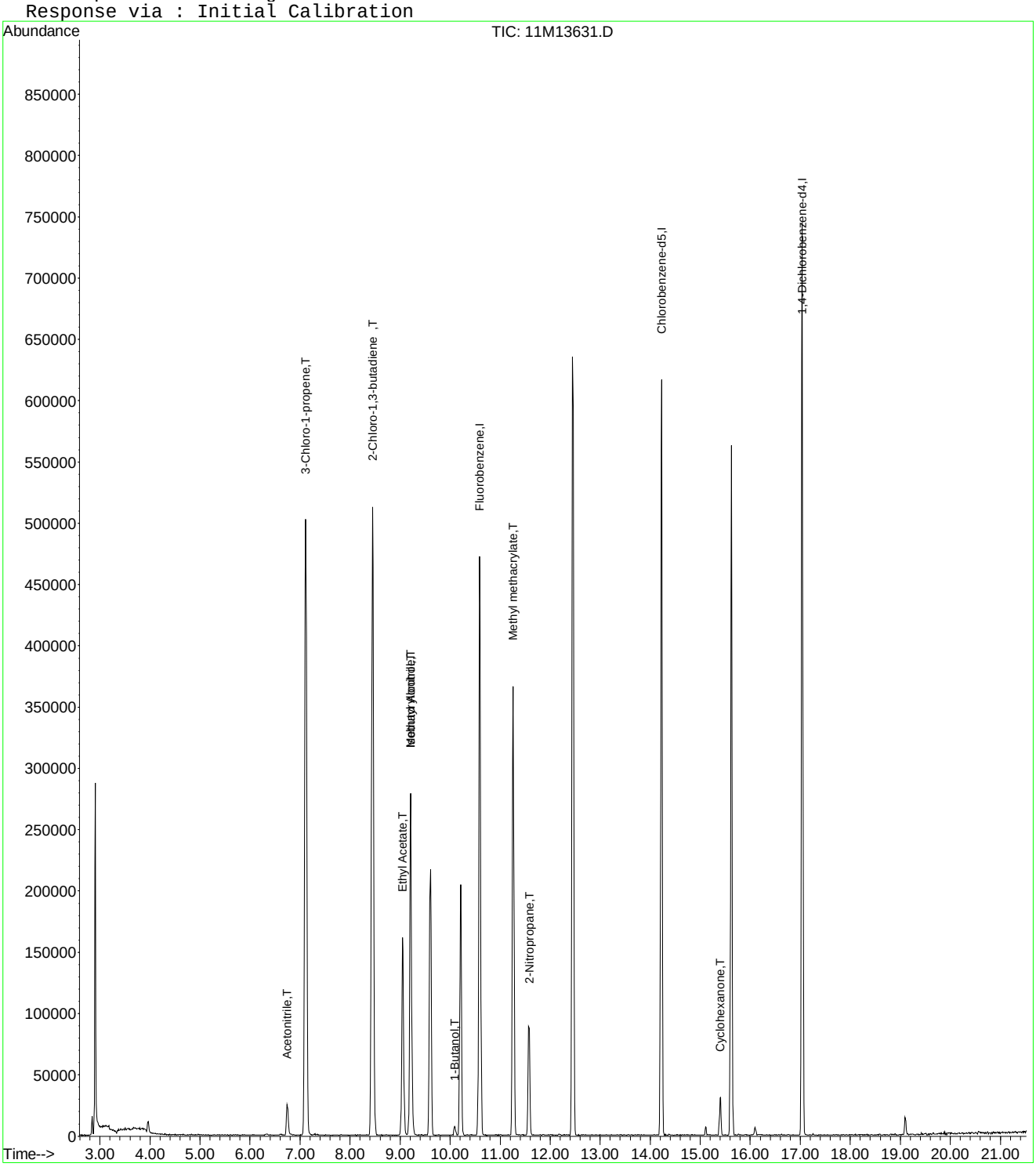
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551775	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	455520	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	260750	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	33841	51.9017	ug/L	98
3) 3-Chloro-1-propene	7.11	41	528428	50.0313	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	525312	48.7008	ug/L	100
5) Methacrylonitrile	9.21	41	199367	50.9245	ug/L	99
6) Isobutyl Alcohol	9.21	43	24706	102.2853	ug/L	95
7) 1-Butanol	10.09	56	5861	44.3274	ug/L	96
8) Cyclohexanone	15.40	55	18904	49.5064	ug/L	97
9) 2-Nitropropane	11.58	43	84236	44.2698	ug/L	99
10) Ethyl Acetate	9.05	43	269000	50.2803	ug/L	100
11) Methyl methacrylate	11.26	41	244240	50.1308	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13631.D A9FOOWT.M Tue Aug 16 09:05:26 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D Vial: 4
Acq On : 15 Aug 2016 16:16 Operator: JDS
Sample : WG580279-04 50ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D Vial: 5
Acq On : 15 Aug 2016 16:45 Operator: JDS
Sample : WG580279-05 100ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:37 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

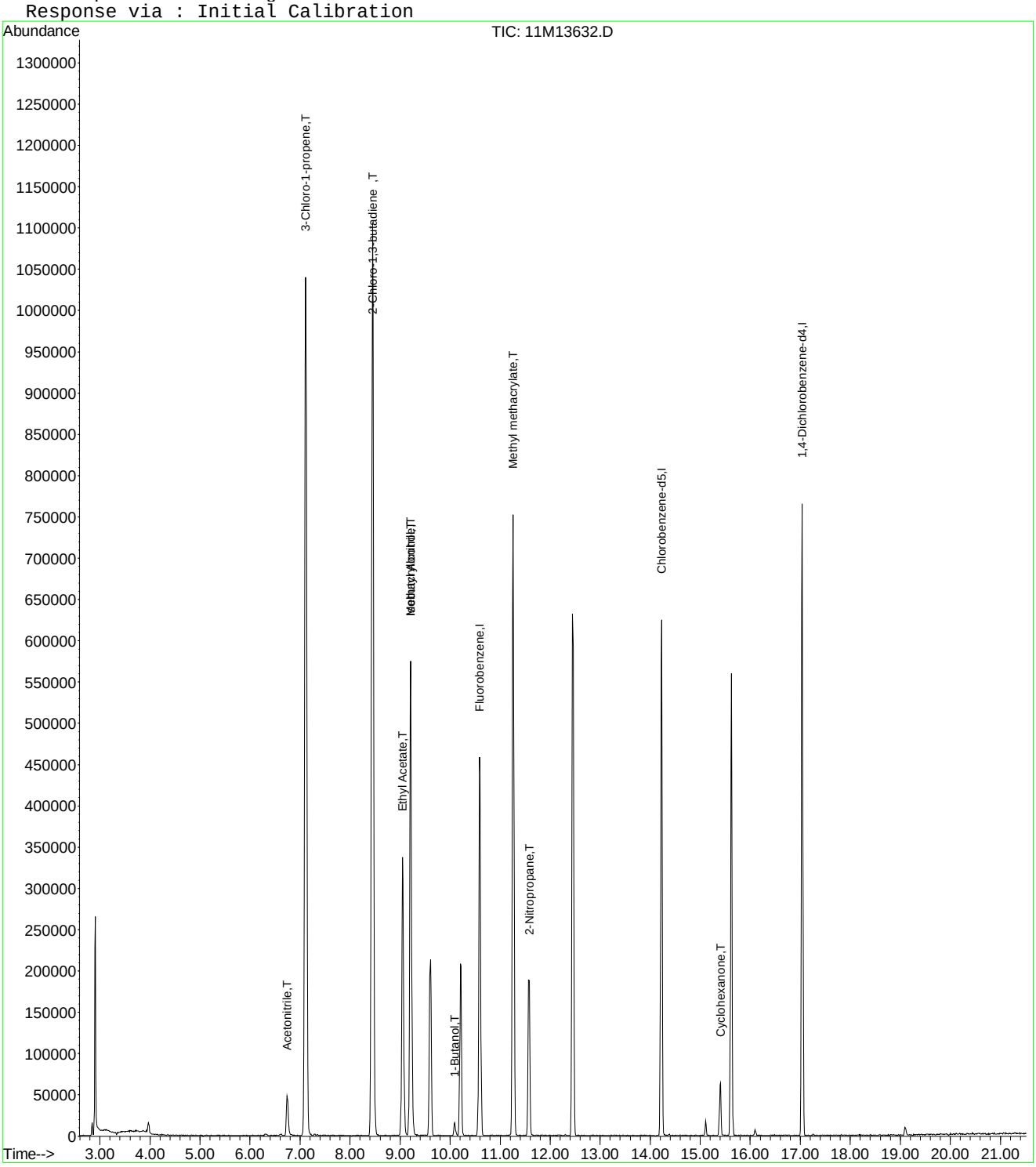
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	543164	25.00	ug/L	-0.02
12) Chlorobenzene-d5	14.23	117	464590	25.00	ug/L	-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	266669	25.00	ug/L	-0.02

Target Compounds						Qvalue
2) Acetonitrile	6.74	41	68995	142.6044	ug/L	100
3) 3-Chloro-1-propene	7.11	41	1096390	106.9699	ug/L	95
4) 2-Chloro-1,3-butadiene	8.45	53	1128196	106.2448	ug/L	95
5) Methacrylonitrile	9.21	41	403560	135.0305	ug/L	93
6) Isobutyl Alcohol	9.21	43	46970	296.6563	ug/L	95
7) 1-Butanol	10.09	56	11977	162.2014	ug/L	88
8) Cyclohexanone	15.41	55	37136	384.1508	ug/L	89
9) 2-Nitropropane	11.58	43	183774	143.7600	ug/L	99
10) Ethyl Acetate	9.05	43	558689	144.1128	ug/L	97
11) Methyl methacrylate	11.26	41	508903	142.3479	ug/L	92

(#) = qualifier out of range (m) = manual integration
11M13632.D A9FOOWT.M Tue Aug 16 08:48:38 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D Vial: 5
Acq On : 15 Aug 2016 16:45 Operator: JDS
Sample : WG580279-05 100ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D Vial: 5
Acq On : 15 Aug 2016 16:45 Operator: JDS
Sample : WG580279-05 100ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:22 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

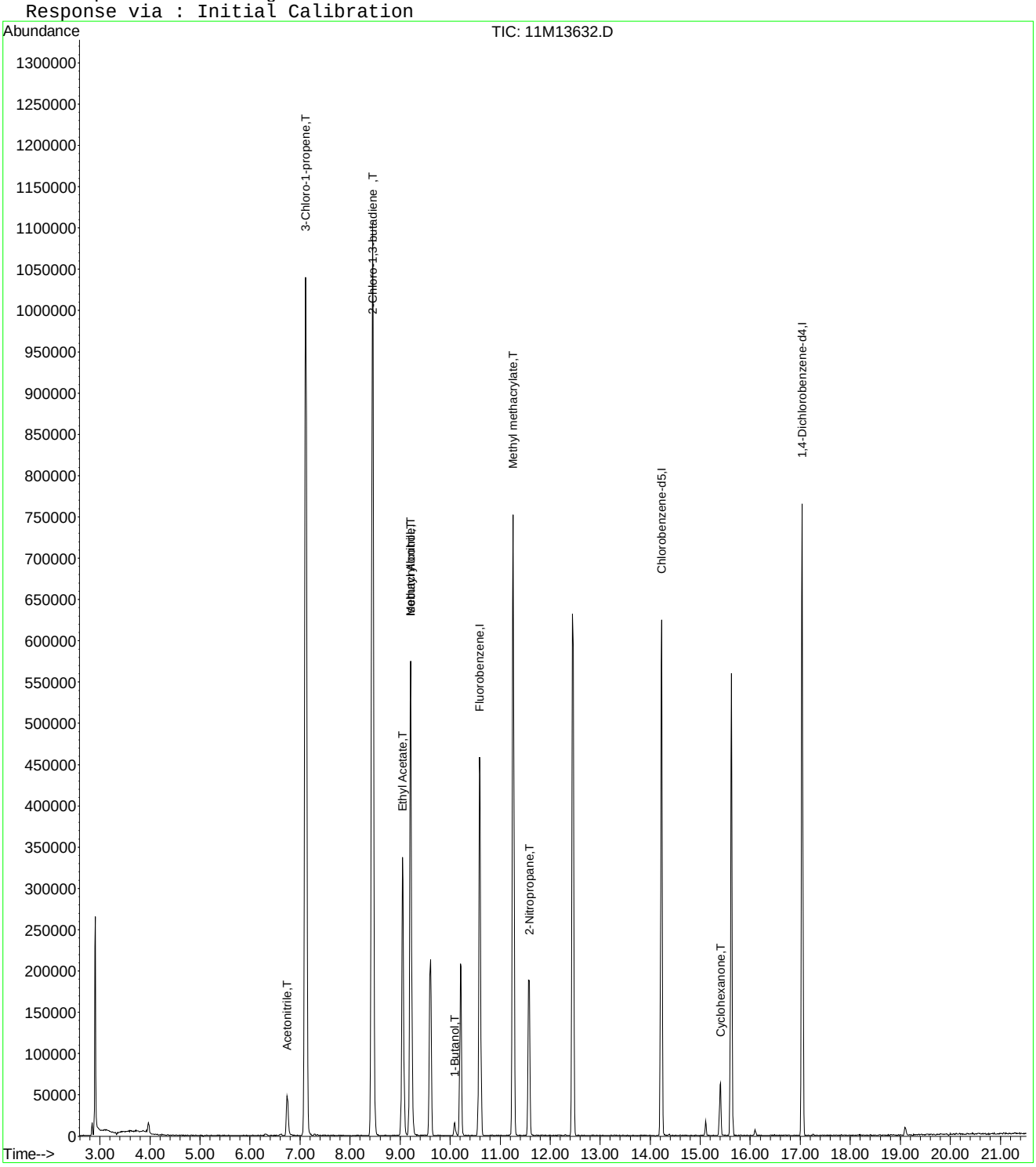
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	543164	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	464590	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	266669	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	68995	107.4947	ug/L	100
3) 3-Chloro-1-propene	7.11	41	1096390	105.4513	ug/L	100
4) 2-Chloro-1,3-butadiene	8.45	53	1128196	106.2513	ug/L	100
5) Methacrylonitrile	9.21	41	403560	104.7160	ug/L	100
6) Isobutyl Alcohol	9.21	43	46970	197.5434	ug/L	100
7) 1-Butanol	10.09	56	11977	92.0194	ug/L	100
8) Cyclohexanone	15.41	55	37136	98.7947	ug/L	100
9) 2-Nitropropane	11.58	43	183774	98.1127	ug/L	100
10) Ethyl Acetate	9.05	43	558689	106.0833	ug/L	100
11) Methyl methacrylate	11.26	41	508903	106.1093	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13632.D A9FOOWT.M Tue Aug 16 08:59:23 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D Vial: 5
Acq On : 15 Aug 2016 16:45 Operator: JDS
Sample : WG580279-05 100ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D Vial: 5
Acq On : 15 Aug 2016 16:45 Operator: JDS
Sample : WG580279-05 100ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:28 2016 Quant Results File: A9FOOWT.RES

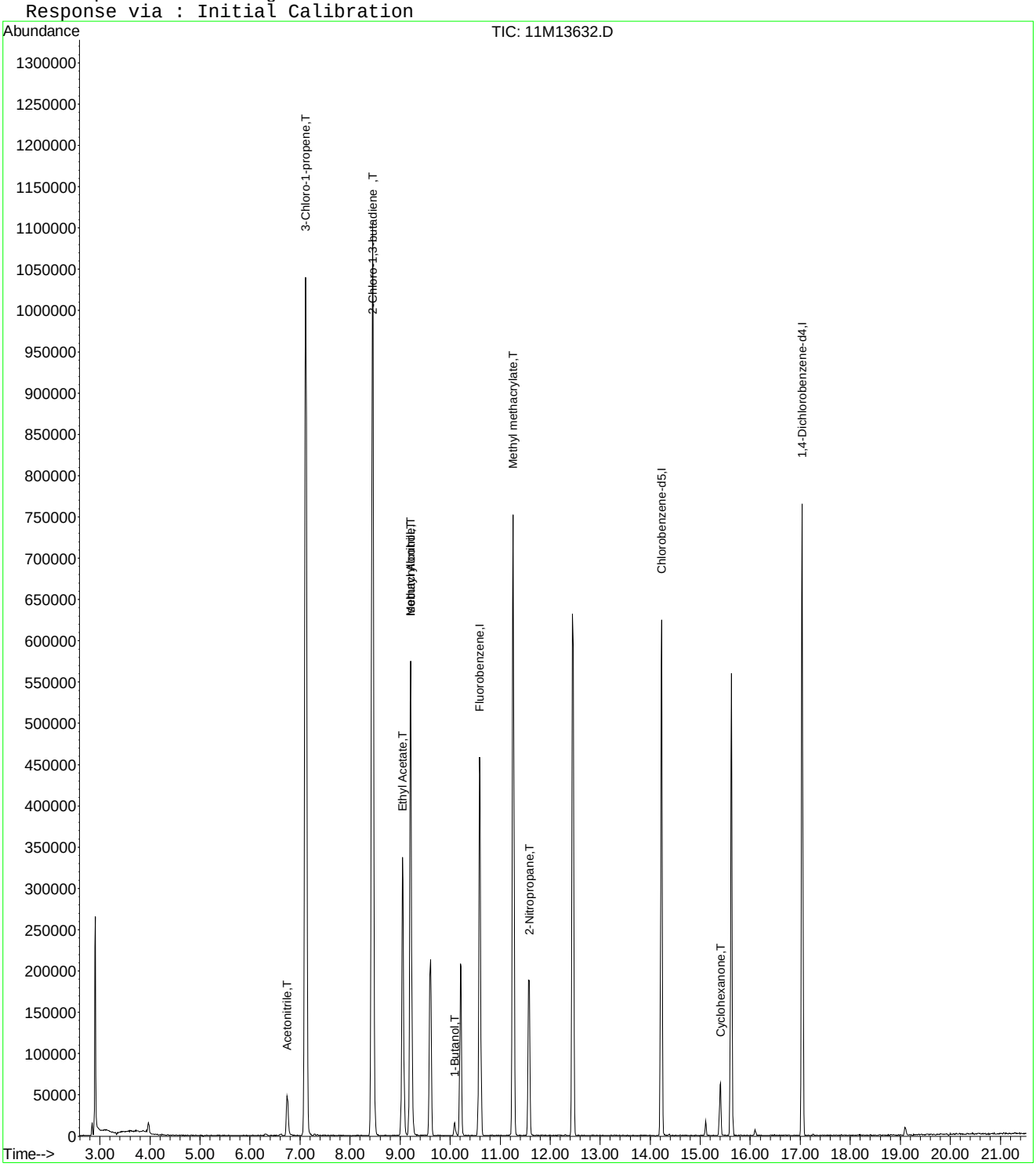
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	543164	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	464590	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	266669	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	68995	107.4947	ug/L	100
3) 3-Chloro-1-propene	7.11	41	1096390	105.4513	ug/L	100
4) 2-Chloro-1,3-butadiene	8.45	53	1128196	106.2513	ug/L	100
5) Methacrylonitrile	9.21	41	403560	104.7160	ug/L	100
6) Isobutyl Alcohol	9.21	43	46970	197.5434	ug/L	100
7) 1-Butanol	10.09	56	11977	92.0194	ug/L	100
8) Cyclohexanone	15.41	55	37136	98.7947	ug/L	100
9) 2-Nitropropane	11.58	43	183774	98.1127	ug/L	100
10) Ethyl Acetate	9.05	43	558689	106.0833	ug/L	100
11) Methyl methacrylate	11.26	41	508903	106.1093	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13632.D A9FOOWT.M Tue Aug 16 09:05:29 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D Vial: 5
Acq On : 15 Aug 2016 16:45 Operator: JDS
Sample : WG580279-05 100ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D Vial: 6
Acq On : 15 Aug 2016 17:14 Operator: JDS
Sample : WG580279-06 200ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:40 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

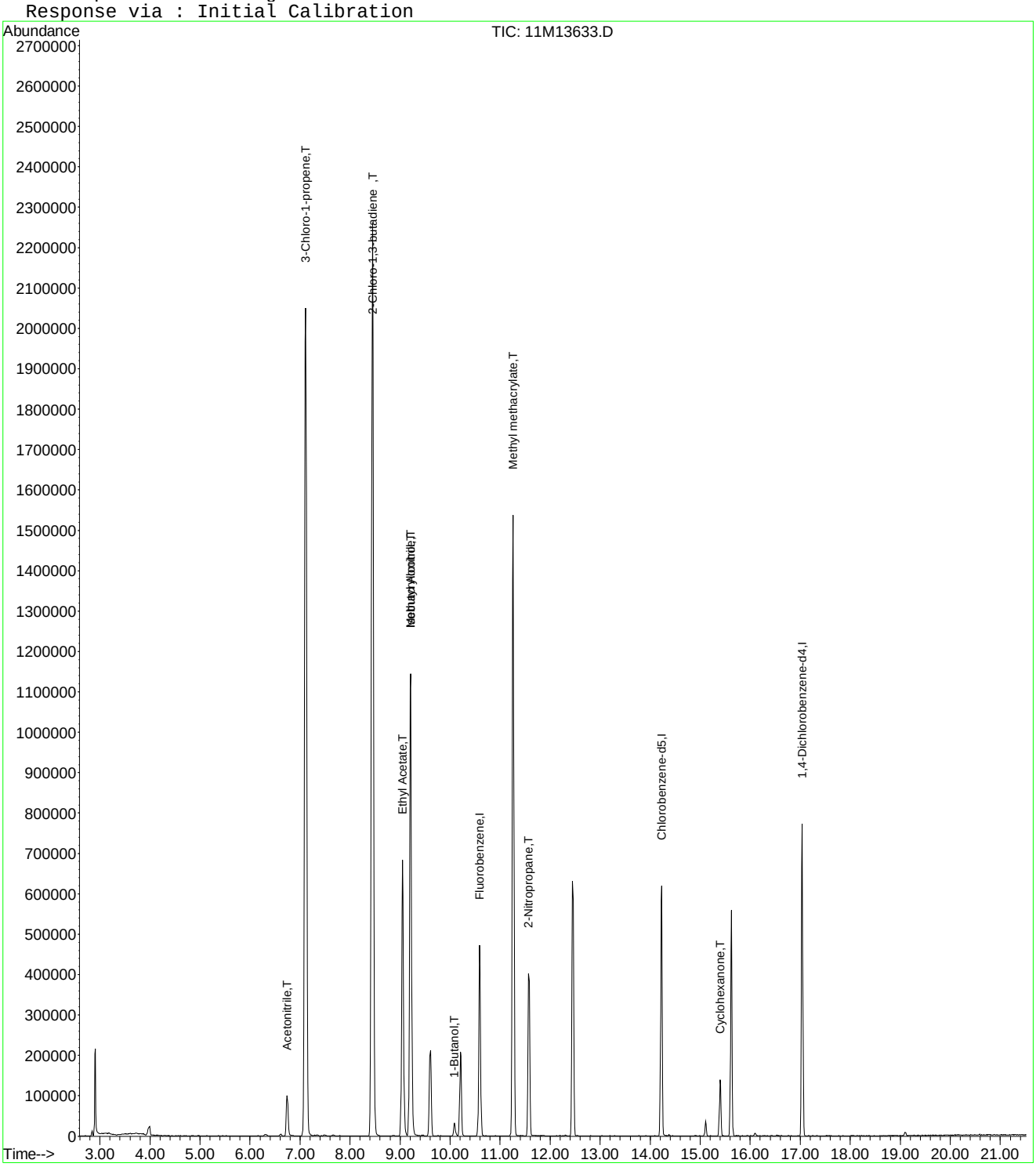
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	547458	25.00	ug/L		-0.02
12) Chlorobenzene-d5	14.23	117	461668	25.00	ug/L		-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	271762	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	133520	273.8053	ug/L		98
3) 3-Chloro-1-propene	7.11	41	2192356	212.2208	ug/L		94
4) 2-Chloro-1,3-butadiene	8.45	53	2297004	214.6174	ug/L		95
5) Methacrylonitrile	9.21	41	816752	271.1403	ug/L		93
6) Isobutyl Alcohol	9.21	43	95965	601.3483	ug/L		97
7) 1-Butanol	10.08	56	25798	346.6353	ug/L		87
8) Cyclohexanone	15.40	55	77461	795.0050	ug/L	#	87
9) 2-Nitropropane	11.57	43	389052	301.9548	ug/L		97
10) Ethyl Acetate	9.05	43	1127878	288.6522	ug/L		98
11) Methyl methacrylate	11.26	41	1043795	289.6752	ug/L		93

(#) = qualifier out of range (m) = manual integration
11M13633.D A9FOOWT.M Tue Aug 16 08:48:41 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D Vial: 6
Acq On : 15 Aug 2016 17:14 Operator: JDS
Sample : WG580279-06 200ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D Vial: 6
Acq On : 15 Aug 2016 17:14 Operator: JDS
Sample : WG580279-06 200ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:25 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

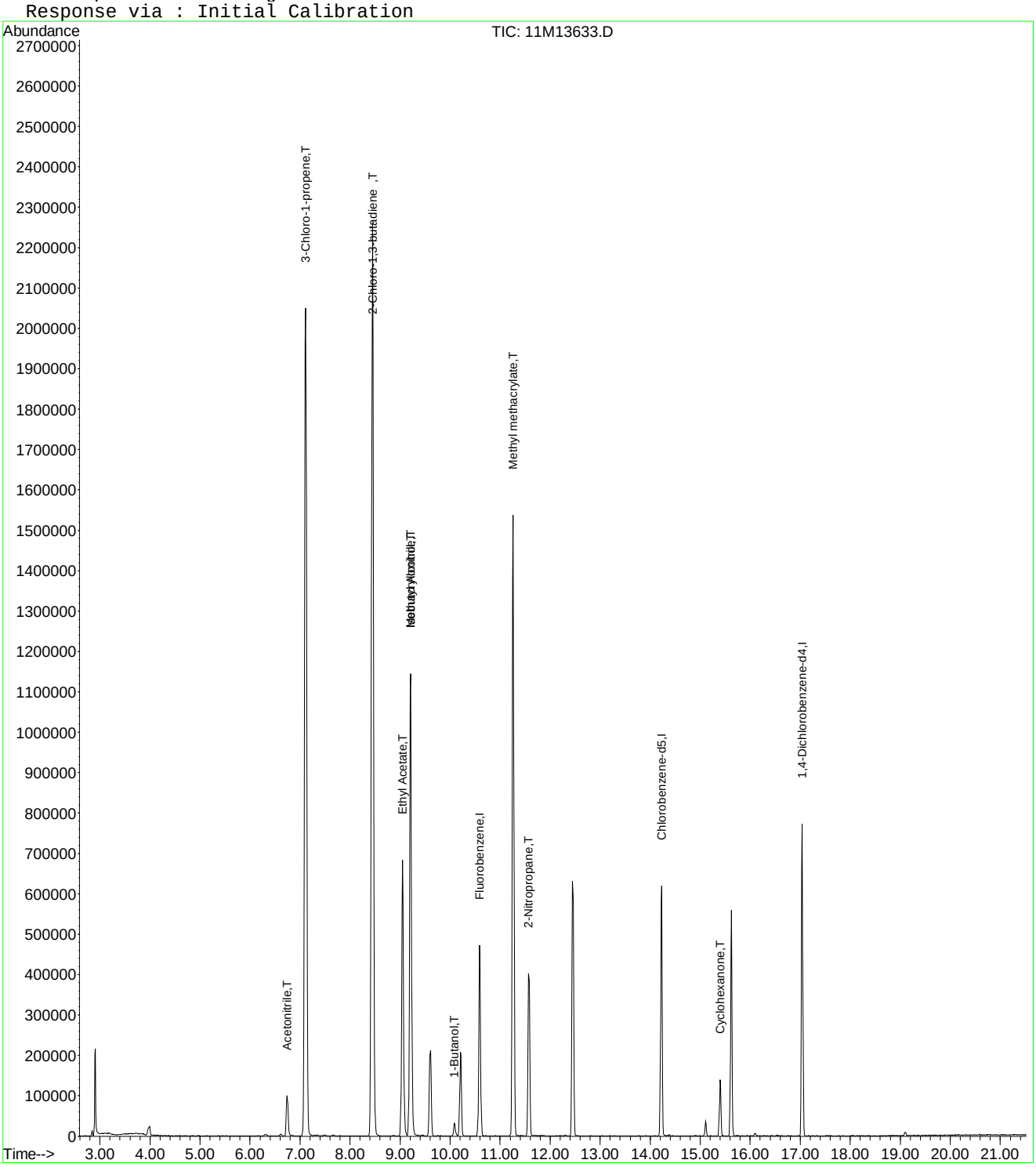
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	547458	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	461668	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	271762	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	133520	206.3935	ug/L	98
3) 3-Chloro-1-propene	7.11	41	2192356	209.2079	ug/L	100
4) 2-Chloro-1,3-butadiene	8.45	53	2297004	214.6305	ug/L	99
5) Methacrylonitrile	9.21	41	816752	210.2690	ug/L	100
6) Isobutyl Alcohol	9.21	43	95965	400.4377	ug/L	97
7) 1-Butanol	10.08	56	25798	196.6517	ug/L	94
8) Cyclohexanone	15.40	55	77461	204.4569	ug/L	98
9) 2-Nitropropane	11.57	43	389052	206.0768	ug/L	98
10) Ethyl Acetate	9.05	43	1127878	212.4806	ug/L	100
11) Methyl methacrylate	11.26	41	1043795	215.9305	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13633.D A9FOOWT.M Tue Aug 16 08:59:26 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D Vial: 6
Acq On : 15 Aug 2016 17:14 Operator: JDS
Sample : WG580279-06 200ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D Vial: 6
Acq On : 15 Aug 2016 17:14 Operator: JDS
Sample : WG580279-06 200ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:31 2016 Quant Results File: A9FOOWT.RES

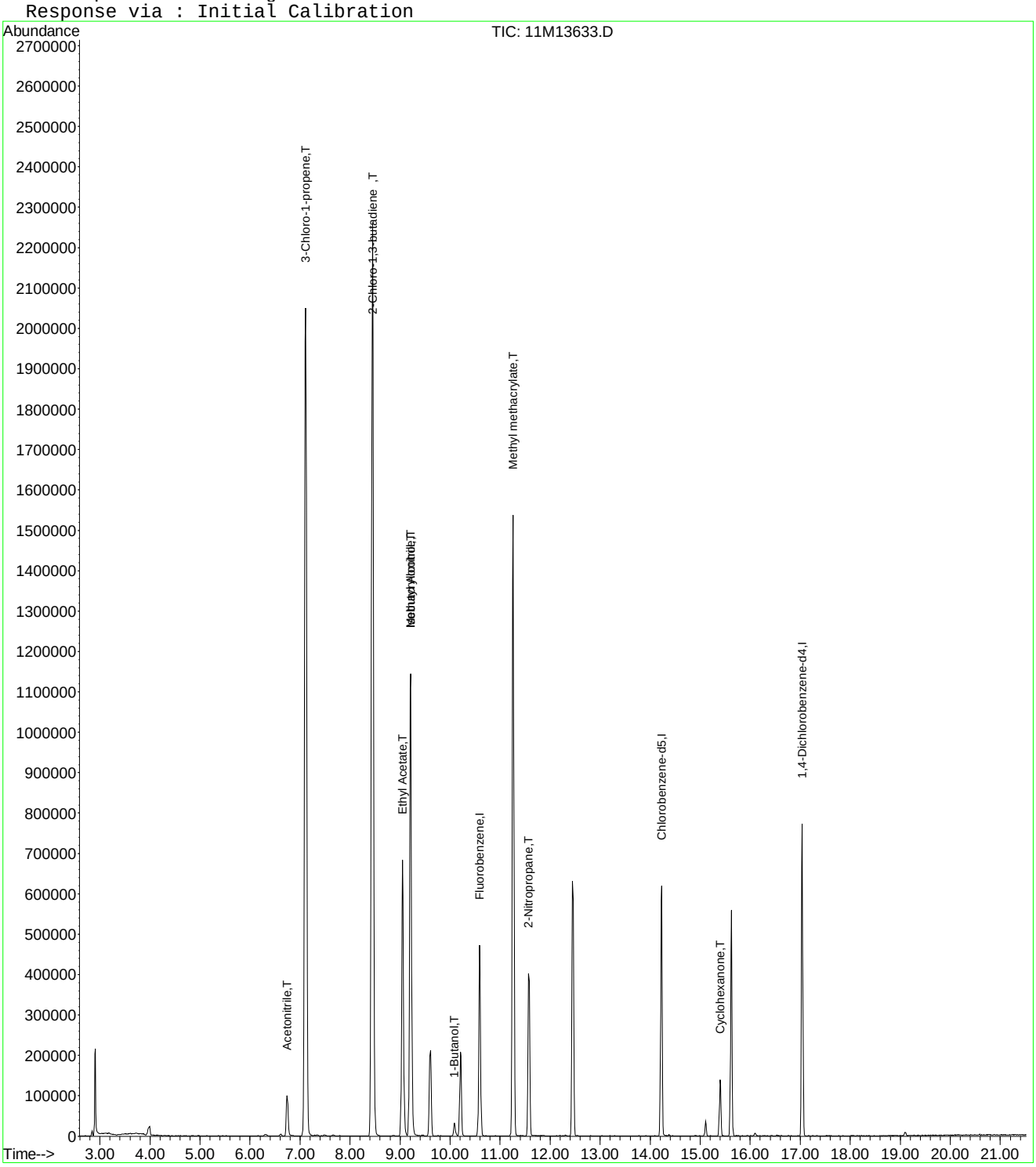
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	547458	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	461668	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	271762	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	133520	206.3935	ug/L	98
3) 3-Chloro-1-propene	7.11	41	2192356	209.2079	ug/L	100
4) 2-Chloro-1,3-butadiene	8.45	53	2297004	214.6305	ug/L	99
5) Methacrylonitrile	9.21	41	816752	210.2690	ug/L	100
6) Isobutyl Alcohol	9.21	43	95965	400.4377	ug/L	97
7) 1-Butanol	10.08	56	25798	196.6517	ug/L	94
8) Cyclohexanone	15.40	55	77461	204.4569	ug/L	98
9) 2-Nitropropane	11.57	43	389052	206.0768	ug/L	98
10) Ethyl Acetate	9.05	43	1127878	212.4806	ug/L	100
11) Methyl methacrylate	11.26	41	1043795	215.9305	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13633.D A9FOOWT.M Tue Aug 16 09:05:32 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D Vial: 6
Acq On : 15 Aug 2016 17:14 Operator: JDS
Sample : WG580279-06 200ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D Vial: 7
Acq On : 15 Aug 2016 17:43 Operator: JDS
Sample : WG580279-07 300ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:42 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

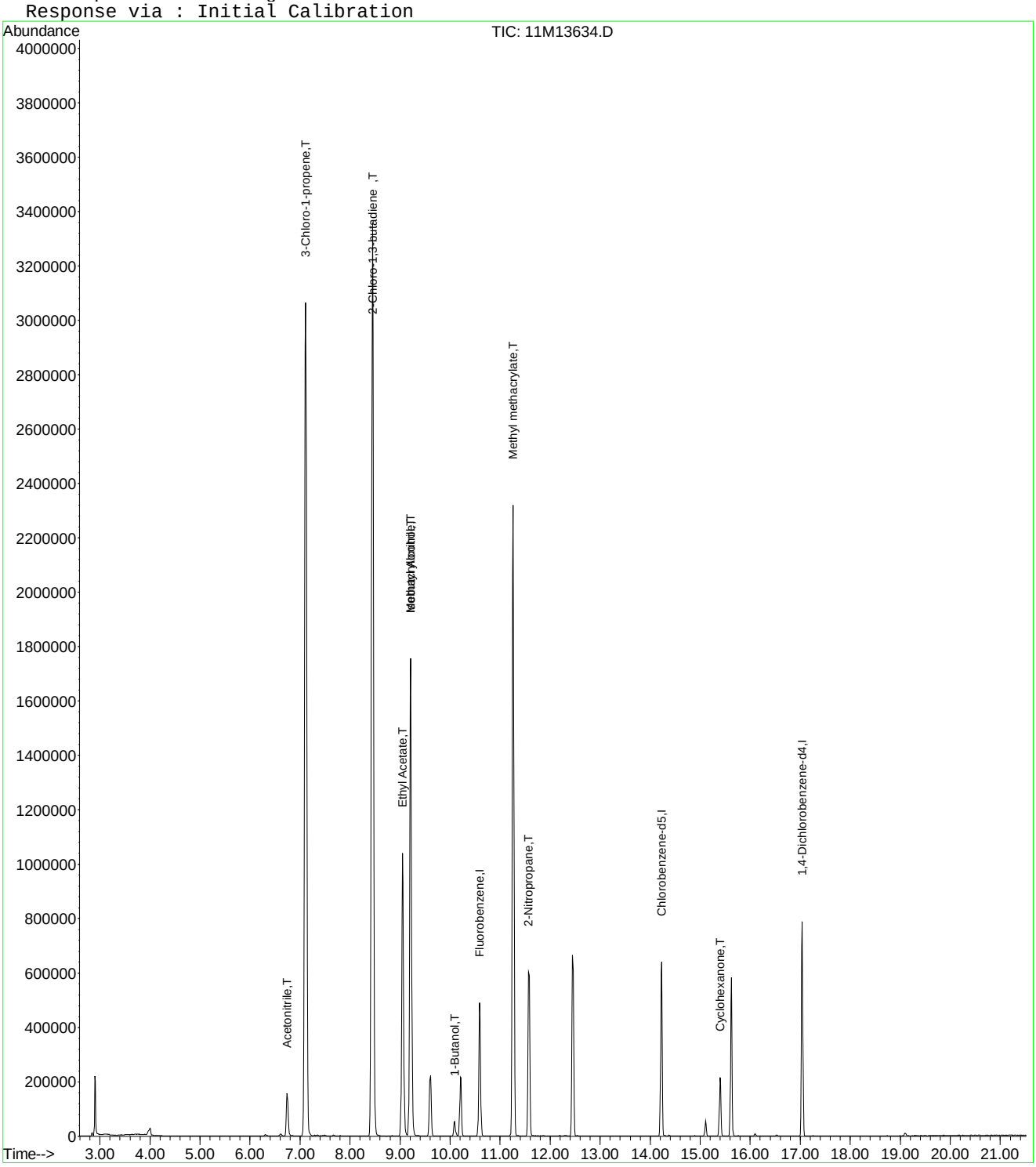
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	570456	25.00	ug/L		-0.02
12) Chlorobenzene-d5	14.23	117	475151	25.00	ug/L		-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	277872	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	206621	406.6293	ug/L		99
3) 3-Chloro-1-propene	7.11	41	3291074	305.7336	ug/L		94
4) 2-Chloro-1,3-butadiene	8.45	53	3437501	308.2299	ug/L		95
5) Methacrylonitrile	9.21	41	1233098	392.8531	ug/L		93
6) Isobutyl Alcohol	9.21	43	152453	916.8068	ug/L		94
7) 1-Butanol	10.09	56	41314	532.7367	ug/L		92
8) Cyclohexanone	15.40	55	121765	1199.3278	ug/L	#	89
9) 2-Nitropropane	11.57	43	596726	444.4653	ug/L		97
10) Ethyl Acetate	9.05	43	1705829	418.9642	ug/L		97
11) Methyl methacrylate	11.26	41	1576015	419.7446	ug/L		92

(#) = qualifier out of range (m) = manual integration
11M13634.D A9FOOWT.M Tue Aug 16 08:48:43 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D Vial: 7
Acq On : 15 Aug 2016 17:43 Operator: JDS
Sample : WG580279-07 300ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D Vial: 7
Acq On : 15 Aug 2016 17:43 Operator: JDS
Sample : WG580279-07 300ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:28 2016 Quant Results File: A9FOOWT.RES

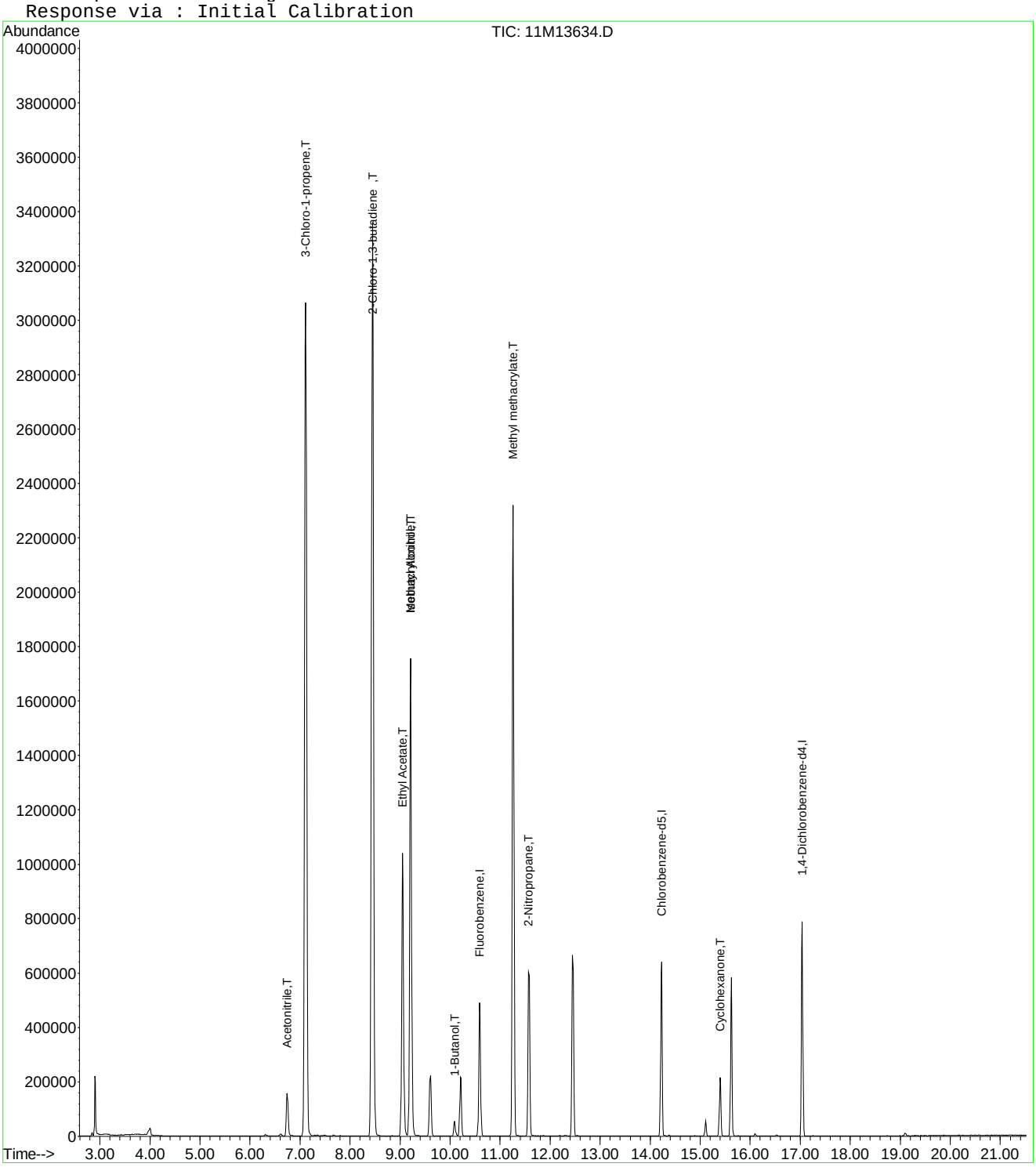
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	570456	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	475151	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	277872	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	206621	306.5157	ug/L	98
3) 3-Chloro-1-propene	7.11	41	3291074	301.3931	ug/L	100
4) 2-Chloro-1,3-butadiene	8.45	53	3437501	308.2487	ug/L	99
5) Methacrylonitrile	9.21	41	1233098	304.6571	ug/L	99
6) Isobutyl Alcohol	9.21	43	152453	610.5015	ug/L	99
7) 1-Butanol	10.09	56	41314	302.2300	ug/L	95
8) Cyclohexanone	15.40	55	121765	308.4394	ug/L	99
9) 2-Nitropropane	11.57	43	596726	303.3368	ug/L	98
10) Ethyl Acetate	9.05	43	1705829	308.4049	ug/L	100
11) Methyl methacrylate	11.26	41	1576015	312.8871	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13634.D A9FOOWT.M Tue Aug 16 08:59:29 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D Vial: 7
Acq On : 15 Aug 2016 17:43 Operator: JDS
Sample : WG580279-07 300ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D Vial: 7
Acq On : 15 Aug 2016 17:43 Operator: JDS
Sample : WG580279-07 300ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:34 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

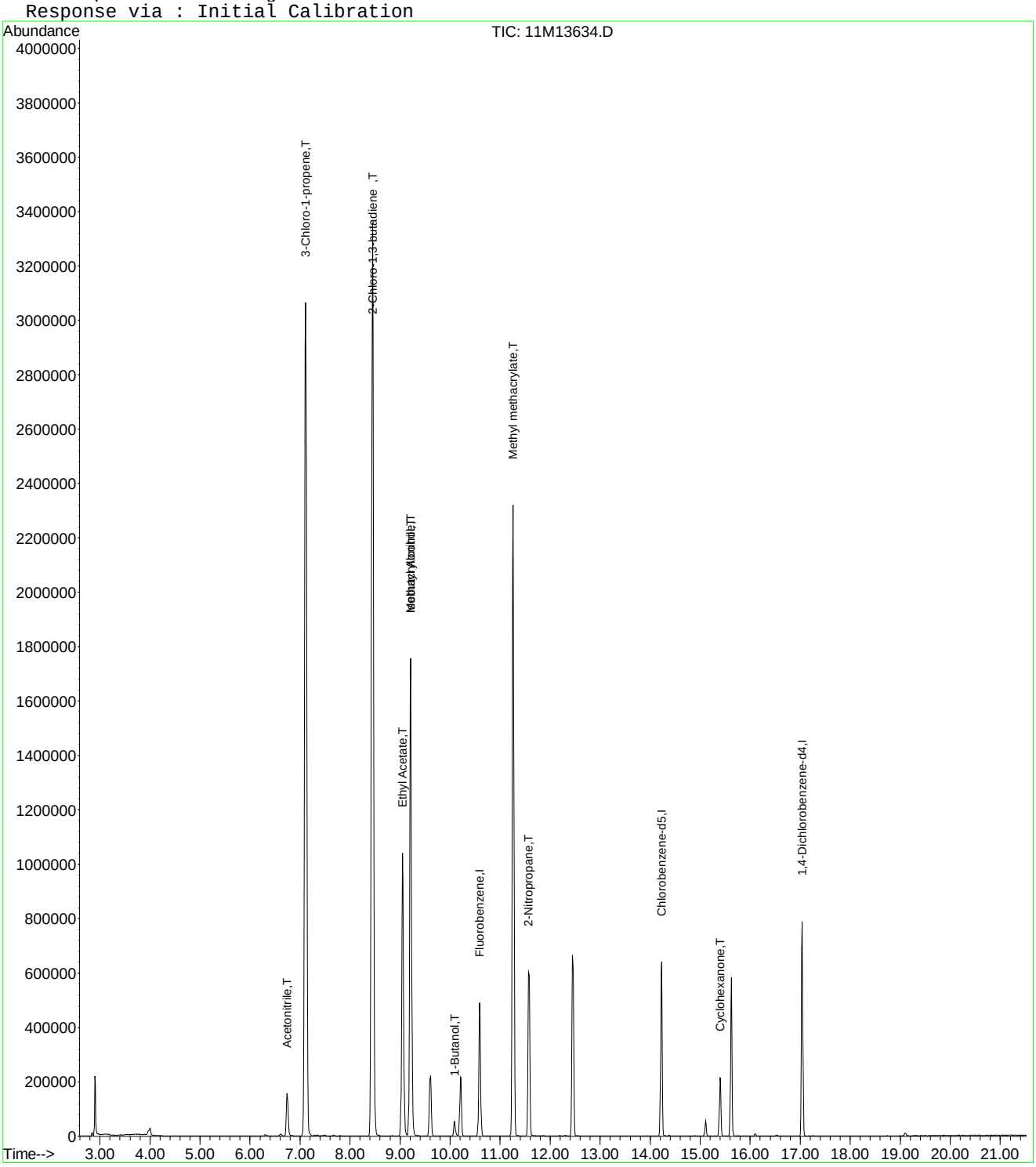
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	570456	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	475151	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	277872	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	206621	306.5157	ug/L	98
3) 3-Chloro-1-propene	7.11	41	3291074	301.3931	ug/L	100
4) 2-Chloro-1,3-butadiene	8.45	53	3437501	308.2487	ug/L	99
5) Methacrylonitrile	9.21	41	1233098	304.6571	ug/L	99
6) Isobutyl Alcohol	9.21	43	152453	610.5015	ug/L	99
7) 1-Butanol	10.09	56	41314	302.2300	ug/L	95
8) Cyclohexanone	15.40	55	121765	308.4394	ug/L	99
9) 2-Nitropropane	11.57	43	596726	303.3368	ug/L	98
10) Ethyl Acetate	9.05	43	1705829	308.4049	ug/L	100
11) Methyl methacrylate	11.26	41	1576015	312.8871	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13634.D A9FOOWT.M Tue Aug 16 09:05:35 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D Vial: 7
Acq On : 15 Aug 2016 17:43 Operator: JDS
Sample : WG580279-07 300ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



11M13634.D A9FOOWT.M Tue Aug 16 09:05:36 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D Vial: 8
Acq On : 15 Aug 2016 18:12 Operator: JDS
Sample : WG580279-08 400ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:45 2016 Quant Results File: A9FOOWT.RES

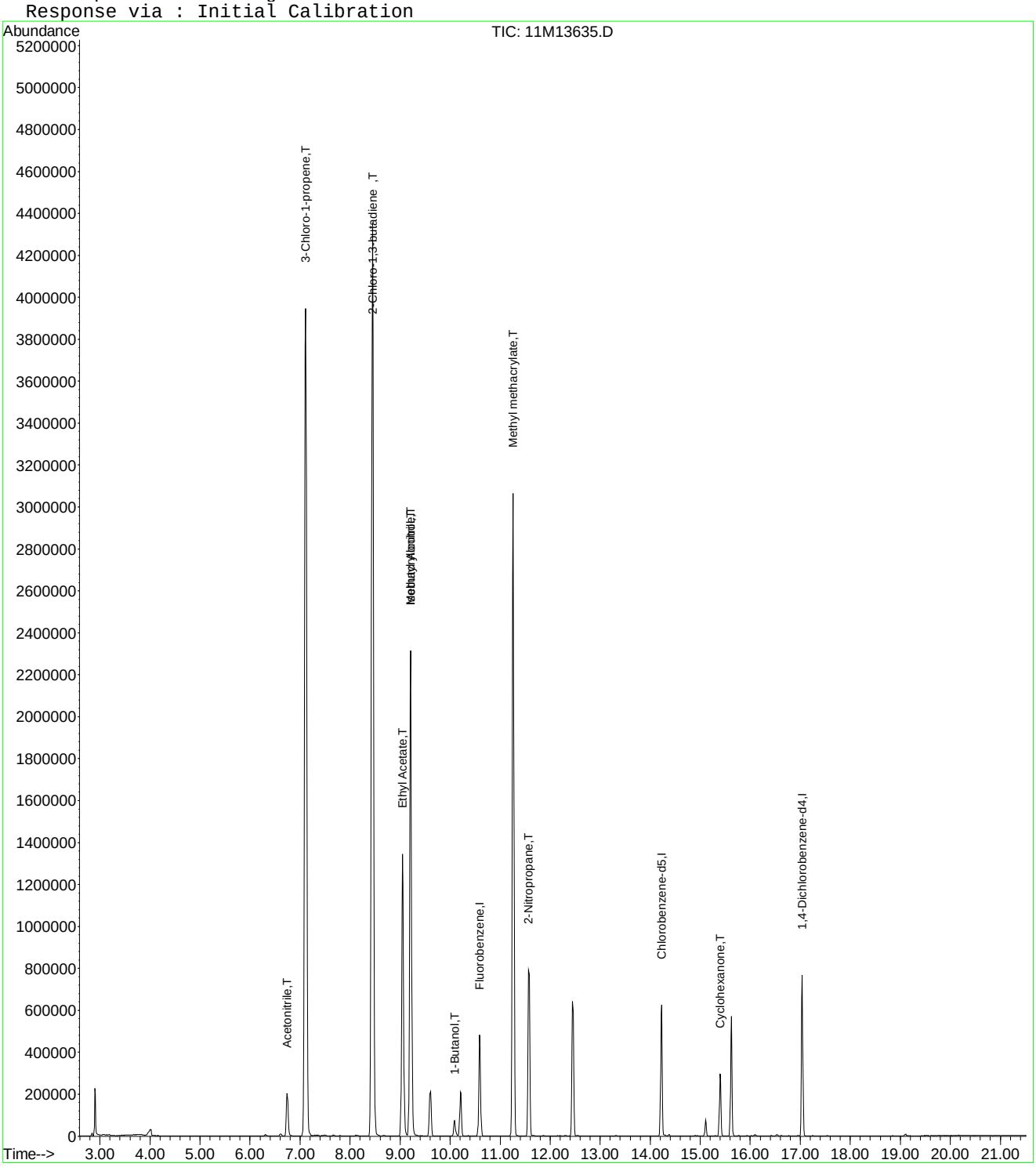
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	552210	25.00	ug/L		-0.02
12) Chlorobenzene-d5	14.23	117	466578	25.00	ug/L		-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	272411	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	269620	548.1434	ug/L		97
3) 3-Chloro-1-propene	7.11	41	4235652	406.4842	ug/L		94
4) 2-Chloro-1,3-butadiene	8.45	53	4437193	411.0154	ug/L		95
5) Methacrylonitrile	9.21	41	1603488	527.7353	ug/L		93
6) Isobutyl Alcohol	9.21	43	209353	1300.5856	ug/L		93
7) 1-Butanol	10.09	56	54105	720.7268	ug/L		97
8) Cyclohexanone	15.40	55	164553	1674.3225	ug/L	#	86
9) 2-Nitropropane	11.57	43	788121	606.4203	ug/L		96
10) Ethyl Acetate	9.05	43	2221977	563.7659	ug/L		97
11) Methyl methacrylate	11.26	41	2055104	565.4269	ug/L		91

(#) = qualifier out of range (m) = manual integration
11M13635.D A9FOOWT.M Tue Aug 16 08:48:46 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D Vial: 8
Acq On : 15 Aug 2016 18:12 Operator: JDS
Sample : WG580279-08 400ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D Vial: 8
Acq On : 15 Aug 2016 18:12 Operator: JDS
Sample : WG580279-08 400ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:31 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

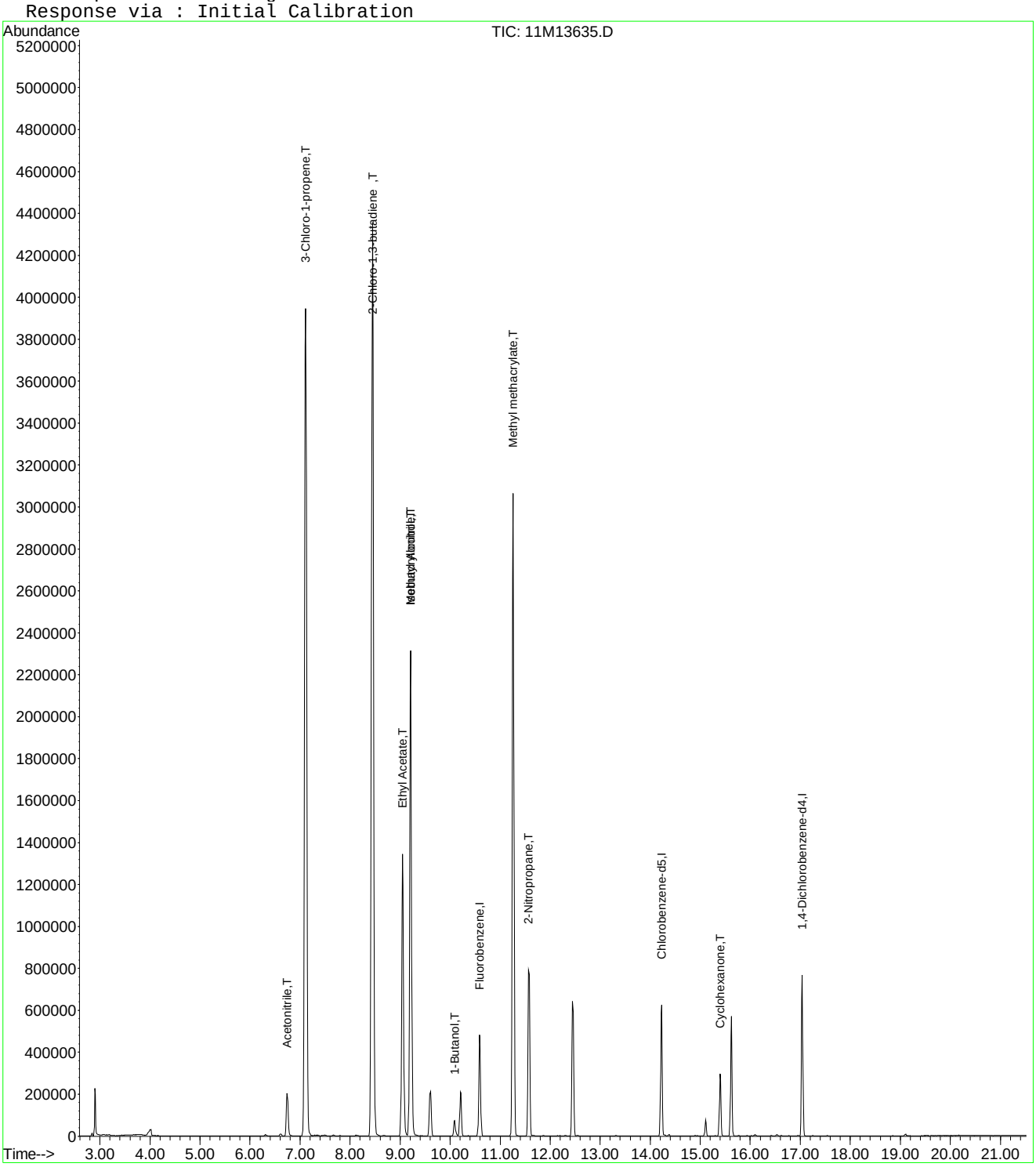
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	552210	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	466578	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	272411	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	269620	413.1886	ug/L	97
3) 3-Chloro-1-propene	7.11	41	4235652	400.7134	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	4437193	411.0405	ug/L	99
5) Methacrylonitrile	9.21	41	1603488	409.2581	ug/L	100
6) Isobutyl Alcohol	9.21	43	209353	866.0597	ug/L	98
7) 1-Butanol	10.09	56	54105	408.8798	ug/L	90
8) Cyclohexanone	15.40	55	164553	430.5971	ug/L	98
9) 2-Nitropropane	11.57	43	788121	413.8671	ug/L	97
10) Ethyl Acetate	9.05	43	2221977	414.9954	ug/L	99
11) Methyl methacrylate	11.26	41	2055104	421.4820	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13635.D A9FOOWT.M Tue Aug 16 08:59:32 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D Vial: 8
Acq On : 15 Aug 2016 18:12 Operator: JDS
Sample : WG580279-08 400ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D Vial: 8
Acq On : 15 Aug 2016 18:12 Operator: JDS
Sample : WG580279-08 400ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:37 2016 Quant Results File: A9FOOWT.RES

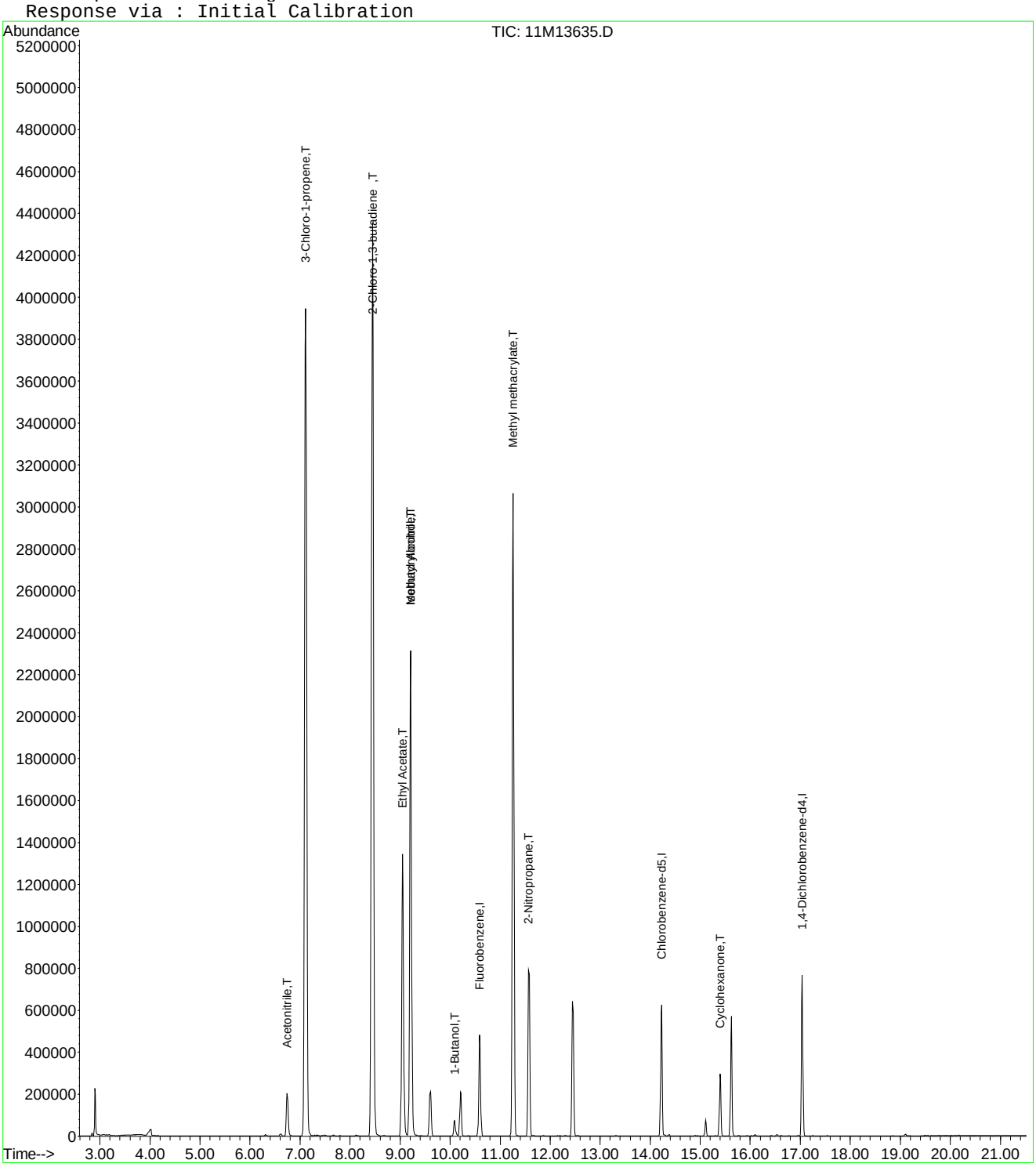
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	552210	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	466578	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	272411	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	269620	413.1886	ug/L	97
3) 3-Chloro-1-propene	7.11	41	4235652	400.7134	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	4437193	411.0405	ug/L	99
5) Methacrylonitrile	9.21	41	1603488	409.2581	ug/L	100
6) Isobutyl Alcohol	9.21	43	209353	866.0597	ug/L	98
7) 1-Butanol	10.09	56	54105	408.8798	ug/L	90
8) Cyclohexanone	15.40	55	164553	430.5971	ug/L	98
9) 2-Nitropropane	11.57	43	788121	413.8671	ug/L	97
10) Ethyl Acetate	9.05	43	2221977	414.9954	ug/L	99
11) Methyl methacrylate	11.26	41	2055104	421.4820	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13635.D A9FOOWT.M Tue Aug 16 09:05:38 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D Vial: 8
Acq On : 15 Aug 2016 18:12 Operator: JDS
Sample : WG580279-08 400ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D Vial: 9
Acq On : 15 Aug 2016 18:41 Operator: JDS
Sample : WG580279-09 500ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:47 2016 Quant Results File: A9FOOWT.RES

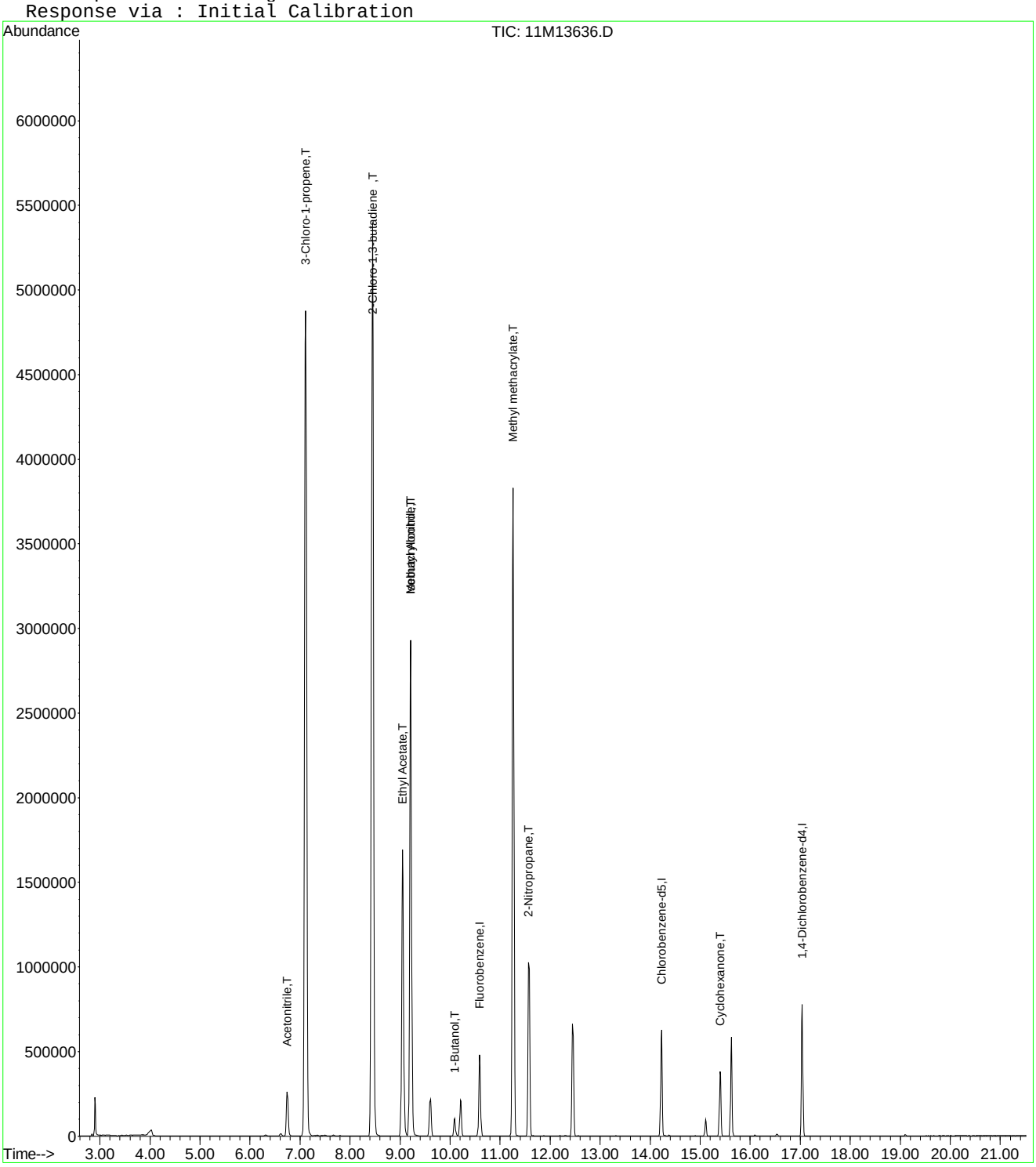
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	551574	25.00	ug/L		-0.02
12) Chlorobenzene-d5	14.23	117	467201	25.00	ug/L		-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	275573	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	346353	704.9551	ug/L		98
3) 3-Chloro-1-propene	7.11	41	5201220	499.7227	ug/L		93
4) 2-Chloro-1,3-butadiene	8.45	53	5468598	507.1382	ug/L		94
5) Methacrylonitrile	9.21	41	2029572	668.7370	ug/L		93
6) Isobutyl Alcohol	9.21	43	258337	1606.7446	ug/L		96
7) 1-Butanol	10.09	56	78006	1040.3075	ug/L		89
8) Cyclohexanone	15.40	55	216607	2206.5119	ug/L	#	87
9) 2-Nitropropane	11.57	43	1005542	774.6072	ug/L		98
10) Ethyl Acetate	9.05	43	2809173	713.5727	ug/L		96
11) Methyl methacrylate	11.26	41	2604115	717.3041	ug/L		91

(#) = qualifier out of range (m) = manual integration
11M13636.D A9FOOWT.M Tue Aug 16 08:48:48 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D Vial: 9
Acq On : 15 Aug 2016 18:41 Operator: JDS
Sample : WG580279-09 500ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D Vial: 9
Acq On : 15 Aug 2016 18:41 Operator: JDS
Sample : WG580279-09 500ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:34 2016 Quant Results File: A9FOOWT.RES

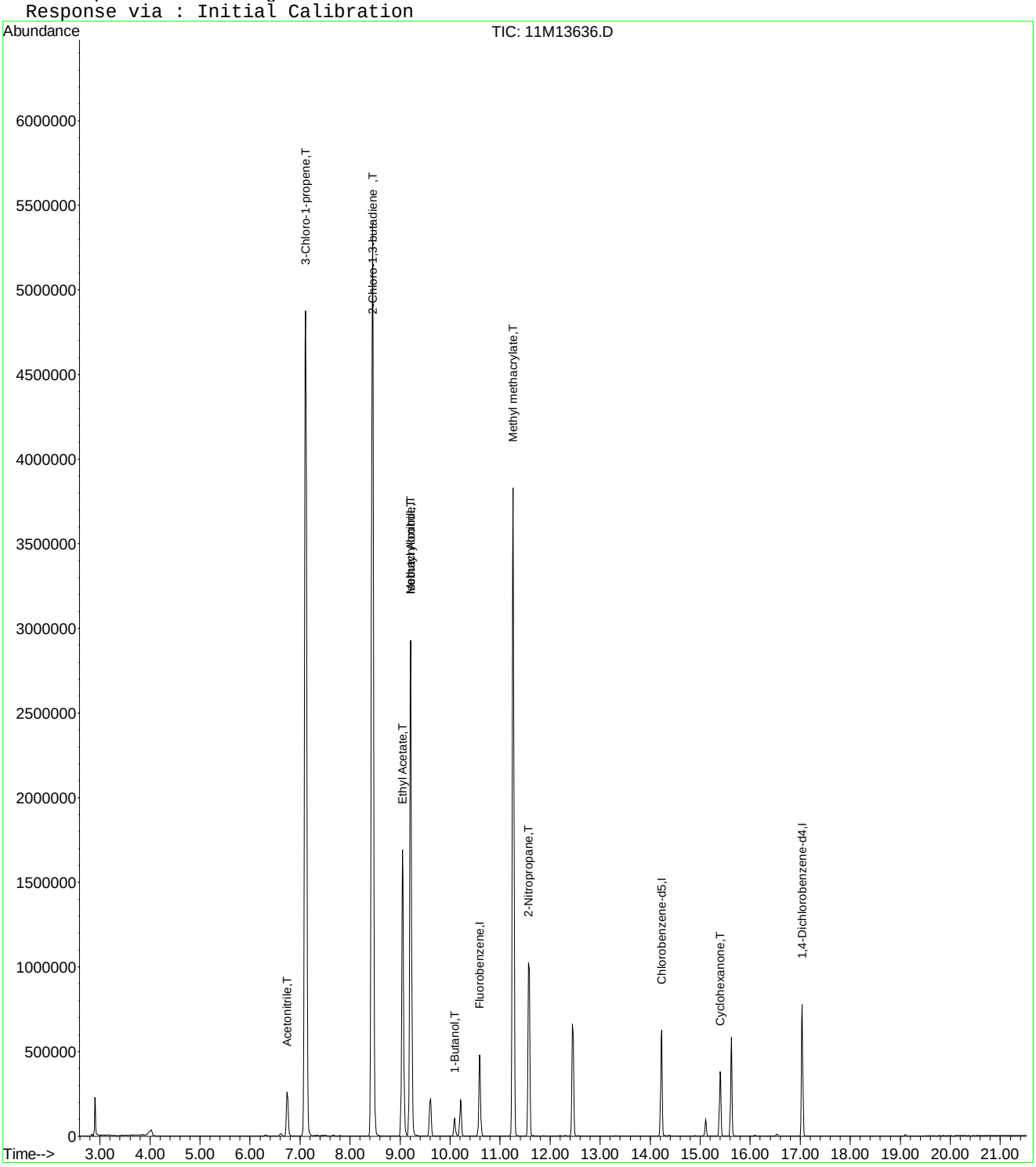
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551574	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	467201	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	275573	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	346353	531.3928	ug/L	97
3) 3-Chloro-1-propene	7.11	41	5201220	492.6282	ug/L	98
4) 2-Chloro-1,3-butadiene	8.45	53	5468598	507.1691	ug/L	99
5) Methacrylonitrile	9.21	41	2029572	518.6048	ug/L	100
6) Isobutyl Alcohol	9.21	43	258337	1069.9309	ug/L	98
7) 1-Butanol	10.09	56	78006	590.1831	ug/L	95
8) Cyclohexanone	15.40	55	216607	567.4639	ug/L	98
9) 2-Nitropropane	11.57	43	1005542	528.6506	ug/L	98
10) Ethyl Acetate	9.05	43	2809173	525.2701	ug/L	99
11) Methyl methacrylate	11.26	41	2604115	534.6947	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13636.D A9FOOWT.M Tue Aug 16 08:59:35 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D Vial: 9
Acq On : 15 Aug 2016 18:41 Operator: JDS
Sample : WG580279-09 500ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D Vial: 9
Acq On : 15 Aug 2016 18:41 Operator: JDS
Sample : WG580279-09 500ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:40 2016 Quant Results File: A9FOOWT.RES

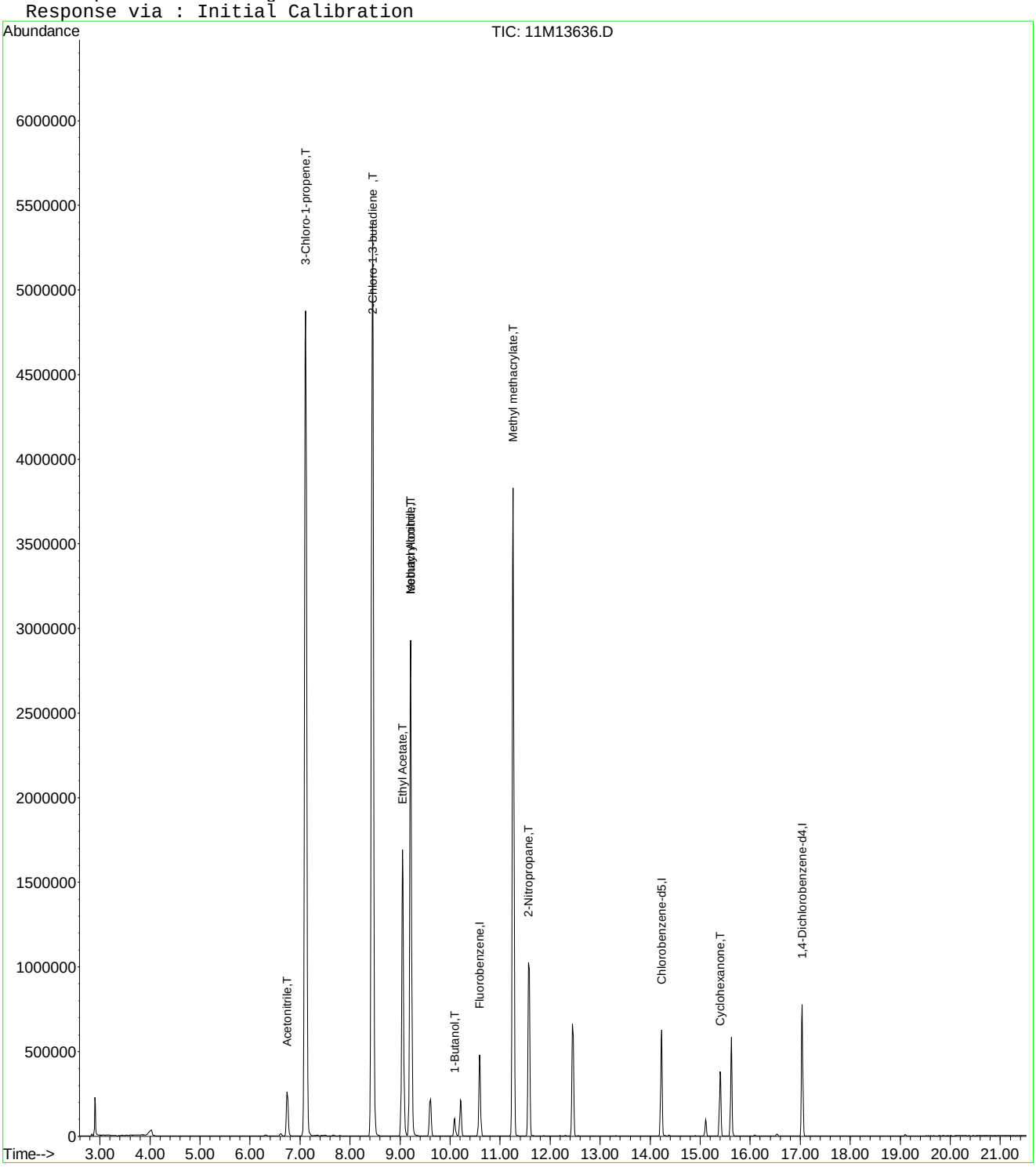
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551574	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	467201	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	275573	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	346353	531.3928	ug/L	97
3) 3-Chloro-1-propene	7.11	41	5201220	492.6282	ug/L	98
4) 2-Chloro-1,3-butadiene	8.45	53	5468598	507.1691	ug/L	99
5) Methacrylonitrile	9.21	41	2029572	518.6048	ug/L	100
6) Isobutyl Alcohol	9.21	43	258337	1069.9309	ug/L	98
7) 1-Butanol	10.09	56	78006	590.1831	ug/L	95
8) Cyclohexanone	15.40	55	216607	567.4639	ug/L	98
9) 2-Nitropropane	11.57	43	1005542	528.6506	ug/L	98
10) Ethyl Acetate	9.05	43	2809173	525.2701	ug/L	99
11) Methyl methacrylate	11.26	41	2604115	534.6947	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13636.D A9FOOWT.M Tue Aug 16 09:05:41 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D Vial: 9
Acq On : 15 Aug 2016 18:41 Operator: JDS
Sample : WG580279-09 500ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:53 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

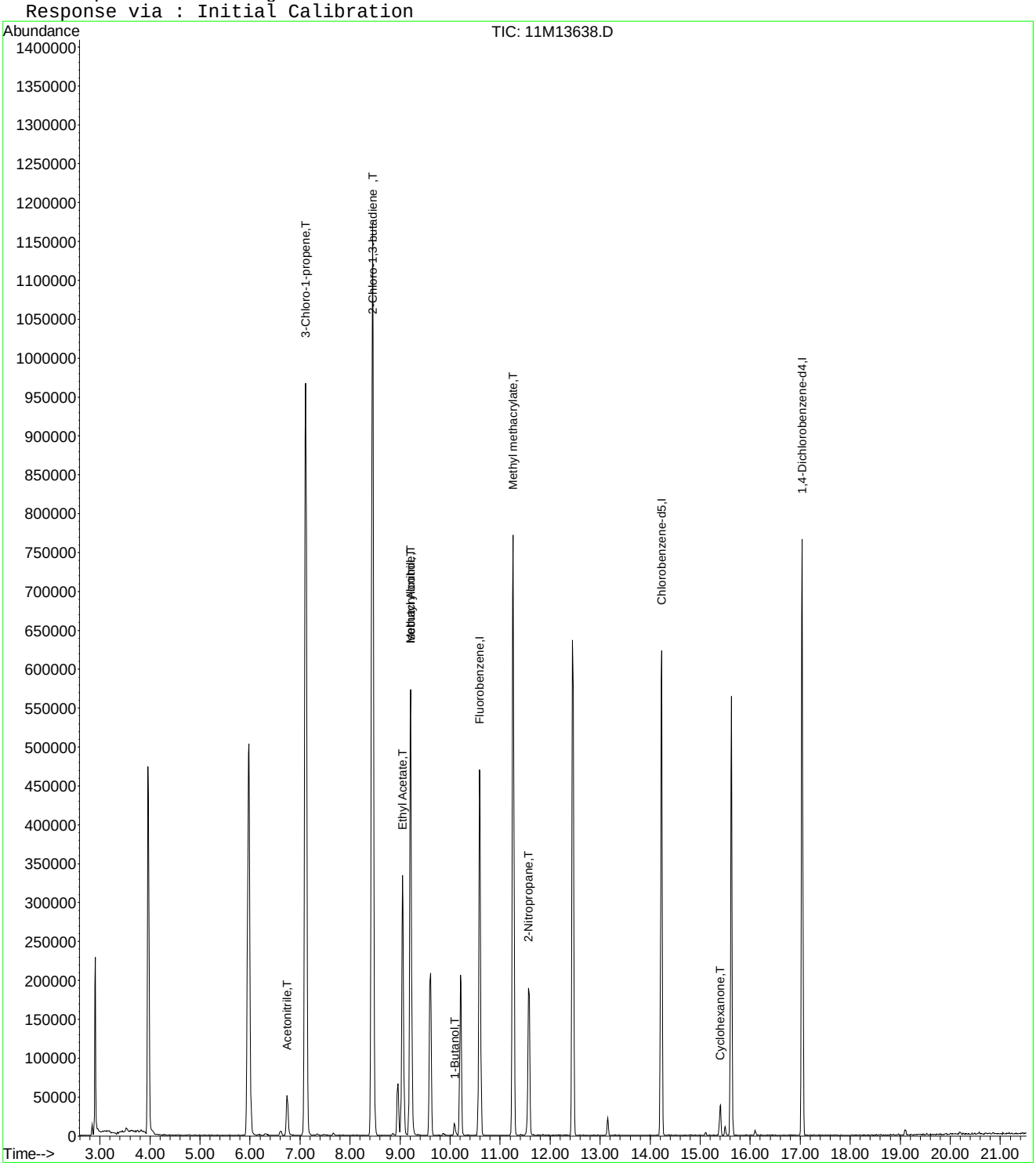
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551890	25.00	ug/L	-0.02
12) Chlorobenzene-d5	14.23	117	463476	25.00	ug/L	-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	267856	25.00	ug/L	-0.02

Target Compounds						Qvalue
2) Acetonitrile	6.74	41	66452	135.1767	ug/L	97
3) 3-Chloro-1-propene	7.11	41	1025840	98.5042	ug/L	95
4) 2-Chloro-1,3-butadiene	8.45	53	1183806	109.7191	ug/L	95
5) Methacrylonitrile	9.21	41	403782	132.9686	ug/L	94
6) Isobutyl Alcohol	9.21	43	45725	284.2269	ug/L	97
7) 1-Butanol	10.09	56	11512	153.4390	ug/L	91
8) Cyclohexanone	15.40	55	23726	241.5514	ug/L	88
9) 2-Nitropropane	11.57	43	184828	142.2985	ug/L	96
10) Ethyl Acetate	9.05	43	552938	140.3742	ug/L	98
11) Methyl methacrylate	11.26	41	523675	144.1638	ug/L	91

(#) = qualifier out of range (m) = manual integration
11M13638.D A9FOOWT.M Tue Aug 16 08:48:54 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:40 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

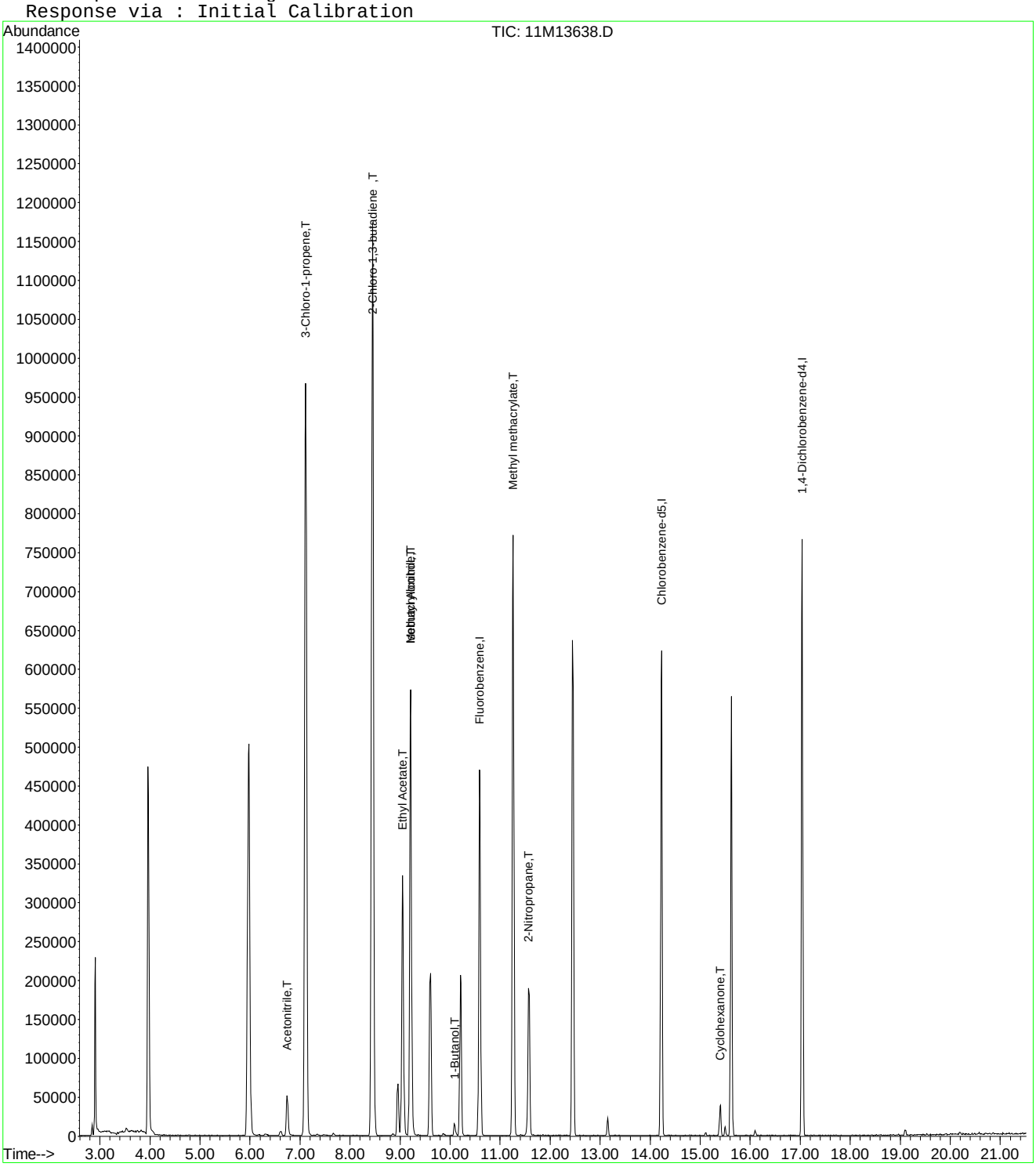
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551890	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	463476	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	267856	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	66452	101.8957	ug/L	97
3) 3-Chloro-1-propene	7.11	41	1025840	97.1058	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	1183806	109.7258	ug/L	100
5) Methacrylonitrile	9.21	41	403782	103.1170	ug/L	99
6) Isobutyl Alcohol	9.21	43	45725	189.2667	ug/L	97
7) 1-Butanol	10.09	56	11512	87.0484	ug/L	96
8) Cyclohexanone	15.40	55	23726	62.1214	ug/L	99
9) 2-Nitropropane	11.57	43	184828	97.1153	ug/L	97
10) Ethyl Acetate	9.05	43	552938	103.3313	ug/L	100
11) Methyl methacrylate	11.26	41	523675	107.4630	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13638.D A9FOOWT.M Tue Aug 16 08:59:41 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:46 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

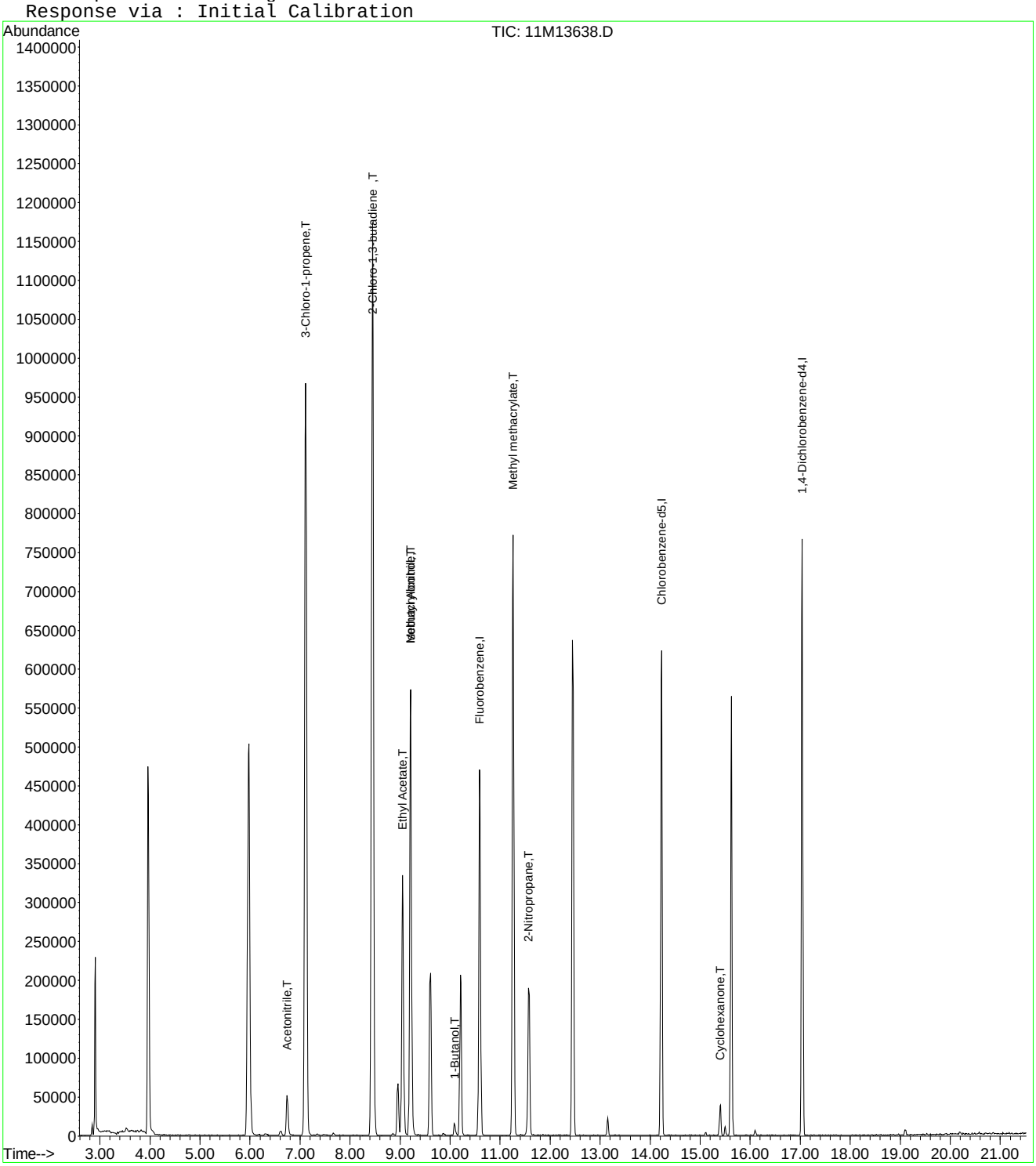
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551890	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	463476	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	267856	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	66452	101.8957	ug/L	97
3) 3-Chloro-1-propene	7.11	41	1025840	97.1058	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	1183806	109.7258	ug/L	100
5) Methacrylonitrile	9.21	41	403782	103.1170	ug/L	99
6) Isobutyl Alcohol	9.21	43	45725	189.2667	ug/L	97
7) 1-Butanol	10.09	56	11512	87.0484	ug/L	96
8) Cyclohexanone	15.40	55	23726	62.1214	ug/L	99
9) 2-Nitropropane	11.57	43	184828	97.1153	ug/L	97
10) Ethyl Acetate	9.05	43	552938	103.3313	ug/L	100
11) Methyl methacrylate	11.26	41	523675	107.4630	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13638.D A9FOOWT.M Tue Aug 16 09:05:48 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	102	0.00
2	T	Acetonitrile	0.0295	0.0301	-1.9	96	0.00
3	T	3-Chloro-1-propene	0.4785	0.4647	2.9	94	0.00
4	T	2-Chloro-1,3-butadiene	0.4887	0.5363	-9.7	105	0.00
5	T	Methacrylonitrile	0.1774	0.1829	-3.1	100	0.00
6	T	Isobutyl Alcohol	0.0109	0.0104	5.3	97	0.00
7	T	1-Butanol	0.0060	0.0052	13.0	96	0.00
8	T	Cyclohexanone	0.0173	0.0107	37.9	64	-0.01
9	T	2-Nitropropane	0.0862	0.0837	2.9	101	-0.01
10	T	Ethyl Acetate	0.2424	0.2505	-3.3	99	0.00
11	T	Methyl methacrylate	0.2207	0.2372	-7.5	103	0.00
12	I	Chlorobenzene-d5	1.0000	1.0000	0.0	100	0.00
13	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M13638.D A9FOOWT.M Tue Aug 16 09:23:34 2016 Page 1

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	102	0.00
2	T	Acetonitrile	100.0000	101.8957	-1.9	96	0.00
3	T	3-Chloro-1-propene	100.0000	97.1058	2.9	94	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	109.7258	-9.7	105	0.00
5	T	Methacrylonitrile	100.0000	103.1170	-3.1	100	0.00
6	T	Isobutyl Alcohol	200.0000	189.2667	5.4	97	0.00
7	T	1-Butanol	100.0000	87.0484	13.0	96	0.00
8	T	Cyclohexanone	100.0000	62.1215	37.9	64	-0.01
9	T	2-Nitropropane	100.0000	97.1153	2.9	101	-0.01
10	T	Ethyl Acetate	100.0000	103.3313	-3.3	99	0.00
11	T	Methyl methacrylate	100.0000	107.4630	-7.5	103	0.00
12	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
13	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M13638.D A9FOOWT.M Tue Aug 16 09:23:36 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14501.D Vial: 3
Acq On : 13 Oct 2016 13:42 Operator: FJB
Sample : WG587480-02 0.3ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:15:55 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	715274	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	547074	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	283852	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	10.18	65	226	0.0234	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.08%#		
57) Toluene-d8	12.42	98	3192	0.1101	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.44%#		
78) p-Bromofluorobenzene	15.59	95	2722	0.2397	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.96%#		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	2906	0.2395	ug/L #	60
3) Chloromethane	3.67	50	6371	0.4871	ug/L #	23
4) Vinyl Chloride	3.90	62	4121	0.3472	ug/L #	1
5) 1,3-Butadiene	3.95	54	4339	0.4491	ug/L	93
6) Bromomethane	4.80	94	2487	0.4325	ug/L	75
7) Chloroethane	4.94	64	2236	0.3216	ug/L	96
8) Trichlorofluoromethane	5.43	101	4597	0.3328	ug/L	99
10) Isoprene	5.98	67	3749	0.2974	ug/L	91
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	2439	0.3283	ug/L	77
13) Acetone	6.29	43	1485	0.5351	ug/L #	50
14) 1,1-Dichloroethene	6.49	61	4467	0.3026	ug/L	100
16) Dimethyl Sulfide	6.75	62	3139	0.3103	ug/L	91
17) Iodomethane	7.01	142	835	0.9525	ug/L #	32
18) Methyl acetate	7.00	43	2163	0.2643	ug/L #	73
19) Methylene Chloride	7.26	84	3246	0.3868	ug/L	83
20) Carbon Disulfide	7.30	76	10076	0.4118	ug/L	98
22) Methyl Tert Butyl Ether	7.45	73	6143	0.2977	ug/L #	72
23) trans-1,2-Dichloroethene	7.70	96	2316	0.2769	ug/L	86
24) n-Hexane	7.77	57	4878	0.3410	ug/L #	75
26) Vinyl Acetate	8.27	43	6911	0.3196	ug/L #	88
27) 1,1-Dichloroethane	8.30	63	5784	0.3374	ug/L #	72
29) 2-Butanone	8.82	43	1317	0.2825	ug/L #	65
31) 2,2-Dichloropropane	9.05	77	3883	0.3324	ug/L #	66
32) cis-1,2-Dichloroethene	9.10	96	3034	0.3293	ug/L	90
33) Chloroform	9.30	83	5074	0.3373	ug/L	97
35) Bromochloromethane	9.52	130	1714	0.2886	ug/L	96
36) Tetrahydrofuran	9.55	42	9221	0.3270	ug/L	97
38) 1,1,1-Trichloroethane	9.80	97	4103	0.3094	ug/L #	86
39) Cyclohexane	9.84	56	6291	0.3236	ug/L #	85
40) 1,1-Dichloropropene	9.99	75	3620	0.3297	ug/L	86
41) Carbon Tetrachloride	10.14	117	3783	0.3053	ug/L	92
44) 1,2-Dichloroethane	10.30	62	4002	0.3097	ug/L	85
45) Benzene	10.34	78	10454	0.3223	ug/L	98
46) Trichloroethene	11.04	130	3082	0.3286	ug/L	99
47) Methylcyclohexane	11.13	83	3707	0.2915	ug/L	88
48) 1,2-Dichloropropane	11.25	63	3096	0.3239	ug/L	84
50) Bromodichloromethane	11.53	83	3184	0.2801	ug/L #	83
51) Dibromomethane	11.61	93	1315	0.2594	ug/L	82
52) 2-Chloroethyl Vinyl Ether	11.80	63	1152	0.2057	ug/L	97
53) 4-Methyl-2-Pentanone	11.84	58	619	0.1801	ug/L #	46

(#) = qualifier out of range (m) = manual integration
11M14501.D 8260WT.M Fri Oct 14 09:15:56 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14501.D Vial: 3
Acq On : 13 Oct 2016 13:42 Operator: FJB
Sample : WG587480-02 0.3ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:15:55 2016 Quant Results File: 8260WT.RES

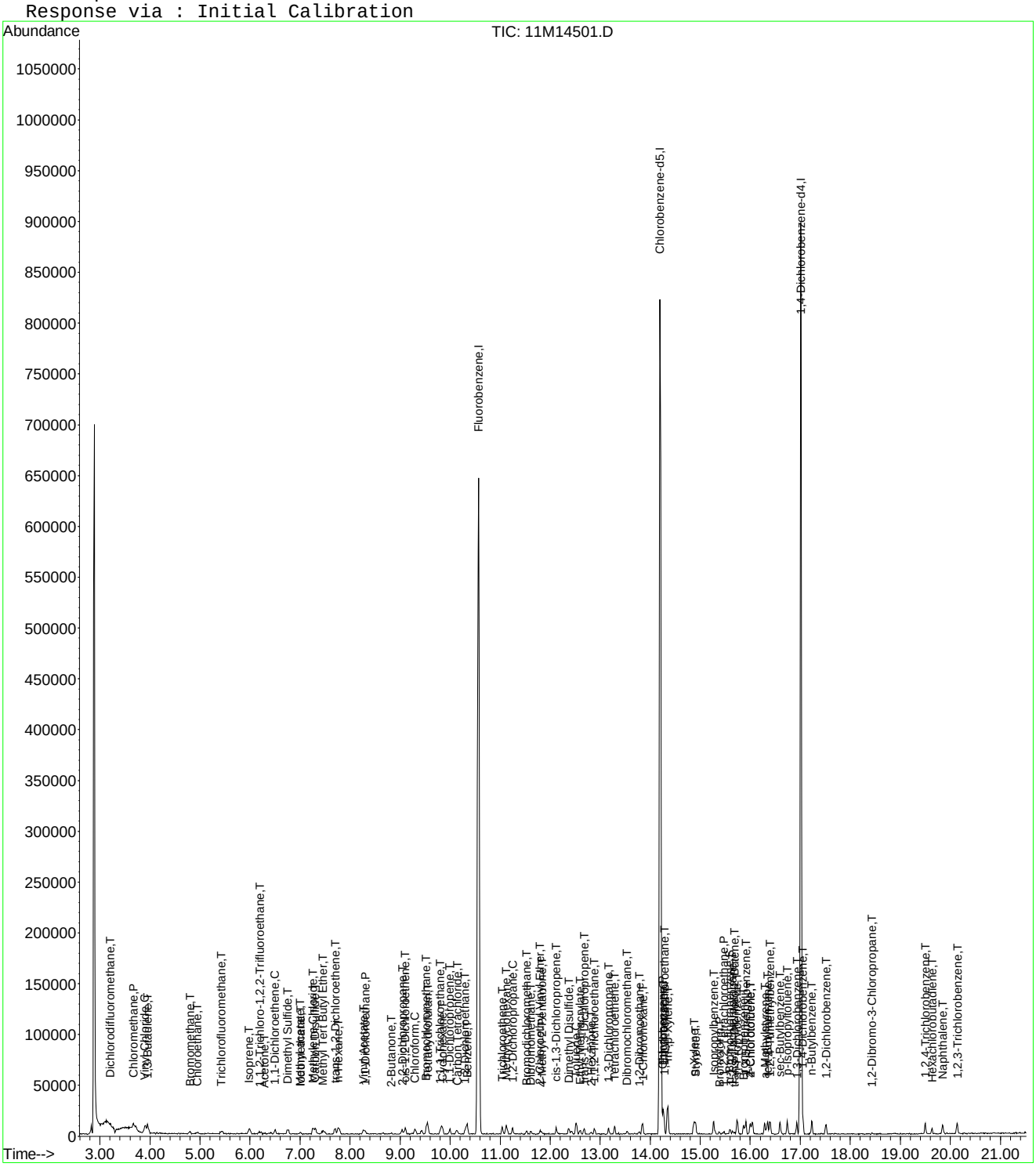
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
54)	cis-1,3-Dichloropropene	12.12	75	4254	0.3386 ug/L		95
55)	Dimethyl Disulfide	12.38	79	1869	0.2479 ug/L		94
58)	Toluene	12.52	91	10919	0.3170 ug/L		100
59)	Ethyl Methacrylate	12.60	69	2349	0.2668 ug/L		85
60)	trans-1,3-Dichloropropene	12.68	75	3263	0.2893 ug/L	#	79
61)	1,1,2-Trichloroethane	12.88	97	1947	0.2905 ug/L		93
62)	2-Hexanone	12.82	43	1621	0.2244 ug/L	#	46
63)	1,3-Dichloropropane	13.17	76	2831	0.2513 ug/L		83
64)	Tetrachloroethene	13.29	164	2895	0.3872 ug/L		88
65)	Dibromochloromethane	13.53	129	2882	0.3208 ug/L		98
66)	1,2-Dibromoethane	13.78	107	2079	0.3013 ug/L		83
67)	1-Chlorohexane	13.86	91	3462	0.3114 ug/L		94
68)	Chlorobenzene	14.25	112	7987	0.3267 ug/L		97
69)	1,1,1,2-Tetrachloroethane	14.28	131	2258	0.2590 ug/L		83
70)	Ethylbenzene	14.27	106	4007	0.3206 ug/L		95
71)	m-,p-Xylene	14.35	106	9868	0.6701 ug/L		95
72)	o-Xylene	14.88	106	4696	0.3242 ug/L		90
73)	Styrene	14.91	104	6826	0.2776 ug/L		82
74)	Bromoform	15.39	173	1603	0.2752 ug/L	#	59
75)	Isopropylbenzene	15.27	105	12037	0.3243 ug/L		95
77)	1,1,2,2-Tetrachloroethane	15.47	83	1971	0.2462 ug/L		93
79)	1,2,3-Trichloropropane	15.64	110	474	0.1953 ug/L		79
80)	trans-1,4-Dichloro-2-Buten	15.69	53	711	0.2175 ug/L		63
81)	n-Propylbenzene	15.74	91	14873	0.3522 ug/L		98
82)	Bromobenzene	15.87	156	3673	0.3393 ug/L		87
83)	1,3,5-Trimethylbenzene	15.91	105	9294	0.3068 ug/L		97
84)	2-Chlorotoluene	16.01	91	11171	0.4180 ug/L		90
85)	4-Chlorotoluene	16.01	91	11172	0.4105 ug/L		87
86)	a-Methylstyrene	16.30	118	4569	0.2566 ug/L		78
87)	tert-Butylbenzene	16.35	134	2246	0.3389 ug/L		90
88)	1,2,4-Trimethylbenzene	16.40	105	10081	0.3235 ug/L		93
89)	sec-Butylbenzene	16.60	105	12863	0.3353 ug/L		94
90)	p-Isopropyltoluene	16.74	119	11684	0.3500 ug/L		98
91)	1,3-Dichlorobenzene	16.94	146	6561	0.3288 ug/L		99
92)	1,4-Dichlorobenzene	17.05	146	6786	0.3318 ug/L		80
93)	n-Butylbenzene	17.23	91	10734	0.3428 ug/L		91
94)	1,2-Dichlorobenzene	17.52	146	6054	0.3176 ug/L		100
95)	1,2-Dibromo-3-Chloropropan	18.44	75	222	0.1443 ug/L	#	1
96)	1,2,4-Trichlorobenzene	19.50	180	5493	0.3885 ug/L		95
97)	Hexachlorobutadiene	19.63	225	2254	0.4074 ug/L	#	75
98)	Naphthalene	19.84	128	8938	0.3041 ug/L	#	96
99)	1,2,3-Trichlorobenzene	20.14	180	5233	0.3836 ug/L		92

(#) = qualifier out of range (m) = manual integration
11M14501.D 8260WT.M Fri Oct 14 09:15:56 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14501.D Vial: 3
Acq On : 13 Oct 2016 13:42 Operator: FJB
Sample : WG587480-02 0.3ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:15 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14501.D Vial: 3
Acq On : 13 Oct 2016 13:42 Operator: FJB
Sample : WG587480-02 0.3ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
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	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.2395	0.0	0	0.00
3	P	Chloromethane	-1.0000	0.4871	0.0	0	0.01
4	C	Vinyl Chloride	-1.0000	0.3472	0.0	0	0.00
5	T	1,3-Butadiene	-1.0000	0.4491	0.0	0	0.01
6	T	Bromomethane	-1.0000	0.4325	0.0	0	0.00
7	T	Chloroethane	-1.0000	0.3216	0.0	0	-0.01
8	T	Trichlorofluoromethane	-1.0000	0.3328	0.0	0	0.00
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.95#
10	T	Isoprene	-1.0000	0.2974	0.0	0	-0.01
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.17#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.3283	0.0	0	0.00
13	T	Acetone	-1.0000	0.5351	0.0	0	0.01
14	C	1,1-Dichloroethene	-1.0000	0.3026	0.0	0	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.60#
16	T	Dimethyl Sulfide	-1.0000	0.3103	0.0	0	0.00
17	T	Iodomethane	-1.0000	0.9525	0.0	0	0.01
18	T	Methyl acetate	-1.0000	0.2643	0.0	0	-0.01
19	T	Methylene Chloride	-1.0000	0.3868	0.0	0	0.00
20	T	Carbon Disulfide	-1.0000	0.4118	0.0	0	-0.01
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.43#
22	T	Methyl Tert Butyl Ether	-1.0000	0.2977	0.0	0	-0.01
23	T	trans-1,2-Dichloroethene	-1.0000	0.2769	0.0	0	0.00
24	T	n-Hexane	-1.0000	0.3410	0.0	0	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.10#
26	T	Vinyl Acetate	-1.0000	0.3196	0.0	0	0.01
27	P	1,1-Dichloroethane	-1.0000	0.3374	0.0	0	0.01
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.64#
29	T	2-Butanone	-1.0000	0.2825	0.0	0	0.00
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.92#
31	T	2,2-Dichloropropane	-1.0000	0.3324	0.0	0	0.01
32	T	cis-1,2-Dichloroethene	-1.0000	0.3293	0.0	0	0.00
33	C	Chloroform	0.3000	0.3373	-12.4	100	-0.01
34	T	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.43#
35	T	Bromochloromethane	-1.0000	0.2886	0.0	0	0.00
36	T	Tetrahydrofuran	-1.0000	0.3270	0.0	0	0.01
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.57#
38	T	1,1,1-Trichloroethane	-1.0000	0.3094	0.0	0	-0.01
39	T	Cyclohexane	-1.0000	0.3236	0.0	0	0.00
40	T	1,1-Dichloropropene	-1.0000	0.3297	0.0	0	-0.01
41	T	Carbon Tetrachloride	-1.0000	0.3053	0.0	0	0.01
42	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.09#
43	S	1,2-Dichloroethane-d4	-1.0000	0.0234	0.0	0	0.00
44	T	1,2-Dichloroethane	-1.0000	0.3097	0.0	0	0.00
45	T	Benzene	-1.0000	0.3223	0.0	0	0.00
46	T	Trichloroethene	-1.0000	0.3286	0.0	0	0.00
47	T	Methylcyclohexane	-1.0000	0.2915	0.0	0	0.00
48	C	1,2-Dichloropropane	-1.0000	0.3239	0.0	0	0.00
49	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.51#
50	T	Bromodichloromethane	-1.0000	0.2801	0.0	0	0.00
51	T	Dibromomethane	-1.0000	0.2594	0.0	0	0.00
52	T	2-Chloroethyl Vinyl Ether	-1.0000	0.2057	0.0	0	0.00
53	T	4-Methyl-2-Pentanone	-1.0000	0.1801	0.0	0	0.01
54	T	cis-1,3-Dichloropropene	-1.0000	0.3386	0.0	0	0.00

(#) = Out of Range
11M14501.D 8260WT.M Fri Oct 14 09:17:33 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14501.D Vial: 3
Acq On : 13 Oct 2016 13:42 Operator: FJB
Sample : WG587480-02 0.3ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
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)
55	T	Dimethyl Disulfide	-1.0000	0.2479	0.0	0	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	-1.0000	0.1101	0.0	0	-0.01
58	C	Toluene	-1.0000	0.3170	0.0	0	0.00
59	T	Ethyl Methacrylate	-1.0000	0.2668	0.0	0	0.01
60	T	trans-1,3-Dichloropropene	-1.0000	0.2893	0.0	0	0.00
61	T	1,1,2-Trichloroethane	-1.0000	0.2905	0.0	0	0.00
62	T	2-Hexanone	-1.0000	0.2244	0.0	0	0.00
63	T	1,3-Dichloropropane	-1.0000	0.2513	0.0	0	0.00
64	T	Tetrachloroethene	-1.0000	0.3872	0.0	0	0.00
65	T	Dibromochloromethane	-1.0000	0.3208	0.0	0	0.00
66	T	1,2-Dibromoethane	-1.0000	0.3013	0.0	0	0.00
67	T	1-Chlorohexane	-1.0000	0.3114	0.0	0	0.01
68	P	Chlorobenzene	-1.0000	0.3267	0.0	0	0.00
69	T	1,1,1,2-Tetrachloroethane	-1.0000	0.2590	0.0	0	0.01
70	C	Ethylbenzene	-1.0000	0.3206	0.0	0	0.00
71	T	m-,p-Xylene	-1.0000	0.6701	0.0	0	0.00
72	T	o-Xylene	-1.0000	0.3242	0.0	0	0.00
73	T	Styrene	-1.0000	0.2776	0.0	0	0.00
74	P	Bromoform	-1.0000	0.2752	0.0	0	0.01
75	T	Isopropylbenzene	-1.0000	0.3243	0.0	0	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77	P	1,1,2,2-Tetrachloroethane	-1.0000	0.2462	0.0	0	0.00
78	S	p-Bromofluorobenzene	-1.0000	0.2397	0.0	0	0.00
79	T	1,2,3-Trichloropropane	-1.0000	0.1953	0.0	0	-0.01
80	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.2175	0.0	0	0.00
81	T	n-Propylbenzene	-1.0000	0.3522	0.0	0	0.00
82	T	Bromobenzene	0.3000	0.3393	-13.1	100	0.00
83	T	1,3,5-Trimethylbenzene	-1.0000	0.3068	0.0	0	0.00
84	T	2-Chlorotoluene	-1.0000	0.4180	0.0	0	0.01
85	T	4-Chlorotoluene	-1.0000	0.4105	0.0	0	-0.03
86	T	a-Methylstyrene	-1.0000	0.2566	0.0	0	0.01
87	T	tert-Butylbenzene	-1.0000	0.3389	0.0	0	0.00
88	T	1,2,4-Trimethylbenzene	-1.0000	0.3235	0.0	0	0.00
89	T	sec-Butylbenzene	-1.0000	0.3353	0.0	0	0.00
90	T	p-Isopropyltoluene	-1.0000	0.3500	0.0	0	0.00
91	T	1,3-Dichlorobenzene	-1.0000	0.3288	0.0	0	0.00
92	T	1,4-Dichlorobenzene	0.3000	0.3318	-10.6	100	0.00
93	T	n-Butylbenzene	-1.0000	0.3428	0.0	0	0.00
94	T	1,2-Dichlorobenzene	0.3000	0.3176	-5.9	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.1443	0.0	0	0.00
96	T	1,2,4-Trichlorobenzene	-1.0000	0.3885	0.0	0	0.00
97	T	Hexachlorobutadiene	-1.0000	0.4074	0.0	0	0.00
98	T	Naphthalene	-1.0000	0.3041	0.0	0	-0.01
99	T	1,2,3-Trichlorobenzene	0.3000	0.3836	-27.9#	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M14501.D 8260WT.M Fri Oct 14 09:17:34 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14502.D Vial: 4
Acq On : 13 Oct 2016 14:11 Operator: FJB
Sample : WG587480-03 0.4ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:15:58 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	694969	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	534036	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	272732	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	216	0.0258	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.12%#		
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#		
57) Toluene-d8	12.43	98	2484	0.0878	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.36%#		
78) p-Bromofluorobenzene	15.59	95	2180	0.1998	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.80%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	4237	0.3594	ug/L #	60
3) Chloromethane	3.67	50	8420	0.6626	ug/L #	69
4) Vinyl Chloride	3.90	62	4933	0.4278	ug/L #	1
5) 1,3-Butadiene	3.95	54	4982	0.5307	ug/L	94
6) Bromomethane	4.80	94	2169	0.3882	ug/L	95
7) Chloroethane	4.94	64	2684	0.3973	ug/L #	77
8) Trichlorofluoromethane	5.42	101	4501	0.3354	ug/L	88
10) Isoprene	5.99	67	4113	0.3358	ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	3180	0.4405	ug/L	55
13) Acetone	6.28	43	1375	0.5100	ug/L #	50
14) 1,1-Dichloroethene	6.49	61	5528	0.3854	ug/L	99
16) Dimethyl Sulfide	6.76	62	3518	0.3579	ug/L	89
17) Iodomethane	7.00	142	1587	1.0298	ug/L #	57
18) Methyl acetate	7.02	43	2904	0.3652	ug/L #	73
19) Methylene Chloride	7.27	84	3451	0.4232	ug/L	90
20) Carbon Disulfide	7.30	76	11573	0.4868	ug/L	99
22) Methyl Tert Butyl Ether	7.46	73	7451	0.3717	ug/L	89
23) trans-1,2-Dichloroethene	7.69	96	3349	0.4121	ug/L	93
24) n-Hexane	7.78	57	5852	0.4210	ug/L #	75
26) Vinyl Acetate	8.26	43	7715	0.3672	ug/L #	90
27) 1,1-Dichloroethane	8.29	63	6929	0.4160	ug/L #	83
29) 2-Butanone	8.83	43	1422	0.3139	ug/L #	65
31) 2,2-Dichloropropane	9.03	77	5191	0.4573	ug/L #	75
32) cis-1,2-Dichloroethene	9.11	96	3800	0.4245	ug/L	72
33) Chloroform	9.30	83	5901	0.4038	ug/L	95
35) Bromochloromethane	9.52	130	2319	0.4019	ug/L	88
36) Tetrahydrofuran	9.55	42	10036	0.6879	ug/L	92
38) 1,1,1-Trichloroethane	9.81	97	5101	0.3958	ug/L #	86
39) Cyclohexane	9.83	56	7093	0.3755	ug/L	90
40) 1,1-Dichloropropene	10.00	75	4467	0.4187	ug/L	78
41) Carbon Tetrachloride	10.13	117	4587	0.3810	ug/L	97
44) 1,2-Dichloroethane	10.30	62	4892	0.3896	ug/L	99
45) Benzene	10.34	78	12783	0.4057	ug/L	97
46) Trichloroethene	11.04	130	3815	0.4186	ug/L	97
47) Methylcyclohexane	11.12	83	4572	0.3700	ug/L	83
48) 1,2-Dichloropropane	11.24	63	3661	0.3941	ug/L #	72
50) Bromodichloromethane	11.53	83	4451	0.4030	ug/L #	93
51) Dibromomethane	11.61	93	2202	0.4471	ug/L	82
52) 2-Chloroethyl Vinyl Ether	11.80	63	1491	0.2740	ug/L #	52
53) 4-Methyl-2-Pentanone	11.83	58	788	0.2359	ug/L #	69

(#) = qualifier out of range (m) = manual integration
11M14502.D 8260WT.M Fri Oct 14 09:15:59 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14502.D Vial: 4
Acq On : 13 Oct 2016 14:11 Operator: FJB
Sample : WG587480-03 0.4ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:15:58 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

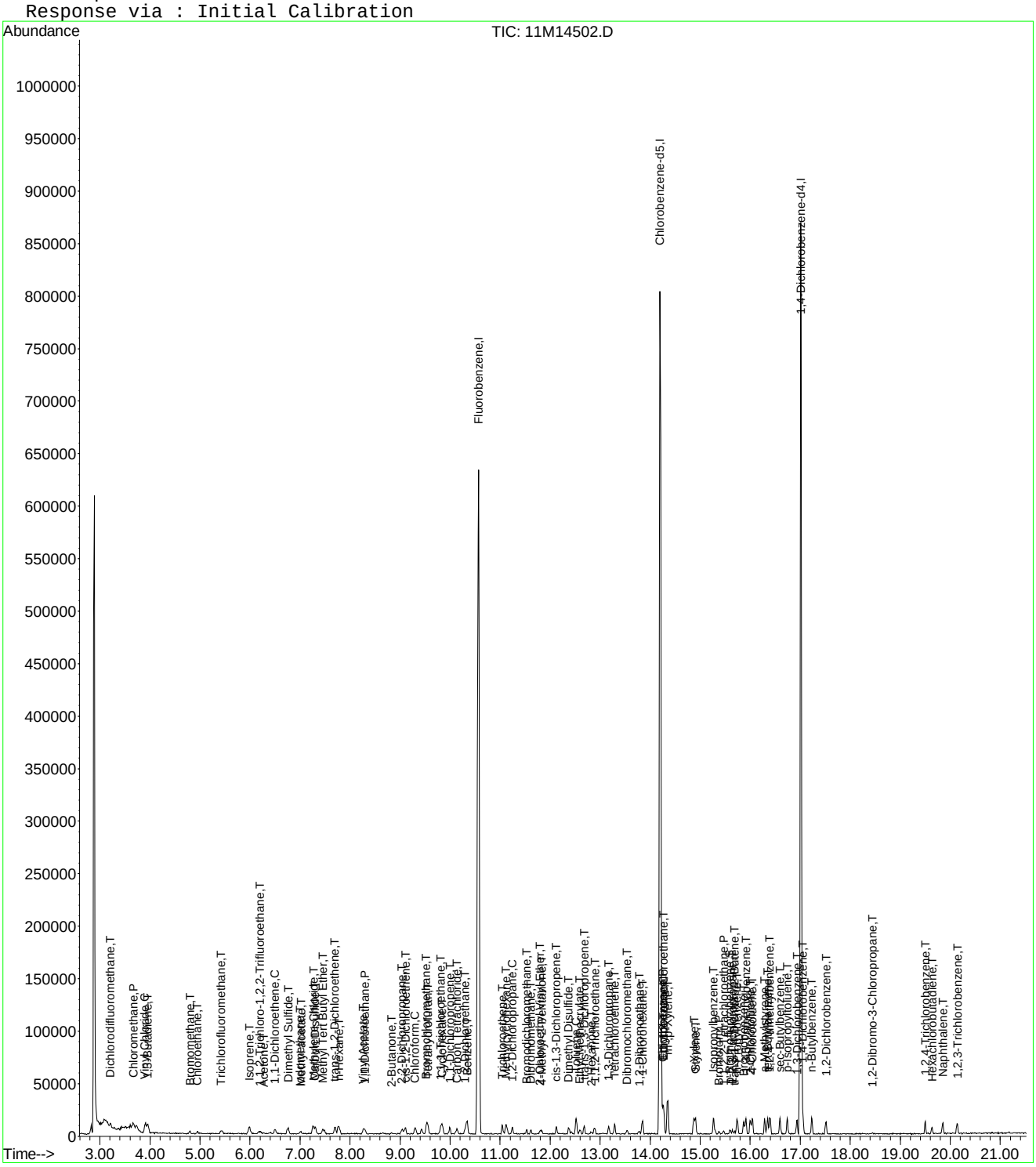
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
54)	cis-1,3-Dichloropropene	12.12	75	4707	0.3856 ug/L		97
55)	Dimethyl Disulfide	12.37	79	2098	0.2864 ug/L		92
58)	Toluene	12.52	91	13586	0.4040 ug/L		98
59)	Ethyl Methacrylate	12.59	69	2851	0.3317 ug/L		90
60)	trans-1,3-Dichloropropene	12.68	75	4313	0.3917 ug/L		87
61)	1,1,2-Trichloroethane	12.89	97	2359	0.3606 ug/L		99
62)	2-Hexanone	12.82	43	2459	0.3487 ug/L	#	60
63)	1,3-Dichloropropane	13.17	76	4820	0.4382 ug/L		86
64)	Tetrachloroethene	13.29	164	3050	0.4179 ug/L		100
65)	Dibromochloromethane	13.53	129	3393	0.3869 ug/L		95
66)	1,2-Dibromoethane	13.78	107	2756	0.4092 ug/L		87
67)	1-Chlorohexane	13.84	91	4045	0.3727 ug/L		96
68)	Chlorobenzene	14.25	112	10540	0.4417 ug/L		94
69)	1,1,1,2-Tetrachloroethane	14.27	131	2852	0.3351 ug/L		85
70)	Ethylbenzene	14.27	106	4722	0.3870 ug/L		96
71)	m-,p-Xylene	14.35	106	11881	0.8265 ug/L		95
72)	o-Xylene	14.88	106	5373	0.3800 ug/L		88
73)	Styrene	14.91	104	9069	0.3778 ug/L		98
74)	Bromoform	15.38	173	1617	0.2843 ug/L		78
75)	Isopropylbenzene	15.26	105	14843	0.4097 ug/L		97
77)	1,1,2,2-Tetrachloroethane	15.47	83	3210	0.4174 ug/L		83
79)	1,2,3-Trichloropropane	15.64	110	913	0.3914 ug/L	#	11
80)	trans-1,4-Dichloro-2-Buten	15.69	53	942	0.2999 ug/L	#	57
81)	n-Propylbenzene	15.74	91	17004	0.4191 ug/L		97
82)	Bromobenzene	15.87	156	4589	0.4412 ug/L		84
83)	1,3,5-Trimethylbenzene	15.91	105	11802	0.4055 ug/L		93
84)	2-Chlorotoluene	16.01	91	11152	0.4343 ug/L		99
85)	4-Chlorotoluene	16.04	91	10961	0.4191 ug/L		97
86)	a-Methylstyrene	16.29	118	5845	0.3417 ug/L		88
87)	tert-Butylbenzene	16.35	134	2236	0.3512 ug/L		68
88)	1,2,4-Trimethylbenzene	16.39	105	12175	0.4066 ug/L		97
89)	sec-Butylbenzene	16.60	105	15410	0.4181 ug/L		97
90)	p-Isopropyltoluene	16.74	119	12927	0.4031 ug/L		98
91)	1,3-Dichlorobenzene	16.94	146	8461	0.4413 ug/L		99
92)	1,4-Dichlorobenzene	17.05	146	7995	0.4069 ug/L		84
93)	n-Butylbenzene	17.23	91	12913	0.4291 ug/L		96
94)	1,2-Dichlorobenzene	17.52	146	7310	0.3991 ug/L		96
95)	1,2-Dibromo-3-Chloropropan	18.45	75	240	0.1623 ug/L	#	29
96)	1,2,4-Trichlorobenzene	19.50	180	5918	0.4357 ug/L		95
97)	Hexachlorobutadiene	19.64	225	2361	0.4441 ug/L		89
98)	Naphthalene	19.85	128	10762	0.3811 ug/L	#	92
99)	1,2,3-Trichlorobenzene	20.14	180	5119	0.3906 ug/L		98

(#) = qualifier out of range (m) = manual integration
11M14502.D 8260WT.M Fri Oct 14 09:15:59 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14502.D Vial: 4
Acq On : 13 Oct 2016 14:11 Operator: FJB
Sample : WG587480-03 0.4ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:15 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14502.D Vial: 4
Acq On : 13 Oct 2016 14:11 Operator: FJB
Sample : WG587480-03 0.4ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
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	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.3594	0.0	0	0.00
3	P	Chloromethane	-1.0000	0.6626	0.0	100	0.01
4	C	Vinyl Chloride	0.4000	0.4278	-6.9	100	0.00
5	T	1,3-Butadiene	-1.0000	0.5307	0.0	100	0.01
6	T	Bromomethane	-1.0000	0.3882	0.0	100	0.00
7	T	Chloroethane	-1.0000	0.3973	0.0	100	-0.01
8	T	Trichlorofluoromethane	0.4000	0.3354	16.2	100	-0.01
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.95#
10	T	Isoprene	-1.0000	0.3358	0.0	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.17#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.4405	0.0	100	0.00
13	T	Acetone	-1.0000	0.5100	0.0	0	0.00
14	C	1,1-Dichloroethene	0.4000	0.3854	3.6	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.60#
16	T	Dimethyl Sulfide	-1.0000	0.3579	0.0	100	0.01
17	T	Iodomethane	-1.0000	1.0298	0.0	0	0.00
18	T	Methyl acetate	-1.0000	0.3652	0.0	0	0.01
19	T	Methylene Chloride	0.4000	0.4232	-5.8	100	0.01
20	T	Carbon Disulfide	-1.0000	0.4868	0.0	100	-0.01
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.43#
22	T	Methyl Tert Butyl Ether	-1.0000	0.3717	0.0	100	-0.01
23	T	trans-1,2-Dichloroethene	0.4000	0.4121	-3.0	100	-0.01
24	T	n-Hexane	-1.0000	0.4210	0.0	0	0.01
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.10#
26	T	Vinyl Acetate	-1.0000	0.3672	0.0	100	0.00
27	P	1,1-Dichloroethane	0.4000	0.4160	-4.0	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.64#
29	T	2-Butanone	-1.0000	0.3139	0.0	0	0.01
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.92#
31	T	2,2-Dichloropropane	0.4000	0.4573	-14.3	100	-0.01
32	T	cis-1,2-Dichloroethene	0.4000	0.4245	-6.1	100	0.01
33	C	Chloroform	0.4000	0.4038	-0.9	100	-0.01
34	T	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.43#
35	T	Bromochloromethane	0.4000	0.4019	-0.5	100	0.00
36	T	Tetrahydrofuran	-1.0000	0.6879	0.0	100	0.01
37	S	Dibromofluoromethane	-1.0000	0.0258	0.0	100	0.00
38	T	1,1,1-Trichloroethane	0.4000	0.3958	1.0	100	0.00
39	T	Cyclohexane	0.4000	0.3755	6.1	100	-0.01
40	T	1,1-Dichloropropene	0.4000	0.4187	-4.7	100	0.00
41	T	Carbon Tetrachloride	0.4000	0.3810	4.8	100	0.00
42	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.09#
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.18#
44	T	1,2-Dichloroethane	0.4000	0.3896	2.6	100	0.00
45	T	Benzene	0.4000	0.4057	-1.4	100	0.00
46	T	Trichloroethene	0.4000	0.4186	-4.6	100	0.00
47	T	Methylcyclohexane	0.4000	0.3700	7.5	100	-0.01
48	C	1,2-Dichloropropane	0.4000	0.3941	1.5	100	-0.01
49	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.51#
50	T	Bromodichloromethane	0.4000	0.4031	-0.8	100	0.00
51	T	Dibromomethane	0.4000	0.4471	-11.8	100	0.00
52	T	2-Chloroethyl Vinyl Ether	-1.0000	0.2740	0.0	0	0.00
53	T	4-Methyl-2-Pentanone	-1.0000	0.2359	0.0	100	0.00
54	T	cis-1,3-Dichloropropene	0.4000	0.3856	3.6	100	0.00

(#) = Out of Range
11M14502.D 8260WT.M Fri Oct 14 09:17:12 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14502.D Vial: 4
Acq On : 13 Oct 2016 14:11 Operator: FJB
Sample : WG587480-03 0.4ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
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)
55	T	Dimethyl Disulfide	-1.0000	0.2864	0.0	100	-0.01
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	-1.0000	0.0878	0.0	0	0.00
58	C	Toluene	0.4000	0.4040	-1.0	100	0.00
59	T	Ethyl Methacrylate	-1.0000	0.3317	0.0	100	0.00
60	T	trans-1,3-Dichloropropene	-1.0000	0.3917	0.0	100	0.00
61	T	1,1,2-Trichloroethane	0.4000	0.3606	9.9	100	0.01
62	T	2-Hexanone	-1.0000	0.3487	0.0	100	0.00
63	T	1,3-Dichloropropane	0.4000	0.4382	-9.6	100	0.00
64	T	Tetrachloroethene	0.4000	0.4179	-4.5	100	0.00
65	T	Dibromochloromethane	0.4000	0.3869	3.3	100	0.00
66	T	1,2-Dibromoethane	0.4000	0.4092	-2.3	100	0.00
67	T	1-Chlorohexane	0.4000	0.3727	6.8	100	0.00
68	P	Chlorobenzene	0.4000	0.4417	-10.4	100	0.00
69	T	1,1,1,2-Tetrachloroethane	0.4000	0.3351	16.2	100	0.00
70	C	Ethylbenzene	0.4000	0.3870	3.3	100	0.00
71	T	m-,p-Xylene	0.8000	0.8265	-3.3	100	0.00
72	T	o-Xylene	0.4000	0.3800	5.0	100	0.00
73	T	Styrene	0.4000	0.3778	5.5	100	0.00
74	P	Bromoform	-1.0000	0.2843	0.0	100	0.00
75	T	Isopropylbenzene	0.4000	0.4097	-2.4	100	-0.01
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77	P	1,1,2,2-Tetrachloroethane	0.4000	0.4174	-4.3	100	0.00
78	S	p-Bromofluorobenzene	-1.0000	0.1998	0.0	0	0.00
79	T	1,2,3-Trichloropropane	-1.0000	0.3914	0.0	100	-0.01
80	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.2999	0.0	0	0.00
81	T	n-Propylbenzene	0.4000	0.4190	-4.8	100	0.00
82	T	Bromobenzene	0.4000	0.4412	-10.3	100	0.00
83	T	1,3,5-Trimethylbenzene	0.4000	0.4055	-1.4	100	0.00
84	T	2-Chlorotoluene	0.4000	0.4343	-8.6	100	0.01
85	T	4-Chlorotoluene	0.4000	0.4191	-4.8	100	0.00
86	T	a-Methylstyrene	-1.0000	0.3417	0.0	100	0.00
87	T	tert-Butylbenzene	0.4000	0.3512	12.2	100	0.00
88	T	1,2,4-Trimethylbenzene	0.4000	0.4066	-1.7	100	-0.01
89	T	sec-Butylbenzene	-1.0000	0.4181	0.0	100	0.00
90	T	p-Isopropyltoluene	-1.0000	0.4031	0.0	100	0.00
91	T	1,3-Dichlorobenzene	0.4000	0.4413	-10.3	100	0.00
92	T	1,4-Dichlorobenzene	0.4000	0.4069	-1.7	100	0.00
93	T	n-Butylbenzene	0.4000	0.4291	-7.3	100	0.00
94	T	1,2-Dichlorobenzene	0.4000	0.3991	0.2	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.1623	0.0	100	0.01
96	T	1,2,4-Trichlorobenzene	0.4000	0.4357	-8.9	100	0.00
97	T	Hexachlorobutadiene	0.4000	0.4441	-11.0	100	0.00
98	T	Naphthalene	0.4000	0.3811	4.7	100	0.00
99	T	1,2,3-Trichlorobenzene	0.4000	0.3906	2.4	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M14502.D 8260WT.M Fri Oct 14 09:17:13 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D Vial: 5
Acq On : 13 Oct 2016 14:40 Operator: FJB
Sample : WG587480-04 1ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:00 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.57	96	696558	25.00	ug/L		0.00
56) Chlorobenzene-d5	14.20	117	522816	25.00	ug/L		0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	272336	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	9.57	111	3816	0.4554	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	1.84%#			
43) 1,2-Dichloroethane-d4	10.18	65	4584	0.4873	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	1.96%#			
57) Toluene-d8	12.43	98	15638	0.5644	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.24%#			
78) p-Bromofluorobenzene	15.59	95	7490	0.6874	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.76%#			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.21	85	11183	0.9463	ug/L		95
3) Chloromethane	3.66	50	16709	1.3118	ug/L		78
4) Vinyl Chloride	3.90	62	11527	0.9973	ug/L	#	50
5) 1,3-Butadiene	3.95	54	11636	1.2368	ug/L		88
6) Bromomethane	4.79	94	5513	0.9844	ug/L		99
7) Chloroethane	4.95	64	6524	0.9635	ug/L		88
8) Trichlorofluoromethane	5.43	101	13825	1.0277	ug/L		98
9) Diethyl ether	5.95	59	30723	4.6723	ug/L		97
10) Isoprene	6.00	67	11002	0.8962	ug/L		99
11) Acrolein	6.18	56	1635	2.9843	ug/L		87
12) 1,1,2-Trichloro-1,2,2-Trif	6.21	101	6856	0.9476	ug/L		94
13) Acetone	6.29	43	3023	1.1186	ug/L	#	65
14) 1,1-Dichloroethene	6.49	61	13484	0.9380	ug/L		96
15) Tert-Butyl Alcohol	6.60	59	6380	9.1468	ug/L	#	79
16) Dimethyl Sulfide	6.76	62	8686	0.8816	ug/L		99
17) Iodomethane	7.01	142	4037	1.2729	ug/L		83
18) Methyl acetate	7.02	43	6904	0.8663	ug/L	#	78
19) Methylene Chloride	7.26	84	8658	1.0594	ug/L		97
20) Carbon Disulfide	7.31	76	24681	1.0358	ug/L		99
21) Acrylonitrile	7.43	53	8115	2.2351	ug/L		94
22) Methyl Tert Butyl Ether	7.45	73	18990	0.9451	ug/L		98
23) trans-1,2-Dichloroethene	7.70	96	8010	0.9833	ug/L		99
24) n-Hexane	7.78	57	13300	0.9547	ug/L	#	96
25) Diisopropyl ether	8.11	45	189536	4.8108	ug/L		99
26) Vinyl Acetate	8.26	43	20300	0.9640	ug/L		98
27) 1,1-Dichloroethane	8.29	63	16467	0.9863	ug/L		99
28) Ethyl-Tert-Butyl ether	8.64	59	138133	4.7277	ug/L		99
29) 2-Butanone	8.83	43	4074	0.8972	ug/L	#	65
30) Propionitrile	8.93	54	6206	4.9329	ug/L	#	73
31) 2,2-Dichloropropane	9.04	77	10950	0.9624	ug/L		96
32) cis-1,2-Dichloroethene	9.09	96	7837	0.8736	ug/L		84
33) Chloroform	9.31	83	15308	1.0450	ug/L		97
34) 1-Bromopropane	9.43	122	1027	0.6973	ug/L		43
35) Bromochloromethane	9.53	130	5584	0.9656	ug/L		94
36) Tetrahydrofuran	9.54	42	23159	5.0695	ug/L		97
38) 1,1,1-Trichloroethane	9.82	97	12823	0.9928	ug/L	#	91
39) Cyclohexane	9.84	56	18655	0.9853	ug/L		98
40) 1,1-Dichloropropene	10.00	75	10918	1.0211	ug/L		98
41) Carbon Tetrachloride	10.14	117	12105	1.0031	ug/L		98
42) Tert-Amyl-Methyl ether	10.09	73	93599	4.7307	ug/L		97

(#) = qualifier out of range (m) = manual integration
11M14503.D 8260WT.M Fri Oct 14 09:16:01 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D Vial: 5
Acq On : 13 Oct 2016 14:40 Operator: FJB
Sample : WG587480-04 1ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:00 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

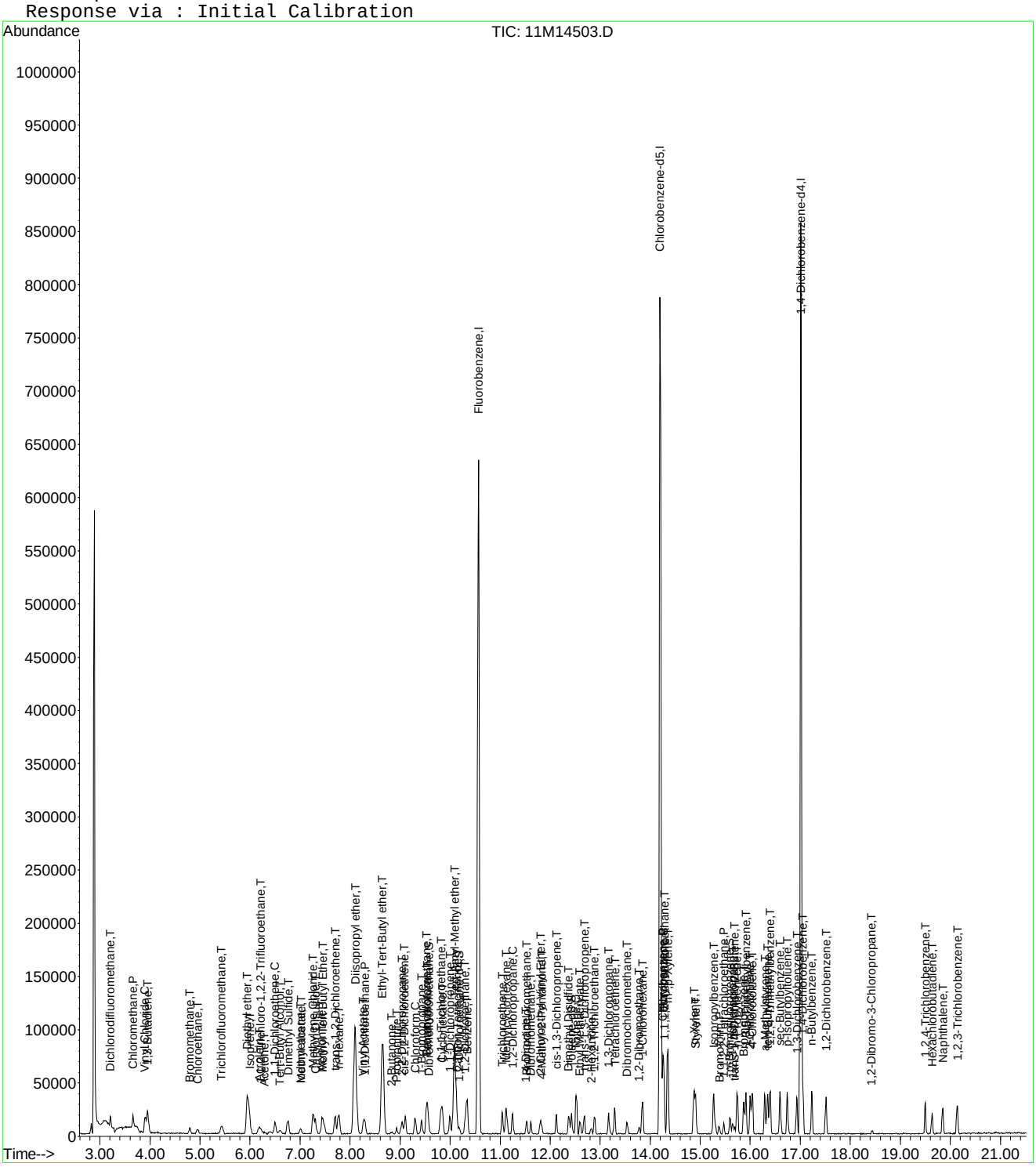
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44)	1,2-Dichloroethane	10.30	62	12628	1.0035 ug/L		98
45)	Benzene	10.34	78	33635	1.0649 ug/L		94
46)	Trichloroethene	11.04	130	8895	0.9737 ug/L		95
47)	Methylcyclohexane	11.13	83	12653	1.0218 ug/L		97
48)	1,2-Dichloropropane	11.25	63	8989	0.9655 ug/L		96
49)	1,4-Dioxane	11.51	88	656	10.1084 ug/L	#	6
50)	Bromodichloromethane	11.53	83	10755	0.9717 ug/L		97
51)	Dibromomethane	11.61	93	4637	0.9394 ug/L		92
52)	2-Chloroethyl Vinyl Ether	11.81	63	4358	0.7992 ug/L		85
53)	4-Methyl-2-Pentanone	11.83	58	2459	0.7345 ug/L	#	62
54)	cis-1,3-Dichloropropene	12.13	75	11276	0.9217 ug/L		96
55)	Dimethyl Disulfide	12.37	79	5396	0.7349 ug/L		90
58)	Toluene	12.52	91	34651	1.0525 ug/L		95
59)	Ethyl Methacrylate	12.59	69	6655	0.7909 ug/L		99
60)	trans-1,3-Dichloropropene	12.69	75	10049	0.9323 ug/L		93
61)	1,1,2-Trichloroethane	12.88	97	6481	1.0118 ug/L		98
62)	2-Hexanone	12.82	43	5594	0.8102 ug/L	#	78
63)	1,3-Dichloropropane	13.17	76	10528	0.9778 ug/L		97
64)	Tetrachloroethene	13.30	164	8166	1.1428 ug/L		85
65)	Dibromochloromethane	13.53	129	7851	0.9145 ug/L		99
66)	1,2-Dibromoethane	13.77	107	6167	0.9353 ug/L		95
67)	1-Chlorohexane	13.84	91	10797	1.0163 ug/L		96
68)	Chlorobenzene	14.25	112	24500	1.0487 ug/L		93
69)	1,1,1,2-Tetrachloroethane	14.28	131	8184	0.9822 ug/L		98
70)	Ethylbenzene	14.27	106	12696	1.0628 ug/L		93
71)	m-,p-Xylene	14.35	106	28338	2.0136 ug/L		98
72)	o-Xylene	14.88	106	14053	1.0151 ug/L		98
73)	Styrene	14.91	104	22153	0.9427 ug/L		98
74)	Bromoform	15.39	173	4656	0.8363 ug/L		100
75)	Isopropylbenzene	15.27	105	35250	0.9938 ug/L		99
77)	1,1,2,2-Tetrachloroethane	15.47	83	7438	0.9685 ug/L		97
79)	1,2,3-Trichloropropane	15.65	110	2083	0.8943 ug/L		67
80)	trans-1,4-Dichloro-2-Buten	15.69	53	2724	0.8684 ug/L		86
81)	n-Propylbenzene	15.74	91	40574	1.0014 ug/L		98
82)	Bromobenzene	15.87	156	10150	0.9774 ug/L		92
83)	1,3,5-Trimethylbenzene	15.91	105	27593	0.9494 ug/L		99
84)	2-Chlorotoluene	16.00	91	25940	1.0117 ug/L		86
85)	4-Chlorotoluene	16.04	91	28574	1.0942 ug/L		86
86)	a-Methylstyrene	16.30	118	16716	0.9786 ug/L		92
87)	tert-Butylbenzene	16.35	134	6226	0.9792 ug/L		92
88)	1,2,4-Trimethylbenzene	16.40	105	29425	0.9842 ug/L		97
89)	sec-Butylbenzene	16.60	105	38423	1.0440 ug/L		99
90)	p-Isopropyltoluene	16.74	119	31045	0.9694 ug/L		100
91)	1,3-Dichlorobenzene	16.94	146	19007	0.9927 ug/L		95
92)	1,4-Dichlorobenzene	17.05	146	21127	1.0768 ug/L		79
93)	n-Butylbenzene	17.23	91	29424	0.9793 ug/L		96
94)	1,2-Dichlorobenzene	17.52	146	18105	0.9899 ug/L		99
95)	1,2-Dibromo-3-Chloropropan	18.43	75	914	0.6191 ug/L		79
96)	1,2,4-Trichlorobenzene	19.50	180	13180	0.9717 ug/L		93
97)	Hexachlorobutadiene	19.63	225	5010	0.9437 ug/L		94
98)	Naphthalene	19.85	128	25628	0.9088 ug/L		99
99)	1,2,3-Trichlorobenzene	20.14	180	12366	0.9448 ug/L		93

(#) = qualifier out of range (m) = manual integration
11M14503.D 8260WT.M Fri Oct 14 09:16:02 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D Vial: 5
Acq On : 13 Oct 2016 14:40 Operator: FJB
Sample : WG587480-04 1ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D Vial: 5
Acq On : 13 Oct 2016 14:40 Operator: FJB
Sample : WG587480-04 1ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
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	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	1.0000	0.9463	5.4	100	0.00
3	P	Chloromethane	1.0000	1.2892	-28.9#	100	0.00
4	C	Vinyl Chloride	1.0000	0.9973	0.3	100	0.00
5	T	1,3-Butadiene	-1.0000	1.2368	0.0	100	0.01
6	T	Bromomethane	1.0000	0.9844	1.6	100	-0.01
7	T	Chloroethane	1.0000	0.9635	3.6	100	0.00
8	T	Trichlorofluoromethane	1.0000	1.0277	-2.8	100	0.00
9	T	Diethyl ether	5.0000	4.6723	6.6	100	0.00
10	T	Isoprene	-1.0000	0.8962	0.0	100	0.01
11	T	Acrolein	2.5000	2.9843	-19.4	100	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	0.9476	5.2	100	0.02
13	T	Acetone	-1.0000	1.1186	0.0	100	0.01
14	C	1,1-Dichloroethene	1.0000	0.9380	6.2	100	0.00
15	T	Tert-Butyl Alcohol	10.0000	9.1468	8.5	100	0.00
16	T	Dimethyl Sulfide	-1.0000	0.8816	0.0	100	0.01
17	T	Iodomethane	1.0000	1.2729	-27.3#	100	0.01
18	T	Methyl acetate	-1.0000	0.8663	0.0	100	0.01
19	T	Methylene Chloride	1.0000	1.0594	-5.9	100	0.00
20	T	Carbon Disulfide	1.0000	1.0358	-3.6	100	0.00
21	T	Acrylonitrile	2.5000	2.2351	10.6	100	0.00
22	T	Methyl Tert Butyl Ether	1.0000	0.9451	5.5	100	-0.01
23	T	trans-1,2-Dichloroethene	1.0000	0.9833	1.7	100	0.00
24	T	n-Hexane	-1.0000	0.9547	0.0	100	0.01
25	T	Diisopropyl ether	5.0000	4.8108	3.8	100	0.01
26	T	Vinyl Acetate	-1.0000	0.9640	0.0	100	0.00
27	P	1,1-Dichloroethane	1.0000	0.9863	1.4	100	0.00
28	T	Ethyl-Tert-Butyl ether	5.0000	4.7277	5.4	100	0.00
29	T	2-Butanone	-1.0000	0.8972	0.0	0	0.01
30	T	Propionitrile	5.0000	4.9329	1.3	100	0.01
31	T	2,2-Dichloropropane	1.0000	0.9624	3.8	100	0.00
32	T	cis-1,2-Dichloroethene	1.0000	0.8736	12.6	100	-0.01
33	C	Chloroform	1.0000	1.0450	-4.5	100	0.00
34	T	1-Bromopropane	-1.0000	0.6684	0.0	0	0.00
35	T	Bromochloromethane	1.0000	0.9656	3.4	100	0.01
36	T	Tetrahydrofuran	5.0000	5.0695	-1.4	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.4554	0.0	100	0.00
38	T	1,1,1-Trichloroethane	1.0000	0.9928	0.7	100	0.01
39	T	Cyclohexane	1.0000	0.9853	1.5	100	0.00
40	T	1,1-Dichloropropene	1.0000	1.0211	-2.1	100	0.00
41	T	Carbon Tetrachloride	1.0000	1.0031	-0.3	100	0.01
42	T	Tert-Amyl-Methyl ether	5.0000	4.7307	5.4	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.4873	0.0	100	0.00
44	T	1,2-Dichloroethane	1.0000	1.0035	-0.3	100	0.00
45	T	Benzene	1.0000	1.0649	-6.5	100	0.00
46	T	Trichloroethene	1.0000	0.9737	2.6	100	0.00
47	T	Methylcyclohexane	1.0000	1.0217	-2.2	100	0.00
48	C	1,2-Dichloropropane	1.0000	0.9655	3.4	100	0.00
49	T	1,4-Dioxane	-1.0000	10.1084	0.0	0	0.00
50	T	Bromodichloromethane	1.0000	0.9717	2.8	100	0.00
51	T	Dibromomethane	1.0000	0.9394	6.1	100	0.00
52	T	2-Chloroethyl Vinyl Ether	-1.0000	0.7992	0.0	100	0.01
53	T	4-Methyl-2-Pentanone	-1.0000	0.7345	0.0	100	0.00
54	T	cis-1,3-Dichloropropene	1.0000	0.9217	7.8	100	0.01

(#) = Out of Range
11M14503.D 8260WT.M Fri Oct 14 09:20:36 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D Vial: 5
Acq On : 13 Oct 2016 14:40 Operator: FJB
Sample : WG587480-04 1ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
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)
55	T	Dimethyl Disulfide	-1.0000	0.7349	0.0	100	-0.01
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	-1.0000	0.5644	0.0	0	0.00
58	C	Toluene	1.0000	1.0525	-5.3	100	0.00
59	T	Ethyl Methacrylate	1.0000	0.7909	20.9	100	0.00
60	T	trans-1,3-Dichloropropene	1.0000	0.9323	6.8	100	0.01
61	T	1,1,2-Trichloroethane	1.0000	1.0118	-1.2	100	0.00
62	T	2-Hexanone	-1.0000	0.8102	0.0	100	0.00
63	T	1,3-Dichloropropane	1.0000	0.9778	2.2	100	0.00
64	T	Tetrachloroethene	1.0000	1.1428	-14.3	100	0.01
65	T	Dibromochloromethane	1.0000	0.9145	8.6	100	0.00
66	T	1,2-Dibromoethane	1.0000	0.9353	6.5	100	-0.01
67	T	1-Chlorohexane	1.0000	1.0163	-1.6	100	0.00
68	P	Chlorobenzene	1.0000	1.0487	-4.9	100	0.00
69	T	1,1,1,2-Tetrachloroethane	1.0000	0.9822	1.8	100	0.01
70	C	Ethylbenzene	1.0000	1.0628	-6.3	100	0.00
71	T	m-,p-Xylene	2.0000	2.0136	-0.7	100	0.00
72	T	o-Xylene	1.0000	1.0151	-1.5	100	0.00
73	T	Styrene	1.0000	0.9427	5.7	100	0.00
74	P	Bromoform	1.0000	0.8363	16.4	100	0.01
75	T	Isopropylbenzene	1.0000	0.9938	0.6	100	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77	P	1,1,2,2-Tetrachloroethane	1.0000	0.9685	3.2	100	0.00
78	S	p-Bromofluorobenzene	-1.0000	0.6874	0.0	0	0.00
79	T	1,2,3-Trichloropropane	1.0000	0.8943	10.6	100	0.00
80	T	trans-1,4-Dichloro-2-Butene	1.0000	0.8684	13.2	100	0.00
81	T	n-Propylbenzene	1.0000	1.0014	-0.1	100	0.00
82	T	Bromobenzene	1.0000	0.9774	2.3	100	0.00
83	T	1,3,5-Trimethylbenzene	1.0000	0.9494	5.1	100	0.00
84	T	2-Chlorotoluene	1.0000	1.0117	-1.2	100	0.00
85	T	4-Chlorotoluene	1.0000	1.0942	-9.4	100	0.00
86	T	a-Methylstyrene	1.0000	0.9786	2.1	100	0.01
87	T	tert-Butylbenzene	1.0000	0.9792	2.1	100	0.00
88	T	1,2,4-Trimethylbenzene	1.0000	0.9842	1.6	100	0.00
89	T	sec-Butylbenzene	1.0000	1.0440	-4.4	100	0.00
90	T	p-Isopropyltoluene	1.0000	0.9694	3.1	100	0.00
91	T	1,3-Dichlorobenzene	1.0000	0.9927	0.7	100	0.00
92	T	1,4-Dichlorobenzene	1.0000	1.0768	-7.7	100	0.00
93	T	n-Butylbenzene	1.0000	0.9793	2.1	100	0.00
94	T	1,2-Dichlorobenzene	1.0000	0.9899	1.0	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.6191	0.0	100	-0.01
96	T	1,2,4-Trichlorobenzene	1.0000	0.9717	2.8	100	0.00
97	T	Hexachlorobutadiene	1.0000	0.9437	5.6	100	0.00
98	T	Naphthalene	1.0000	0.9088	9.1	100	0.00
99	T	1,2,3-Trichlorobenzene	1.0000	0.9448	5.5	100	0.00

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14504.D Vial: 6
Acq On : 13 Oct 2016 15:09 Operator: FJB
Sample : WG587480-05 2ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:03 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	750406	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	573278	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	298694	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	8659	0.9593	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	3.84%#		
43) 1,2-Dichloroethane-d4	10.18	65	9974	0.9842	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	3.92%#		
57) Toluene-d8	12.43	98	30472	1.0030	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	4.00%#		
78) p-Bromofluorobenzene	15.59	95	12236	1.0239	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	4.08%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	21400	1.6809	ug/L	99
3) Chloromethane	3.66	50	24696	1.7997	ug/L	88
4) Vinyl Chloride	3.90	62	22964	1.8443	ug/L #	76
5) 1,3-Butadiene	3.95	54	25079	2.4743	ug/L	97
6) Bromomethane	4.79	94	11362	1.8833	ug/L	96
7) Chloroethane	4.95	64	14194	1.9459	ug/L	96
8) Trichlorofluoromethane	5.43	101	27626	1.9063	ug/L	95
9) Diethyl ether	5.95	59	171529	24.2141	ug/L	96
10) Isoprene	6.00	67	24848	1.8788	ug/L	92
11) Acrolein	6.18	56	6247	10.5841	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	14380	1.8450	ug/L	90
13) Acetone	6.28	43	6153	2.1135	ug/L	97
14) 1,1-Dichloroethene	6.50	61	30568	1.9739	ug/L	99
15) Tert-Butyl Alcohol	6.60	59	34028	45.2841	ug/L	99
16) Dimethyl Sulfide	6.76	62	19548	1.8417	ug/L	95
17) Iodomethane	7.00	142	10172	1.8102	ug/L	96
18) Methyl acetate	7.01	43	16505	1.9224	ug/L	95
19) Methylene Chloride	7.26	84	17147	1.9476	ug/L	94
20) Carbon Disulfide	7.30	76	50187	1.9551	ug/L	100
21) Acrylonitrile	7.43	53	43581	11.1421	ug/L	97
22) Methyl Tert Butyl Ether	7.47	73	40158	1.8552	ug/L	100
23) trans-1,2-Dichloroethene	7.69	96	17615	2.0072	ug/L	87
24) n-Hexane	7.78	57	28291	1.8851	ug/L #	97
25) Diisopropyl ether	8.10	45	1043584	24.5873	ug/L	98
26) Vinyl Acetate	8.26	43	44204	1.9484	ug/L	100
27) 1,1-Dichloroethane	8.29	63	34050	1.8931	ug/L	98
28) Ethyl-Tert-Butyl ether	8.64	59	771317	24.5046	ug/L	99
29) 2-Butanone	8.83	43	9673	1.9774	ug/L	99
30) Propionitrile	8.92	54	31510	23.2488	ug/L	94
31) 2,2-Dichloropropane	9.05	77	23224	1.8947	ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	19546	2.0224	ug/L	89
33) Chloroform	9.30	83	30026	1.9026	ug/L	99
34) 1-Bromopropane	9.43	122	2954	1.8617	ug/L	83
35) Bromochloromethane	9.52	130	12618	2.0253	ug/L	92
36) Tetrahydrofuran	9.54	42	83984	23.3977	ug/L	98
38) 1,1,1-Trichloroethane	9.80	97	26435	1.8998	ug/L	95
39) Cyclohexane	9.83	56	39749	1.9487	ug/L	98
40) 1,1-Dichloropropene	9.99	75	21432	1.8606	ug/L	97
41) Carbon Tetrachloride	10.13	117	24149	1.8575	ug/L	99
42) Tert-Amyl-Methyl ether	10.08	73	506556	23.7652	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M14504.D 8260WT.M Fri Oct 14 09:16:04 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14504.D Vial: 6
Acq On : 13 Oct 2016 15:09 Operator: FJB
Sample : WG587480-05 2ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:03 2016 Quant Results File: 8260WT.RES

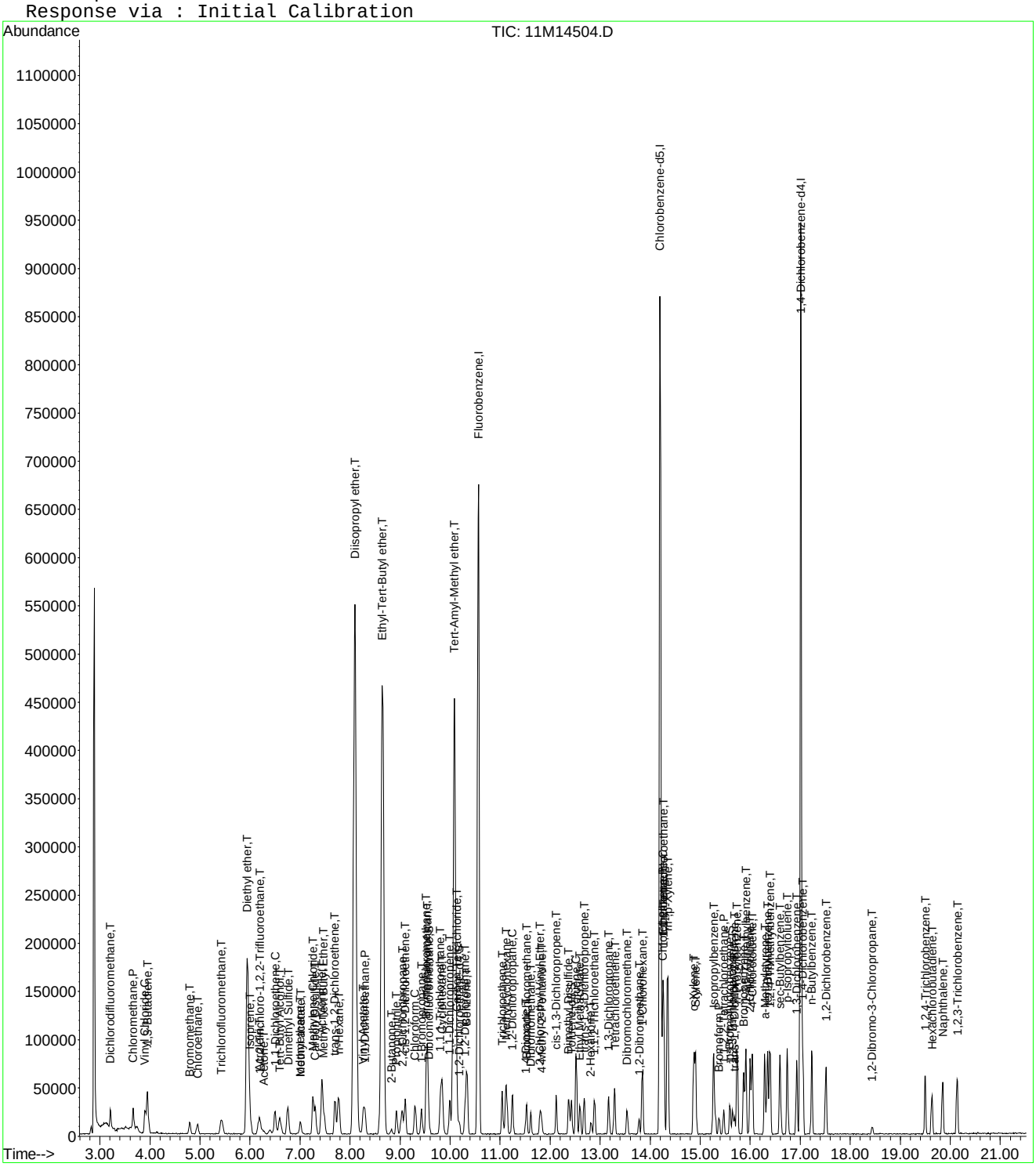
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	25307	1.8667	ug/L	99
45)	Benzene	10.33	78	67103	1.9721	ug/L	98
46)	Trichloroethene	11.04	130	18698	1.9000	ug/L	99
47)	Methylcyclohexane	11.13	83	25108	1.8820	ug/L	95
48)	1,2-Dichloropropane	11.24	63	18946	1.8890	ug/L	91
49)	1,4-Dioxane	11.51	88	2926	41.8519	ug/L	84
50)	Bromodichloromethane	11.53	83	21793	1.8276	ug/L	100
51)	Dibromomethane	11.61	93	10463	1.9676	ug/L	89
52)	2-Chloroethyl Vinyl Ether	11.80	63	10521	1.7909	ug/L	89
53)	4-Methyl-2-Pentanone	11.83	58	5675	1.5734	ug/L	94
54)	cis-1,3-Dichloropropene	12.12	75	23550	1.7868	ug/L	94
55)	Dimethyl Disulfide	12.37	79	12006	1.5178	ug/L	98
58)	Toluene	12.52	91	70955	1.9655	ug/L	95
59)	Ethyl Methacrylate	12.59	69	16986	1.8409	ug/L	85
60)	trans-1,3-Dichloropropene	12.68	75	21953	1.8574	ug/L	96
61)	1,1,2-Trichloroethane	12.88	97	13096	1.8646	ug/L	91
62)	2-Hexanone	12.81	43	11957	1.5794	ug/L	97
63)	1,3-Dichloropropane	13.17	76	21779	1.8447	ug/L	99
64)	Tetrachloroethene	13.30	164	14386	1.8360	ug/L	98
65)	Dibromochloromethane	13.53	129	17225	1.8298	ug/L	100
66)	1,2-Dibromoethane	13.78	107	13428	1.8572	ug/L	95
67)	1-Chlorohexane	13.84	91	21142	1.8148	ug/L	94
68)	Chlorobenzene	14.25	112	49928	1.9491	ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.27	131	17787	1.9468	ug/L	93
70)	Ethylbenzene	14.26	106	24619	1.8796	ug/L	93
71)	m-,p-Xylene	14.35	106	61008	3.9534	ug/L	98
72)	o-Xylene	14.87	106	27515	1.8126	ug/L	93
73)	Styrene	14.91	104	47890	1.8585	ug/L	98
74)	Bromoform	15.38	173	10508	1.7213	ug/L	95
75)	Isopropylbenzene	15.27	105	74972	1.9277	ug/L	97
77)	1,1,2,2-Tetrachloroethane	15.47	83	15973	1.8962	ug/L	97
79)	1,2,3-Trichloropropane	15.64	110	4929	1.9295	ug/L	98
80)	trans-1,4-Dichloro-2-Buten	15.69	53	5967	1.7344	ug/L	95
81)	n-Propylbenzene	15.74	91	87684	1.9731	ug/L	99
82)	Bromobenzene	15.87	156	22494	1.9749	ug/L	93
83)	1,3,5-Trimethylbenzene	15.91	105	63171	1.9818	ug/L	95
84)	2-Chlorotoluene	16.00	91	56689	2.0159	ug/L	86
85)	4-Chlorotoluene	16.04	91	56230	1.9632	ug/L	90
86)	a-Methylstyrene	16.30	118	33367	1.7809	ug/L	98
87)	tert-Butylbenzene	16.35	134	13619	1.9530	ug/L	91
88)	1,2,4-Trimethylbenzene	16.40	105	62679	1.9115	ug/L	99
89)	sec-Butylbenzene	16.60	105	79306	1.9647	ug/L	100
90)	p-Isopropyltoluene	16.74	119	68621	1.9537	ug/L	98
91)	1,3-Dichlorobenzene	16.93	146	39896	1.8999	ug/L	98
92)	1,4-Dichlorobenzene	17.05	146	41926	1.9483	ug/L	90
93)	n-Butylbenzene	17.23	91	63490	1.9266	ug/L	98
94)	1,2-Dichlorobenzene	17.52	146	38202	1.9044	ug/L	97
95)	1,2-Dibromo-3-Chloropropan	18.44	75	2901	1.7917	ug/L	86
96)	1,2,4-Trichlorobenzene	19.50	180	25518	1.7153	ug/L	98
97)	Hexachlorobutadiene	19.64	225	10480	1.7999	ug/L	91
98)	Naphthalene	19.85	128	54253	1.7541	ug/L	99
99)	1,2,3-Trichlorobenzene	20.14	180	25071	1.7465	ug/L	97

(#) = qualifier out of range (m) = manual integration
11M14504.D 8260WT.M Fri Oct 14 09:16:04 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14504.D Vial: 6
Acq On : 13 Oct 2016 15:09 Operator: FJB
Sample : WG587480-05 2ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14504.D Vial: 6
Acq On : 13 Oct 2016 15:09 Operator: FJB
Sample : WG587480-05 2ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
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	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	2.0000	1.6809	16.0	100	0.00
3	P	Chloromethane	2.0000	1.7687	11.6	100	0.00
4	C	Vinyl Chloride	2.0000	1.8443	7.8	100	0.00
5	T	1,3-Butadiene	-1.0000	2.4743	0.0	100	0.01
6	T	Bromomethane	2.0000	1.8833	5.8	100	-0.01
7	T	Chloroethane	2.0000	1.9459	2.7	100	0.00
8	T	Trichlorofluoromethane	2.0000	1.9063	4.7	100	0.00
9	T	Diethyl ether	25.0000	24.2141	3.1	100	0.00
10	T	Isoprene	-1.0000	1.8788	0.0	100	0.01
11	T	Acrolein	12.5000	10.5841	15.3	100	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.8450	7.8	100	0.00
13	T	Acetone	-1.0000	2.1135	0.0	100	0.00
14	C	1,1-Dichloroethene	2.0000	1.9739	1.3	100	0.01
15	T	Tert-Butyl Alcohol	50.0000	45.2841	9.4	100	0.00
16	T	Dimethyl Sulfide	-1.0000	1.8417	0.0	100	0.01
17	T	Iodomethane	2.0000	1.8102	9.5	100	0.00
18	T	Methyl acetate	2.0000	1.9224	3.9	100	0.00
19	T	Methylene Chloride	2.0000	1.9476	2.6	100	0.00
20	T	Carbon Disulfide	2.0000	1.9551	2.2	100	-0.01
21	T	Acrylonitrile	12.5000	11.1421	10.9	100	0.00
22	T	Methyl Tert Butyl Ether	2.0000	1.8552	7.2	100	0.00
23	T	trans-1,2-Dichloroethene	2.0000	2.0072	-0.4	100	-0.01
24	T	n-Hexane	2.0000	1.8851	5.7	100	0.01
25	T	Diisopropyl ether	25.0000	24.5874	1.7	100	0.00
26	T	Vinyl Acetate	-1.0000	1.9484	0.0	100	0.00
27	P	1,1-Dichloroethane	2.0000	1.8931	5.3	100	0.00
28	T	Ethyl-Tert-Butyl ether	25.0000	24.5046	2.0	100	0.00
29	T	2-Butanone	-1.0000	1.9774	0.0	100	0.01
30	T	Propionitrile	25.0000	23.2488	7.0	100	0.00
31	T	2,2-Dichloropropane	2.0000	1.8947	5.3	100	0.01
32	T	cis-1,2-Dichloroethene	2.0000	2.0224	-1.1	100	0.00
33	C	Chloroform	2.0000	1.9026	4.9	100	-0.01
34	T	1-Bromopropane	2.0000	1.7845	10.8	100	0.00
35	T	Bromochloromethane	2.0000	2.0253	-1.3	100	0.00
36	T	Tetrahydrofuran	25.0000	23.3977	6.4	100	0.00
37	S	Dibromofluoromethane	1.0000	0.9593	4.1	100	0.00
38	T	1,1,1-Trichloroethane	2.0000	1.8998	5.0	100	-0.01
39	T	Cyclohexane	2.0000	1.9487	2.6	100	-0.01
40	T	1,1-Dichloropropene	2.0000	1.8606	7.0	100	-0.01
41	T	Carbon Tetrachloride	2.0000	1.8575	7.1	100	0.00
42	T	Tert-Amyl-Methyl ether	25.0000	23.7652	4.9	100	-0.01
43	S	1,2-Dichloroethane-d4	1.0000	0.9842	1.6	100	0.00
44	T	1,2-Dichloroethane	2.0000	1.8667	6.7	100	0.00
45	T	Benzene	2.0000	1.9721	1.4	100	-0.01
46	T	Trichloroethene	2.0000	1.9000	5.0	100	0.00
47	T	Methylcyclohexane	2.0000	1.8820	5.9	100	0.00
48	C	1,2-Dichloropropane	2.0000	1.8890	5.5	100	-0.01
49	T	1,4-Dioxane	50.0000	41.8519	16.3	100	0.00
50	T	Bromodichloromethane	2.0000	1.8276	8.6	100	0.00
51	T	Dibromomethane	2.0000	1.9676	1.6	100	0.00
52	T	2-Chloroethyl Vinyl Ether	-1.0000	1.7909	0.0	100	0.00
53	T	4-Methyl-2-Pentanone	-1.0000	1.5734	0.0	100	0.00
54	T	cis-1,3-Dichloropropene	2.0000	1.7868	10.7	100	0.00

(#) = Out of Range
11M14504.D 8260WT.M Fri Oct 14 09:21:13 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14504.D Vial: 6
Acq On : 13 Oct 2016 15:09 Operator: FJB
Sample : WG587480-05 2ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
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)
55	T	Dimethyl Disulfide	-1.0000	1.5178	0.0	100	-0.01
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	1.0000	1.0030	-0.3	100	0.00
58	C	Toluene	2.0000	1.9655	1.7	100	0.00
59	T	Ethyl Methacrylate	2.0000	1.8409	8.0	100	0.00
60	T	trans-1,3-Dichloropropene	2.0000	1.8574	7.1	100	0.00
61	T	1,1,2-Trichloroethane	2.0000	1.8646	6.8	100	0.00
62	T	2-Hexanone	-1.0000	1.5794	0.0	100	-0.01
63	T	1,3-Dichloropropane	2.0000	1.8447	7.8	100	0.00
64	T	Tetrachloroethene	2.0000	1.8360	8.2	100	0.01
65	T	Dibromochloromethane	2.0000	1.8298	8.5	100	0.00
66	T	1,2-Dibromoethane	2.0000	1.8572	7.1	100	0.00
67	T	1-Chlorohexane	2.0000	1.8148	9.3	100	0.00
68	P	Chlorobenzene	2.0000	1.9491	2.5	100	0.00
69	T	1,1,1,2-Tetrachloroethane	2.0000	1.9468	2.7	100	0.00
70	C	Ethylbenzene	2.0000	1.8796	6.0	100	-0.01
71	T	m-,p-Xylene	4.0000	3.9534	1.2	100	0.00
72	T	o-Xylene	2.0000	1.8126	9.4	100	-0.01
73	T	Styrene	2.0000	1.8585	7.1	100	0.00
74	P	Bromoform	2.0000	1.7213	13.9	100	0.00
75	T	Isopropylbenzene	2.0000	1.9277	3.6	100	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77	P	1,1,2,2-Tetrachloroethane	2.0000	1.8962	5.2	100	0.00
78	S	p-Bromofluorobenzene	1.0000	1.0239	-2.4	100	0.00
79	T	1,2,3-Trichloropropane	2.0000	1.9295	3.5	100	-0.01
80	T	trans-1,4-Dichloro-2-Butene	2.0000	1.7344	13.3	100	0.00
81	T	n-Propylbenzene	2.0000	1.9731	1.3	100	0.00
82	T	Bromobenzene	2.0000	1.9749	1.3	100	0.00
83	T	1,3,5-Trimethylbenzene	2.0000	1.9818	0.9	100	0.00
84	T	2-Chlorotoluene	2.0000	2.0159	-0.8	100	0.00
85	T	4-Chlorotoluene	2.0000	1.9632	1.8	100	0.00
86	T	a-Methylstyrene	2.0000	1.7810	11.0	100	0.01
87	T	tert-Butylbenzene	2.0000	1.9530	2.3	100	0.00
88	T	1,2,4-Trimethylbenzene	2.0000	1.9115	4.4	100	0.00
89	T	sec-Butylbenzene	2.0000	1.9648	1.8	100	0.00
90	T	p-Isopropyltoluene	2.0000	1.9537	2.3	100	0.00
91	T	1,3-Dichlorobenzene	2.0000	1.8999	5.0	100	-0.01
92	T	1,4-Dichlorobenzene	2.0000	1.9483	2.6	100	0.00
93	T	n-Butylbenzene	2.0000	1.9266	3.7	100	0.00
94	T	1,2-Dichlorobenzene	2.0000	1.9044	4.8	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	2.0000	1.7917	10.4	100	0.00
96	T	1,2,4-Trichlorobenzene	2.0000	1.7153	14.2	100	0.00
97	T	Hexachlorobutadiene	2.0000	1.7999	10.0	100	0.00
98	T	Naphthalene	2.0000	1.7541	12.3	100	0.00
99	T	1,2,3-Trichlorobenzene	2.0000	1.7465	12.7	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M14504.D 8260WT.M Fri Oct 14 09:21:13 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14505.D Vial: 7
Acq On : 13 Oct 2016 15:38 Operator: FJB
Sample : WG587480-06 5ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:06 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	704915	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	535384	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	274083	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	21661	2.5545	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 10.20%#			
43) 1,2-Dichloroethane-d4	10.18	65	24158	2.5376	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 10.16%#			
57) Toluene-d8	12.43	98	74299	2.6188	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 10.48%#			
78) p-Bromofluorobenzene	15.59	95	30177	2.7520	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 11.00%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	53872	4.5046	ug/L	97
3) Chloromethane	3.66	50	63093	4.8946	ug/L	92
4) Vinyl Chloride	3.90	62	57167	4.8876	ug/L	94
5) 1,3-Butadiene	3.95	54	55779	5.8584	ug/L	99
6) Bromomethane	4.79	94	26223	4.6270	ug/L	95
7) Chloroethane	4.95	64	34076	4.9730	ug/L	99
8) Trichlorofluoromethane	5.43	101	71376	5.2430	ug/L	98
9) Diethyl ether	5.95	59	348253	52.3340	ug/L	96
10) Isoprene	5.99	67	60695	4.8854	ug/L	100
11) Acrolein	6.18	56	14503	26.1576	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	36540	4.9907	ug/L	92
13) Acetone	6.28	43	15534	5.6801	ug/L	98
14) 1,1-Dichloroethene	6.50	61	73163	5.0292	ug/L	99
15) Tert-Butyl Alcohol	6.59	59	76587	108.4985	ug/L	99
16) Dimethyl Sulfide	6.75	62	49571	4.9717	ug/L	91
17) Iodomethane	7.01	142	32491	4.0680	ug/L	98
18) Methyl acetate	7.01	43	42579	5.2794	ug/L	100
19) Methylene Chloride	7.26	84	40764	4.9289	ug/L	100
20) Carbon Disulfide	7.30	76	119131	4.9405	ug/L	98
21) Acrylonitrile	7.43	53	92086	25.0624	ug/L	98
22) Methyl Tert Butyl Ether	7.47	73	101639	4.9984	ug/L	100
23) trans-1,2-Dichloroethene	7.70	96	41497	5.0337	ug/L	97
24) n-Hexane	7.78	57	67335	4.7763	ug/L	99
25) Diisopropyl ether	8.10	45	2091384	52.4539	ug/L	98
26) Vinyl Acetate	8.26	43	108380	5.0855	ug/L	98
27) 1,1-Dichloroethane	8.29	63	86575	5.1240	ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	1539500	52.0660	ug/L	99
29) 2-Butanone	8.83	43	24112	5.2473	ug/L	99
30) Propionitrile	8.92	54	65994	51.8343	ug/L	99
31) 2,2-Dichloropropane	9.03	77	58036	5.0404	ug/L	94
32) cis-1,2-Dichloroethene	9.10	96	45701	5.0337	ug/L	95
33) Chloroform	9.30	83	75154	5.0695	ug/L	99
34) 1-Bromopropane	9.44	122	7411	4.9720	ug/L	89
35) Bromochloromethane	9.52	130	29766	5.0860	ug/L	95
36) Tetrahydrofuran	9.54	42	165066	51.8781	ug/L	96
38) 1,1,1-Trichloroethane	9.80	97	64003	4.8966	ug/L	99
39) Cyclohexane	9.83	56	99752	5.2060	ug/L	97
40) 1,1-Dichloropropene	10.00	75	54937	5.0771	ug/L	99
41) Carbon Tetrachloride	10.13	117	60196	4.9290	ug/L	96
42) Tert-Amyl-Methyl ether	10.09	73	1041879	52.0345	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M14505.D 8260WT.M Fri Oct 14 09:16:07 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14505.D Vial: 7
Acq On : 13 Oct 2016 15:38 Operator: FJB
Sample : WG587480-06 5ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:06 2016 Quant Results File: 8260WT.RES

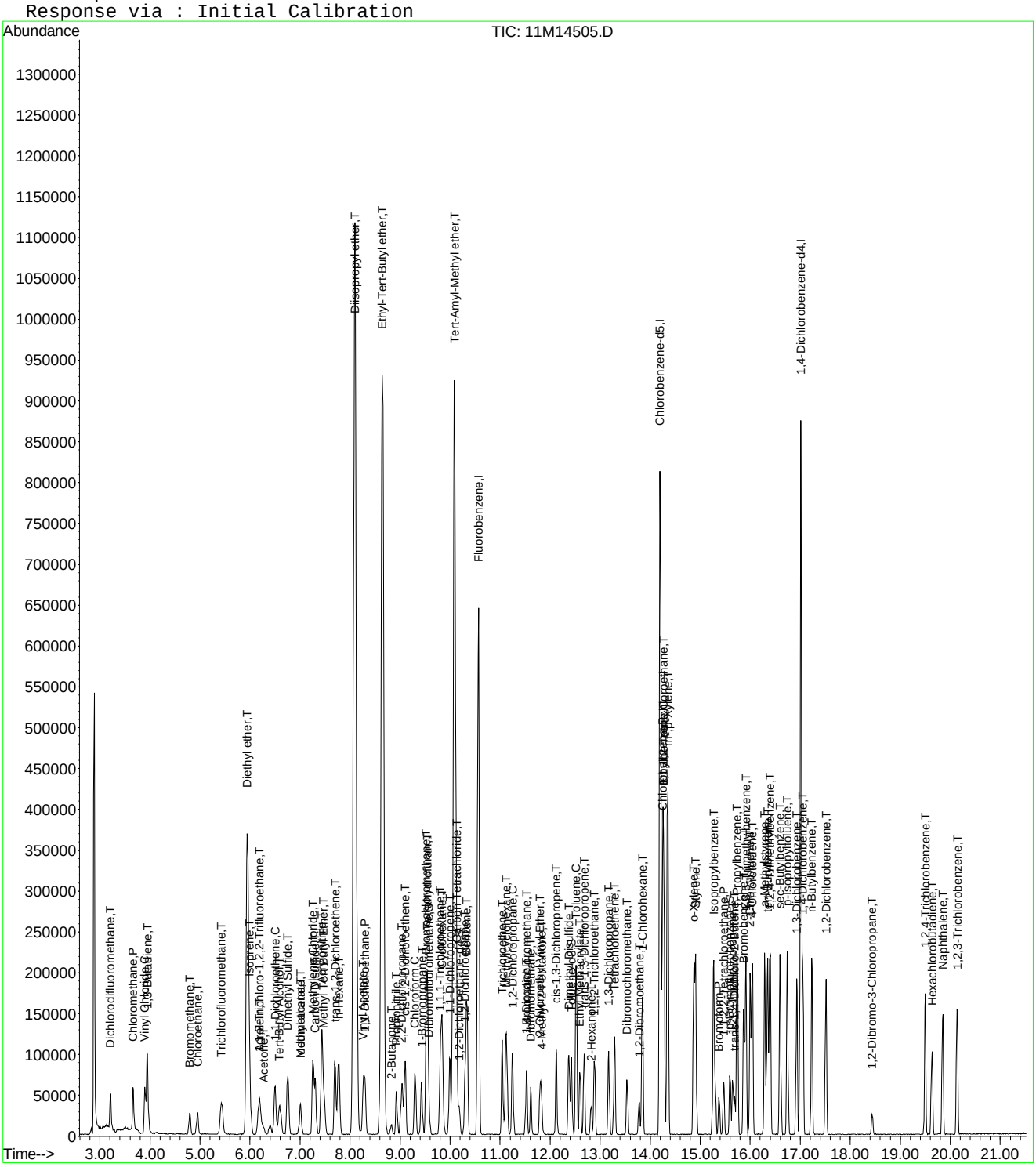
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	65317	5.1288	ug/L	98
45)	Benzene	10.33	78	165534	5.1789	ug/L	99
46)	Trichloroethene	11.04	130	47040	5.0884	ug/L	98
47)	Methylcyclohexane	11.13	83	61868	4.9367	ug/L	97
48)	1,2-Dichloropropane	11.25	63	49329	5.2358	ug/L	96
49)	1,4-Dioxane	11.52	88	6881	104.7737	ug/L	99
50)	Bromodichloromethane	11.53	83	57043	5.0925	ug/L	97
51)	Dibromomethane	11.61	93	24125	4.8295	ug/L	95
52)	2-Chloroethyl Vinyl Ether	11.80	63	25698	4.6567	ug/L	99
53)	4-Methyl-2-Pentanone	11.83	58	16116	4.7567	ug/L	95
54)	cis-1,3-Dichloropropene	12.12	75	61556	4.9719	ug/L	99
55)	Dimethyl Disulfide	12.38	79	30805	4.1457	ug/L	97
58)	Toluene	12.52	91	180331	5.3489	ug/L	97
59)	Ethyl Methacrylate	12.59	69	42002	4.8742	ug/L	94
60)	trans-1,3-Dichloropropene	12.68	75	55147	4.9961	ug/L	99
61)	1,1,2-Trichloroethane	12.88	97	34394	5.2436	ug/L	97
62)	2-Hexanone	12.82	43	35160	4.9730	ug/L	99
63)	1,3-Dichloropropane	13.17	76	58260	5.2838	ug/L	89
64)	Tetrachloroethene	13.29	164	36268	4.9563	ug/L	98
65)	Dibromochloromethane	13.53	129	44523	5.0644	ug/L	100
66)	1,2-Dibromoethane	13.78	107	34181	5.0622	ug/L	100
67)	1-Chlorohexane	13.84	91	54770	5.0342	ug/L	96
68)	Chlorobenzene	14.25	112	125617	5.2509	ug/L	98
69)	1,1,1,2-Tetrachloroethane	14.27	131	45570	5.3407	ug/L	94
70)	Ethylbenzene	14.27	106	62371	5.0988	ug/L	94
71)	m-,p-Xylene	14.35	106	153310	10.6378	ug/L	99
72)	o-Xylene	14.87	106	71617	5.0517	ug/L	96
73)	Styrene	14.91	104	124078	5.1560	ug/L	98
74)	Bromoform	15.38	173	27217	4.7739	ug/L	99
75)	Isopropylbenzene	15.27	105	190325	5.2399	ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	40832	5.2826	ug/L	96
79)	1,2,3-Trichloropropane	15.64	110	12510	5.3369	ug/L	95
80)	trans-1,4-Dichloro-2-Buten	15.69	53	14900	4.7197	ug/L	98
81)	n-Propylbenzene	15.74	91	226980	5.5662	ug/L	99
82)	Bromobenzene	15.87	156	53330	5.1025	ug/L	95
83)	1,3,5-Trimethylbenzene	15.91	105	154334	5.2766	ug/L	99
84)	2-Chlorotoluene	16.00	91	140153	5.4314	ug/L	99
85)	4-Chlorotoluene	16.04	91	147742	5.6215	ug/L	99
86)	a-Methylstyrene	16.29	118	86678	5.0418	ug/L	100
87)	tert-Butylbenzene	16.35	134	35434	5.5376	ug/L	97
88)	1,2,4-Trimethylbenzene	16.40	105	162970	5.4163	ug/L	99
89)	sec-Butylbenzene	16.60	105	200864	5.4231	ug/L	100
90)	p-Isopropyltoluene	16.74	119	173418	5.3806	ug/L	99
91)	1,3-Dichlorobenzene	16.93	146	100344	5.2076	ug/L	100
92)	1,4-Dichlorobenzene	17.05	146	102402	5.1860	ug/L	100
93)	n-Butylbenzene	17.23	91	157612	5.2122	ug/L	100
94)	1,2-Dichlorobenzene	17.52	146	97937	5.3207	ug/L	97
95)	1,2-Dibromo-3-Chloropropan	18.44	75	6951	4.6786	ug/L	80
96)	1,2,4-Trichlorobenzene	19.50	180	67167	4.9204	ug/L	98
97)	Hexachlorobutadiene	19.64	225	27214	5.0937	ug/L	98
98)	Naphthalene	19.85	128	146177	5.1505	ug/L	99
99)	1,2,3-Trichlorobenzene	20.14	180	61650	4.6804	ug/L	96

(#) = qualifier out of range (m) = manual integration
11M14505.D 8260WT.M Fri Oct 14 09:16:07 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14505.D Vial: 7
Acq On : 13 Oct 2016 15:38 Operator: FJB
Sample : WG587480-06 5ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\101316\11M14505.D Vial: 7
Acq On : 13 Oct 2016 15:38 Operator: FJB
Sample : WG587480-06 5ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
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	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	5.0000	4.5046	9.9	100	0.00
3	P	Chloromethane	5.0000	4.8102	3.8	100	0.00
4	C	Vinyl Chloride	5.0000	4.8876	2.2	100	0.00
5	T	1,3-Butadiene	5.0000	5.8584	-17.2	100	0.01
6	T	Bromomethane	5.0000	4.6270	7.5	100	-0.01
7	T	Chloroethane	5.0000	4.9730	0.5	100	0.00
8	T	Trichlorofluoromethane	5.0000	5.2430	-4.9	100	0.00
9	T	Diethyl ether	50.0000	52.3340	-4.7	100	0.00
10	T	Isoprene	5.0000	4.8854	2.3	100	0.00
11	T	Acrolein	25.0000	26.1576	-4.6	100	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	4.9907	0.2	100	-0.01
13	T	Acetone	5.0000	5.6800	-13.6	100	0.00
14	C	1,1-Dichloroethene	5.0000	5.0292	-0.6	100	0.01
15	T	Tert-Butyl Alcohol	100.0000	108.4985	-8.5	100	-0.01
16	T	Dimethyl Sulfide	5.0000	4.9717	0.6	100	0.00
17	T	Iodomethane	5.0000	4.0680	18.6	100	0.01
18	T	Methyl acetate	5.0000	5.2794	-5.6	100	0.00
19	T	Methylene Chloride	5.0000	4.9289	1.4	100	0.00
20	T	Carbon Disulfide	5.0000	4.9405	1.2	100	-0.01
21	T	Acrylonitrile	25.0000	25.0624	-0.2	100	0.00
22	T	Methyl Tert Butyl Ether	5.0000	4.9984	0.0	100	0.00
23	T	trans-1,2-Dichloroethene	5.0000	5.0337	-0.7	100	0.00
24	T	n-Hexane	5.0000	4.7763	4.5	100	0.01
25	T	Diisopropyl ether	50.0000	52.4539	-4.9	100	0.00
26	T	Vinyl Acetate	5.0000	5.0855	-1.7	100	0.00
27	P	1,1-Dichloroethane	5.0000	5.1240	-2.5	100	0.00
28	T	Ethyl-Tert-Butyl ether	50.0000	52.0660	-4.1	100	0.00
29	T	2-Butanone	5.0000	5.2473	-4.9	100	0.01
30	T	Propionitrile	50.0000	51.8343	-3.7	100	0.00
31	T	2,2-Dichloropropane	5.0000	5.0404	-0.8	100	-0.01
32	T	cis-1,2-Dichloroethene	5.0000	5.0338	-0.7	100	0.00
33	C	Chloroform	5.0000	5.0695	-1.4	100	-0.01
34	T	1-Bromopropane	5.0000	4.7659	4.7	100	0.01
35	T	Bromochloromethane	5.0000	5.0860	-1.7	100	0.00
36	T	Tetrahydrofuran	50.0000	51.8781	-3.8	100	0.00
37	S	Dibromofluoromethane	2.5000	2.5545	-2.2	100	0.00
38	T	1,1,1-Trichloroethane	5.0000	4.8966	2.1	100	-0.01
39	T	Cyclohexane	5.0000	5.2060	-4.1	100	-0.01
40	T	1,1-Dichloropropene	5.0000	5.0771	-1.5	100	0.00
41	T	Carbon Tetrachloride	5.0000	4.9290	1.4	100	0.00
42	T	Tert-Amyl-Methyl ether	50.0000	52.0345	-4.1	100	0.00
43	S	1,2-Dichloroethane-d4	2.5000	2.5376	-1.5	100	0.00
44	T	1,2-Dichloroethane	5.0000	5.1288	-2.6	100	0.00
45	T	Benzene	5.0000	5.1789	-3.6	100	-0.01
46	T	Trichloroethene	5.0000	5.0884	-1.8	100	0.00
47	T	Methylcyclohexane	5.0000	4.9367	1.3	100	0.00
48	C	1,2-Dichloropropane	5.0000	5.2358	-4.7	100	0.00
49	T	1,4-Dioxane	100.0000	104.7737	-4.8	100	0.01
50	T	Bromodichloromethane	5.0000	5.0925	-1.9	100	0.00
51	T	Dibromomethane	5.0000	4.8295	3.4	100	0.00
52	T	2-Chloroethyl Vinyl Ether	5.0000	4.6567	6.9	100	0.00
53	T	4-Methyl-2-Pentanone	5.0000	4.7567	4.9	100	0.00
54	T	cis-1,3-Dichloropropene	5.0000	4.9719	0.6	100	0.00

(#) = Out of Range
11M14505.D 8260WT.M Fri Oct 14 09:21:33 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14505.D Vial: 7
Acq On : 13 Oct 2016 15:38 Operator: FJB
Sample : WG587480-06 5ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
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)
55	T	Dimethyl Disulfide	5.0000	4.1457	17.1	100	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	2.5000	2.6188	-4.8	100	0.00
58	C	Toluene	5.0000	5.3489	-7.0	100	0.00
59	T	Ethyl Methacrylate	5.0000	4.8742	2.5	100	0.00
60	T	trans-1,3-Dichloropropene	5.0000	4.9961	0.1	100	0.00
61	T	1,1,2-Trichloroethane	5.0000	5.2436	-4.9	100	0.00
62	T	2-Hexanone	5.0000	4.9730	0.5	100	0.00
63	T	1,3-Dichloropropane	5.0000	5.2838	-5.7	100	0.00
64	T	Tetrachloroethene	5.0000	4.9563	0.9	100	0.00
65	T	Dibromochloromethane	5.0000	5.0644	-1.3	100	0.00
66	T	1,2-Dibromoethane	5.0000	5.0622	-1.2	100	0.00
67	T	1-Chlorohexane	5.0000	5.0342	-0.7	100	0.00
68	P	Chlorobenzene	5.0000	5.2509	-5.0	100	0.00
69	T	1,1,1,2-Tetrachloroethane	5.0000	5.3407	-6.8	100	0.00
70	C	Ethylbenzene	5.0000	5.0988	-2.0	100	0.00
71	T	m-,p-Xylene	10.0000	10.6378	-6.4	100	0.00
72	T	o-Xylene	5.0000	5.0517	-1.0	100	-0.01
73	T	Styrene	5.0000	5.1560	-3.1	100	0.00
74	P	Bromoform	5.0000	4.7739	4.5	100	0.00
75	T	Isopropylbenzene	5.0000	5.2399	-4.8	100	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77	P	1,1,2,2-Tetrachloroethane	5.0000	5.2826	-5.7	100	0.00
78	S	p-Bromofluorobenzene	2.5000	2.7521	-10.1	100	0.00
79	T	1,2,3-Trichloropropane	5.0000	5.3369	-6.7	100	-0.01
80	T	trans-1,4-Dichloro-2-Butene	5.0000	4.7197	5.6	100	0.00
81	T	n-Propylbenzene	5.0000	5.5662	-11.3	100	0.00
82	T	Bromobenzene	5.0000	5.1025	-2.1	100	0.00
83	T	1,3,5-Trimethylbenzene	5.0000	5.2766	-5.5	100	0.00
84	T	2-Chlorotoluene	5.0000	5.4314	-8.6	100	0.00
85	T	4-Chlorotoluene	5.0000	5.6215	-12.4	100	0.00
86	T	a-Methylstyrene	5.0000	5.0418	-0.8	100	0.00
87	T	tert-Butylbenzene	5.0000	5.5376	-10.8	100	0.00
88	T	1,2,4-Trimethylbenzene	5.0000	5.4163	-8.3	100	0.00
89	T	sec-Butylbenzene	5.0000	5.4231	-8.5	100	0.00
90	T	p-Isopropyltoluene	5.0000	5.3806	-7.6	100	0.00
91	T	1,3-Dichlorobenzene	5.0000	5.2076	-4.2	100	-0.01
92	T	1,4-Dichlorobenzene	5.0000	5.1860	-3.7	100	0.00
93	T	n-Butylbenzene	5.0000	5.2122	-4.2	100	0.00
94	T	1,2-Dichlorobenzene	5.0000	5.3208	-6.4	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	5.0000	4.6786	6.4	100	0.00
96	T	1,2,4-Trichlorobenzene	5.0000	4.9204	1.6	100	0.00
97	T	Hexachlorobutadiene	5.0000	5.0937	-1.9	100	0.00
98	T	Naphthalene	5.0000	5.1505	-3.0	100	0.00
99	T	1,2,3-Trichlorobenzene	5.0000	4.6804	6.4	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M14505.D 8260WT.M Fri Oct 14 09:21:33 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14506.D Vial: 8
Acq On : 13 Oct 2016 16:07 Operator: FJB
Sample : WG587480-07 20ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:09 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	706675	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	531572	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	278289	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	86923	10.2255 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 40.92%#		
43) 1,2-Dichloroethane-d4	10.18	65	98685	10.3404 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 41.36%#		
57) Toluene-d8	12.43	98	293317	10.4125 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 41.64%#		
78) p-Bromofluorobenzene	15.59	95	114945	10.3242 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 41.28%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.21	85	250387	20.8845 ug/L	97
3) Chloromethane	3.66	50	254200	19.6712 ug/L	98
4) Vinyl Chloride	3.90	62	234082	19.9635 ug/L	99
5) 1,3-Butadiene	3.95	54	226181	23.6964 ug/L	100
6) Bromomethane	4.80	94	100146	17.6265 ug/L	98
7) Chloroethane	4.94	64	138332	20.1375 ug/L	98
8) Trichlorofluoromethane	5.43	101	274529	20.1155 ug/L	100
9) Diethyl ether	5.95	59	545664	81.7959 ug/L	97
10) Isoprene	5.99	67	250400	20.1049 ug/L	97
11) Acrolein	6.17	56	22047	39.6650 ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	147897	20.1498 ug/L	95
13) Acetone	6.27	43	52079	18.9954 ug/L	95
14) 1,1-Dichloroethene	6.50	61	290895	19.9463 ug/L	97
15) Tert-Butyl Alcohol	6.60	59	118432	167.3613 ug/L	97
16) Dimethyl Sulfide	6.76	62	199782	19.9870 ug/L	97
17) Iodomethane	7.00	142	188769	19.6047 ug/L	98
18) Methyl acetate	7.01	43	163574	20.2311 ug/L	98
19) Methylene Chloride	7.26	84	163825	19.7593 ug/L	95
20) Carbon Disulfide	7.31	76	491726	20.3417 ug/L	100
21) Acrylonitrile	7.43	53	149410	40.5626 ug/L	96
22) Methyl Tert Butyl Ether	7.46	73	417416	20.4764 ug/L	100
23) trans-1,2-Dichloroethene	7.70	96	160666	19.4406 ug/L	100
24) n-Hexane	7.77	57	294217	20.8180 ug/L	100
25) Diisopropyl ether	8.10	45	3316172	82.9656 ug/L	98
26) Vinyl Acetate	8.26	43	433464	20.2888 ug/L	99
27) 1,1-Dichloroethane	8.29	63	337344	19.9163 ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	2440876	82.3450 ug/L	100
29) 2-Butanone	8.82	43	92805	20.1461 ug/L	99
30) Propionitrile	8.92	54	106227	83.2270 ug/L	98
31) 2,2-Dichloropropane	9.04	77	223801	19.3886 ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	180556	19.8378 ug/L	100
33) Chloroform	9.30	83	288279	19.3975 ug/L	99
34) 1-Bromopropane	9.43	122	31438	21.0390 ug/L	95
35) Bromochloromethane	9.52	130	119820	20.4224 ug/L	93
36) Tetrahydrofuran	9.54	42	261166	83.4243 ug/L	96
38) 1,1,1-Trichloroethane	9.81	97	256407	19.5676 ug/L	97
39) Cyclohexane	9.83	56	387768	20.1871 ug/L	99
40) 1,1-Dichloropropene	9.99	75	209875	19.3477 ug/L	98
41) Carbon Tetrachloride	10.13	117	244387	19.9610 ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	1666450	83.0201 ug/L	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\MSDCHEM\1\DATA\101316\11M14506.D Vial: 8
Acq On : 13 Oct 2016 16:07 Operator: FJB
Sample : WG587480-07 20ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:09 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

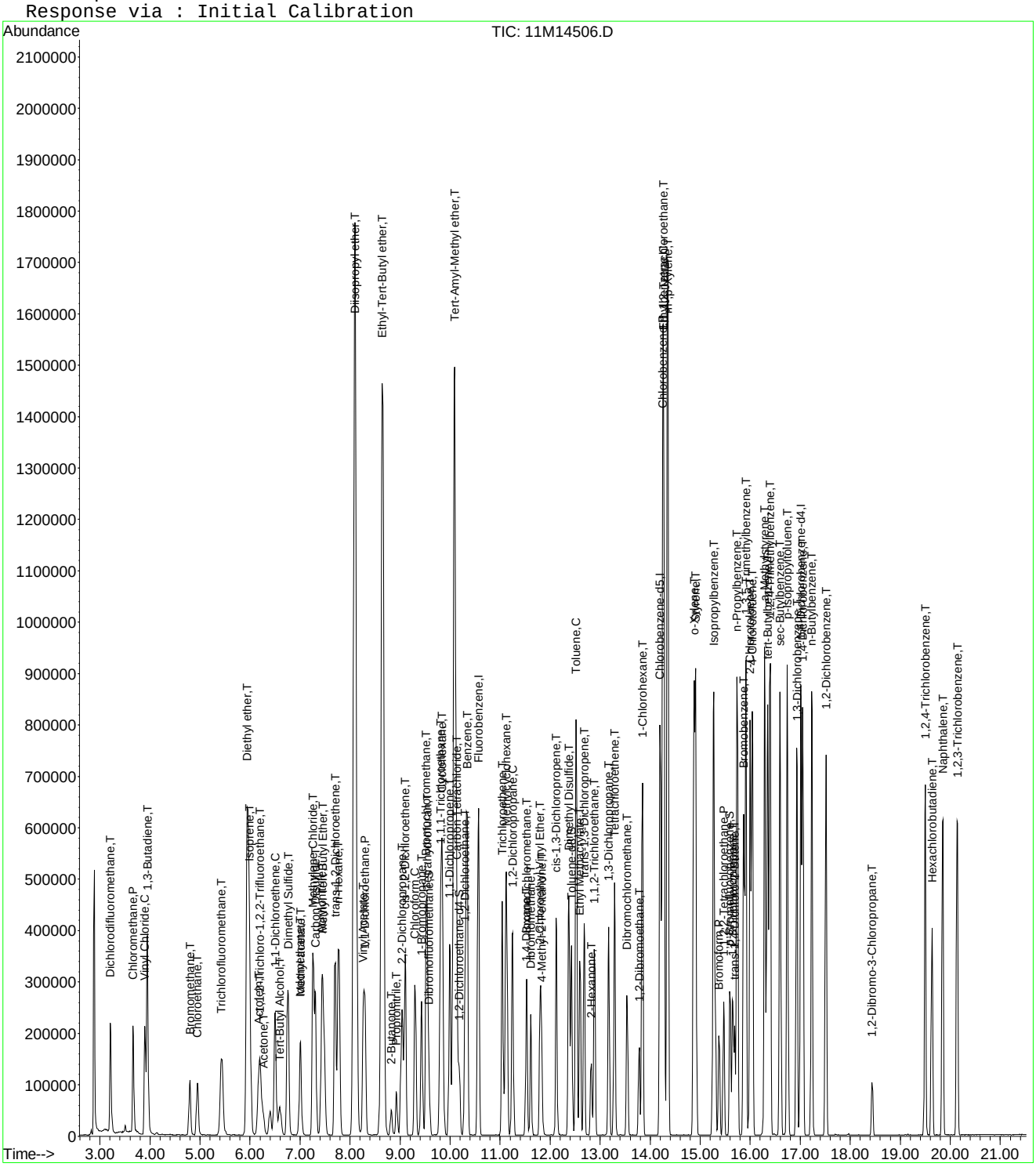
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	259927	20.3590	ug/L	99
45)	Benzene	10.34	78	647697	20.2134	ug/L	98
46)	Trichloroethene	11.04	130	184008	19.8547	ug/L	99
47)	Methylcyclohexane	11.13	83	259302	20.6393	ug/L	99
48)	1,2-Dichloropropane	11.25	63	191579	20.2836	ug/L	98
49)	1,4-Dioxane	11.52	88	10082	153.1314	ug/L	87
50)	Bromodichloromethane	11.53	83	223563	19.9088	ug/L	100
51)	Dibromomethane	11.61	93	98625	19.6944	ug/L	98
52)	2-Chloroethyl Vinyl Ether	11.80	63	109528	19.7979	ug/L	97
53)	4-Methyl-2-Pentanone	11.83	58	65824	19.3797	ug/L	98
54)	cis-1,3-Dichloropropene	12.12	75	257876	20.7769	ug/L	99
55)	Dimethyl Disulfide	12.38	79	144066	19.3401	ug/L	97
58)	Toluene	12.52	91	706714	21.1126	ug/L	99
59)	Ethyl Methacrylate	12.59	69	184701	21.5878	ug/L	93
60)	trans-1,3-Dichloropropene	12.68	75	227985	20.8025	ug/L	100
61)	1,1,2-Trichloroethane	12.88	97	138069	21.2007	ug/L	99
62)	2-Hexanone	12.82	43	137498	19.5871	ug/L	98
63)	1,3-Dichloropropane	13.17	76	226348	20.6756	ug/L	92
64)	Tetrachloroethene	13.29	164	147071	20.2424	ug/L	97
65)	Dibromochloromethane	13.53	129	182384	20.8945	ug/L	98
66)	1,2-Dibromoethane	13.78	107	141983	21.1785	ug/L	98
67)	1-Chlorohexane	13.84	91	224795	20.8104	ug/L	98
68)	Chlorobenzene	14.25	112	482066	20.2953	ug/L	100
69)	1,1,1,2-Tetrachloroethane	14.27	131	174774	20.6302	ug/L	100
70)	Ethylbenzene	14.27	106	248807	20.4857	ug/L	98
71)	m-,p-Xylene	14.35	106	601304	42.0223	ug/L	98
72)	o-Xylene	14.88	106	292426	20.7749	ug/L	97
73)	Styrene	14.91	104	506484	21.1977	ug/L	99
74)	Bromoform	15.38	173	115971	20.4875	ug/L	98
75)	Isopropylbenzene	15.27	105	756754	20.9840	ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	161088	20.5258	ug/L	100
79)	1,2,3-Trichloropropane	15.65	110	50366	21.1621	ug/L	99
80)	trans-1,4-Dichloro-2-Buten	15.69	53	70365	21.9517	ug/L	94
81)	n-Propylbenzene	15.74	91	902346	21.7937	ug/L	99
82)	Bromobenzene	15.87	156	214163	20.1811	ug/L	97
83)	1,3,5-Trimethylbenzene	15.91	105	646193	21.7591	ug/L	97
84)	2-Chlorotoluene	16.00	91	556334	21.2339	ug/L	99
85)	4-Chlorotoluene	16.04	91	569627	21.3465	ug/L	99
86)	a-Methylstyrene	16.29	118	373493	21.3967	ug/L	100
87)	tert-Butylbenzene	16.35	134	135686	20.8845	ug/L	97
88)	1,2,4-Trimethylbenzene	16.40	105	656547	21.4905	ug/L	99
89)	sec-Butylbenzene	16.60	105	798547	21.2340	ug/L	100
90)	p-Isopropyltoluene	16.74	119	694187	21.2129	ug/L	100
91)	1,3-Dichlorobenzene	16.94	146	406382	20.7715	ug/L	97
92)	1,4-Dichlorobenzene	17.05	146	398149	19.8590	ug/L	99
93)	n-Butylbenzene	17.23	91	640006	20.8452	ug/L	100
94)	1,2-Dichlorobenzene	17.52	146	379003	20.2794	ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.44	75	29757	19.7262	ug/L	93
96)	1,2,4-Trichlorobenzene	19.50	180	272433	19.6557	ug/L	99
97)	Hexachlorobutadiene	19.64	225	103511	19.0815	ug/L	99
98)	Naphthalene	19.85	128	620587	21.5357	ug/L	99
99)	1,2,3-Trichlorobenzene	20.14	180	261750	19.5714	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M14506.D 8260WT.M Fri Oct 14 09:16:10 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14506.D Vial: 8
Acq On : 13 Oct 2016 16:07 Operator: FJB
Sample : WG587480-07 20ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14507.D Vial: 9
Acq On : 13 Oct 2016 16:36 Operator: FJB
Sample : WG587480-08 50ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:12 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	727439	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	570241	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	300608	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	222037	25.3745	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.48%			
43) 1,2-Dichloroethane-d4	10.18	65	247871	25.2311	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.92%			
57) Toluene-d8	12.43	98	765817	25.3423	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.36%			
78) p-Bromofluorobenzene	15.59	95	300187	24.9605	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.84%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	676602	54.8236	ug/L	97
3) Chloromethane	3.66	50	649476	48.8248	ug/L	97
4) Vinyl Chloride	3.90	62	628611	52.0804	ug/L	100
5) 1,3-Butadiene	3.94	54	494799	50.3591	ug/L	93
6) Bromomethane	4.80	94	285226	48.7690	ug/L	97
7) Chloroethane	4.95	64	366231	51.7918	ug/L	99
8) Trichlorofluoromethane	5.43	101	737093	52.4671	ug/L	99
9) Diethyl ether	5.95	59	694146	101.0835	ug/L	95
10) Isoprene	5.99	67	646078	50.3938	ug/L	98
11) Acrolein	6.17	56	26657	46.5899	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	398710	52.7707	ug/L	100
13) Acetone	6.28	43	130895	46.3802	ug/L	93
14) 1,1-Dichloroethene	6.49	61	783939	52.2195	ug/L	97
15) Tert-Butyl Alcohol	6.60	59	137608	188.9090	ug/L	97
16) Dimethyl Sulfide	6.75	62	515295	50.0807	ug/L	96
17) Iodomethane	7.00	142	507613	50.9496	ug/L	100
18) Methyl acetate	7.01	43	398073	47.8290	ug/L	98
19) Methylene Chloride	7.26	84	432616	50.6894	ug/L	95
20) Carbon Disulfide	7.31	76	1266699	50.9051	ug/L	99
21) Acrylonitrile	7.43	53	194641	51.3339	ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	1072525	51.1110	ug/L	99
23) trans-1,2-Dichloroethene	7.70	96	430733	50.6311	ug/L	99
24) n-Hexane	7.77	57	751246	51.6389	ug/L	100
25) Diisopropyl ether	8.10	45	4198955	102.0529	ug/L	98
26) Vinyl Acetate	8.26	43	1111467	50.5386	ug/L	99
27) 1,1-Dichloroethane	8.29	63	898229	51.5164	ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	3083718	101.0623	ug/L	99
29) 2-Butanone	8.82	43	229616	48.4223	ug/L	99
30) Propionitrile	8.92	54	128708	97.9621	ug/L	99
31) 2,2-Dichloropropane	9.04	77	600617	50.5481	ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	488016	52.0883	ug/L	97
33) Chloroform	9.31	83	760777	49.7295	ug/L	100
34) 1-Bromopropane	9.43	122	81811	53.1868	ug/L	95
35) Bromochloromethane	9.52	130	303683	50.2829	ug/L	95
36) Tetrahydrofuran	9.54	42	311923	97.2225	ug/L	95
38) 1,1,1-Trichloroethane	9.81	97	698456	51.7809	ug/L	97
39) Cyclohexane	9.84	56	1011014	51.1307	ug/L	100
40) 1,1-Dichloropropene	10.00	75	573505	51.3604	ug/L	100
41) Carbon Tetrachloride	10.13	117	661064	52.4531	ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	2080632	100.6953	ug/L	97

(#) = qualifier out of range (m) = manual integration
11M14507.D 8260WT.M Fri Oct 14 09:16:13 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14507.D Vial: 9
Acq On : 13 Oct 2016 16:36 Operator: FJB
Sample : WG587480-08 50ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:12 2016 Quant Results File: 8260WT.RES

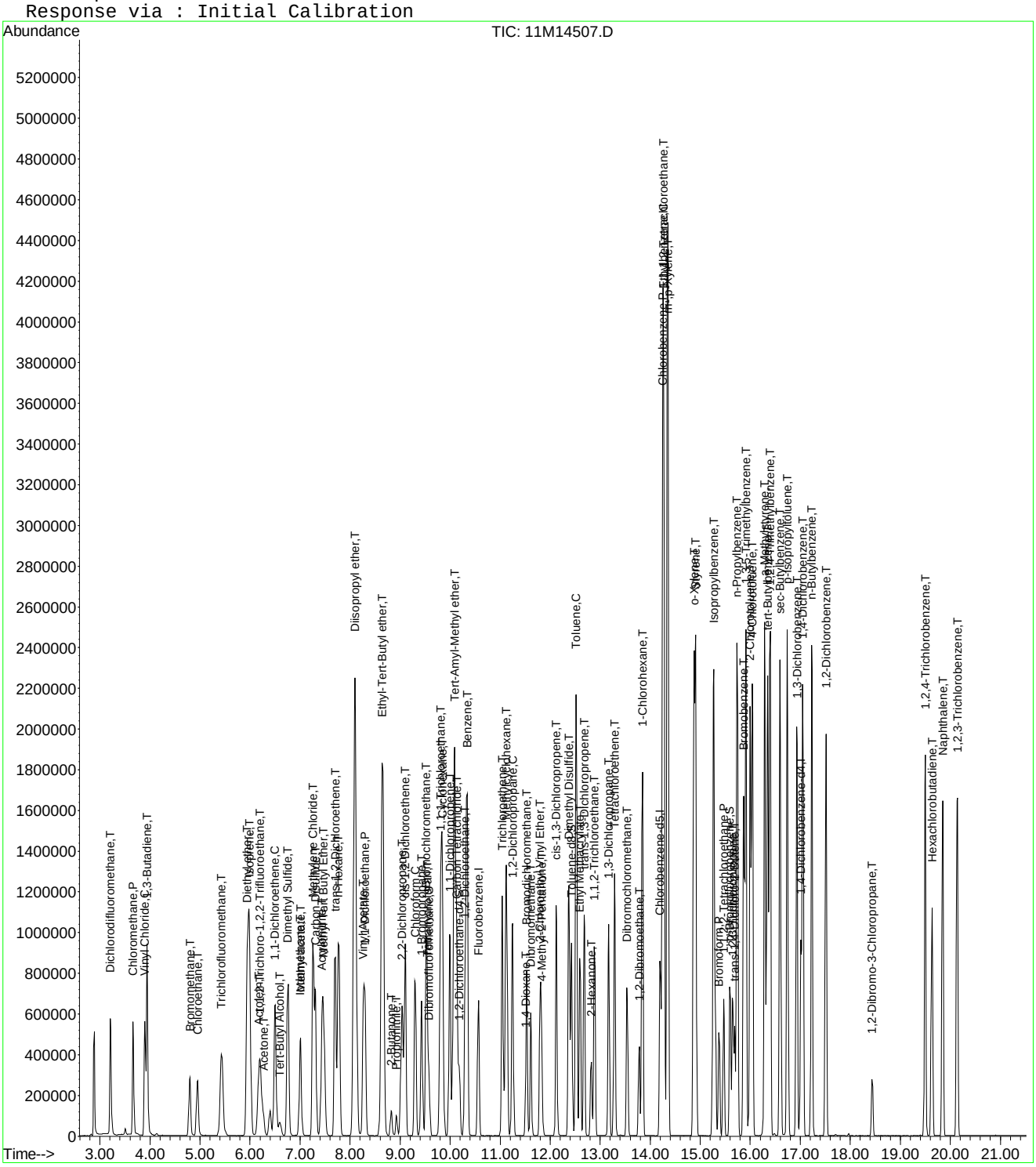
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	674976	51.3591 ug/L	98
45)	Benzene	10.34	78	1703994	51.6606 ug/L	100
46)	Trichloroethene	11.04	130	484994	50.8378 ug/L	99
47)	Methylcyclohexane	11.13	83	663522	51.3059 ug/L	99
48)	1,2-Dichloropropane	11.25	63	498427	51.2651 ug/L	99
49)	1,4-Dioxane	11.51	88	13093	193.1879 ug/L	95
50)	Bromodichloromethane	11.53	83	599138	51.8318 ug/L	99
51)	Dibromomethane	11.61	93	259362	50.3136 ug/L	99
52)	2-Chloroethyl Vinyl Ether	11.80	63	281585	49.4456 ug/L	98
53)	4-Methyl-2-Pentanone	11.83	58	166700	47.6785 ug/L	99
54)	cis-1,3-Dichloropropene	12.12	75	677409	53.0204 ug/L	99
55)	Dimethyl Disulfide	12.38	79	390201	50.8871 ug/L	98
58)	Toluene	12.52	91	1855485	51.6726 ug/L	99
59)	Ethyl Methacrylate	12.59	69	469733	51.1793 ug/L	94
60)	trans-1,3-Dichloropropene	12.68	75	608085	51.7223 ug/L	99
61)	1,1,2-Trichloroethane	12.88	97	360796	51.6439 ug/L	98
62)	2-Hexanone	12.82	43	348809	46.3197 ug/L	98
63)	1,3-Dichloropropane	13.17	76	585849	49.8851 ug/L	91
64)	Tetrachloroethene	13.29	164	383896	49.2553 ug/L	99
65)	Dibromochloromethane	13.53	129	478518	51.1031 ug/L	100
66)	1,2-Dibromoethane	13.78	107	361741	50.2992 ug/L	100
67)	1-Chlorohexane	13.84	91	596263	51.4560 ug/L	96
68)	Chlorobenzene	14.25	112	1281852	50.3071 ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.27	131	470373	51.7573 ug/L	98
70)	Ethylbenzene	14.27	106	670564	51.4674 ug/L	99
71)	m-,p-Xylene	14.35	106	1582315	103.0819 ug/L	97
72)	o-Xylene	14.88	106	788388	52.2117 ug/L	99
73)	Styrene	14.91	104	1363501	53.1964 ug/L	99
74)	Bromoform	15.38	173	310957	51.2088 ug/L	100
75)	Isopropylbenzene	15.27	105	2030553	52.4870 ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	418265	49.3382 ug/L	99
79)	1,2,3-Trichloropropane	15.65	110	128881	50.1310 ug/L	99
80)	trans-1,4-Dichloro-2-Buten	15.69	53	177319	51.2109 ug/L	96
81)	n-Propylbenzene	15.74	91	2433864	54.4189 ug/L	100
82)	Bromobenzene	15.87	156	566113	49.3855 ug/L	97
83)	1,3,5-Trimethylbenzene	15.91	105	1716984	53.5231 ug/L	100
84)	2-Chlorotoluene	16.00	91	1478103	52.2270 ug/L	99
85)	4-Chlorotoluene	16.04	91	1524788	52.8983 ug/L	100
86)	a-Methylstyrene	16.29	118	985675	52.2750 ug/L	99
87)	tert-Butylbenzene	16.35	134	370904	52.8502 ug/L	98
88)	1,2,4-Trimethylbenzene	16.40	105	1769360	53.6158 ug/L	99
89)	sec-Butylbenzene	16.60	105	2178958	53.6384 ug/L	99
90)	p-Isopropyltoluene	16.74	119	1903201	53.8399 ug/L	100
91)	1,3-Dichlorobenzene	16.94	146	1071699	50.7108 ug/L	100
92)	1,4-Dichlorobenzene	17.05	146	1076674	49.7154 ug/L	99
93)	n-Butylbenzene	17.23	91	1754992	52.9166 ug/L	100
94)	1,2-Dichlorobenzene	17.52	146	1012205	50.1390 ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.44	75	79381	48.7154 ug/L	93
96)	1,2,4-Trichlorobenzene	19.50	180	750365	50.1183 ug/L	100
97)	Hexachlorobutadiene	19.64	225	283557	48.3907 ug/L	99
98)	Naphthalene	19.85	128	1658216	53.2714 ug/L	100
99)	1,2,3-Trichlorobenzene	20.14	180	694284	48.0581 ug/L	100

(#) = qualifier out of range (m) = manual integration
11M14507.D 8260WT.M Fri Oct 14 09:16:13 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14507.D Vial: 9
Acq On : 13 Oct 2016 16:36 Operator: FJB
Sample : WG587480-08 50ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14508.D Vial: 10
Acq On : 13 Oct 2016 17:05 Operator: FJB
Sample : WG587480-09 100ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:15 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	719369	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	565075	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	300209	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	441895	51.0665	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 204.28%#			
43) 1,2-Dichloroethane-d4	10.18	65	489944	50.4314	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 201.72%#			
57) Toluene-d8	12.43	98	1521598	50.8128	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 203.24%#			
78) p-Bromofluorobenzene	15.59	95	620828	51.6903	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 206.76%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	1328668	108.8669	ug/L	97
3) Chloromethane	3.66	50	1255832	95.4672	ug/L	98
4) Vinyl Chloride	3.90	62	1223091	102.4697	ug/L	99
5) 1,3-Butadiene	3.94	54	861394	88.6535	ug/L	88
6) Bromomethane	4.79	94	609425	105.3708	ug/L	98
7) Chloroethane	4.94	64	714443	102.1689	ug/L	99
8) Trichlorofluoromethane	5.43	101	1443077	103.8722	ug/L	100
9) Diethyl ether	5.95	59	1381938	203.4994	ug/L	96
10) Isoprene	5.99	67	1279309	100.9049	ug/L	99
11) Acrolein	6.17	56	54459	96.2488	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	774148	103.6106	ug/L	98
13) Acetone	6.28	43	266287	95.4122	ug/L	96
14) 1,1-Dichloroethene	6.49	61	1545327	104.0915	ug/L	97
15) Tert-Butyl Alcohol	6.60	59	296169	411.1435	ug/L	98
16) Dimethyl Sulfide	6.75	62	1027978	101.0284	ug/L	95
17) Iodomethane	7.00	142	974766	101.9515	ug/L	99
18) Methyl acetate	7.01	43	816880	99.2502	ug/L	98
19) Methylene Chloride	7.26	84	834842	98.9153	ug/L	96
20) Carbon Disulfide	7.30	76	2494404	101.3676	ug/L	100
21) Acrylonitrile	7.43	53	394296	105.1567	ug/L	99
22) Methyl Tert Butyl Ether	7.46	73	2127437	102.5200	ug/L	100
23) trans-1,2-Dichloroethene	7.69	96	851375	101.1987	ug/L	97
24) n-Hexane	7.77	57	1472024	102.3186	ug/L	100
25) Diisopropyl ether	8.10	45	8187016	201.2123	ug/L	99
26) Vinyl Acetate	8.26	43	2159769	99.3068	ug/L	99
27) 1,1-Dichloroethane	8.29	63	1744395	101.1691	ug/L	100
28) Ethyl-Tert-Butyl ether	8.64	59	6101032	202.1914	ug/L	99
29) 2-Butanone	8.82	43	462008	98.5229	ug/L	98
30) Propionitrile	8.92	54	264182	203.3296	ug/L	100
31) 2,2-Dichloropropane	9.04	77	1174384	99.9452	ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	947323	102.2466	ug/L	99
33) Chloroform	9.30	83	1482246	97.9764	ug/L	99
34) 1-Bromopropane	9.43	122	165977	109.1152	ug/L	98
35) Bromochloromethane	9.52	130	596027	99.7954	ug/L	95
36) Tetrahydrofuran	9.54	42	627510	200.5495	ug/L	95
38) 1,1,1-Trichloroethane	9.80	97	1379112	103.3892	ug/L	96
39) Cyclohexane	9.83	56	1999015	102.2317	ug/L	99
40) 1,1-Dichloropropene	9.99	75	1118752	101.3140	ug/L	98
41) Carbon Tetrachloride	10.13	117	1288939	103.4201	ug/L	99
42) Tert-Amyl-Methyl ether	10.08	73	4158893	203.5338	ug/L	96

(#) = qualifier out of range (m) = manual integration
11M14508.D 8260WT.M Fri Oct 14 09:16:16 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14508.D Vial: 10
Acq On : 13 Oct 2016 17:05 Operator: FJB
Sample : WG587480-09 100ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:15 2016 Quant Results File: 8260WT.RES

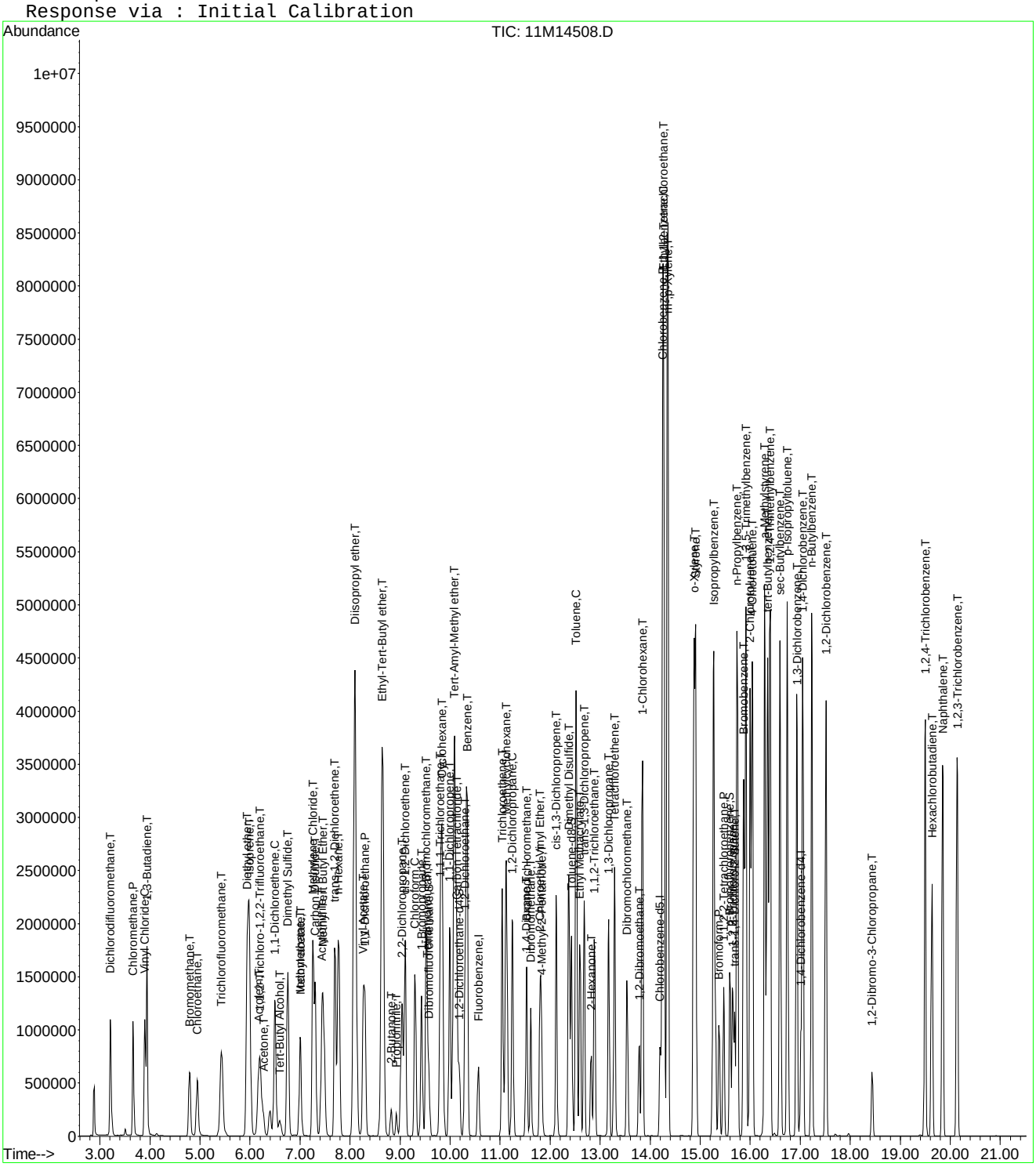
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	1327980	102.1799 ug/L	99
45)	Benzene	10.34	78	3277171	100.4697 ug/L	100
46)	Trichloroethene	11.04	130	955222	101.2511 ug/L	99
47)	Methylcyclohexane	11.13	83	1325506	103.6427 ug/L	98
48)	1,2-Dichloropropane	11.24	63	982601	102.1980 ug/L	99
49)	1,4-Dioxane	11.52	88	28669	427.7580 ug/L	97
50)	Bromodichloromethane	11.53	83	1176810	102.9486 ug/L	99
51)	Dibromomethane	11.61	93	518455	101.7032 ug/L	99
52)	2-Chloroethyl Vinyl Ether	11.80	63	577594	102.5618 ug/L	98
53)	4-Methyl-2-Pentanone	11.83	58	347272	100.4388 ug/L	99
54)	cis-1,3-Dichloropropene	12.12	75	1333465	105.5404 ug/L	100
55)	Dimethyl Disulfide	12.38	79	796670	105.0613 ug/L	98
58)	Toluene	12.52	91	3586175	100.7828 ug/L	100
59)	Ethyl Methacrylate	12.59	69	959871	105.5380 ug/L	94
60)	trans-1,3-Dichloropropene	12.68	75	1208292	103.7141 ug/L	99
61)	1,1,2-Trichloroethane	12.88	97	700425	101.1745 ug/L	100
62)	2-Hexanone	12.82	43	734494	98.4281 ug/L	98
63)	1,3-Dichloropropane	13.17	76	1156106	99.3425 ug/L	92
64)	Tetrachloroethene	13.29	164	756975	98.0106 ug/L	100
65)	Dibromochloromethane	13.53	129	966936	104.2076 ug/L	100
66)	1,2-Dibromoethane	13.78	107	723445	101.5128 ug/L	99
67)	1-Chlorohexane	13.84	91	1187567	103.4210 ug/L	96
68)	Chlorobenzene	14.25	112	2494653	98.7994 ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.27	131	927340	102.9723 ug/L	99
70)	Ethylbenzene	14.27	106	1295400	100.3341 ug/L	99
71)	m-,p-Xylene	14.35	106	3094063	203.4093 ug/L	97
72)	o-Xylene	14.88	106	1551268	103.6733 ug/L	100
73)	Styrene	14.91	104	2682221	105.6024 ug/L	100
74)	Bromoform	15.38	173	627841	104.3389 ug/L	97
75)	Isopropylbenzene	15.27	105	3979092	103.7944 ug/L	99
77)	1,1,2,2-Tetrachloroethane	15.47	83	862243	101.8447 ug/L	100
79)	1,2,3-Trichloropropane	15.65	110	264487	103.0145 ug/L	98
80)	trans-1,4-Dichloro-2-Buten	15.69	53	373049	107.8823 ug/L	95
81)	n-Propylbenzene	15.74	91	4741929	106.1659 ug/L	99
82)	Bromobenzene	15.87	156	1143256	99.8658 ug/L	96
83)	1,3,5-Trimethylbenzene	15.91	105	3425761	106.9323 ug/L	100
84)	2-Chlorotoluene	16.00	91	2897679	102.5221 ug/L	98
85)	4-Chlorotoluene	16.04	91	2990308	103.8784 ug/L	99
86)	a-Methylstyrene	16.29	118	2023197	107.4422 ug/L	99
87)	tert-Butylbenzene	16.35	134	734639	104.8180 ug/L	98
88)	1,2,4-Trimethylbenzene	16.40	105	3502953	106.2889 ug/L	98
89)	sec-Butylbenzene	16.60	105	4305699	106.1322 ug/L	99
90)	p-Isopropyltoluene	16.74	119	3794766	107.4933 ug/L	99
91)	1,3-Dichlorobenzene	16.94	146	2165192	102.5891 ug/L	99
92)	1,4-Dichlorobenzene	17.05	146	2183662	100.9646 ug/L	99
93)	n-Butylbenzene	17.23	91	3511309	106.0139 ug/L	99
94)	1,2-Dichlorobenzene	17.52	146	2089351	103.6324 ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.44	75	169574	104.2043 ug/L	92
96)	1,2,4-Trichlorobenzene	19.50	180	1573966	105.2679 ug/L	100
97)	Hexachlorobutadiene	19.64	225	609479	104.1495 ug/L	99
98)	Naphthalene	19.85	128	3462577	111.3856 ug/L	100
99)	1,2,3-Trichlorobenzene	20.14	180	1480240	102.5980 ug/L	100

(#) = qualifier out of range (m) = manual integration
11M14508.D 8260WT.M Fri Oct 14 09:16:16 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14508.D Vial: 10
Acq On : 13 Oct 2016 17:05 Operator: FJB
Sample : WG587480-09 100ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14509.D Vial: 11
Acq On : 13 Oct 2016 17:33 Operator: FJB
Sample : WG587480-10 200ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:17 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.57	96	720492	25.00	ug/L		0.00
56) Chlorobenzene-d5	14.20	117	567633	25.00	ug/L		0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	328942	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	9.57	111	844965	97.4941	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 389.96%#				
43) 1,2-Dichloroethane-d4	10.18	65	942778	96.8917	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 387.56%#				
57) Toluene-d8	12.43	98	2834134	94.2176	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 376.88%#				
78) p-Bromofluorobenzene	15.59	95	1207445	91.7508	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 367.00%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.21	85	2577883	210.8944	ug/L		97
3) Chloromethane	3.66	50	2490193	189.0071	ug/L		98
4) Vinyl Chloride	3.90	62	2387846	199.7403	ug/L		99
5) 1,3-Butadiene	3.94	54	1689191	173.5783	ug/L		88
6) Bromomethane	4.79	94	1272944	219.7515	ug/L		99
7) Chloroethane	4.94	64	1406170	200.7759	ug/L		99
8) Trichlorofluoromethane	5.43	101	2824536	202.9922	ug/L		99
9) Diethyl ether	5.92	59	1512	0.2223	ug/L	#	67
10) Isoprene	5.98	67	2514845	198.0480	ug/L		99
11) Acrolein	6.18	56	1117	1.9711	ug/L	#	16
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	1509392	201.6995	ug/L		97
13) Acetone	6.27	43	573969	205.3360	ug/L		97
14) 1,1-Dichloroethene	6.49	61	2990496	201.1225	ug/L		96
15) Tert-Butyl Alcohol	6.61	59	625	0.8663	ug/L	#	52
16) Dimethyl Sulfide	6.75	62	2021751	198.3855	ug/L		94
17) Iodomethane	7.00	142	1756723	197.2261	ug/L		99
18) Methyl acetate	7.01	43	1653783	200.6201	ug/L		98
19) Methylene Chloride	7.26	84	1629114	192.7228	ug/L		95
20) Carbon Disulfide	7.30	76	4825739	195.8027	ug/L		100
21) Acrylonitrile	7.45	53	60621	16.1421	ug/L	#	31
22) Methyl Tert Butyl Ether	7.47	73	4267667	205.3360	ug/L		100
23) trans-1,2-Dichloroethene	7.69	96	1658972	196.8863	ug/L		97
24) n-Hexane	7.77	57	2842349	197.2603	ug/L		100
25) Diisopropyl ether	8.10	45	8200	0.2012	ug/L	#	95
26) Vinyl Acetate	8.26	43	4361805	200.2443	ug/L		99
27) 1,1-Dichloroethane	8.29	63	3390961	196.3579	ug/L		100
28) Ethyl-Tert-Butyl ether	8.65	59	5261	0.1741	ug/L	#	78
29) 2-Butanone	8.82	43	942426	200.6585	ug/L		98
31) 2,2-Dichloropropane	9.04	77	2300027	195.4373	ug/L		100
32) cis-1,2-Dichloroethene	9.10	96	1844885	198.8119	ug/L		99
33) Chloroform	9.30	83	2897360	191.2169	ug/L		99
34) 1-Bromopropane	9.43	122	324044	212.6982	ug/L		97
35) Bromochloromethane	9.52	130	1176068	196.6073	ug/L		94
36) Tetrahydrofuran	9.55	42	9420	0.3696	ug/L		97
38) 1,1,1-Trichloroethane	9.80	97	2720789	203.6541	ug/L		96
39) Cyclohexane	9.83	56	3897858	199.0299	ug/L		99
40) 1,1-Dichloropropene	9.99	75	2185673	197.6257	ug/L		98
41) Carbon Tetrachloride	10.13	117	2548533	204.1669	ug/L		99
44) 1,2-Dichloroethane	10.30	62	2617438	201.0818	ug/L		99
45) Benzene	10.34	78	6199523	189.7653	ug/L		98

(#) = qualifier out of range (m) = manual integration
11M14509.D 8260WT.M Fri Oct 14 09:16:19 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14509.D Vial: 11
Acq On : 13 Oct 2016 17:33 Operator: FJB
Sample : WG587480-10 200ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:17 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

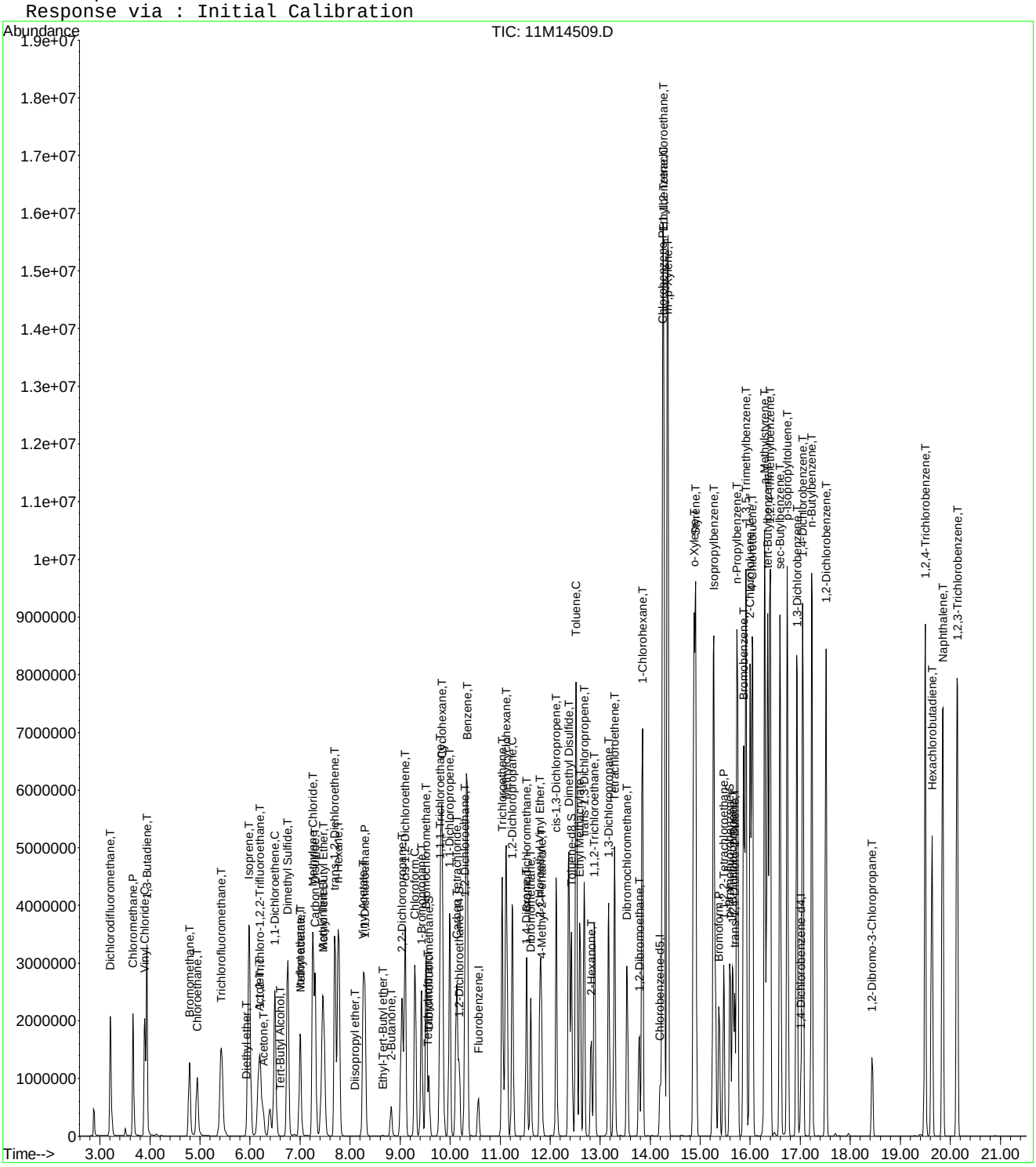
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
46)	Trichloroethene	11.04	130	1866413	197.5266 ug/L		100
47)	Methylcyclohexane	11.13	83	2571287	200.7382 ug/L		99
48)	1,2-Dichloropropane	11.24	63	1919460	199.3272 ug/L		99
49)	1,4-Dioxane	11.52	88	2700	40.2228 ug/L	#	6
50)	Bromodichloromethane	11.53	83	2319976	202.6376 ug/L		99
51)	Dibromomethane	11.61	93	1010011	197.8210 ug/L		97
52)	2-Chloroethyl Vinyl Ether	11.80	63	1170442	207.5083 ug/L		99
53)	4-Methyl-2-Pentanone	11.83	58	732474	211.5175 ug/L		99
54)	cis-1,3-Dichloropropene	12.12	75	2629347	207.7819 ug/L		99
55)	Dimethyl Disulfide	12.38	79	1609905	211.9763 ug/L		100
58)	Toluene	12.52	91	6643149	185.8521 ug/L		97
59)	Ethyl Methacrylate	12.59	69	1980164	216.7382 ug/L		94
60)	trans-1,3-Dichloropropene	12.68	75	2402551	205.2944 ug/L		98
61)	1,1,2-Trichloroethane	12.88	97	1401162	201.4820 ug/L		100
62)	2-Hexanone	12.82	43	1584035	211.3168 ug/L		97
63)	1,3-Dichloropropane	13.17	76	2279148	194.9613 ug/L		91
64)	Tetrachloroethene	13.29	164	1490161	192.0716 ug/L		100
65)	Dibromochloromethane	13.53	129	1949174	209.1177 ug/L		100
66)	1,2-Dibromoethane	13.78	107	1455227	203.2753 ug/L		99
67)	1-Chlorohexane	13.84	91	2352852	203.9782 ug/L		95
68)	Chlorobenzene	14.25	112	4760452	187.6855 ug/L		99
69)	1,1,1,2-Tetrachloroethane	14.27	131	1859811	205.5838 ug/L		98
70)	Ethylbenzene	14.27	106	2573927	198.4629 ug/L		88
71)	m-,p-Xylene	14.35	106	5768393	377.5157 ug/L		85
72)	o-Xylene	14.88	106	3057967	203.4470 ug/L		95
73)	Styrene	14.91	104	5207784	204.1130 ug/L		98
74)	Bromoform	15.38	173	1351988	223.6700 ug/L		98
75)	Isopropylbenzene	15.27	105	7467432	193.9097 ug/L		96
77)	1,1,2,2-Tetrachloroethane	15.47	83	1823753	196.5981 ug/L		100
79)	1,2,3-Trichloropropane	15.65	110	562549	199.9671 ug/L		98
80)	trans-1,4-Dichloro-2-Buten	15.69	53	805312	212.5460 ug/L		94
81)	n-Propylbenzene	15.74	91	8606877	175.8652 ug/L		94
82)	Bromobenzene	15.87	156	2295277	182.9838 ug/L		96
83)	1,3,5-Trimethylbenzene	15.91	105	6590614	187.7509 ug/L		96
84)	2-Chlorotoluene	16.00	91	5528793	178.5261 ug/L		84
85)	4-Chlorotoluene	16.04	91	5822520	184.5970 ug/L		91
86)	a-Methylstyrene	16.28	118	4090365	198.2455 ug/L		97
87)	tert-Butylbenzene	16.35	134	1495851	194.7847 ug/L		97
88)	1,2,4-Trimethylbenzene	16.40	105	6740991	186.6730 ug/L		95
89)	sec-Butylbenzene	16.60	105	8112055	182.4899 ug/L		95
90)	p-Isopropyltoluene	16.74	119	7315620	189.1262 ug/L		96
91)	1,3-Dichlorobenzene	16.94	146	4363436	188.6852 ug/L		99
92)	1,4-Dichlorobenzene	17.05	146	4377989	184.7407 ug/L		99
93)	n-Butylbenzene	17.23	91	6902646	190.2015 ug/L		96
94)	1,2-Dichlorobenzene	17.52	146	4260405	192.8588 ug/L		99
95)	1,2-Dibromo-3-Chloropropan	18.44	75	387420	217.2766 ug/L		89
96)	1,2,4-Trichlorobenzene	19.50	180	3470674	211.8452 ug/L		98
97)	Hexachlorobutadiene	19.64	225	1344657	209.7077 ug/L		99
98)	Naphthalene	19.85	128	7277101	213.6448 ug/L	#	97
99)	1,2,3-Trichlorobenzene	20.14	180	3305152	209.0751 ug/L		99

(#) = qualifier out of range (m) = manual integration
11M14509.D 8260WT.M Fri Oct 14 09:16:19 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14509.D Vial: 11
Acq On : 13 Oct 2016 17:33 Operator: FJB
Sample : WG587480-10 200ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14510.D Vial: 12
Acq On : 13 Oct 2016 18:03 Operator: FJB
Sample : WG587480-11 300ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:20 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	729552	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	578151	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	347891	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	1296783	147.7679 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 591.08%#		
43) 1,2-Dichloroethane-d4	10.18	65	1448218	146.9887 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 587.96%#		
57) Toluene-d8	12.43	98	4301991	140.4131 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 561.64%#		
78) p-Bromofluorobenzene	15.59	95	1864520	133.9632 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 535.84%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.21	85	3818905	308.5415 ug/L	97
3) Chloromethane	3.66	50	3800742	284.8961 ug/L	96
4) Vinyl Chloride	3.89	62	3523647	291.0883 ug/L	98
5) 1,3-Butadiene	3.93	54	2607025	264.5665 ug/L	89
6) Bromomethane	4.79	94	2004907	341.8139 ug/L	99
7) Chloroethane	4.94	64	2128974	300.2043 ug/L	99
8) Trichlorofluoromethane	5.42	101	4325678	307.0148 ug/L	99
9) Diethyl ether	5.95	59	2065090	299.8534 ug/L	95
10) Isoprene	5.98	67	3897848	303.1496 ug/L	100
11) Acrolein	6.17	56	88428	154.1029 ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	2328264	307.2614 ug/L	96
13) Acetone	6.28	43	820708	289.9601 ug/L	96
14) 1,1-Dichloroethene	6.49	61	4595365	305.2182 ug/L	96
15) Tert-Butyl Alcohol	6.61	59	473645	648.3392 ug/L	96
16) Dimethyl Sulfide	6.75	62	3103459	300.7468 ug/L	94
17) Iodomethane	7.00	142	2484247	301.1614 ug/L	99
18) Methyl acetate	7.01	43	2552142	305.7550 ug/L	97
19) Methylene Chloride	7.26	84	2486581	290.5074 ug/L	92
20) Carbon Disulfide	7.30	76	7266754	291.1845 ug/L	99
21) Acrylonitrile	7.43	53	638728	167.9677 ug/L	94
22) Methyl Tert Butyl Ether	7.47	73	6501362	308.9241 ug/L	99
23) trans-1,2-Dichloroethene	7.69	96	2547219	298.5491 ug/L	96
24) n-Hexane	7.77	57	4460235	305.6983 ug/L	100
25) Diisopropyl ether	8.10	45	11656547	282.4842 ug/L	99
26) Vinyl Acetate	8.26	43	6374678	289.0182 ug/L	99
27) 1,1-Dichloroethane	8.29	63	5155673	294.8383 ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	9015818	294.6185 ug/L	98
29) 2-Butanone	8.82	43	1407124	295.8800 ug/L	98
30) Propionitrile	8.93	54	399322	303.0513 ug/L	98
31) 2,2-Dichloropropane	9.04	77	3510287	294.5711 ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	2810292	299.0870 ug/L	98
33) Chloroform	9.30	83	4399026	286.7168 ug/L	99
34) 1-Bromopropane	9.43	122	512392	332.1507 ug/L	97
35) Bromochloromethane	9.52	130	1802606	297.6055 ug/L	93
36) Tetrahydrofuran	9.54	42	942990	298.4584 ug/L	95
38) 1,1,1-Trichloroethane	9.81	97	4148568	306.6687 ug/L	96
39) Cyclohexane	9.83	56	6014710	303.3052 ug/L	100
40) 1,1-Dichloropropene	9.99	75	3327610	297.1417 ug/L	98
41) Carbon Tetrachloride	10.13	117	3897370	308.3470 ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	6217989	300.0573 ug/L	94

(#) = qualifier out of range (m) = manual integration
11M14510.D 8260WT.M Fri Oct 14 09:16:21 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14510.D Vial: 12
Acq On : 13 Oct 2016 18:03 Operator: FJB
Sample : WG587480-11 300ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:20 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

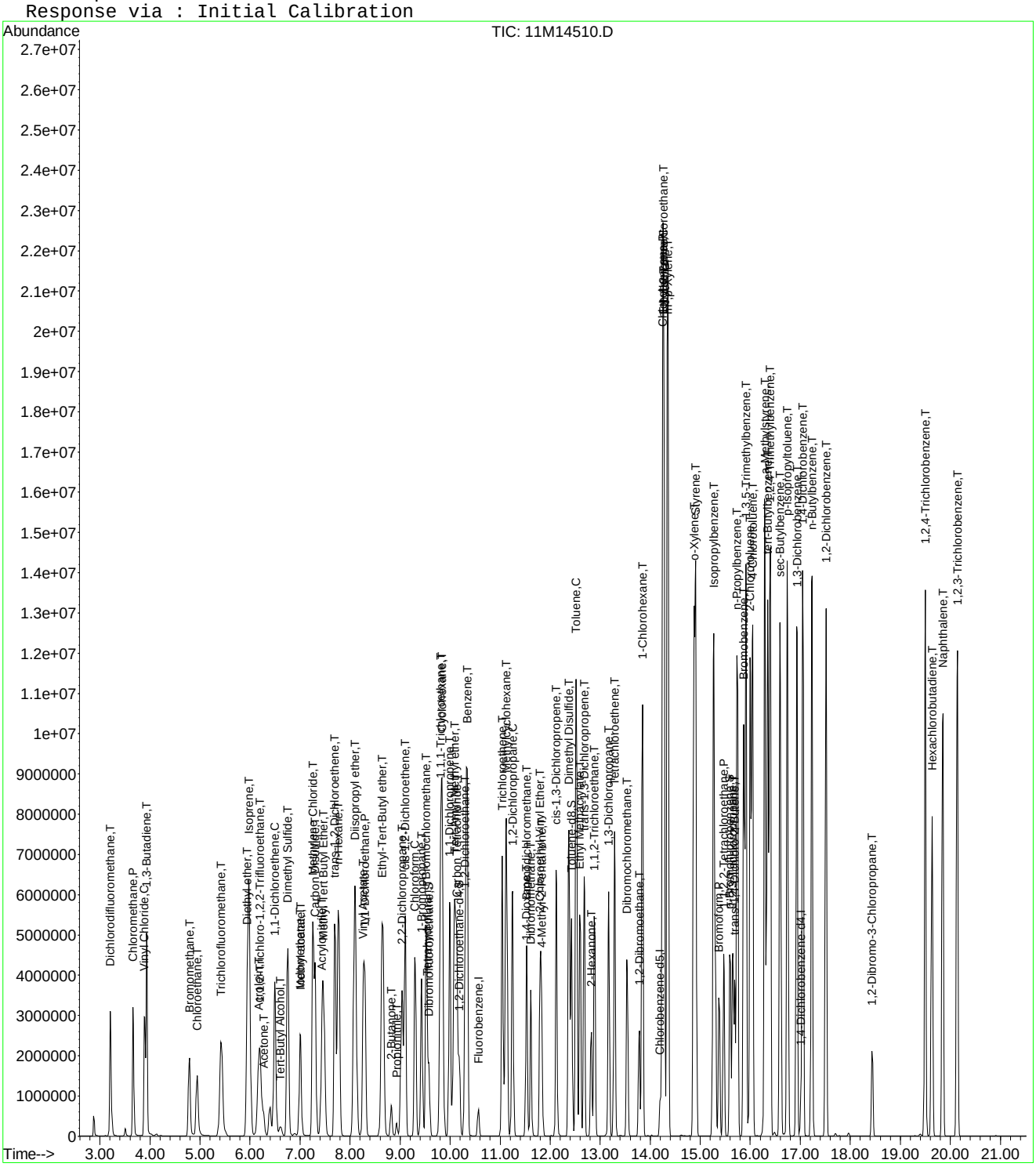
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44)	1,2-Dichloroethane	10.30	62	3918674	297.3093 ug/L		99
45)	Benzene	10.34	78	8948396	270.5059 ug/L		96
46)	Trichloroethene	11.04	130	2877618	300.7626 ug/L		99
47)	Methylcyclohexane	11.13	83	3994548	307.9782 ug/L		98
48)	1,2-Dichloropropane	11.25	63	2923302	299.8017 ug/L		100
49)	1,4-Dioxane	11.52	88	45791	673.6917 ug/L		94
50)	Bromodichloromethane	11.53	83	3525316	304.0937 ug/L		99
51)	Dibromomethane	11.61	93	1544679	298.7841 ug/L		98
52)	2-Chloroethyl Vinyl Ether	11.80	63	1759152	308.0079 ug/L		98
53)	4-Methyl-2-Pentanone	11.83	58	1119413	319.2400 ug/L		98
54)	cis-1,3-Dichloropropene	12.12	75	3970419	309.8625 ug/L		99
55)	Dimethyl Disulfide	12.38	79	2481521	322.6843 ug/L		98
58)	Toluene	12.52	91	9379407	257.6293 ug/L		92
59)	Ethyl Methacrylate	12.59	69	2992079	321.5390 ug/L		94
60)	trans-1,3-Dichloropropene	12.68	75	3581773	300.4892 ug/L		97
61)	1,1,2-Trichloroethane	12.88	97	2111507	298.1032 ug/L		99
62)	2-Hexanone	12.82	43	2425107	317.6336 ug/L		96
63)	1,3-Dichloropropane	13.17	76	3385571	284.3376 ug/L		92
64)	Tetrachloroethene	13.29	164	2289189	289.6930 ug/L		100
65)	Dibromochloromethane	13.53	129	2950552	310.7920 ug/L		100
66)	1,2-Dibromoethane	13.78	107	2196747	301.2731 ug/L		99
67)	1-Chlorohexane	13.84	91	3573443	304.1602 ug/L		95
68)	Chlorobenzene	14.25	112	6781300	262.4955 ug/L		96
69)	1,1,1,2-Tetrachloroethane	14.27	131	2803495	304.2609 ug/L		98
70)	Ethylbenzene	14.27	106	3807691	288.2513 ug/L		75
71)	m-,p-Xylene	14.35	106	8084438	519.4651 ug/L		74
72)	o-Xylene	14.88	106	4507621	294.4368 ug/L		88
73)	Styrene	14.91	104	7421253	285.5758 ug/L		93
74)	Bromoform	15.38	173	2101779	341.3880 ug/L		98
75)	Isopropylbenzene	15.27	105	10163503	259.1183 ug/L		91
77)	1,1,2,2-Tetrachloroethane	15.47	83	2852095	290.7056 ug/L		100
79)	1,2,3-Trichloropropane	15.65	110	877232	294.8417 ug/L		93
80)	trans-1,4-Dichloro-2-Buten	15.69	53	1270846	317.1449 ug/L		93
81)	n-Propylbenzene	15.74	91	11368867	219.6482 ug/L		87
82)	Bromobenzene	15.87	156	3462989	261.0387 ug/L		95
83)	1,3,5-Trimethylbenzene	15.91	105	9178004	247.2183 ug/L		92
84)	2-Chlorotoluene	16.00	91	7705433	235.2582 ug/L		79
85)	4-Chlorotoluene	16.05	91	6654872	199.4939 ug/L		89
86)	a-Methylstyrene	16.30	118	6164223	282.4852 ug/L		95
87)	tert-Butylbenzene	16.35	134	2279313	280.6380 ug/L		91
88)	1,2,4-Trimethylbenzene	16.40	105	9361710	245.1259 ug/L		89
89)	sec-Butylbenzene	16.60	105	11011361	234.2206 ug/L		89
90)	p-Isopropyltoluene	16.74	119	10059158	245.8886 ug/L		90
91)	1,3-Dichlorobenzene	16.94	146	6533709	267.1438 ug/L		96
92)	1,4-Dichlorobenzene	17.05	146	6525107	260.3465 ug/L		96
93)	n-Butylbenzene	17.24	91	9560886	249.0993 ug/L		91
94)	1,2-Dichlorobenzene	17.52	146	6448020	275.9885 ug/L		96
95)	1,2-Dibromo-3-Chloropropan	18.44	75	610641	323.8121 ug/L		90
96)	1,2,4-Trichlorobenzene	19.50	180	5199714	300.0961 ug/L		97
97)	Hexachlorobutadiene	19.63	225	2065705	304.6121 ug/L		98
98)	Naphthalene	19.85	128	9803018	272.1259 ug/L	#	92
99)	1,2,3-Trichlorobenzene	20.14	180	4913727	293.8990 ug/L		97

(#) = qualifier out of range (m) = manual integration
11M14510.D 8260WT.M Fri Oct 14 09:16:22 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14510.D Vial: 12
Acq On : 13 Oct 2016 18:03 Operator: FJB
Sample : WG587480-11 300ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14512.D Vial: 14
Acq On : 13 Oct 2016 19:00 Operator: FJB
Sample : WG587480-12 50ug/L ICV 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:21:41 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	702162	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	553276	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	298660	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	10.18	65	731	0.0771	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.32%#		
57) Toluene-d8	12.43	98	3821	0.1303	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.52%#		
78) p-Bromofluorobenzene	15.59	95	3099	0.2594	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	1.04%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	669777	56.2243	ug/L	96
3) Chloromethane	3.66	50	675074	51.6692	ug/L	98
4) Vinyl Chloride	3.90	62	646512	55.4917	ug/L	99
5) 1,3-Butadiene	3.94	54	413339	43.5828	ug/L	88
6) Bromomethane	4.79	94	293212	51.9393	ug/L	96
7) Chloroethane	4.94	64	375956	55.0811	ug/L	99
8) Trichlorofluoromethane	5.42	101	702738	51.8224	ug/L	100
9) Diethyl ether	5.95	59	854500	128.9143	ug/L	95
10) Isoprene	5.98	67	607453	49.0867	ug/L	98
11) Acrolein	6.17	56	86152	155.9931	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	391702	53.7094	ug/L	95
13) Acetone	6.28	43	141394	51.9038	ug/L	93
14) 1,1-Dichloroethene	6.49	61	726818	50.1574	ug/L	96
15) Tert-Butyl Alcohol	6.61	59	167411	238.0961	ug/L	97
16) Dimethyl Sulfide	6.75	62	546231	54.9984	ug/L	94
17) Iodomethane	7.00	142	269190	27.9208	ug/L	99
18) Methyl acetate	7.01	43	421307	52.4429	ug/L	97
19) Methylene Chloride	7.26	84	413893	50.2414	ug/L	93
20) Carbon Disulfide	7.30	76	1147115	47.7588	ug/L	100
21) Acrylonitrile	7.43	53	199446	54.4947	ug/L	100
22) Methyl Tert Butyl Ether	7.46	73	1106741	54.6402	ug/L	100
23) trans-1,2-Dichloroethene	7.69	96	425163	51.7754	ug/L	96
24) n-Hexane	7.77	57	709006	50.4898	ug/L	100
25) Diisopropyl ether	8.10	45	4544551	114.4285	ug/L	97
26) Vinyl Acetate	8.26	43	1118820	52.7043	ug/L	98
27) 1,1-Dichloroethane	8.29	63	860507	51.1295	ug/L	100
28) Ethyl-Tert-Butyl ether	8.64	59	3220436	109.3424	ug/L	99
29) 2-Butanone	8.82	43	240088	52.4533	ug/L	99
30) Propionitrile	8.92	54	137285	108.2518	ug/L	99
31) 2,2-Dichloropropane	9.04	77	612355	53.3912	ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	468568	51.8129	ug/L	99
33) Chloroform	9.30	83	752417	50.9535	ug/L	99
34) 1-Bromopropane	9.43	122	107937	69.6843	ug/L	99
35) Bromochloromethane	9.52	130	302690	51.9227	ug/L	91
36) Tetrahydrofuran	9.54	42	319823	103.4400	ug/L	95
38) 1,1,1-Trichloroethane	9.80	97	704926	54.1419	ug/L	95
39) Cyclohexane	9.83	56	995372	52.1518	ug/L	100
40) 1,1-Dichloropropene	9.99	75	560744	52.0253	ug/L	98
41) Carbon Tetrachloride	10.13	117	643102	52.8648	ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	2260773	113.3523	ug/L	94

(#) = qualifier out of range (m) = manual integration
11M14512.D 8260WT.M Fri Oct 14 09:21:42 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14512.D Vial: 14
Acq On : 13 Oct 2016 19:00 Operator: FJB
Sample : WG587480-12 50ug/L ICV 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:21:41 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

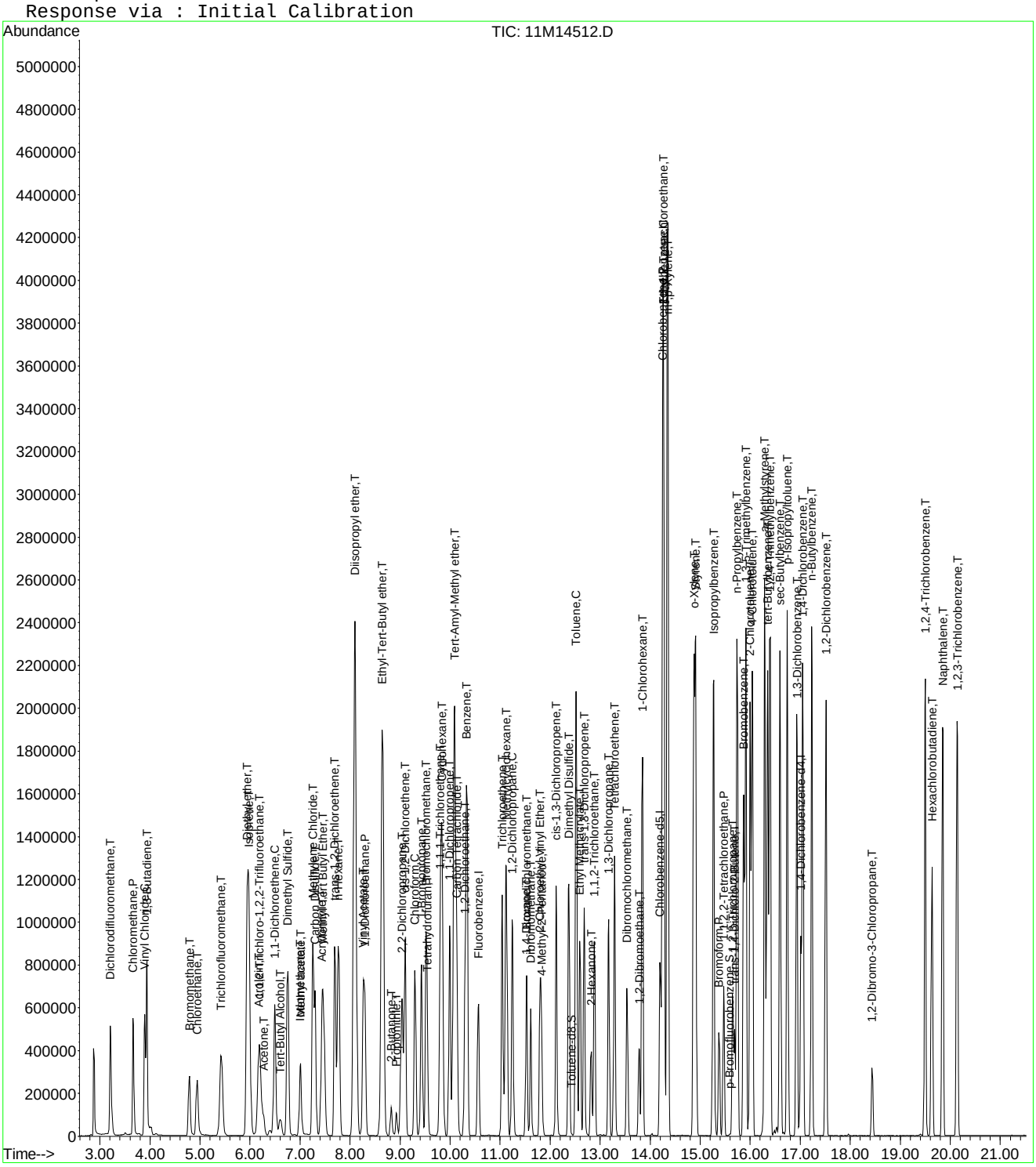
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	644280	50.7882 ug/L	98
45)	Benzene	10.33	78	1655223	51.9885 ug/L	99
46)	Trichloroethene	11.04	130	472567	51.3184 ug/L	99
47)	Methylcyclohexane	11.13	83	662909	53.1038 ug/L	97
48)	1,2-Dichloropropane	11.24	63	482598	51.4239 ug/L	100
49)	1,4-Dioxane	11.52	88	16551	253.0022 ug/L	99
50)	Bromodichloromethane	11.53	83	559338	50.1306 ug/L	99
51)	Dibromomethane	11.61	93	254799	51.2078 ug/L	98
52)	2-Chloroethyl Vinyl Ether	11.80	63	288838	52.5450 ug/L	95
53)	4-Methyl-2-Pentanone	11.83	58	175736	52.0723 ug/L	97
54)	cis-1,3-Dichloropropene	12.12	75	700026	56.7631 ug/L	99
55)	Dimethyl Disulfide	12.38	79	386136	52.1698 ug/L	100
58)	Toluene	12.52	91	1796389	51.5608 ug/L	99
59)	Ethyl Methacrylate	12.59	69	504111	56.6091 ug/L	89
60)	trans-1,3-Dichloropropene	12.68	75	586038	51.3755 ug/L	98
61)	1,1,2-Trichloroethane	12.88	97	344021	50.7526 ug/L	99
62)	2-Hexanone	12.82	43	370333	50.6859 ug/L	95
63)	1,3-Dichloropropane	13.17	76	589952	51.7748 ug/L	89
64)	Tetrachloroethene	13.29	164	387425	51.2323 ug/L	100
65)	Dibromochloromethane	13.53	129	456598	50.2574 ug/L	100
66)	1,2-Dibromoethane	13.78	107	349809	50.1315 ug/L	100
67)	1-Chlorohexane	13.85	91	609636	54.2233 ug/L	93
68)	Chlorobenzene	14.25	112	1224273	49.5207 ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.27	131	445065	50.4742 ug/L	99
70)	Ethylbenzene	14.27	106	643959	50.9410 ug/L	99
71)	m-,p-Xylene	14.35	106	1571819	105.5379 ug/L	99
72)	o-Xylene	14.88	106	769151	52.4996 ug/L	99
73)	Styrene	14.91	104	1330836	53.5141 ug/L	99
74)	Bromoform	15.38	173	295984	50.2376 ug/L	98
75)	Isopropylbenzene	15.27	105	1947725	51.8898 ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	428994	50.9339 ug/L	100
79)	1,2,3-Trichloropropane	15.65	110	132554	51.8959 ug/L	94
80)	trans-1,4-Dichloro-2-Buten	15.69	53	161475	46.9393 ug/L	91
81)	n-Propylbenzene	15.74	91	2358906	53.0869 ug/L	100
82)	Bromobenzene	15.87	156	546049	47.9459 ug/L	95
83)	1,3,5-Trimethylbenzene	15.91	105	1670795	52.4230 ug/L	100
84)	2-Chlorotoluene	16.00	91	1431449	50.9084 ug/L	99
85)	4-Chlorotoluene	16.04	91	1478353	51.6219 ug/L	100
86)	a-Methylstyrene	16.29	118	1019160	54.4034 ug/L	100
87)	tert-Butylbenzene	16.35	134	360231	51.6642 ug/L	97
88)	1,2,4-Trimethylbenzene	16.40	105	1718302	52.4082 ug/L	99
89)	sec-Butylbenzene	16.60	105	2083719	51.6285 ug/L	99
90)	p-Isopropyltoluene	16.74	119	1886767	53.7231 ug/L	100
91)	1,3-Dichlorobenzene	16.94	146	1055911	50.2897 ug/L	99
92)	1,4-Dichlorobenzene	17.05	146	1082284	50.3004 ug/L	99
93)	n-Butylbenzene	17.23	91	1725319	52.3612 ug/L	99
94)	1,2-Dichlorobenzene	17.52	146	1059402	52.8192 ug/L	98
95)	1,2-Dibromo-3-Chloropropan	18.44	75	89801	55.4695 ug/L	90
96)	1,2,4-Trichlorobenzene	19.50	180	865195	58.1649 ug/L	100
97)	Hexachlorobutadiene	19.64	225	327170	56.1977 ug/L	98
98)	Naphthalene	19.85	128	1937943	62.6639 ug/L	99
99)	1,2,3-Trichlorobenzene	20.14	180	821651	57.2454 ug/L	100

(#) = qualifier out of range (m) = manual integration
11M14512.D 8260WT.M Fri Oct 14 09:21:42 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14512.D Vial: 14
Acq On : 13 Oct 2016 19:00 Operator: FJB
Sample : WG587480-12 50ug/L ICV 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:21 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\101316\11M14512.D Vial: 14
Acq On : 13 Oct 2016 19:00 Operator: FJB
Sample : WG587480-12 50ug/L ICV 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
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	Fluorobenzene	25.0000	25.0000	0.0	97	0.00
2	T	Dichlorodifluoromethane	50.0000	56.2243	-12.4	99	0.00
3	P	Chloromethane	50.0000	51.6692	-3.3	104	0.00
4	C	Vinyl Chloride	50.0000	55.4917	-11.0	103	0.00
5	T	1,3-Butadiene	50.0000	43.5828	12.8	84	0.00
6	T	Bromomethane	50.0000	51.9393	-3.9	103	-0.01
7	T	Chloroethane	50.0000	55.0811	-10.2	103	-0.01
8	T	Trichlorofluoromethane	50.0000	51.8224	-3.6	95	-0.01
9	T	Diethyl ether	100.0000	128.9143	-28.9#	123	0.00
10	T	Isoprene	50.0000	49.0867	1.8	94	-0.01
11	T	Acrolein	50.0000	155.9931	-212.0#	323	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	53.7094	-7.4	98	-0.01
13	T	Acetone	50.0000	51.9038	-3.8	107	0.00
14	C	1,1-Dichloroethene	50.0000	50.1574	-0.3	93	0.00
15	T	Tert-Butyl Alcohol	200.0000	238.0961	-19.0	122	0.01
16	T	Dimethyl Sulfide	50.0000	54.9984	-10.0	106	0.00
17	T	Iodomethane	50.0000	27.9208	44.2#	53	0.00
18	T	Methyl acetate	50.0000	52.4429	-4.9	106	0.00
19	T	Methylene Chloride	50.0000	50.2414	-0.5	96	0.00
20	T	Carbon Disulfide	50.0000	47.7588	4.5	91	-0.01
21	T	Acrylonitrile	50.0000	54.4947	-9.0	102	0.00
22	T	Methyl Tert Butyl Ether	50.0000	54.6402	-9.3	103	-0.01
23	T	trans-1,2-Dichloroethene	50.0000	51.7754	-3.6	99	-0.01
24	T	n-Hexane	50.0000	50.4898	-1.0	94	0.00
25	T	Diisopropyl ether	100.0000	114.4285	-14.4	108	0.00
26	T	Vinyl Acetate	50.0000	52.7043	-5.4	101	0.00
27	P	1,1-Dichloroethane	50.0000	51.1295	-2.3	96	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	109.3424	-9.3	104	0.00
29	T	2-Butanone	50.0000	52.4533	-4.9	105	0.00
30	T	Propionitrile	100.0000	108.2518	-8.3	107	0.00
31	T	2,2-Dichloropropane	50.0000	53.3912	-6.8	102	0.00
32	T	cis-1,2-Dichloroethene	50.0000	51.8129	-3.6	96	0.00
33	C	Chloroform	50.0000	50.9535	-1.9	99	-0.01
34	T	1-Bromopropane	50.0000	69.6843	-39.4#	132	0.00
35	T	Bromochloromethane	50.0000	51.9227	-3.8	100	0.00
36	T	Tetrahydrofuran	100.0000	103.4400	-3.4	103	0.00
37	S	Dibromofluoromethane	25.0000	0.0000	100.0#	0	-9.57#
38	T	1,1,1-Trichloroethane	50.0000	54.1419	-8.3	101	-0.01
39	T	Cyclohexane	50.0000	52.1518	-4.3	98	-0.01
40	T	1,1-Dichloropropene	50.0000	52.0253	-4.1	98	-0.01
41	T	Carbon Tetrachloride	50.0000	52.8648	-5.7	97	0.00
42	T	Tert-Amyl-Methyl ether	100.0000	113.3523	-13.4	109	0.00
43	S	1,2-Dichloroethane-d4	25.0000	0.0771	99.7#	0	0.00
44	T	1,2-Dichloroethane	50.0000	50.7882	-1.6	95	0.00
45	T	Benzene	50.0000	51.9885	-4.0	97	-0.01
46	T	Trichloroethene	50.0000	51.3184	-2.6	97	0.00
47	T	Methylcyclohexane	50.0000	53.1037	-6.2	100	0.00
48	C	1,2-Dichloropropane	50.0000	51.4239	-2.8	97	-0.01
49	T	1,4-Dioxane	200.0000	253.0022	-26.5#	126	0.01
50	T	Bromodichloromethane	50.0000	50.1306	-0.3	93	0.00
51	T	Dibromomethane	50.0000	51.2078	-2.4	98	0.00
52	T	2-Chloroethyl Vinyl Ether	50.0000	52.5450	-5.1	103	0.00
53	T	4-Methyl-2-Pentanone	50.0000	52.0723	-4.1	105	0.00
54	T	cis-1,3-Dichloropropene	50.0000	56.7631	-13.5	103	0.00

(#) = Out of Range
11M14512.D 8260WT.M Fri Oct 14 09:22:07 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14512.D Vial: 14
Acq On : 13 Oct 2016 19:00 Operator: FJB
Sample : WG587480-12 50ug/L ICV 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
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)
55	T	Dimethyl Disulfide	50.0000	52.1698	-4.3	99	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	97	0.00
57	S	Toluene-d8	25.0000	0.1303	99.5#	0	0.00
58	C	Toluene	50.0000	51.5608	-3.1	97	0.00
59	T	Ethyl Methacrylate	50.0000	56.6091	-13.2	107	0.00
60	T	trans-1,3-Dichloropropene	50.0000	51.3755	-2.8	96	0.00
61	T	1,1,2-Trichloroethane	50.0000	50.7526	-1.5	95	0.00
62	T	2-Hexanone	50.0000	50.6859	-1.4	106	0.00
63	T	1,3-Dichloropropane	50.0000	51.7748	-3.5	101	0.00
64	T	Tetrachloroethene	50.0000	51.2323	-2.5	101	0.00
65	T	Dibromochloromethane	50.0000	50.2574	-0.5	95	0.00
66	T	1,2-Dibromoethane	50.0000	50.1315	-0.3	97	0.00
67	T	1-Chlorohexane	50.0000	54.2233	-8.4	102	0.00
68	P	Chlorobenzene	50.0000	49.5207	1.0	96	0.00
69	T	1,1,1,2-Tetrachloroethane	50.0000	50.4742	-0.9	95	0.00
70	C	Ethylbenzene	50.0000	50.9410	-1.9	96	0.00
71	T	m-,p-Xylene	100.0000	105.5379	-5.5	99	0.00
72	T	o-Xylene	50.0000	52.4996	-5.0	98	0.00
73	T	Styrene	50.0000	53.5141	-7.0	98	0.00
74	P	Bromoform	50.0000	50.2376	-0.5	95	0.00
75	T	Isopropylbenzene	50.0000	51.8898	-3.8	96	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	99	0.00
77	P	1,1,2,2-Tetrachloroethane	50.0000	50.9339	-1.9	103	0.00
78	S	p-Bromofluorobenzene	25.0000	0.2594	99.0#	1	0.00
79	T	1,2,3-Trichloropropane	50.0000	51.8959	-3.8	103	0.00
80	T	trans-1,4-Dichloro-2-Butene	50.0000	46.9393	6.1	91	0.00
81	T	n-Propylbenzene	50.0000	53.0869	-6.2	97	0.00
82	T	Bromobenzene	50.0000	47.9459	4.1	96	0.00
83	T	1,3,5-Trimethylbenzene	50.0000	52.4230	-4.8	97	0.00
84	T	2-Chlorotoluene	50.0000	50.9084	-1.8	97	0.00
85	T	4-Chlorotoluene	50.0000	51.6219	-3.2	97	0.00
86	T	a-Methylstyrene	50.0000	54.4034	-8.8	103	0.00
87	T	tert-Butylbenzene	50.0000	51.6642	-3.3	97	0.00
88	T	1,2,4-Trimethylbenzene	50.0000	52.4082	-4.8	97	0.00
89	T	sec-Butylbenzene	50.0000	51.6285	-3.3	96	0.00
90	T	p-Isopropyltoluene	50.0000	53.7231	-7.4	99	0.00
91	T	1,3-Dichlorobenzene	50.0000	50.2897	-0.6	99	0.00
92	T	1,4-Dichlorobenzene	50.0000	50.3004	-0.6	101	0.00
93	T	n-Butylbenzene	50.0000	52.3612	-4.7	98	0.00
94	T	1,2-Dichlorobenzene	50.0000	52.8192	-5.6	105	0.00
95	T	1,2-Dibromo-3-Chloropropane	50.0000	55.4695	-10.9	113	0.00
96	T	1,2,4-Trichlorobenzene	50.0000	58.1649	-16.3	115	0.00
97	T	Hexachlorobutadiene	50.0000	56.1977	-12.4	115	0.00
98	T	Naphthalene	50.0000	62.6639	-25.3#	117	0.00
99	T	1,2,3-Trichlorobenzene	50.0000	57.2454	-14.5	118	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M14512.D 8260WT.M Fri Oct 14 09:22:07 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:46 2016 Quant Results File: 8260WTR.RES

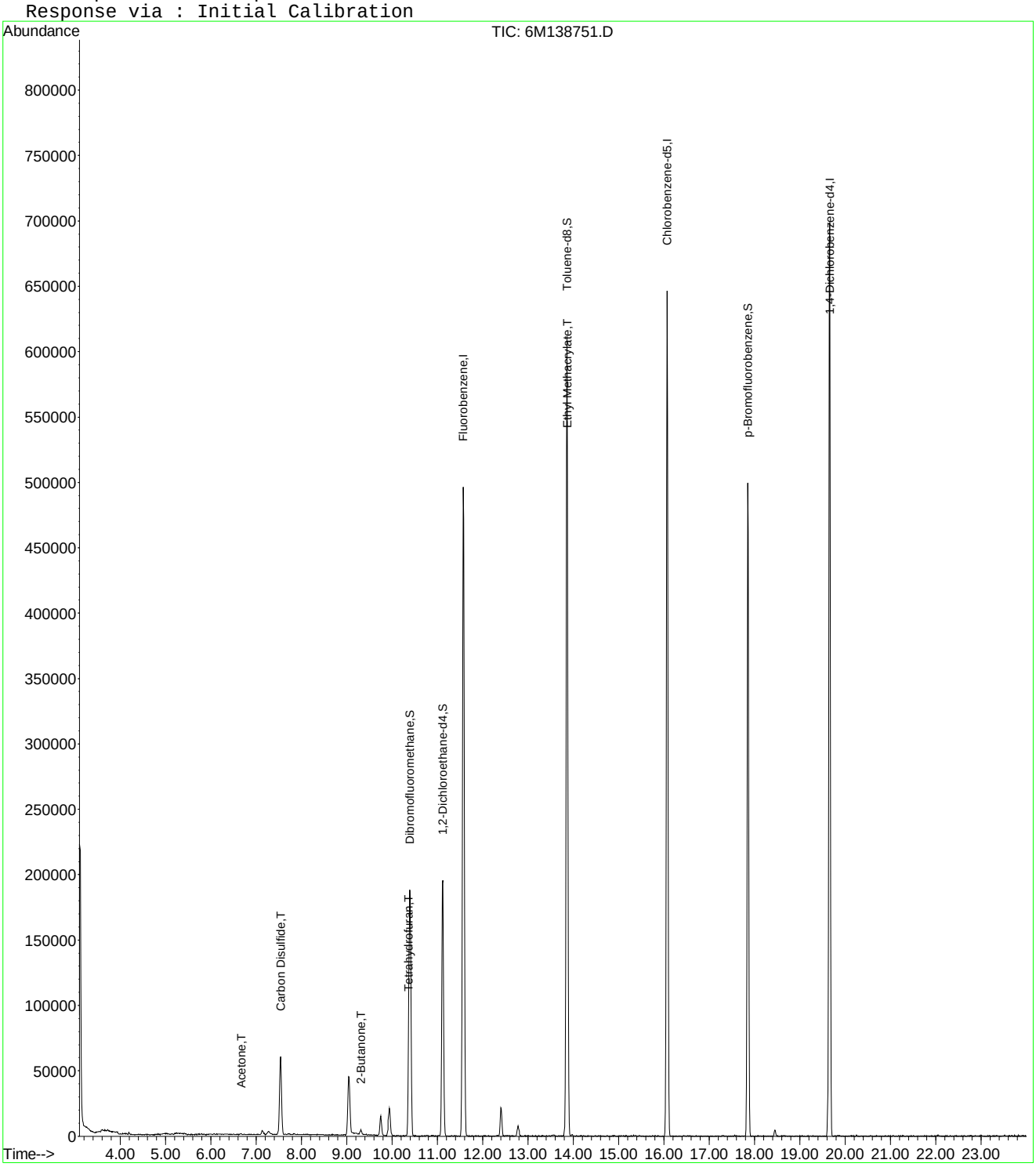
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	611118	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	473080	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	253718	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.40	111	173671	27.7488	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.00%			
43) 1,2-Dichloroethane-d4	11.12	65	203570	26.8000	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 107.20%			
58) Toluene-d8	13.86	98	554047	26.0139	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.04%			
80) p-Bromofluorobenzene	17.85	95	229998	27.1525	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 108.60%			
Target Compounds						Qvalue
13) Acetone	6.67	43	1325	0.6992	ug/L #	46
20) Carbon Disulfide	7.54	76	18747	0.9622	ug/L #	39
29) 2-Butanone	9.31	43	1188	0.4247	ug/L #	1
36) Tetrahydrofuran	10.36	42	2769	1.5196	ug/L #	58
60) Ethyl Methacrylate	13.87	69	899	0.1270	ug/L #	1

(#) = qualifier out of range (m) = manual integration
6M138751.D 8260WTR.M Mon Apr 25 09:22:46 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:52 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

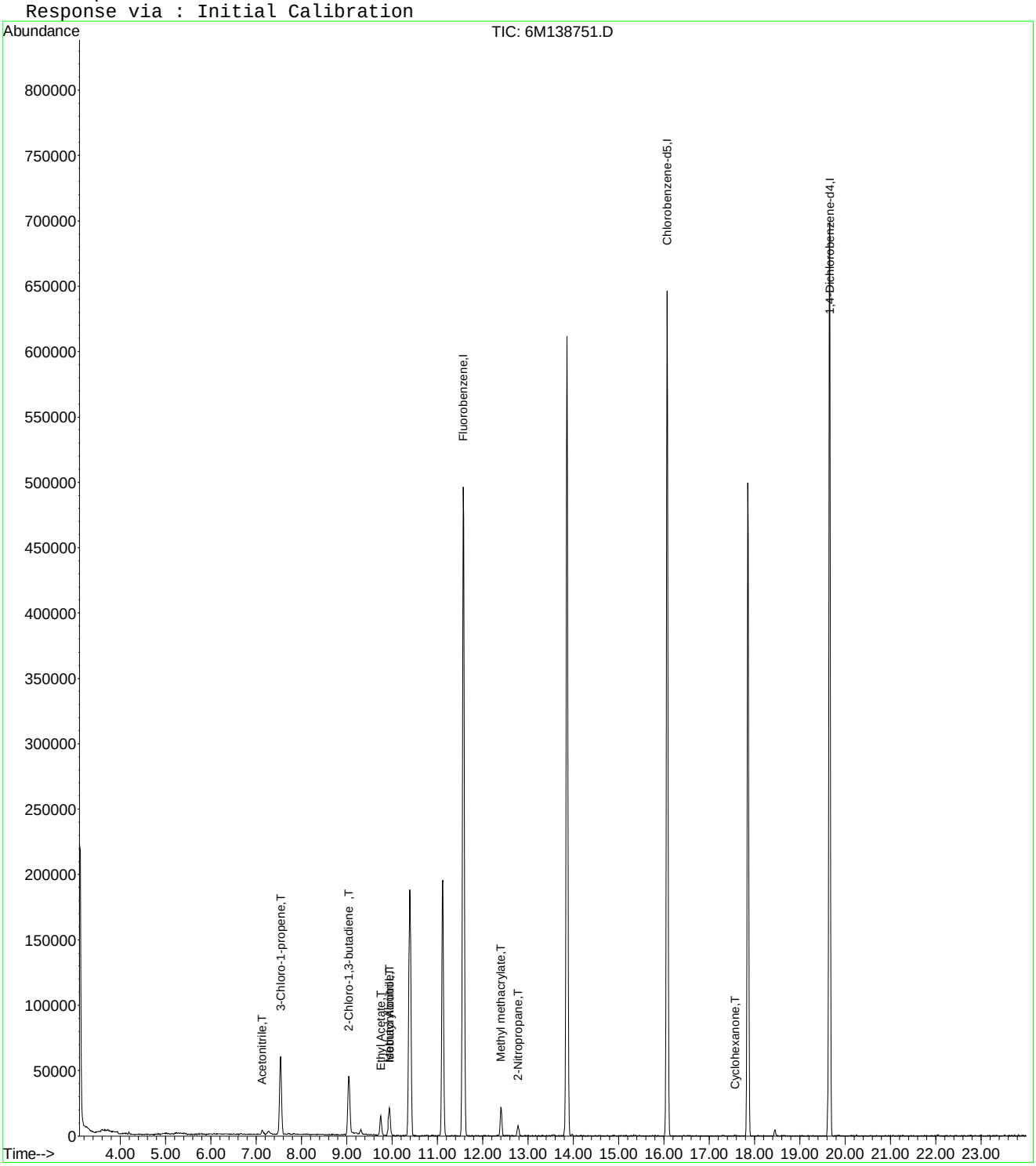
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	611118	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	473080	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	253718	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.13	41	4366	3.7209	ug/L		76
3) 3-Chloro-1-propene	7.54	41	69268	4.2301	ug/L		92
4) 2-Chloro-1,3-butadiene	9.04	53	50753	3.6002	ug/L		85
5) Ethyl Acetate	9.75	43	28042	4.3499	ug/L	#	90
6) Methacrylonitrile	9.94	67	8721	3.5173	ug/L	#	55
7) Isobutyl Alcohol	9.94	43	1233	3.4767	ug/L	#	85
9) Methyl methacrylate	12.40	41	19474	3.0338	ug/L		79
10) 2-Nitropropane	12.78	43	7076	3.7392	ug/L		93
13) Cyclohexanone	17.57	55	447	0.5159	ug/L	#	25

(#) = qualifier out of range (m) = manual integration
6M138751.D A9FOOWT.M Mon Apr 25 15:45:52 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04:56 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

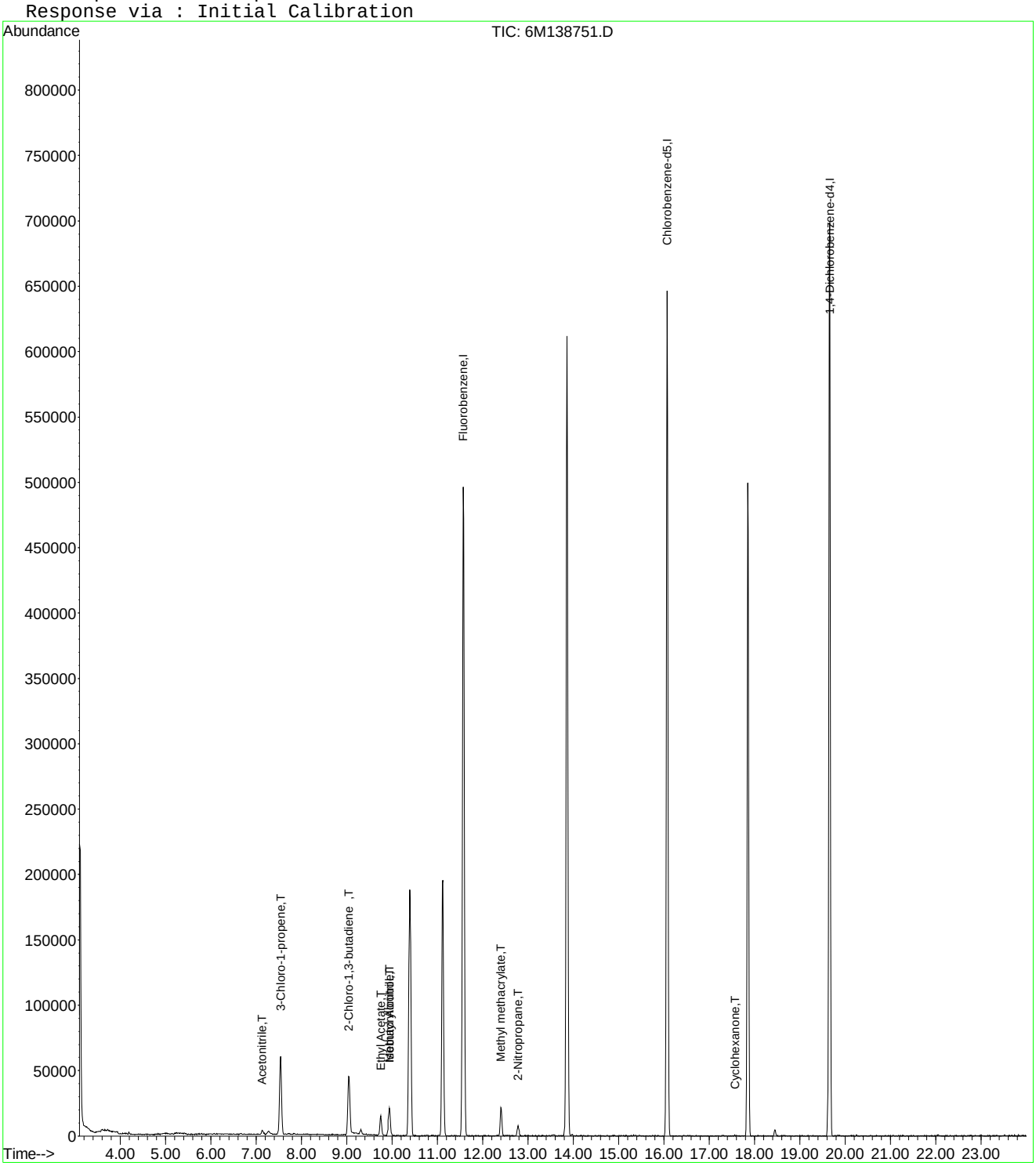
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	611118	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	473080	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	253718	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.13	41	4366	4.7698	ug/L		76
3) 3-Chloro-1-propene	7.54	41	69268	4.5408	ug/L		92
4) 2-Chloro-1,3-butadiene	9.04	53	50753	3.8775	ug/L		85
5) Ethyl Acetate	9.75	43	28042	4.2792	ug/L	#	90
6) Methacrylonitrile	9.94	67	8721	3.8601	ug/L	#	55
7) Isobutyl Alcohol	9.94	43	1233	5.9076	ug/L	#	85
9) Methyl methacrylate	12.40	41	19474	3.5356	ug/L		79
10) 2-Nitropropane	12.78	43	7076	3.4543	ug/L		93
13) Cyclohexanone	17.57	55	447	1.4133	ug/L	#	25

(#) = qualifier out of range (m) = manual integration
6M138751.D A9FOOWT.M Wed Apr 27 16:04:56 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



6M138751.D A9FOOWT.M Wed Apr 27 16:04:56 2016 Page 2

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	5.0000	4.7698	4.6	100	0.00
3	T	3-Chloro-1-propene	5.0000	4.5408	9.2	100	0.00
4	T	2-Chloro-1,3-butadiene	5.0000	3.8775	22.5	100	0.00
5	T	Ethyl Acetate	5.0000	4.2792	14.4	100	0.00
6	T	Methacrylonitrile	5.0000	3.8601	22.8	100	0.00
7	T	Isobutyl Alcohol	-1.0000	5.9076	0.0	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-10.99#
9	T	Methyl methacrylate	5.0000	3.5356	29.3	100	0.00
10	T	2-Nitropropane	-1.0000	3.4543	0.0	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	-1.0000	1.4133	0.0	0	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M138751.D A9FOOWT.M Wed Apr 27 16:04:12 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:48 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

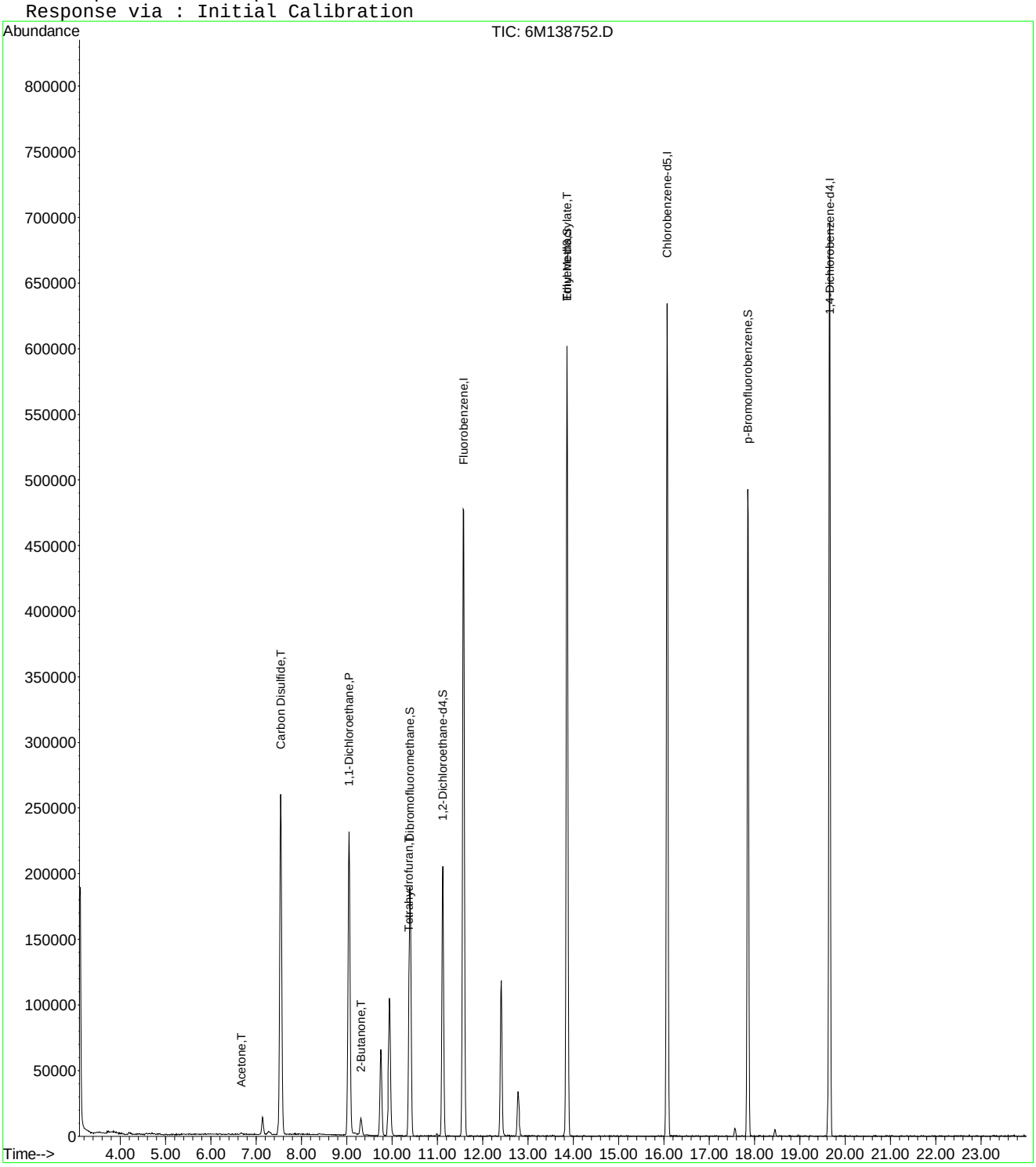
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.58	96	599043	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	463005	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	248475	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.39	111	171577	27.9669	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.88%			
43) 1,2-Dichloroethane-d4	11.12	65	207390	27.8532	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 111.40%			
58) Toluene-d8	13.86	98	547786	26.2796	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 105.12%			
80) p-Bromofluorobenzene	17.85	95	228171	27.5052	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 110.04%			
Target Compounds						Qvalue
13) Acetone	6.67	43	2739	1.4745	ug/L #	59
20) Carbon Disulfide	7.54	76	81493	4.2668	ug/L #	36
27) 1,1-Dichloroethane	9.05	63	3411	0.2688	ug/L #	42
29) 2-Butanone	9.31	43	3879	1.4148	ug/L #	1
36) Tetrahydrofuran	10.37	42	3350	1.8754	ug/L #	62
60) Ethyl Methacrylate	13.86	69	1183	0.1708	ug/L #	27

(#) = qualifier out of range (m) = manual integration
6M138752.D 8260WTR.M Mon Apr 25 09:22:48 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:54 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

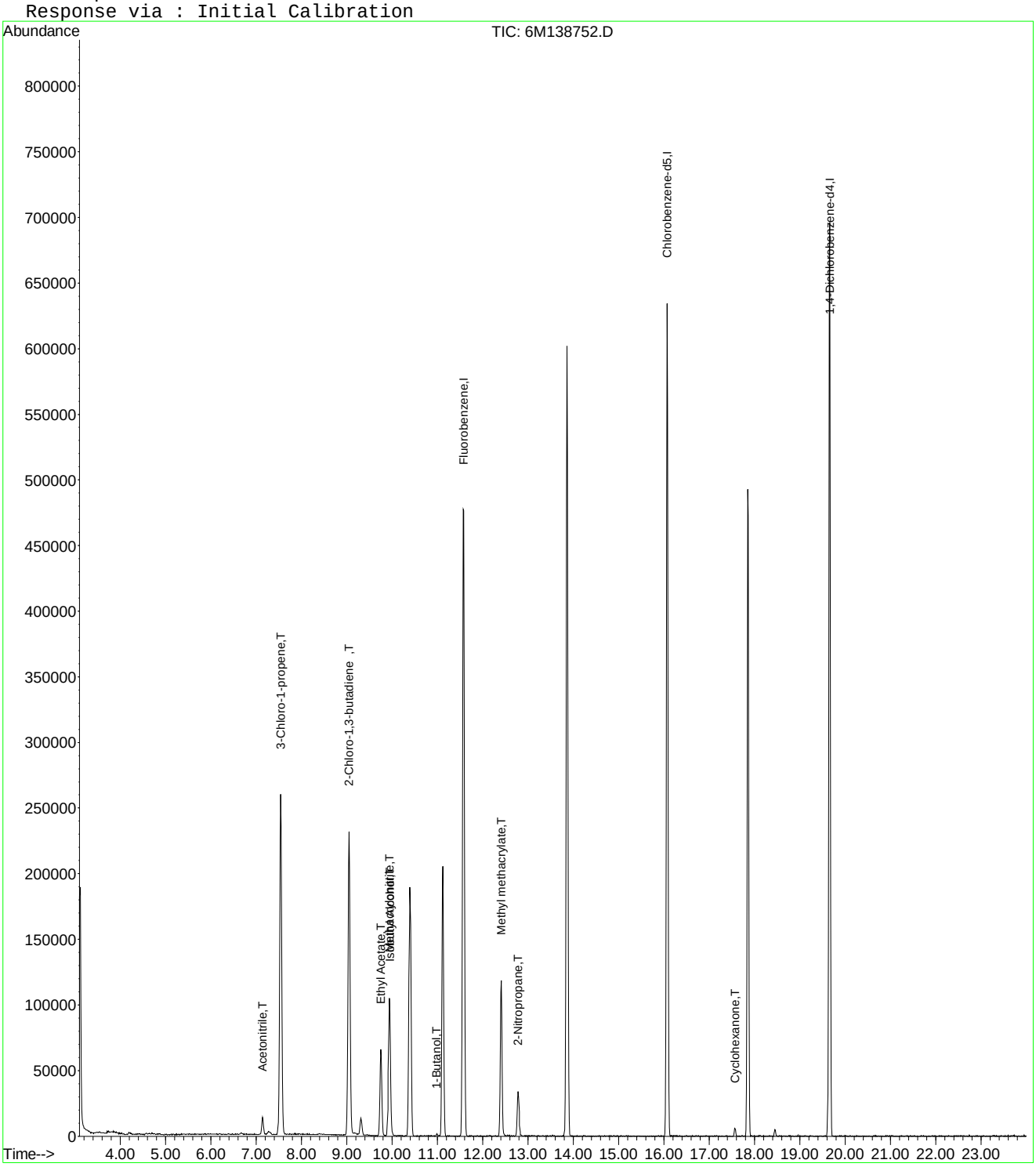
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.58	96	599043	25.00	ug/L		-0.02
11) Chlorobenzene-d5	16.07	117	463005	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	248475	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	17741	15.4242	ug/L		95
3) 3-Chloro-1-propene	7.54	41	297686	18.5457	ug/L		93
4) 2-Chloro-1,3-butadiene	9.05	53	242962	17.5823	ug/L		84
5) Ethyl Acetate	9.75	43	124111	19.6403	ug/L		93
6) Methacrylonitrile	9.93	67	42708	17.5719	ug/L	#	59
7) Isobutyl Alcohol	9.95	43	7968	22.9203	ug/L	#	85
8) 1-Butanol	10.98	41	982	6.5662	ug/L	#	52
9) Methyl methacrylate	12.41	41	95824	15.2291	ug/L		81
10) 2-Nitropropane	12.78	43	34207	18.4403	ug/L		92
13) Cyclohexanone	17.57	55	4053	4.7763	ug/L		81

(#) = qualifier out of range (m) = manual integration
6M138752.D A9FOOWT.M Mon Apr 25 15:45:54 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04:58 2016 Quant Results File: A9FOOWT.RES

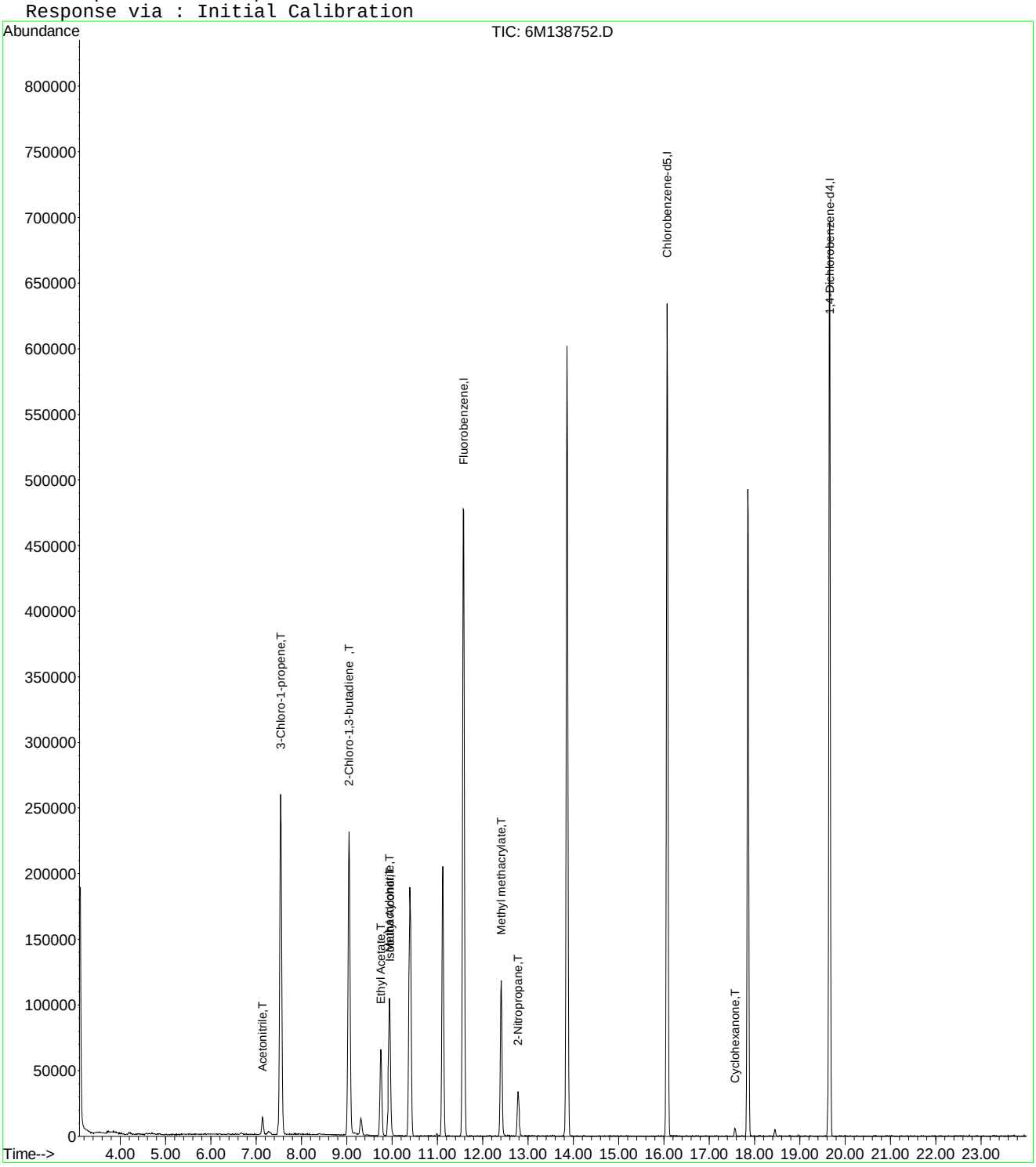
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.58	96	599043	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	463005	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	248475	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	17741	19.7725	ug/L		95
3) 3-Chloro-1-propene	7.54	41	297686	19.9080	ug/L		93
4) 2-Chloro-1,3-butadiene	9.05	53	242962	18.9362	ug/L		84
5) Ethyl Acetate	9.75	43	124111	19.3209	ug/L		93
6) Methacrylonitrile	9.93	67	42708	19.2846	ug/L	#	59
7) Isobutyl Alcohol	9.95	43	7968	38.9462	ug/L	#	85
9) Methyl methacrylate	12.41	41	95824	17.7480	ug/L		81
10) 2-Nitropropane	12.78	43	34207	17.0355	ug/L		92
13) Cyclohexanone	17.57	55	4053	13.0852	ug/L		81

(#) = qualifier out of range (m) = manual integration
6M138752.D A9FOOWT.M Wed Apr 27 16:04:59 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	20.0000	19.7724	1.1	100	0.00
3	T	3-Chloro-1-propene	20.0000	19.9080	0.5	100	0.00
4	T	2-Chloro-1,3-butadiene	20.0000	18.9362	5.3	100	0.00
5	T	Ethyl Acetate	20.0000	19.3209	3.4	100	0.00
6	T	Methacrylonitrile	20.0000	19.2846	3.6	100	0.00
7	T	Isobutyl Alcohol	40.0000	38.9462	2.6	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	20.0000	17.7480	11.3	100	0.00
10	T	2-Nitropropane	-1.0000	17.0355	0.0	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	-1.0000	13.0852	0.0	0	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M138752.D A9FOOWT.M Wed Apr 27 16:04:26 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:48 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

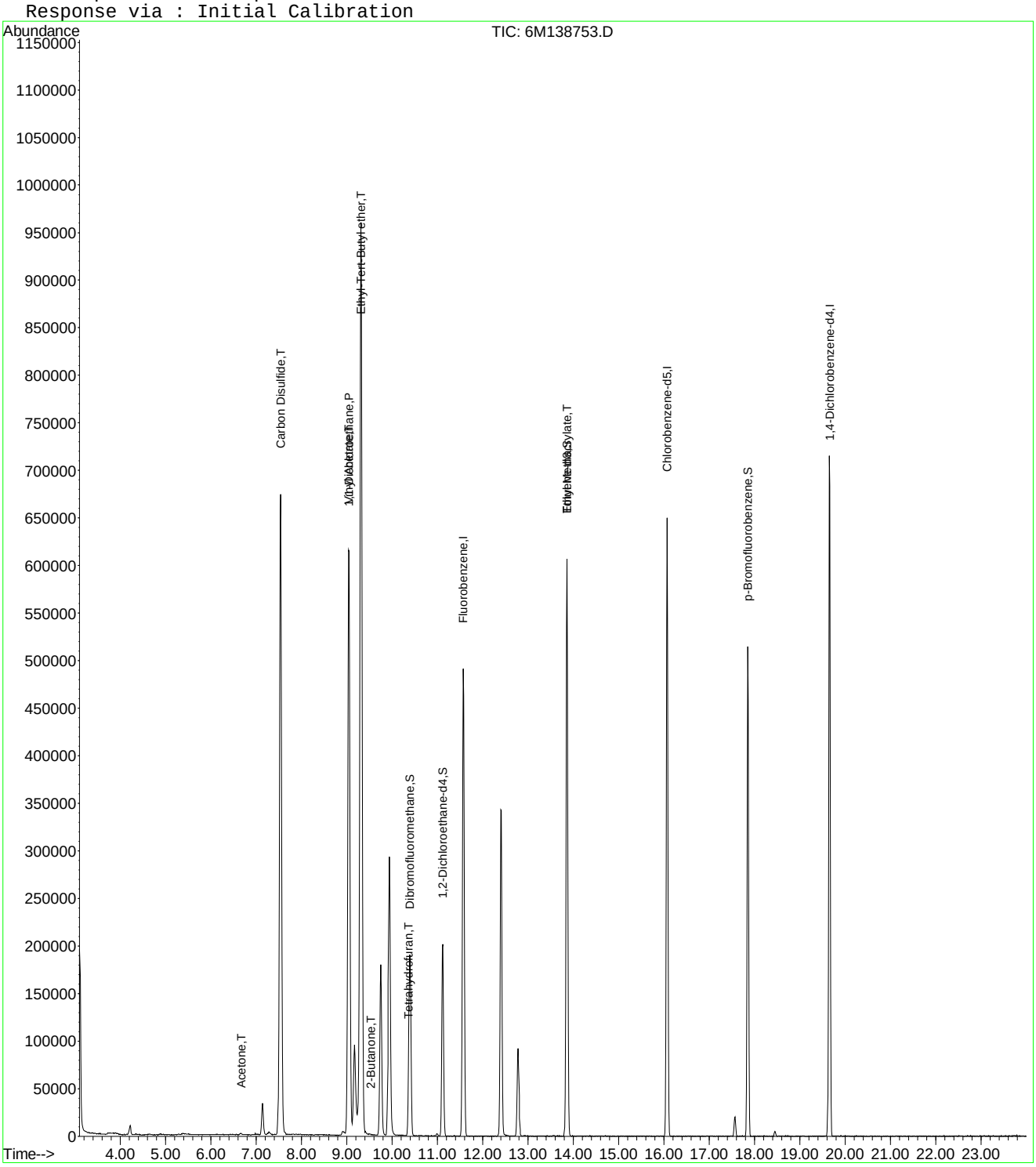
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	604736	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	468574	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	254472	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.40	111	172256	27.8132 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.24%		
43) 1,2-Dichloroethane-d4	11.12	65	208744	27.7711 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 111.08%		
58) Toluene-d8	13.86	98	553191	26.2235 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.88%		
80) p-Bromofluorobenzene	17.85	95	239542	28.1954 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 112.80%		
Target Compounds					Qvalue
13) Acetone	6.67	43	3732	1.9901 ug/L #	57
20) Carbon Disulfide	7.54	76	220780	11.4508 ug/L #	36
26) Vinyl Acetate	9.04	43	2704	0.2791 ug/L #	8
27) 1,1-Dichloroethane	9.05	63	9803	0.7652 ug/L #	42
28) Ethyl-Tert-Butyl ether	9.31	59	152978	7.3579 ug/L #	39
29) 2-Butanone	9.53	43	660	0.2385 ug/L #	52
36) Tetrahydrofuran	10.37	42	3746	2.0774 ug/L #	62
60) Ethyl Methacrylate	13.86	69	1423	0.2030 ug/L #	9

(#) = qualifier out of range (m) = manual integration
6M138753.D 8260WTR.M Mon Apr 25 09:22:49 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:55 2016 Quant Results File: A9FOOWT.RES

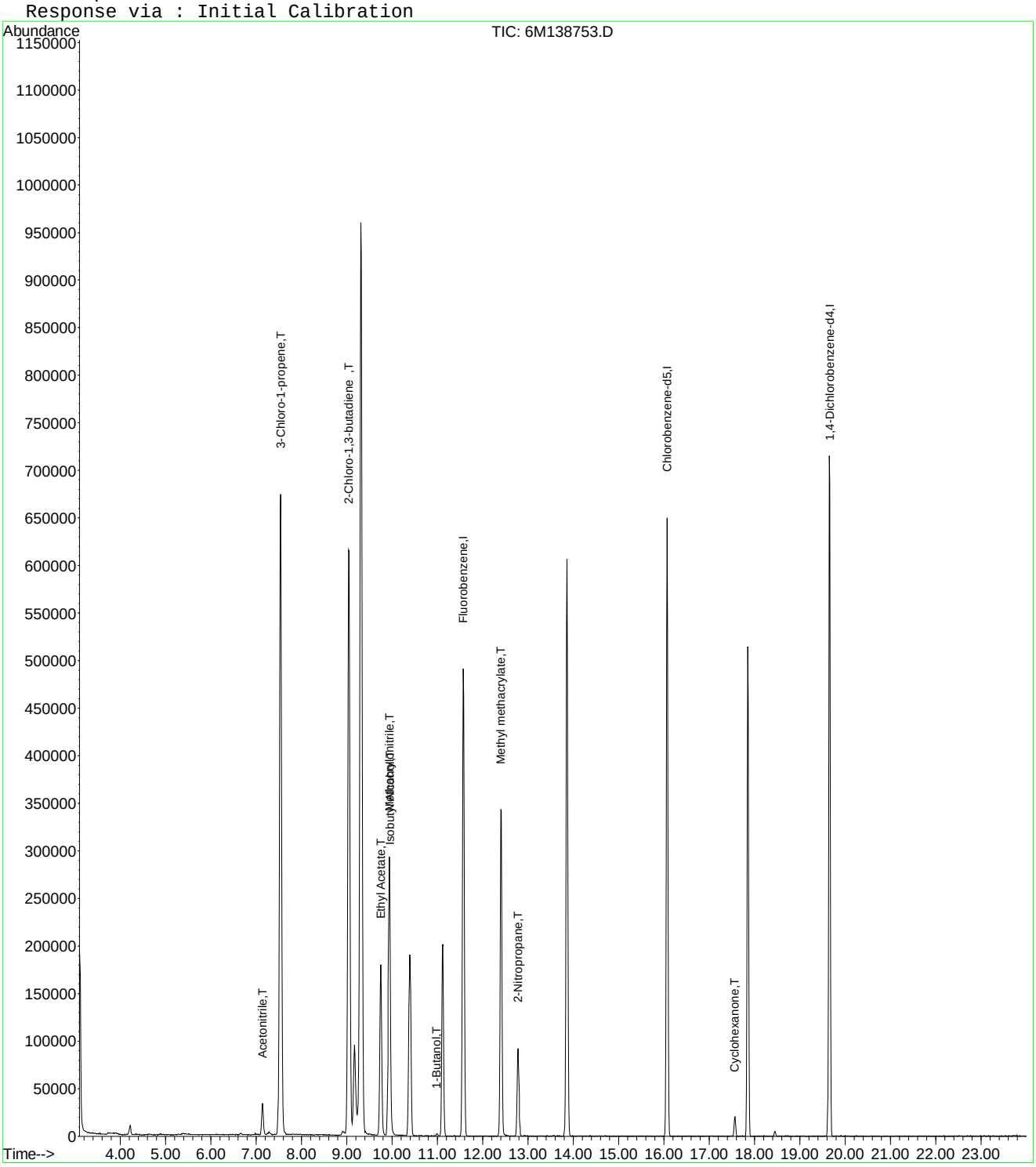
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	604736	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	468574	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	254472	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	46802	40.3072	ug/L		94
3) 3-Chloro-1-propene	7.54	41	793114	48.9454	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	674471	48.3496	ug/L		83
5) Ethyl Acetate	9.75	43	336975	52.8234	ug/L		93
6) Methacrylonitrile	9.94	67	119267	48.6097	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	20135	57.3741	ug/L	#	99
8) 1-Butanol	10.98	41	1474	9.7632	ug/L		77
9) Methyl methacrylate	12.40	41	279157	43.9482	ug/L		81
10) 2-Nitropropane	12.79	43	95327	50.9052	ug/L		94
13) Cyclohexanone	17.56	55	13241	15.2363	ug/L		91

(#) = qualifier out of range (m) = manual integration
6M138753.D A9FOOWT.M Mon Apr 25 15:45:56 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04:59 2016 Quant Results File: A9FOOWT.RES

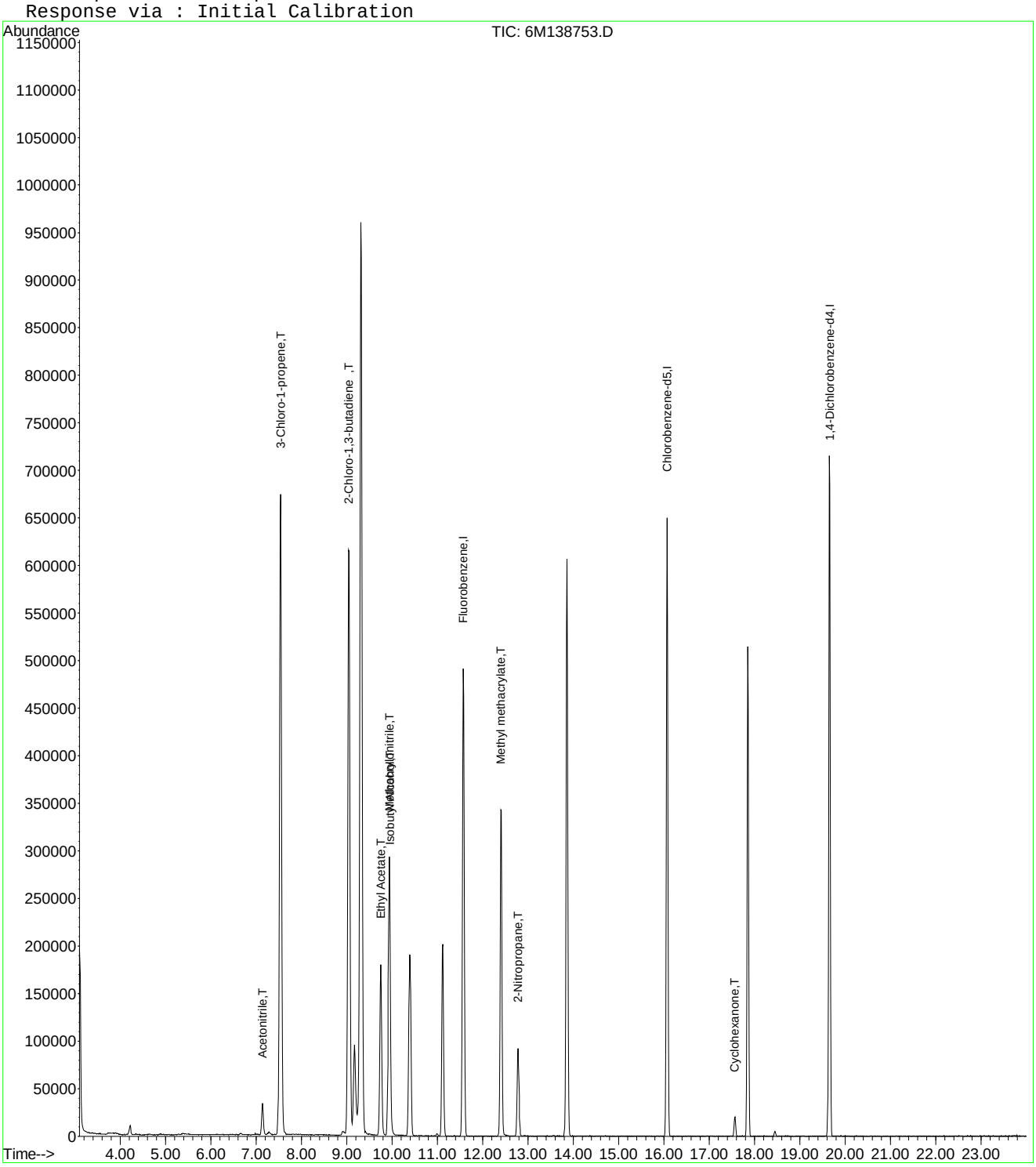
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	604736	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	468574	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	254472	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	46802	51.6701	ug/L		94
3) 3-Chloro-1-propene	7.54	41	793114	52.5409	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	674471	52.0726	ug/L		83
5) Ethyl Acetate	9.75	43	336975	51.9646	ug/L		93
6) Methacrylonitrile	9.94	67	119267	53.3476	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	20135	97.4900	ug/L	#	99
9) Methyl methacrylate	12.40	41	279157	51.2171	ug/L		81
10) 2-Nitropropane	12.79	43	95327	47.0270	ug/L		94
13) Cyclohexanone	17.56	55	13241	41.7415	ug/L		91

(#) = qualifier out of range (m) = manual integration
6M138753.D A9FOOWT.M Wed Apr 27 16:04:59 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	50.0000	51.6701	-3.3	100	0.00
3	T	3-Chloro-1-propene	50.0000	52.5409	-5.1	100	0.00
4	T	2-Chloro-1,3-butadiene	50.0000	52.0726	-4.1	100	0.00
5	T	Ethyl Acetate	50.0000	51.9646	-3.9	100	0.00
6	T	Methacrylonitrile	50.0000	53.3476	-6.7	100	0.00
7	T	Isobutyl Alcohol	100.0000	97.4900	2.5	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	50.0000	51.2171	-2.4	100	0.00
10	T	2-Nitropropane	50.0000	47.0270	5.9	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	50.0000	41.7415	16.5	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M138753.D A9FOOWT.M Wed Apr 27 16:04:38 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:49 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

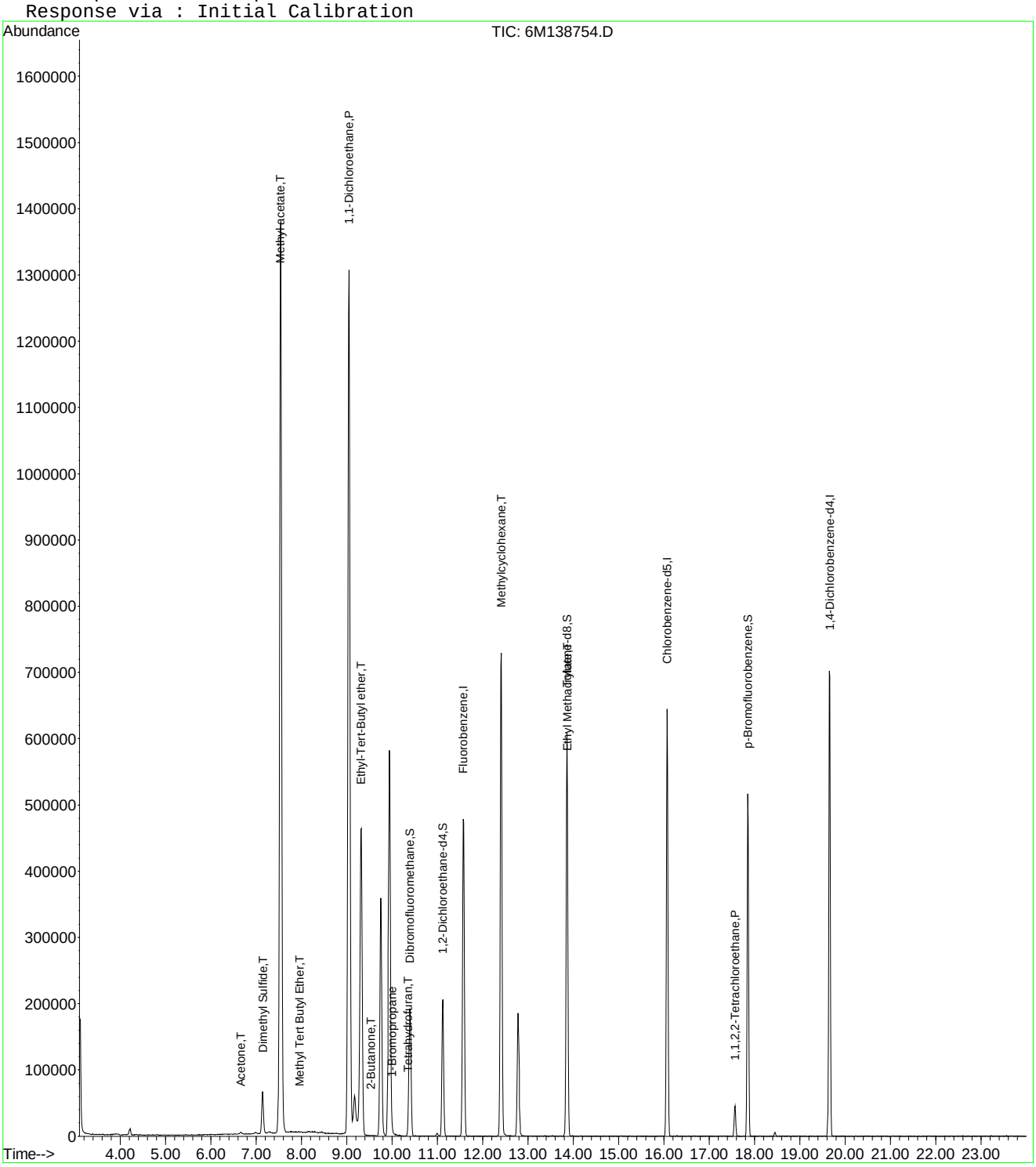
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	599121	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	467316	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	255798	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.39	111	169577	27.6373	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 110.56%			
43) 1,2-Dichloroethane-d4	11.12	65	210119	28.2161	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 112.88%			
58) Toluene-d8	13.86	98	550953	26.1877	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.76%			
80) p-Bromofluorobenzene	17.85	95	239480	28.0420	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 112.16%			
Target Compounds						Qvalue
13) Acetone	6.66	43	6960	3.7463	ug/L	82
16) Dimethyl Sulfide	7.15	62	732	0.1448	ug/L #	1
18) Methyl acetate	7.53	43	1419	0.2750	ug/L #	1
22) Methyl Tert Butyl Ether	7.96	73	2141	0.1320	ug/L #	72
27) 1,1-Dichloroethane	9.05	63	20725	1.6328	ug/L #	42
28) Ethyl-Tert-Butyl ether	9.31	59	76666	3.7220	ug/L #	39
29) 2-Butanone	9.53	43	1176	0.4289	ug/L #	52
34) 1-Bromopropane	10.00	122	702	0.6817	ug/L #	1
36) Tetrahydrofuran	10.35	42	4425	2.4769	ug/L #	60
48) Methylcyclohexane	12.41	83	1461	0.1681	ug/L #	1
60) Ethyl Methacrylate	13.87	69	1083	0.1549	ug/L #	1
79) 1,1,2,2-Tetrachloroethane	17.57	83	1910	0.3066	ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138754.D 8260WTR.M Mon Apr 25 09:22:49 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:57 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

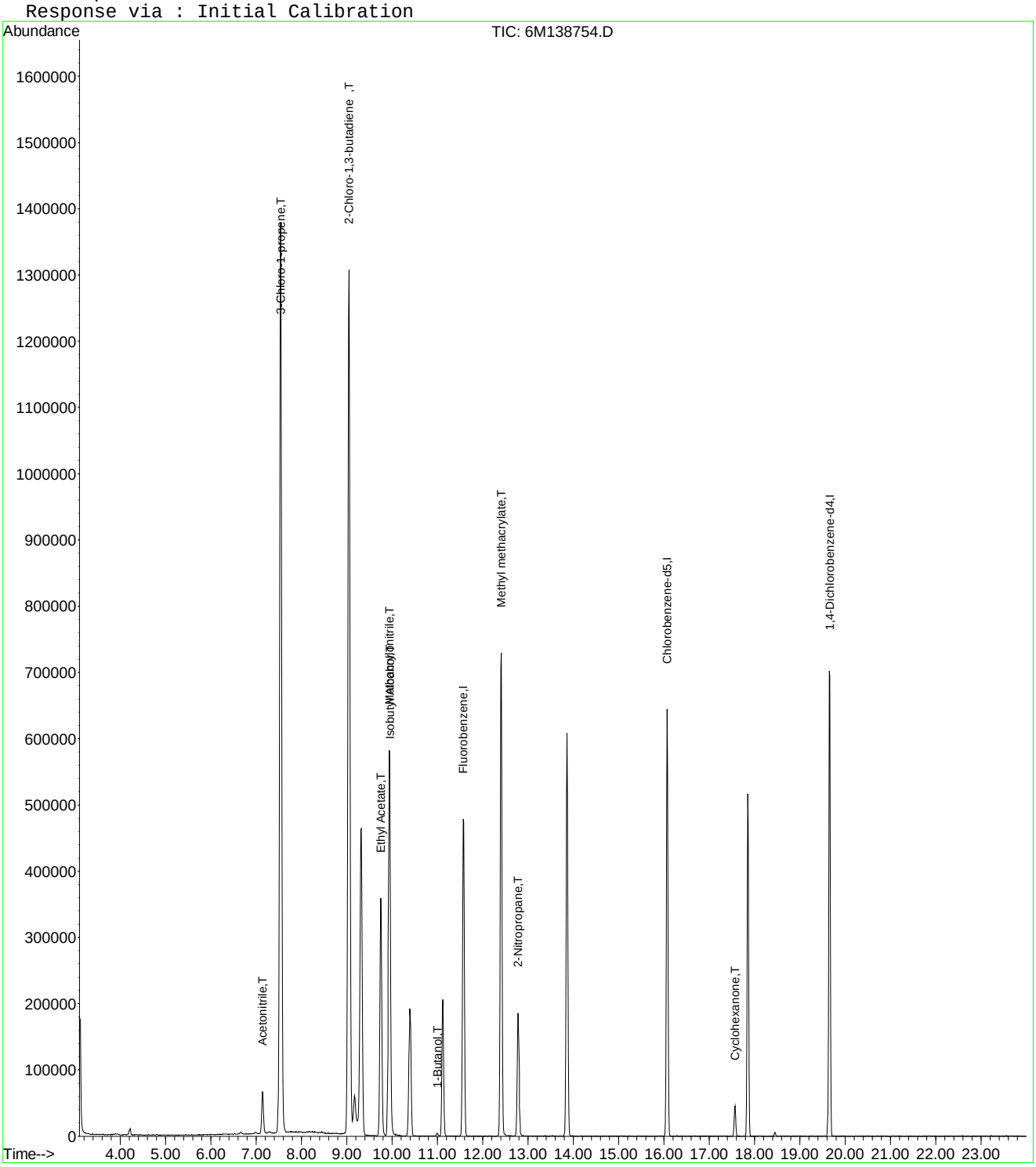
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	599121	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	467316	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	255798	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	90880	79.0019	ug/L		95
3) 3-Chloro-1-propene	7.54	41	1610716	100.3335	ug/L		93
4) 2-Chloro-1,3-butadiene	9.05	53	1413663	102.2884	ug/L		83
5) Ethyl Acetate	9.75	43	673221	106.5217	ug/L		93
6) Methacrylonitrile	9.94	67	237219	97.5895	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	33897	97.4937	ug/L	#	85
8) 1-Butanol	11.00	41	2978	19.9099	ug/L	#	64
9) Methyl methacrylate	12.41	41	585839	93.0942	ug/L		80
10) 2-Nitropropane	12.78	43	197598	106.5074	ug/L		97
13) Cyclohexanone	17.57	55	27547	31.5338	ug/L		88

(#) = qualifier out of range (m) = manual integration
6M138754.D A9FOOWT.M Mon Apr 25 15:45:57 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



6M138754.D A9FOOWT.M Mon Apr 25 15:45:58 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04:59 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

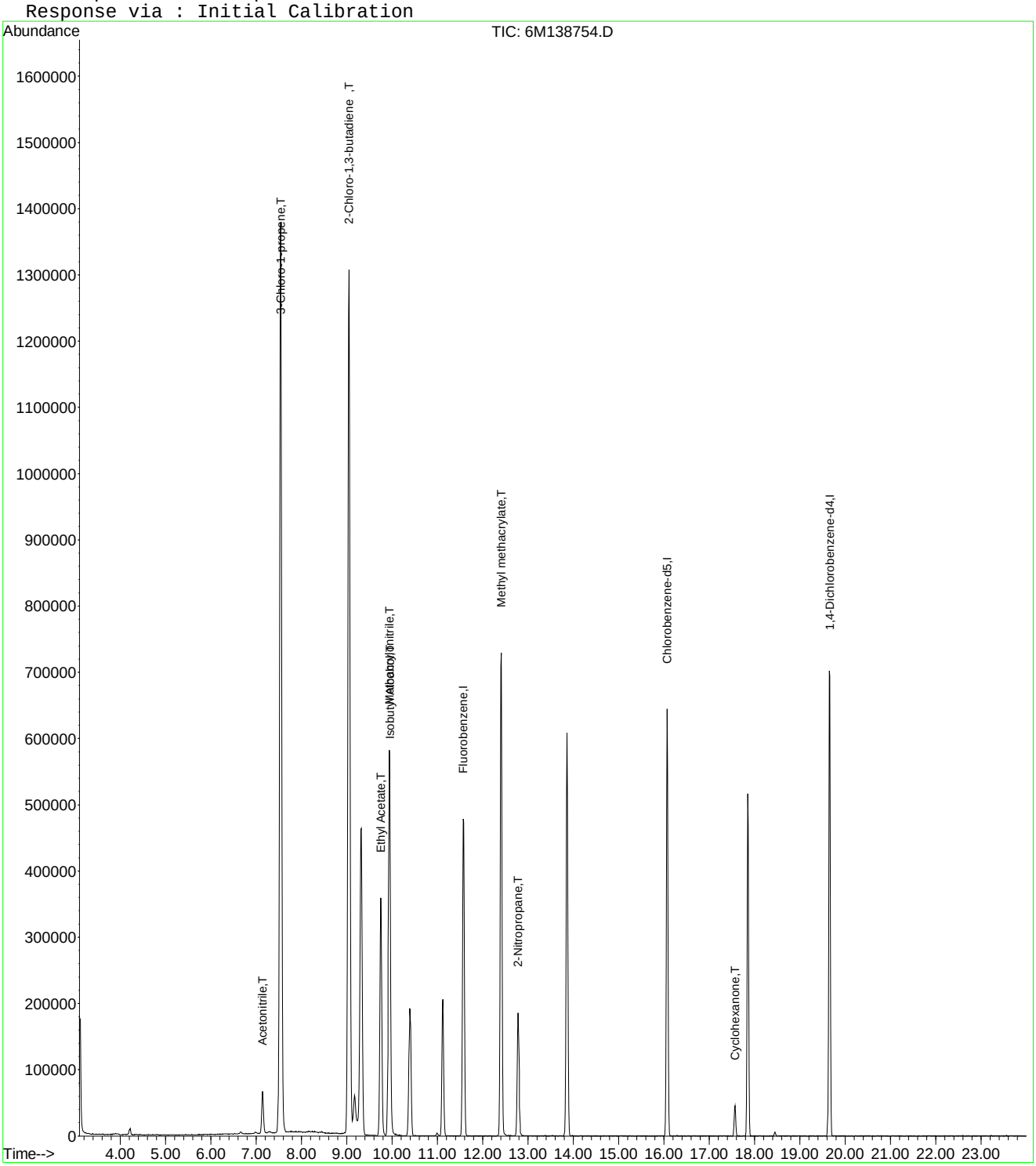
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	599121	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	467316	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	255798	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	90880	101.2731	ug/L		95
3) 3-Chloro-1-propene	7.54	41	1610716	107.7041	ug/L		93
4) 2-Chloro-1,3-butadiene	9.05	53	1413663	110.1648	ug/L		83
5) Ethyl Acetate	9.75	43	673221	104.7898	ug/L		93
6) Methacrylonitrile	9.94	67	237219	107.1014	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	33897	165.6613	ug/L	#	85
9) Methyl methacrylate	12.41	41	585839	108.4917	ug/L		80
10) 2-Nitropropane	12.78	43	197598	98.3932	ug/L		97
13) Cyclohexanone	17.57	55	27547	86.3902	ug/L		88

(#) = qualifier out of range (m) = manual integration
6M138754.D A9FOOWT.M Wed Apr 27 16:04:59 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



6M138754.D A9FOOWT.M Wed Apr 27 16:05:00 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:50 2016 Quant Results File: 8260WTR.RES

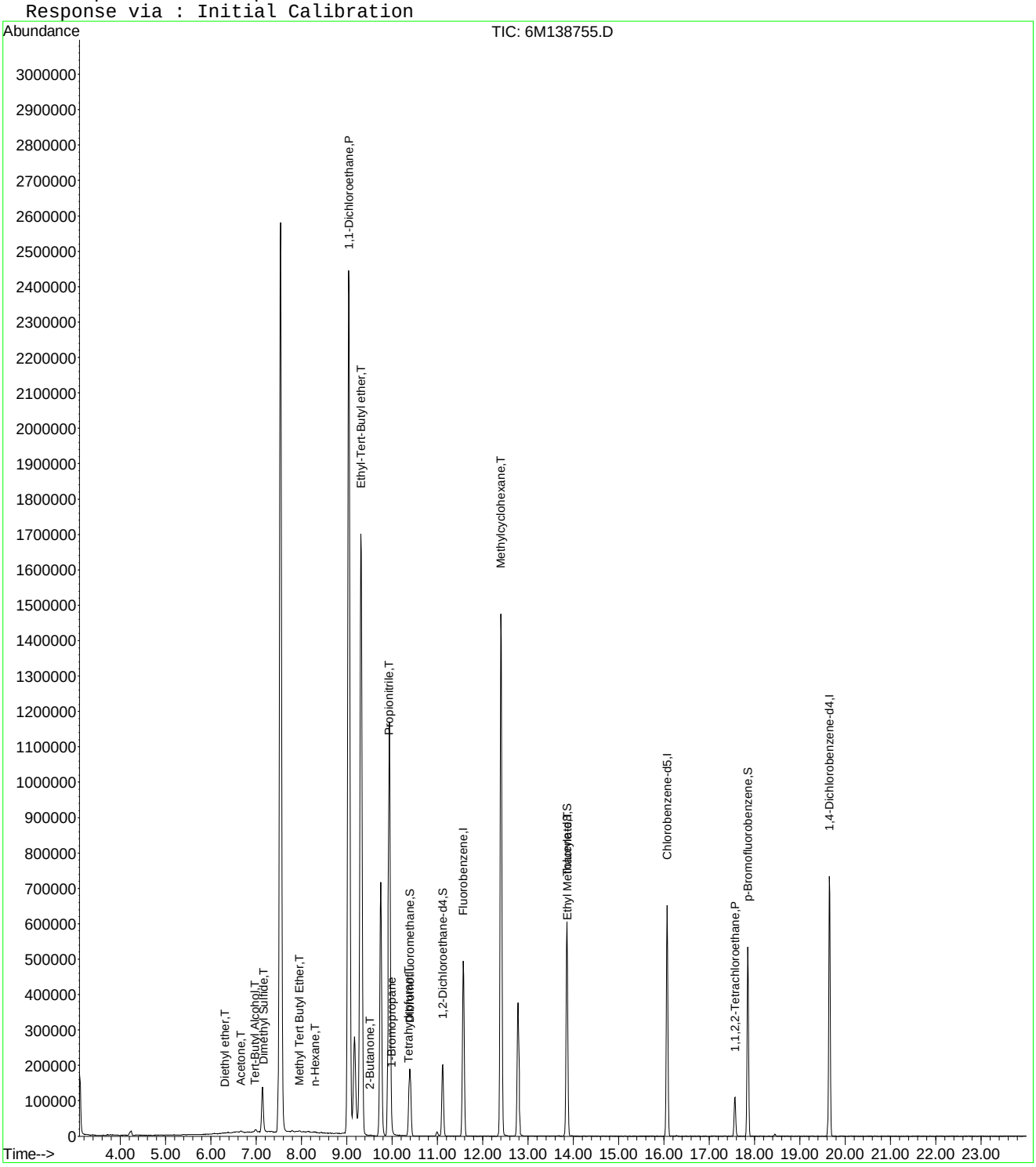
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	607157	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	473187	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	259046	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.40	111	172341	27.7160	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 110.88%			
43) 1,2-Dichloroethane-d4	11.12	65	211249	27.9923	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 111.96%			
58) Toluene-d8	13.86	98	552831	25.9510	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.80%			
80) p-Bromofluorobenzene	17.85	95	247709	28.6419	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 114.56%			
Target Compounds						Qvalue
9) Diethyl ether	6.31	59	653	0.1225	ug/L #	12
13) Acetone	6.66	43	9406	4.9959	ug/L #	64
15) Tert-Butyl Alcohol	6.98	59	449	0.8301	ug/L #	1
16) Dimethyl Sulfide	7.16	62	680	0.1328	ug/L #	1
22) Methyl Tert Butyl Ether	7.96	73	3926	0.2388	ug/L	83
24) n-Hexane	8.30	57	1777	0.2040	ug/L	87
27) 1,1-Dichloroethane	9.05	63	41640	3.2372	ug/L #	47
28) Ethyl-Tert-Butyl ether	9.31	59	272648	13.0615	ug/L #	38
29) 2-Butanone	9.51	43	2992	1.0767	ug/L #	67
30) Propionitrile	9.93	54	258	0.3232	ug/L #	57
34) 1-Bromopropane	9.99	122	1417	1.3579	ug/L #	1
36) Tetrahydrofuran	10.37	42	4839	2.6728	ug/L #	62
48) Methylcyclohexane	12.40	83	2976	0.3378	ug/L #	1
60) Ethyl Methacrylate	13.87	69	1202	0.1698	ug/L #	1
79) 1,1,2,2-Tetrachloroethane	17.57	83	5192	0.8231	ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138755.D 8260WTR.M Mon Apr 25 09:22:50 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:58 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

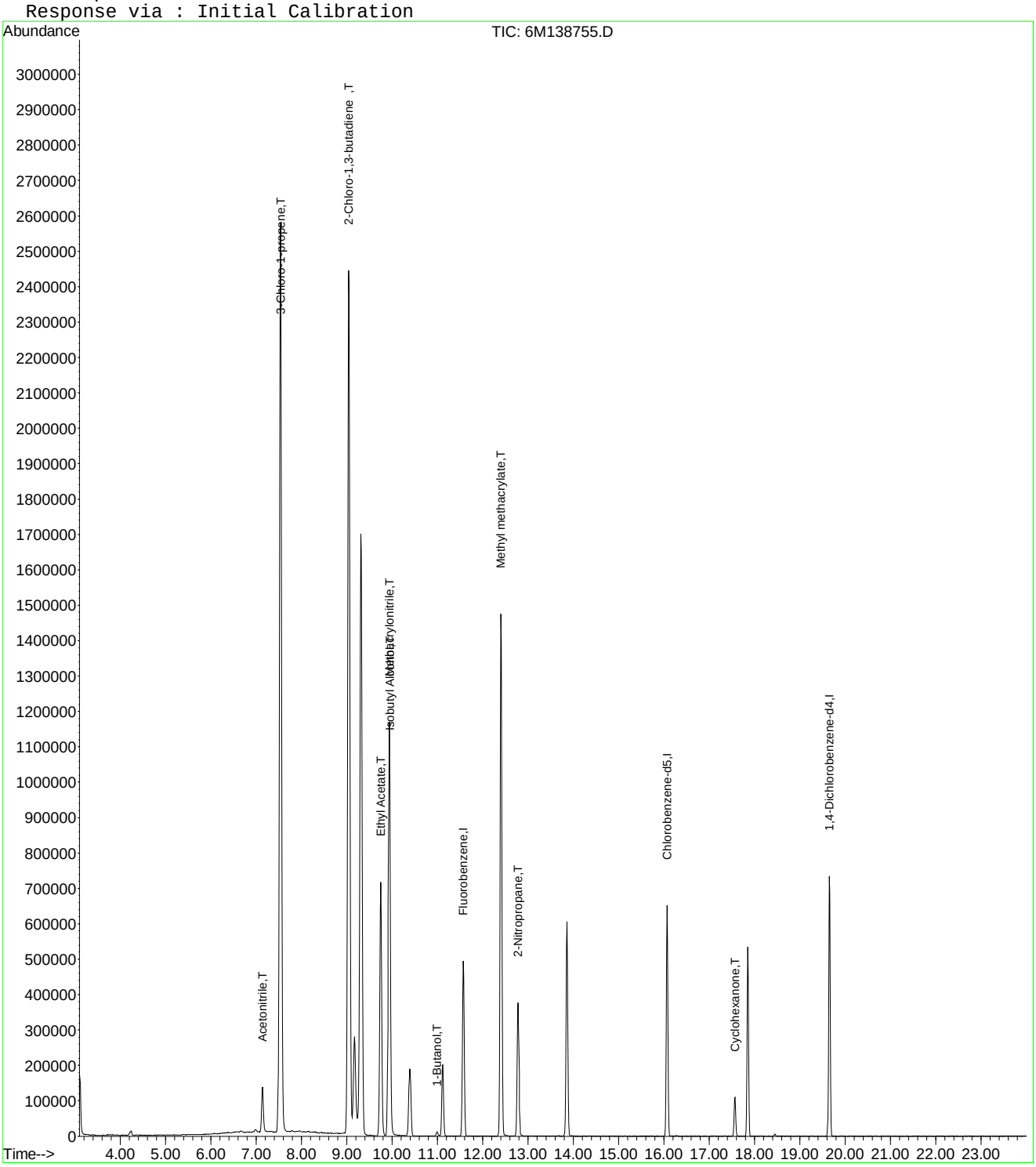
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	607157	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	473187	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.65	152	259046	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	183628	157.5150	ug/L		93
3) 3-Chloro-1-propene	7.54	41	3085939	189.6828	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	2709180	193.4336	ug/L		83
5) Ethyl Acetate	9.75	43	1346541	210.2391	ug/L		94
6) Methacrylonitrile	9.94	67	471538	191.4186	ug/L	#	64
7) Isobutyl Alcohol	9.95	43	72755	206.4864	ug/L	#	92
8) 1-Butanol	10.99	41	8815	58.1542	ug/L	#	64
9) Methyl methacrylate	12.40	41	1186381	186.0295	ug/L		80
10) 2-Nitropropane	12.79	43	410702	218.4428	ug/L		99
13) Cyclohexanone	17.57	55	67080	75.8254	ug/L		87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



6M138755.D A9FOOWT.M Mon Apr 25 15:45:59 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:00 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

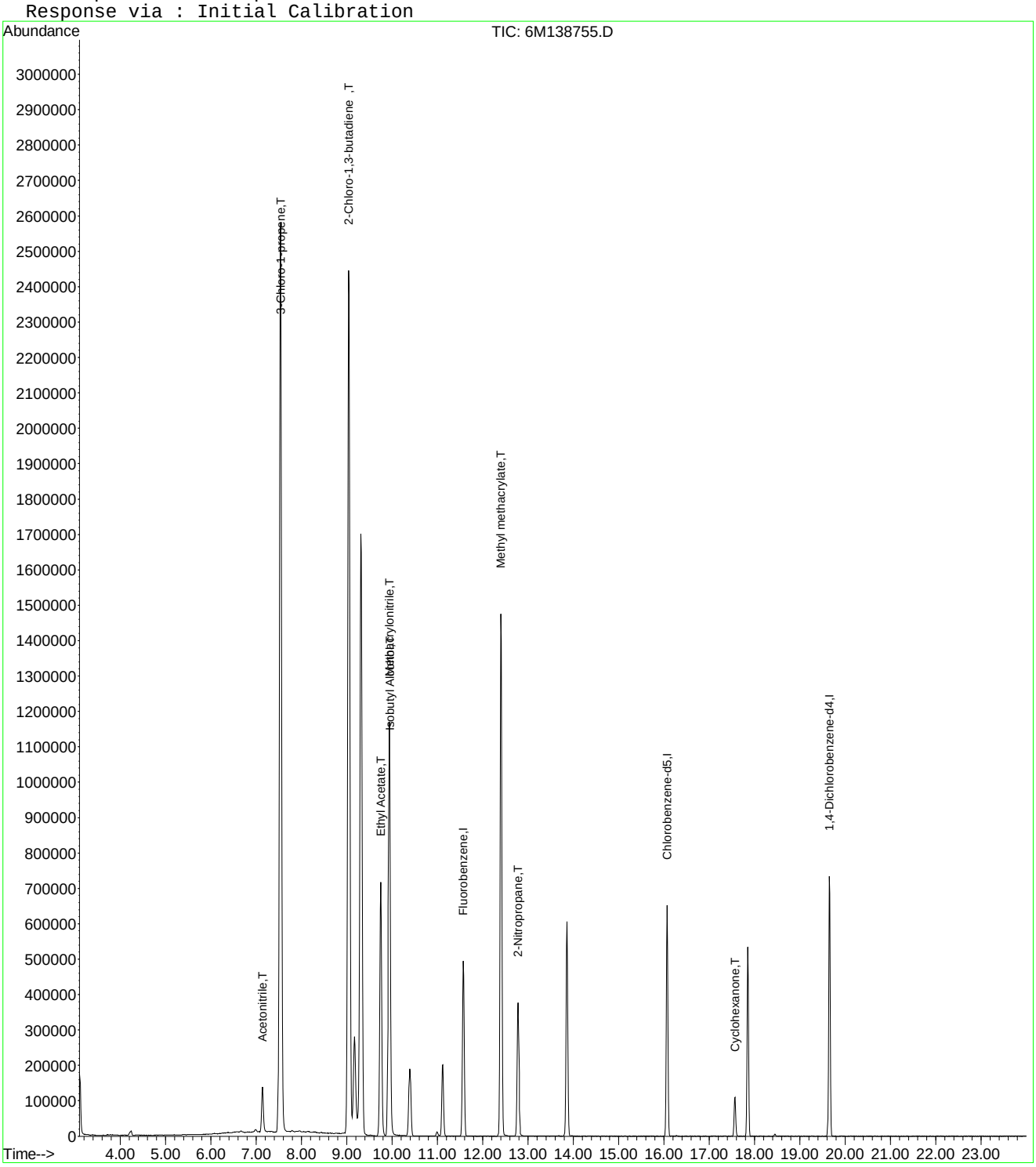
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	607157	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	473187	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.65	152	259046	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	183628	201.9195	ug/L		93
3) 3-Chloro-1-propene	7.54	41	3085939	203.6170	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	2709180	208.3284	ug/L		83
5) Ethyl Acetate	9.75	43	1346541	206.8209	ug/L		94
6) Methacrylonitrile	9.94	67	471538	210.0757	ug/L	#	64
7) Isobutyl Alcohol	9.95	43	72755	350.8618	ug/L	#	92
9) Methyl methacrylate	12.40	41	1186381	216.7982	ug/L		80
10) 2-Nitropropane	12.79	43	410702	201.8008	ug/L		99
13) Cyclohexanone	17.57	55	67080	207.7320	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138755.D A9FOOWT.M Wed Apr 27 16:05:00 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:50 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

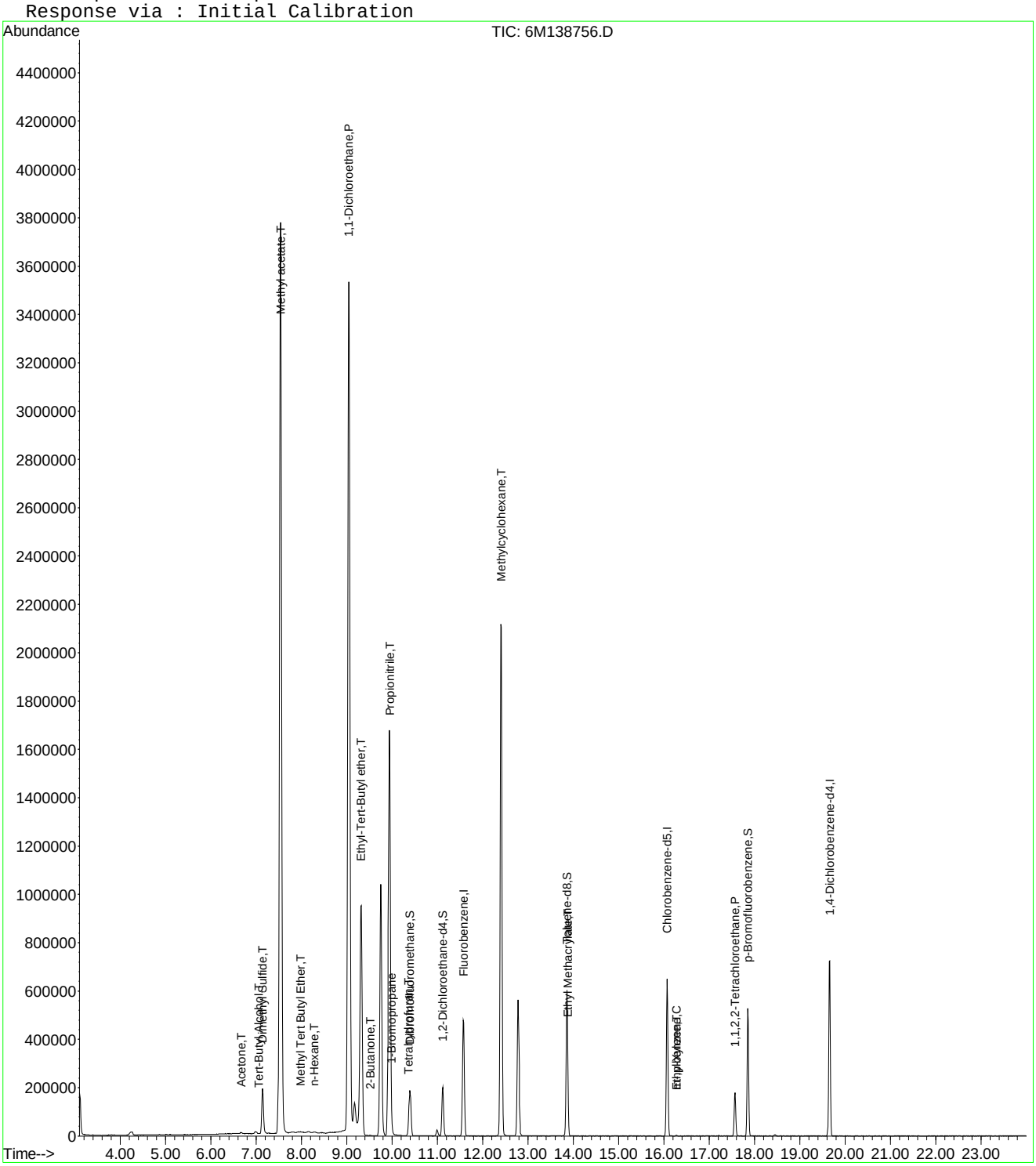
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.58	96	602356	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	472685	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	264650	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	169983	27.5546 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 110.20%		
43) 1,2-Dichloroethane-d4	11.12	65	207199	27.6745 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 110.68%		
58) Toluene-d8	13.86	98	553023	25.9875 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.96%		
80) p-Bromofluorobenzene	17.85	95	247939	28.0615 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 112.24%		
Target Compounds					Qvalue
13) Acetone	6.67	43	13666	7.3164 ug/L #	77
15) Tert-Butyl Alcohol	7.06	59	467	0.8703 ug/L #	59
16) Dimethyl Sulfide	7.14	62	668	0.1315 ug/L #	1
18) Methyl acetate	7.54	43	3262	0.6289 ug/L #	1
22) Methyl Tert Butyl Ether	7.97	73	10591	0.6492 ug/L #	53
24) n-Hexane	8.28	57	3576	0.4138 ug/L #	56
27) 1,1-Dichloroethane	9.04	63	60743	4.7600 ug/L #	48
28) Ethyl-Tert-Butyl ether	9.31	59	155796	7.5231 ug/L #	39
29) 2-Butanone	9.52	43	4002	1.4516 ug/L	97
30) Propionitrile	9.95	54	1113	1.4052 ug/L #	1
34) 1-Bromopropane	9.99	122	1450	1.4006 ug/L #	1
36) Tetrahydrofuran	10.36	42	4902	2.7292 ug/L #	61
48) Methylcyclohexane	12.41	83	4626	0.5293 ug/L #	1
60) Ethyl Methacrylate	13.88	69	1599	0.2261 ug/L #	1
72) Ethylbenzene	16.28	106	1349	0.1427 ug/L	56
73) m-,p-Xylene	16.28	106	1349	0.1203 ug/L	81
79) 1,1,2,2-Tetrachloroethane	17.57	83	8744	1.3569 ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138756.D 8260WTR.M Mon Apr 25 09:22:51 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



6M138756.D 8260WTR.M Mon Apr 25 09:22:51 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:59 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

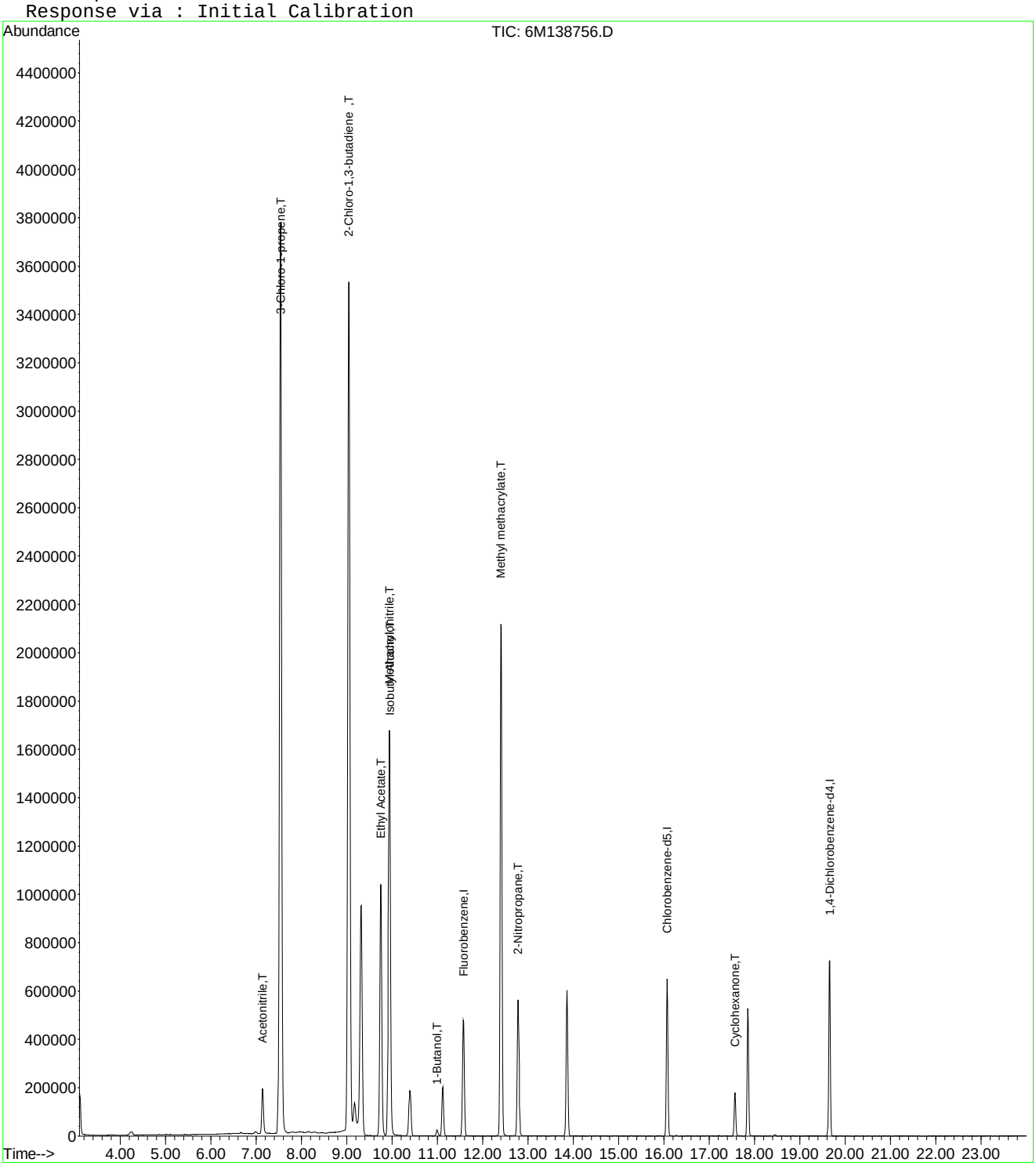
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.58	96	602356	25.00	ug/L		-0.02
11) Chlorobenzene-d5	16.07	117	472685	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	264650	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	273003	236.0468	ug/L		93
3) 3-Chloro-1-propene	7.54	41	4493022	278.3729	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	3994938	287.5093	ug/L		83
5) Ethyl Acetate	9.75	43	1967613	309.6573	ug/L		94
6) Methacrylonitrile	9.94	67	686612	280.9484	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	121480	347.5212	ug/L	#	90
8) 1-Butanol	10.99	41	18116	120.4672	ug/L		69
9) Methyl methacrylate	12.40	41	1742413	275.3954	ug/L		81
10) 2-Nitropropane	12.78	43	613081	328.6824	ug/L		99
13) Cyclohexanone	17.57	55	106618	117.9661	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138756.D A9FOOWT.M Mon Apr 25 15:45:59 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:00 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

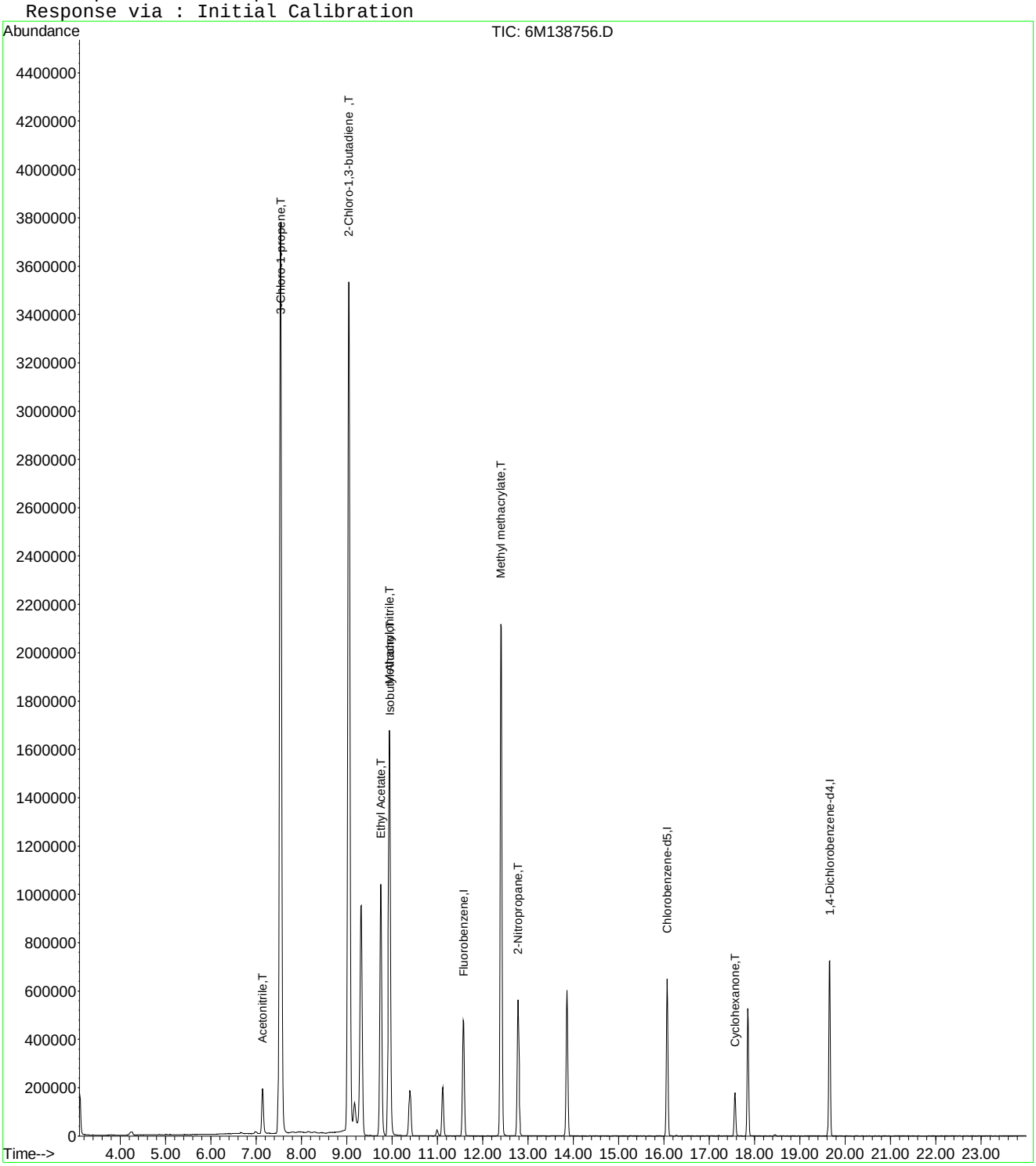
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.58	96	602356	25.00	ug/L		0.01
11) Chlorobenzene-d5	16.07	117	472685	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	264650	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	273003	302.5900	ug/L		93
3) 3-Chloro-1-propene	7.54	41	4493022	298.8224	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	3994938	309.6481	ug/L		83
5) Ethyl Acetate	9.75	43	1967613	304.6228	ug/L		94
6) Methacrylonitrile	9.94	67	686612	308.3318	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	121480	590.5081	ug/L	#	90
9) Methyl methacrylate	12.40	41	1742413	320.9449	ug/L		81
10) 2-Nitropropane	12.78	43	613081	303.6419	ug/L		99
13) Cyclohexanone	17.57	55	106618	323.1811	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138756.D A9FOOWT.M Wed Apr 27 16:05:00 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:51 2016 Quant Results File: 8260WTR.RES

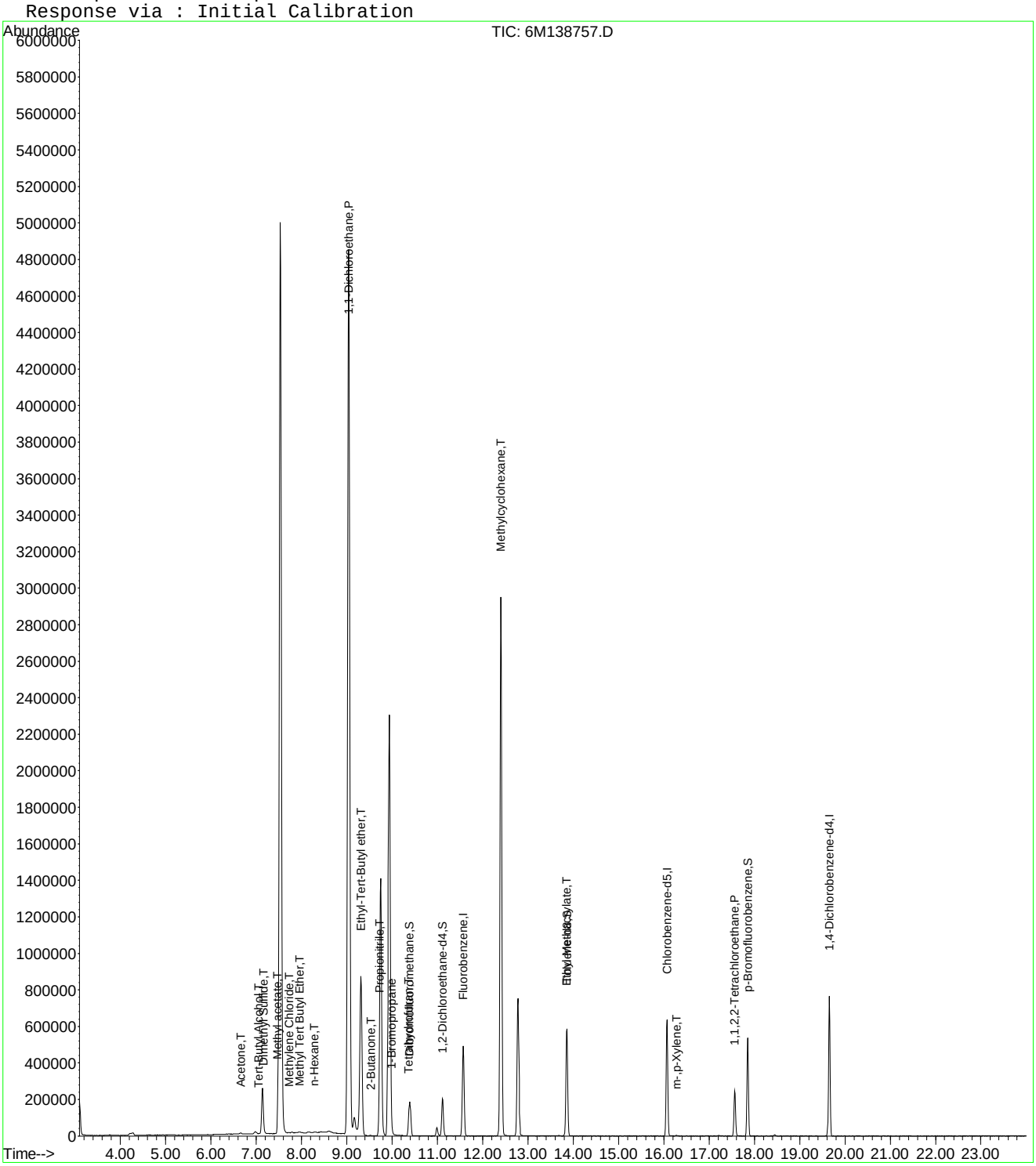
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	602625	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.08	117	475117	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	264739	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.39	111	170708	27.6598	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 110.64%			
43) 1,2-Dichloroethane-d4	11.11	65	208757	27.8702	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 111.48%			
58) Toluene-d8	13.86	98	554316	25.9150	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.64%			
80) p-Bromofluorobenzene	17.85	95	246698	27.9116	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 111.64%			
Target Compounds						Qvalue
13) Acetone	6.66	43	14063	7.5256	ug/L	99
15) Tert-Butyl Alcohol	7.05	59	807	1.5033	ug/L #	59
16) Dimethyl Sulfide	7.16	62	1034	0.2034	ug/L #	1
18) Methyl acetate	7.48	43	1103	0.2125	ug/L #	60
19) Methylene Chloride	7.73	84	1123	0.1699	ug/L #	40
22) Methyl Tert Butyl Ether	7.97	73	18318	1.1224	ug/L #	53
24) n-Hexane	8.28	57	5609	0.6488	ug/L	75
27) 1,1-Dichloroethane	9.04	63	82912	6.4943	ug/L #	48
28) Ethyl-Tert-Butyl ether	9.32	59	139043	6.7111	ug/L #	38
29) 2-Butanone	9.53	43	4129	1.4970	ug/L	86
30) Propionitrile	9.72	54	202	0.2549	ug/L #	1
34) 1-Bromopropane	9.99	122	1978	1.9098	ug/L #	1
36) Tetrahydrofuran	10.37	42	5444	3.0296	ug/L #	63
48) Methylcyclohexane	12.40	83	6593	0.7540	ug/L #	1
60) Ethyl Methacrylate	13.85	69	1165	0.1639	ug/L #	1
73) m-,p-Xylene	16.28	106	1795	0.1593	ug/L	72
79) 1,1,2,2-Tetrachloroethane	17.57	83	12875	1.9973	ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138757.D 8260WTR.M Mon Apr 25 09:22:51 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



6M138757.D 8260WTR.M Mon Apr 25 09:22:52 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46:00 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

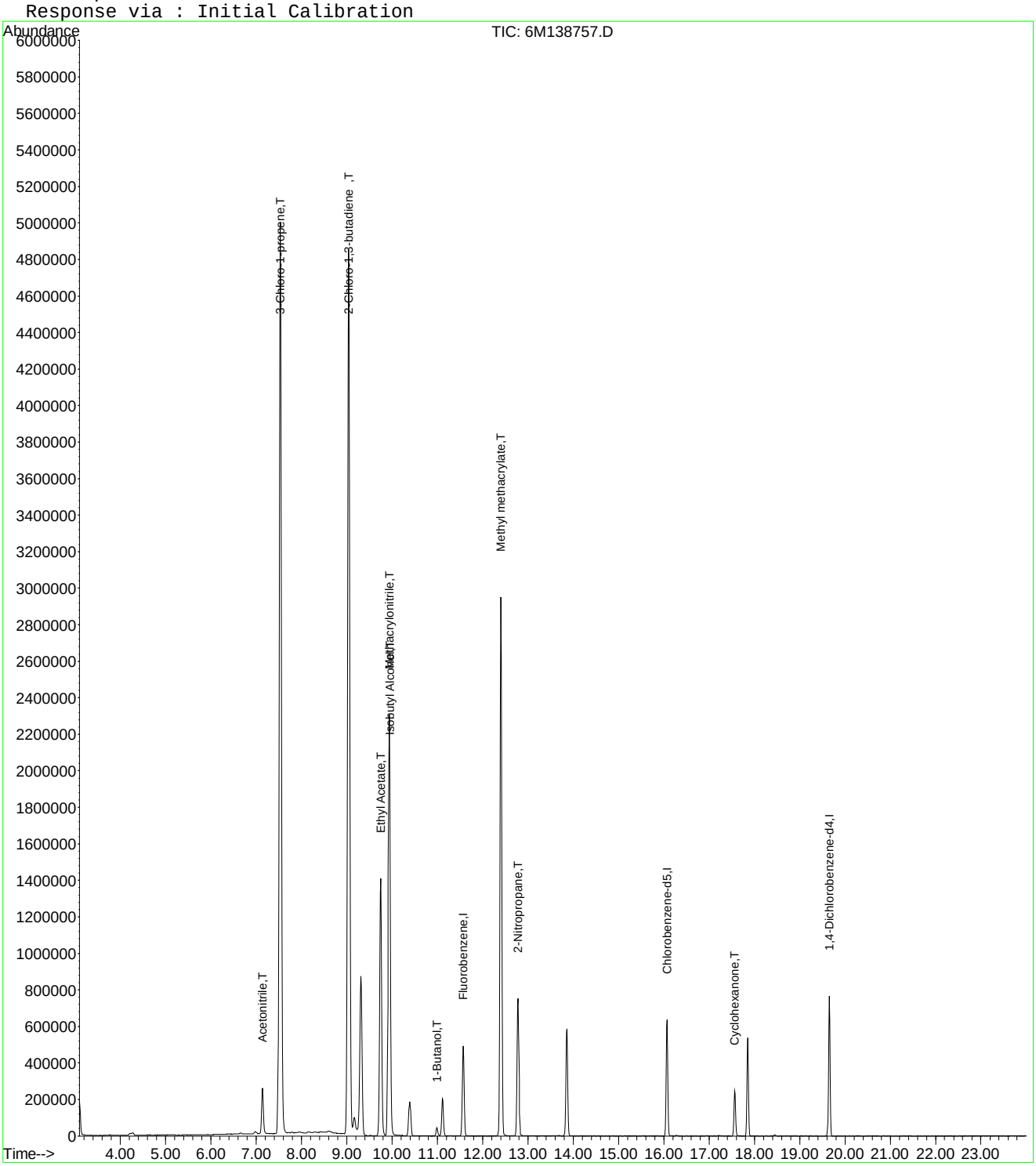
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602625	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.08	117	475117	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.65	152	264739	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	368012	318.0524	ug/L		93
3) 3-Chloro-1-propene	7.53	41	5948883	368.4088	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	5359203	385.5211	ug/L		83
5) Ethyl Acetate	9.76	43	2690267	423.1975	ug/L		94
6) Methacrylonitrile	9.94	67	929265	380.0675	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	192560	550.6158	ug/L	#	89
8) 1-Butanol	10.99	41	29815	198.1744	ug/L		75
9) Methyl methacrylate	12.40	41	2375132	375.2316	ug/L		81
10) 2-Nitropropane	12.79	43	849210	455.0717	ug/L		98
13) Cyclohexanone	17.57	55	149420	165.2683	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138757.D A9FOOWT.M Mon Apr 25 15:46:00 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:01 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

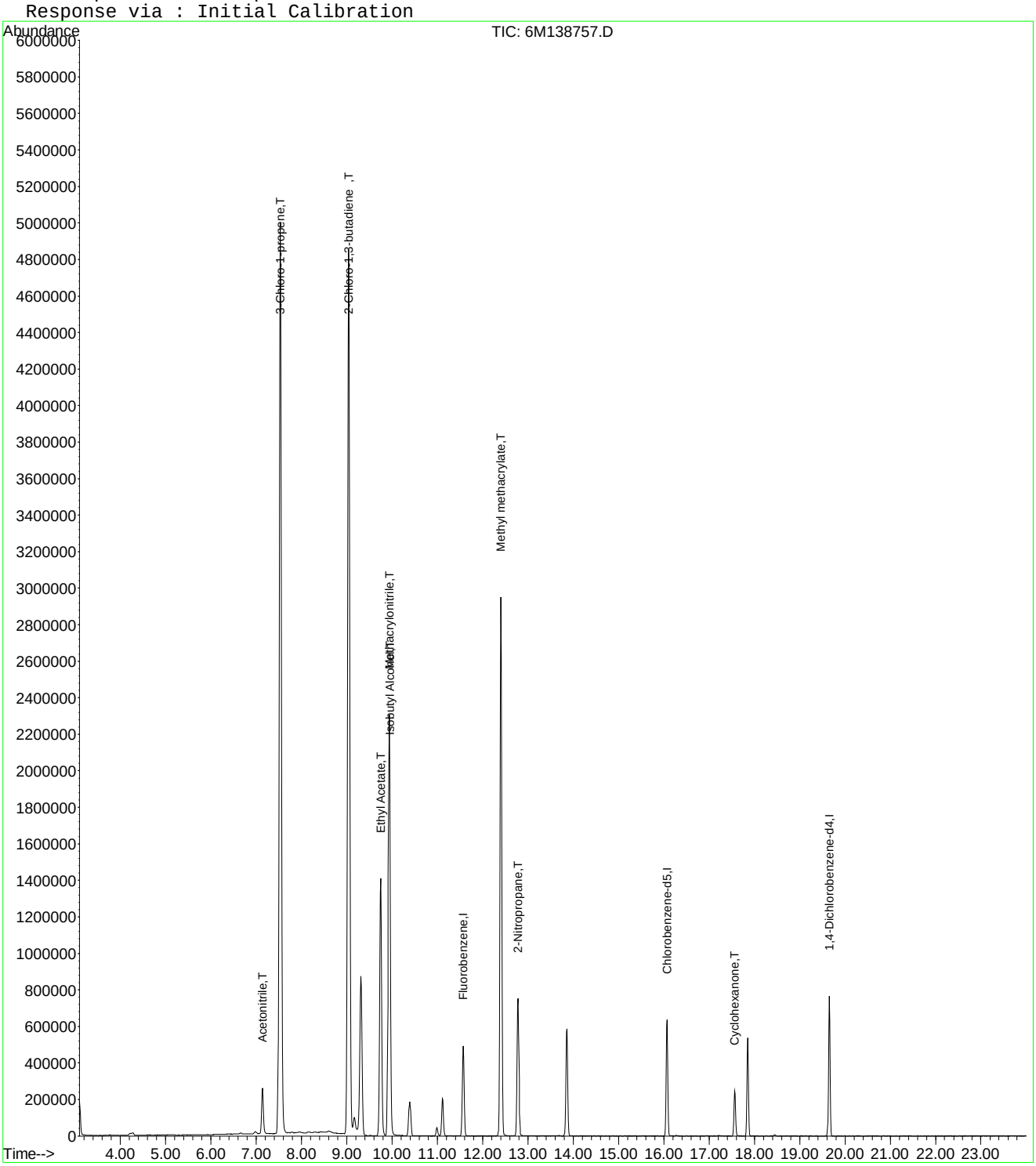
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602625	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.08	117	475117	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.65	152	264739	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	368012	407.7137	ug/L		93
3) 3-Chloro-1-propene	7.53	41	5948883	395.4723	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	5359203	415.2070	ug/L		83
5) Ethyl Acetate	9.76	43	2690267	416.3170	ug/L		94
6) Methacrylonitrile	9.94	67	929265	417.1119	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	192560	935.6065	ug/L	#	89
9) Methyl methacrylate	12.40	41	2375132	437.2937	ug/L		81
10) 2-Nitropropane	12.79	43	849210	420.4022	ug/L		98
13) Cyclohexanone	17.57	55	149420	452.7705	ug/L		87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:52 2016 Quant Results File: 8260WTR.RES

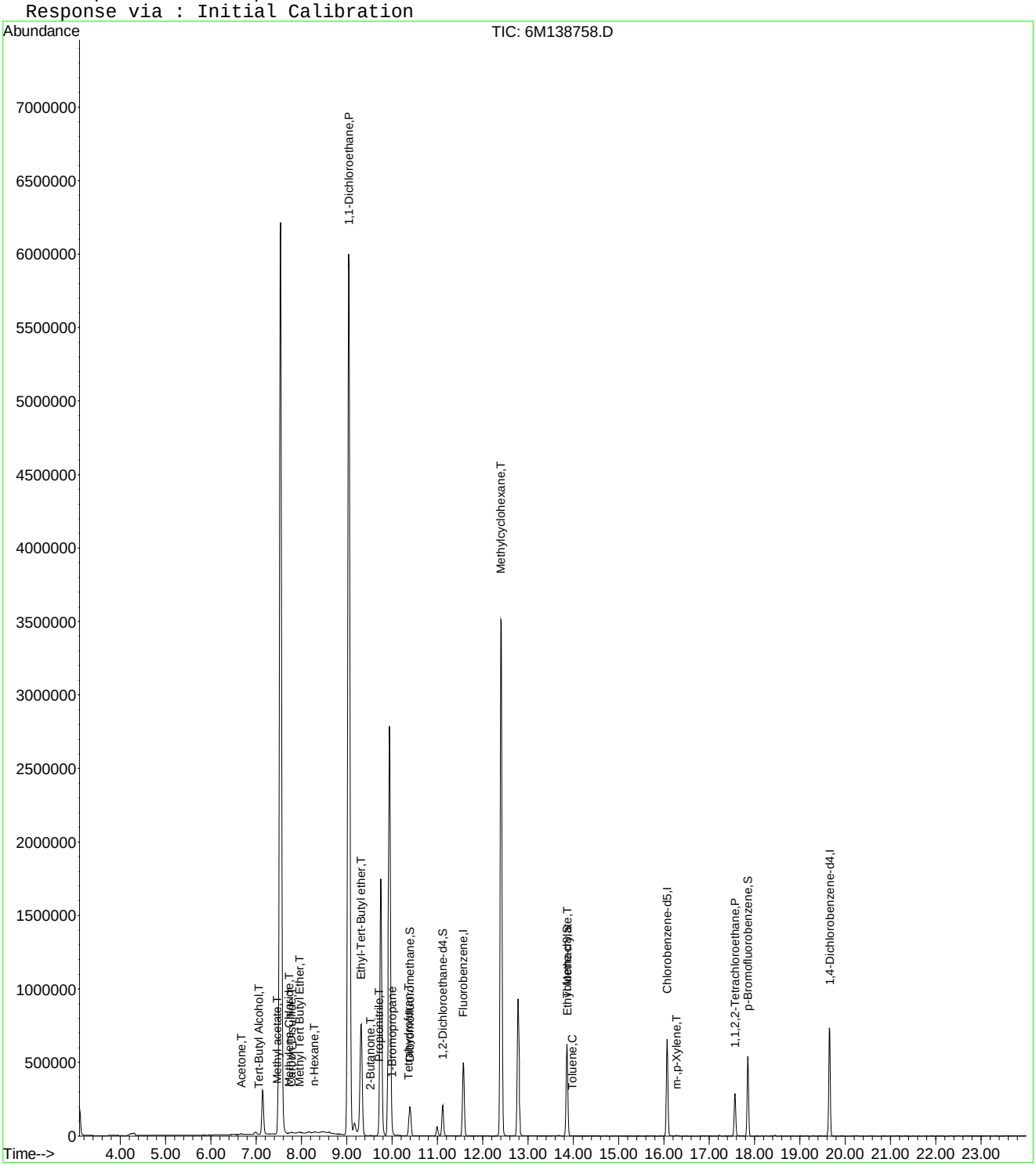
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	616486	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	485048	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	268890	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	175239	27.7556 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.04%		
43) 1,2-Dichloroethane-d4	11.12	65	210644	27.4898 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 109.96%		
58) Toluene-d8	13.86	98	563297	25.7957 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.20%		
80) p-Bromofluorobenzene	17.85	95	249406	27.7824 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 111.12%		
Target Compounds					Qvalue
13) Acetone	6.67	43	15233	7.9684 ug/L	89
15) Tert-Butyl Alcohol	7.06	59	370	0.6737 ug/L #	59
18) Methyl acetate	7.46	43	1079	0.2032 ug/L #	34
19) Methylene Chloride	7.73	84	1471	0.2176 ug/L	66
20) Carbon Disulfide	7.78	76	2765	0.1407 ug/L #	74
22) Methyl Tert Butyl Ether	7.96	73	25284	1.5144 ug/L #	53
24) n-Hexane	8.28	57	5266	0.5954 ug/L	97
27) 1,1-Dichloroethane	9.05	63	105121	8.0488 ug/L #	48
28) Ethyl-Tert-Butyl ether	9.31	59	124099	5.8551 ug/L #	39
29) 2-Butanone	9.52	43	4475	1.5860 ug/L #	72
30) Propionitrile	9.71	54	473	0.5835 ug/L #	1
34) 1-Bromopropane	10.00	122	2117	1.9980 ug/L #	1
36) Tetrahydrofuran	10.36	42	5652	3.0747 ug/L #	54
48) Methylcyclohexane	12.40	83	8011	0.8956 ug/L #	1
59) Toluene	13.98	91	3373	0.1249 ug/L	84
60) Ethyl Methacrylate	13.87	69	1585	0.2184 ug/L #	1
73) m-,p-Xylene	16.28	106	2521	0.2191 ug/L	79
79) 1,1,2,2-Tetrachloroethane	17.57	83	14350	2.1917 ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138758.D 8260WTR.M Mon Apr 25 09:22:52 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46:00 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

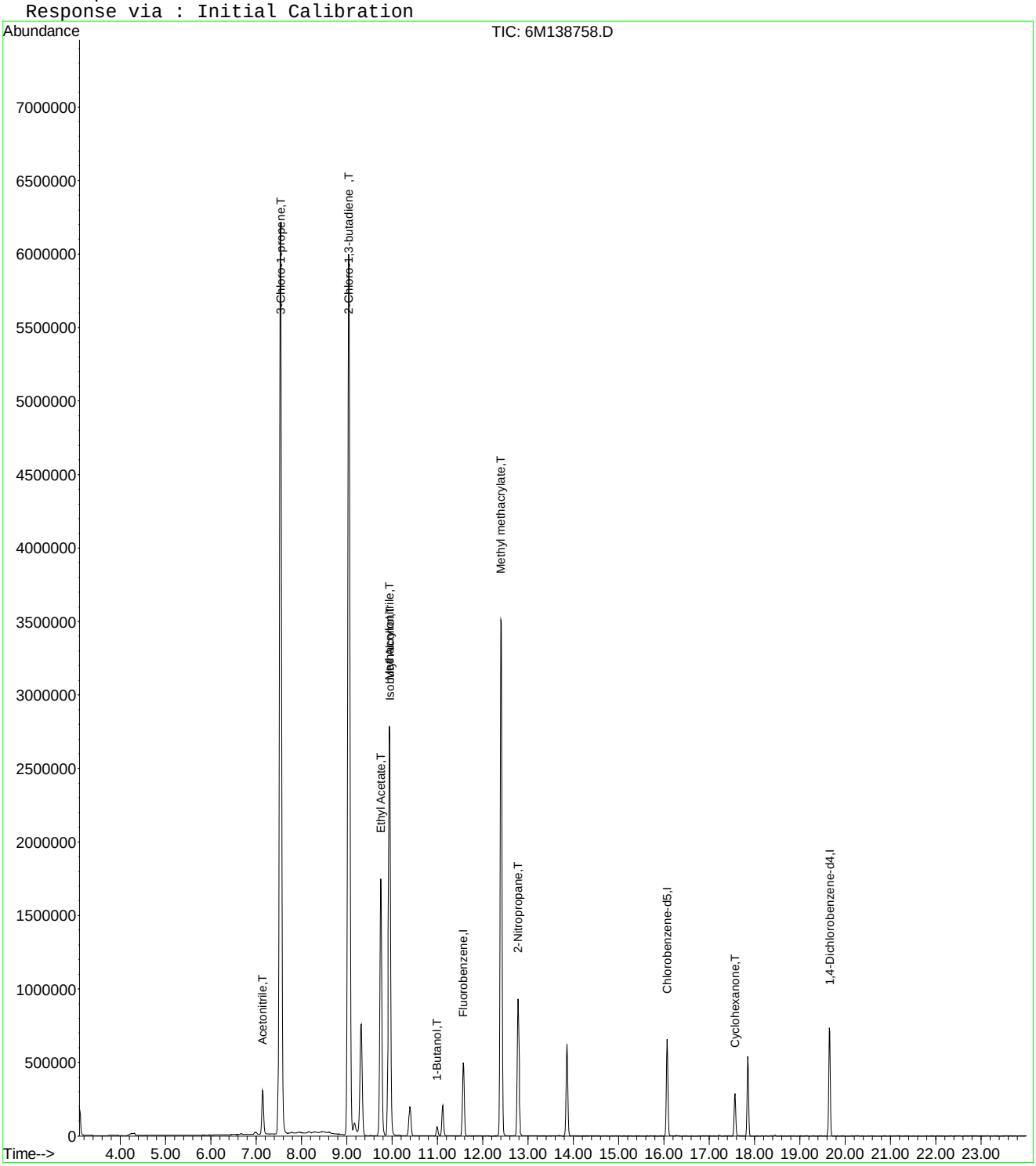
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	616486	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	485048	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	268890	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	449583	379.8136	ug/L		92
3) 3-Chloro-1-propene	7.54	41	7430577	449.8223	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	6752476	474.8265	ug/L		84
5) Ethyl Acetate	9.75	43	3307403	508.5794	ug/L		94
6) Methacrylonitrile	9.94	67	1145073	457.8027	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	251034	701.6799	ug/L	#	90
8) 1-Butanol	10.99	41	42236	274.4224	ug/L		75
9) Methyl methacrylate	12.40	41	2914815	450.1389	ug/L		81
10) 2-Nitropropane	12.78	43	1036720	543.0629	ug/L		99
13) Cyclohexanone	17.57	55	176545	192.2558	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138758.D A9FOOWT.M Mon Apr 25 15:46:01 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:01 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

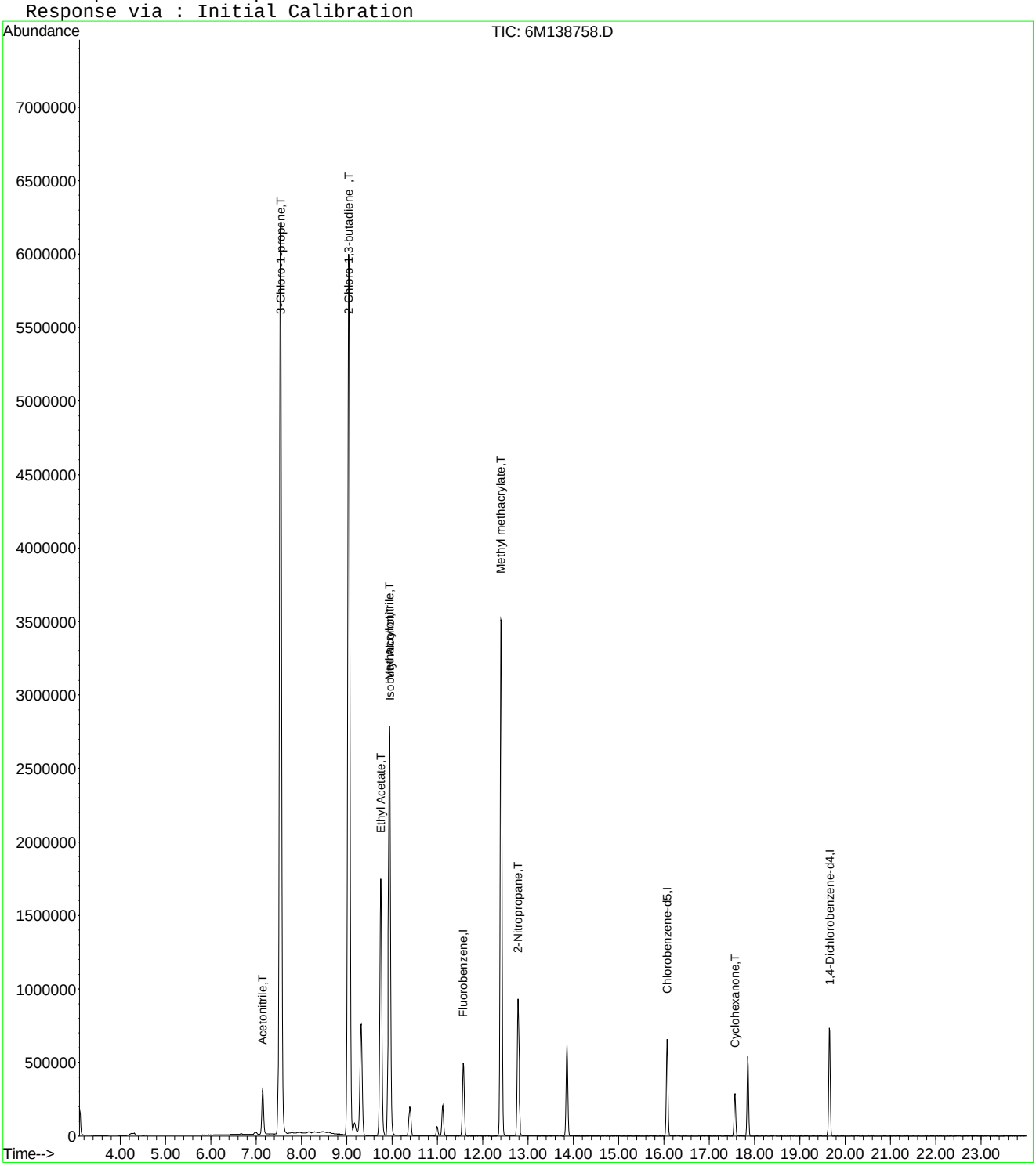
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	616486	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	485048	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	268890	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	449583	486.8858	ug/L		92
3) 3-Chloro-1-propene	7.54	41	7430577	482.8665	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	6752476	511.3891	ug/L		84
5) Ethyl Acetate	9.75	43	3307403	500.3107	ug/L		94
6) Methacrylonitrile	9.94	67	1145073	502.4237	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	251034	1192.2947	ug/L	#	90
9) Methyl methacrylate	12.40	41	2914815	524.5904	ug/L		81
10) 2-Nitropropane	12.78	43	1036720	501.6898	ug/L		99
13) Cyclohexanone	17.57	55	176545	526.7057	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138758.D A9FOOWT.M Wed Apr 27 16:05:01 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:54 2016 Quant Results File: 8260WTR.RES

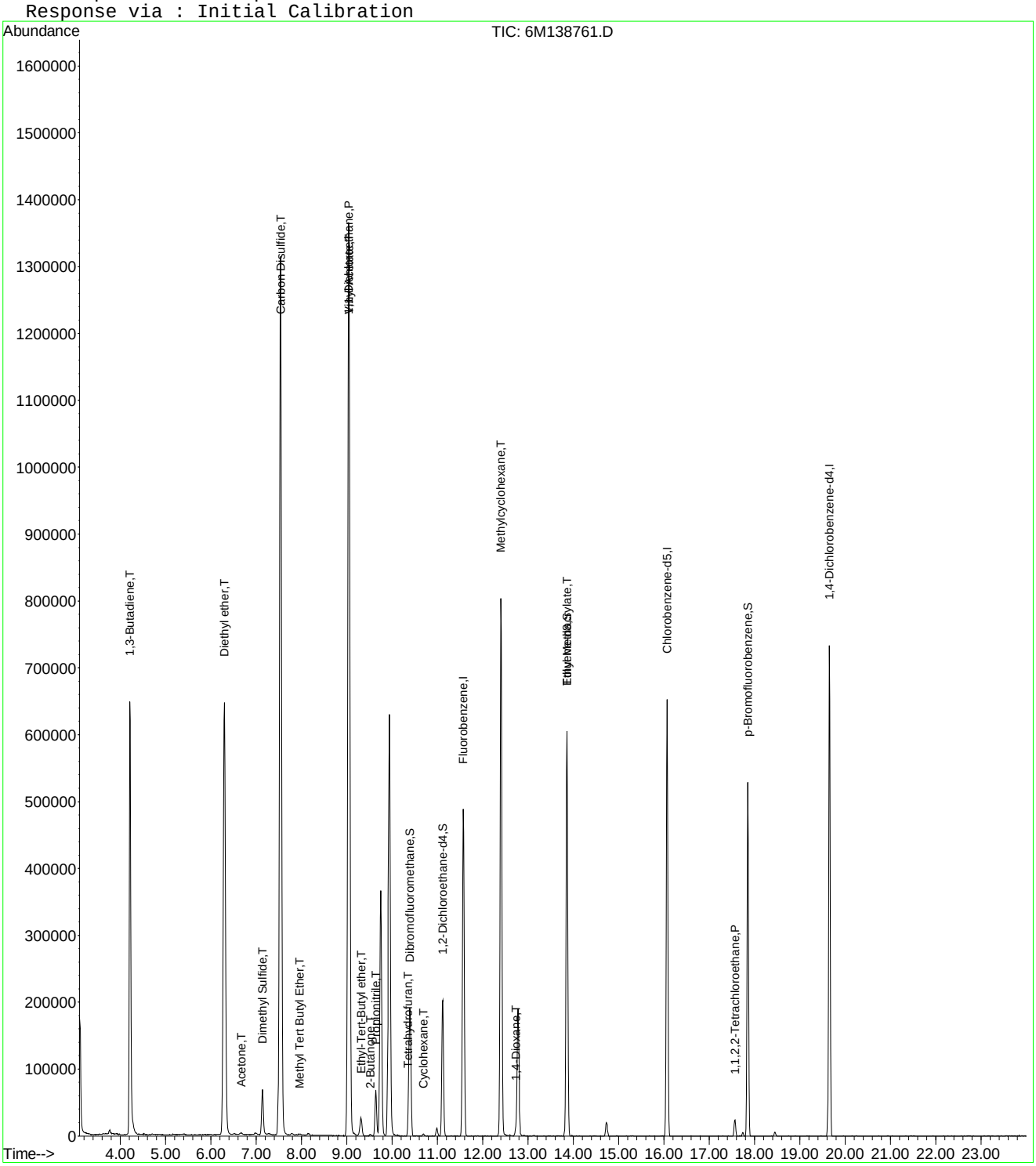
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	602884	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	471639	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	256885	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.40	111	171708	27.8099	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.24%			
43) 1,2-Dichloroethane-d4	11.12	65	210067	28.0330	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 112.12%			
58) Toluene-d8	13.86	98	553825	26.0829	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.32%			
80) p-Bromofluorobenzene	17.85	95	243088	28.3441	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 113.36%			
Target Compounds						Qvalue
5) 1,3-Butadiene	4.21	54	367749	92.2302	ug/L	88
9) Diethyl ether	6.30	59	700386	132.3612	ug/L	92
13) Acetone	6.67	43	6570	3.5143	ug/L	81
16) Dimethyl Sulfide	7.14	62	2726	0.5361	ug/L #	1
20) Carbon Disulfide	7.54	76	432674	22.5096	ug/L #	36
22) Methyl Tert Butyl Ether	7.97	73	2916	0.1786	ug/L #	53
26) Vinyl Acetate	9.05	43	5230	0.5414	ug/L #	1
27) 1,1-Dichloroethane	9.04	63	22472	1.7594	ug/L #	42
28) Ethyl-Tert-Butyl ether	9.32	59	4063	0.1960	ug/L #	35
29) 2-Butanone	9.52	43	6076	2.2019	ug/L #	66
30) Propionitrile	9.64	54	91341	115.2239	ug/L	96
36) Tetrahydrofuran	10.36	42	4030	2.2418	ug/L #	52
39) Cyclohexane	10.69	56	2387	0.2138	ug/L	79
48) Methylcyclohexane	12.40	83	1353	0.1547	ug/L #	1
50) 1,4-Dioxane	12.73	88	9231	177.0935	ug/L	71
60) Ethyl Methacrylate	13.86	69	1222	0.1732	ug/L #	1
79) 1,1,2,2-Tetrachloroethane	17.57	83	1146	0.1832	ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138761.D 8260WTR.M Mon Apr 25 09:22:54 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



6M138761.D 8260WTR.M Mon Apr 25 09:22:54 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46:01 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

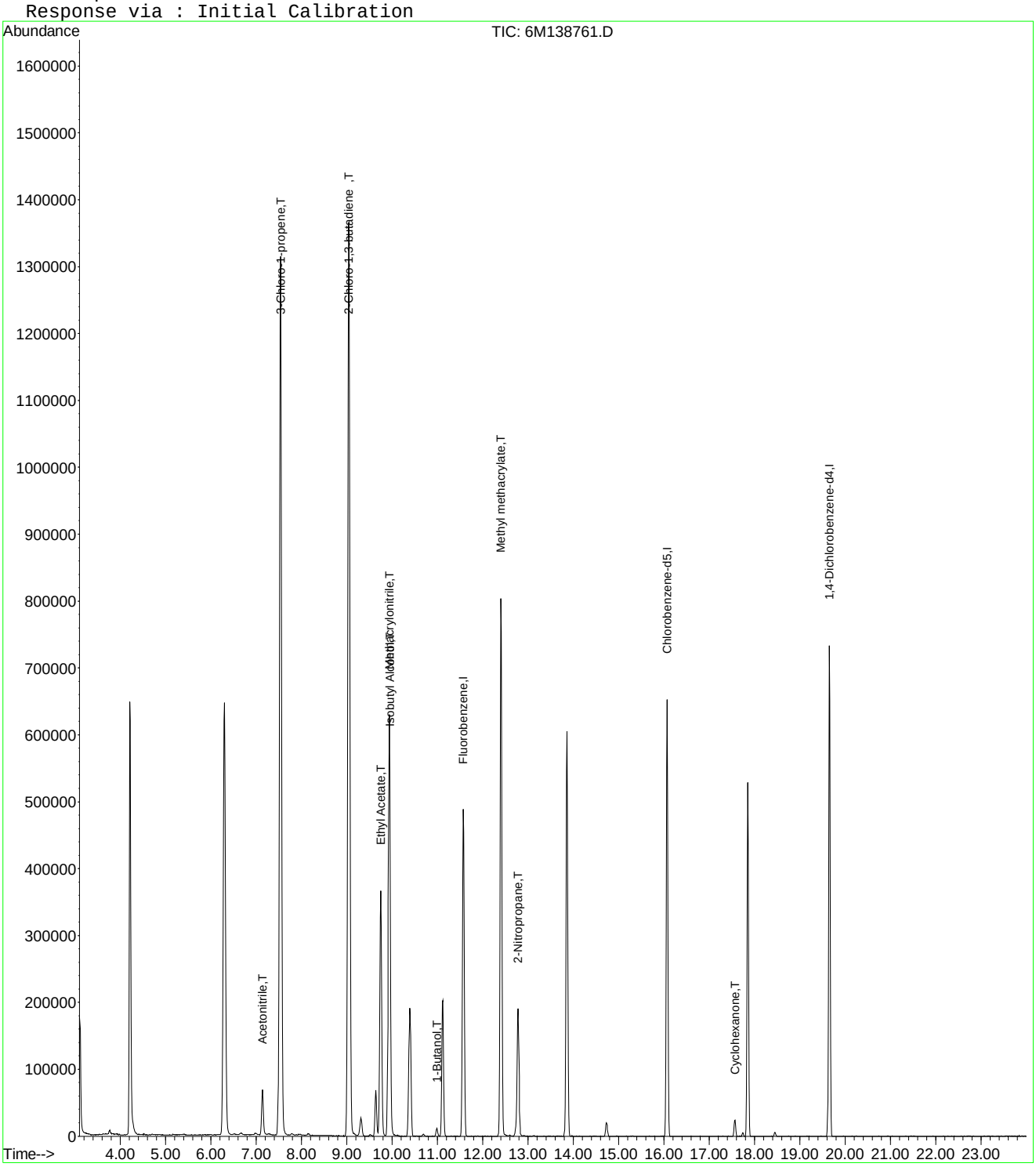
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602884	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	471639	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.65	152	256885	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	96564	83.4191	ug/L		96
3) 3-Chloro-1-propene	7.54	41	1552115	96.0797	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	1512761	108.7756	ug/L		83
5) Ethyl Acetate	9.75	43	691566	108.7414	ug/L		93
6) Methacrylonitrile	9.94	67	252030	103.0355	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	51165	146.2409	ug/L	#	93
8) 1-Butanol	10.99	41	7584	50.3877	ug/L		72
9) Methyl methacrylate	12.40	41	635574	100.3670	ug/L		81
10) 2-Nitropropane	12.79	43	211020	113.0321	ug/L		98
13) Cyclohexanone	17.57	55	15491	17.6579	ug/L		85

(#) = qualifier out of range (m) = manual integration
6M138761.D A9FOOWT.M Mon Apr 25 15:46:02 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



6M138761.D A9FOOWT.M Mon Apr 25 15:46:02 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:02 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

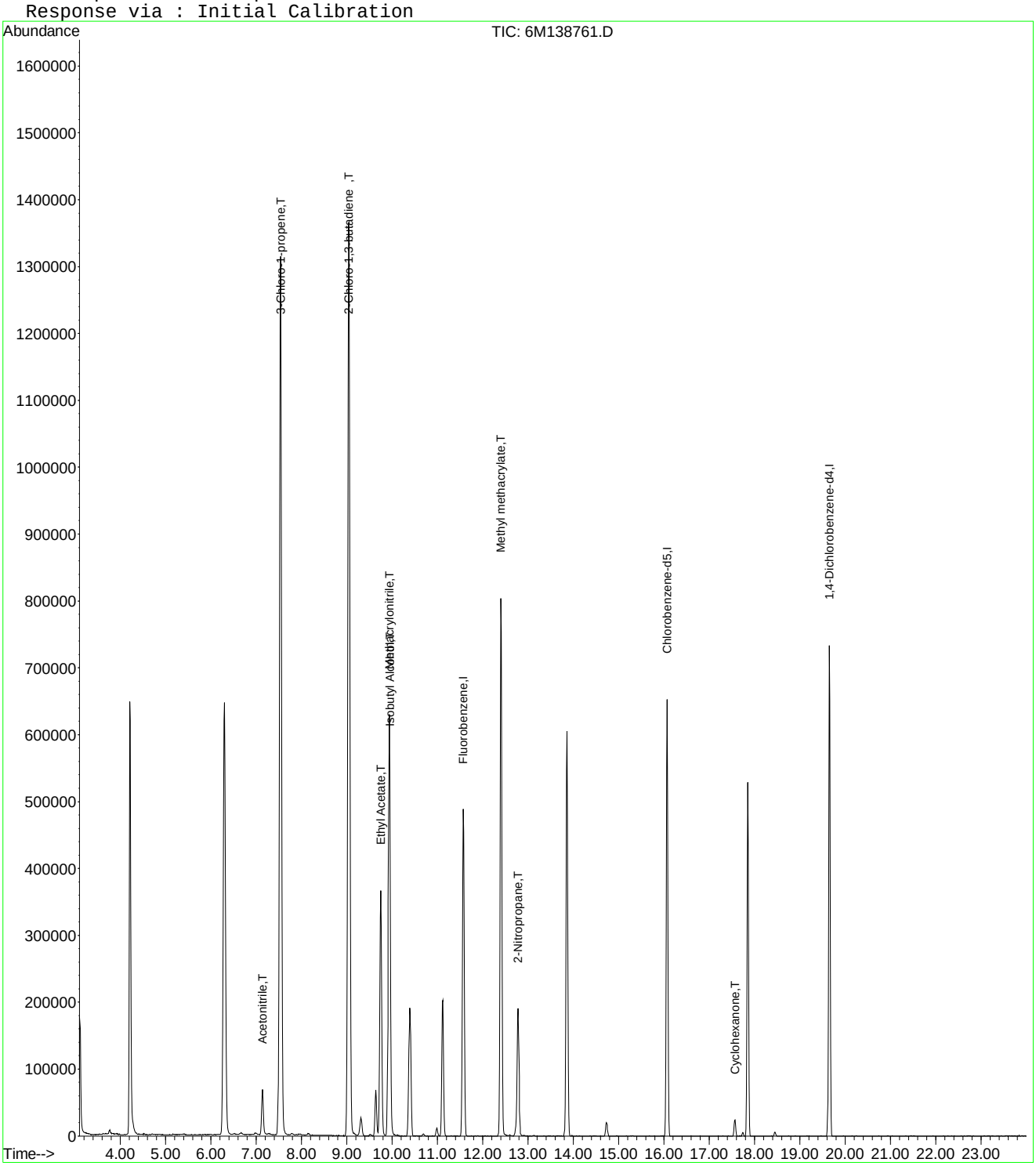
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602884	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	471639	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.65	152	256885	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	96564	106.9355	ug/L		96
3) 3-Chloro-1-propene	7.54	41	1552115	103.1378	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	1512761	117.1516	ug/L		83
5) Ethyl Acetate	9.75	43	691566	106.9734	ug/L		93
6) Methacrylonitrile	9.94	67	252030	113.0781	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	51165	248.4926	ug/L	#	93
9) Methyl methacrylate	12.40	41	635574	116.9674	ug/L		81
10) 2-Nitropropane	12.79	43	211020	104.4208	ug/L		98
13) Cyclohexanone	17.57	55	15491	48.3758	ug/L		85

(#) = qualifier out of range (m) = manual integration
6M138761.D A9FOOWT.M Wed Apr 27 16:05:02 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 1% Max. R.T. Dev 0.50min
Max. RRF Dev : 75% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	101	0.00
2	T	Acetonitrile	100.0000	106.9355	-6.9	106	0.00
3	T	3-Chloro-1-propene	100.0000	103.1378	-3.1	96	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	117.1516	-17.2	107	0.00
5	T	Ethyl Acetate	100.0000	106.9734	-7.0	103	0.00
6	T	Methacrylonitrile	100.0000	113.0781	-13.1	106	0.00
7	T	Isobutyl Alcohol	200.0000	248.4926	-24.2	151	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	100.0000	116.9674	-17.0	108	0.00
10	T	2-Nitropropane	100.0000	104.4208	-4.4	107	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	101	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	100.0000	48.3758	51.6	56	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M138761.D A9FOOWT.M Wed Apr 27 16:05:40 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142178.D Vial: 2
Acq On : 26 Sep 2016 13:54 Operator: TMB
Sample : WG584797-02 0.3ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:18:45 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.75	96	873020	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	653659	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.79	152	339907	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	1131	0.1253 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.52%#	
43) 1,2-Dichloroethane-d4	10.30	65	1500	0.1657 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.68%#	
58) Toluene-d8	13.02	98	5843	0.1987 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.80%#	
80) p-Bromofluorobenzene	17.00	95	2008	0.1789 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.72%#	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.95	85	4032	0.2743 ug/L #	64
3) Chloromethane	3.37	50	7248	0.4279 ug/L	96
4) Vinyl Chloride	3.56	62	3344	0.3225 ug/L	90
5) 1,3-Butadiene	3.60	54	4134	Below Cal	85
6) Bromomethane	4.38	94	2323	0.3849 ug/L	78
7) Chloroethane	4.52	64	2237	0.3415 ug/L #	59
8) Trichlorofluoromethane	4.99	101	4729	0.3228 ug/L #	91
10) Isoprene	5.56	67	4416	0.3242 ug/L	92
12) 1,1,2-Trichloro-1,2,2-Trif	5.77	101	1937	0.2197 ug/L	96
13) Acetone	5.88	43	3144	Below Cal #	48
14) 1,1-Dichloroethene	6.09	61	4612	0.3173 ug/L	92
16) Dimethyl Sulfide	6.37	62	2353	0.2467 ug/L	92
17) Iodomethane	6.63	142	197	1.2321 ug/L #	32
18) Methyl acetate	6.69	43	1919	0.3130 ug/L #	66
19) Methylene Chloride	6.93	84	3565	0.3776 ug/L	89
20) Carbon Disulfide	6.95	76	11537	0.4194 ug/L	93
22) Methyl Tert Butyl Ether	7.15	73	5387	0.2540 ug/L #	72
23) trans-1,2-Dichloroethene	7.40	96	3131	0.3398 ug/L	91
24) n-Hexane	7.49	57	4412	0.3657 ug/L	83
26) Vinyl Acetate	8.07	43	3926	0.2325 ug/L #	78
27) 1,1-Dichloroethane	8.08	63	4951	0.2905 ug/L	82
29) 2-Butanone	8.72	43	1188	0.3701 ug/L #	57
31) 2,2-Dichloropropane	8.94	77	4013	0.3224 ug/L	77
32) cis-1,2-Dichloroethene	9.01	96	2843	0.2791 ug/L	88
33) Chloroform	9.25	83	5624	0.3426 ug/L	87
35) Bromochloromethane	9.49	130	1447	0.2321 ug/L	82
36) Tetrahydrofuran	9.54	42	2784	1.1948 ug/L #	67
38) 1,1,1-Trichloroethane	9.83	97	4190	0.2945 ug/L	86
39) Cyclohexane	9.86	56	5104	0.3278 ug/L	86
40) 1,1-Dichloropropene	10.05	75	3650	0.3003 ug/L	84
42) Carbon Tetrachloride	10.21	117	3444	0.2628 ug/L #	89
45) 1,2-Dichloroethane	10.42	62	3436	0.2876 ug/L #	76
46) Benzene	10.46	78	11845	0.3361 ug/L	92
47) Trichloroethene	11.32	130	2859	0.2760 ug/L	98
48) Methylcyclohexane	11.40	83	4493	0.3299 ug/L	93
49) 1,2-Dichloropropane	11.57	63	2487	0.2700 ug/L #	47
51) Bromodichloromethane	11.91	83	3601	0.2970 ug/L	95
52) Dibromomethane	12.00	93	1191	0.2331 ug/L	96
55) cis-1,3-Dichloropropene	12.66	75	3507	0.2586 ug/L #	82
56) Dimethyl Disulfide	12.94	79	1847	0.2233 ug/L #	47

(#) = qualifier out of range (m) = manual integration
6M142178.D 8260WTR.M Tue Sep 27 10:18:49 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142178.D Vial: 2
Acq On : 26 Sep 2016 13:54 Operator: TMB
Sample : WG584797-02 0.3ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:18:45 2016 Quant Results File: 8260WTR.RES

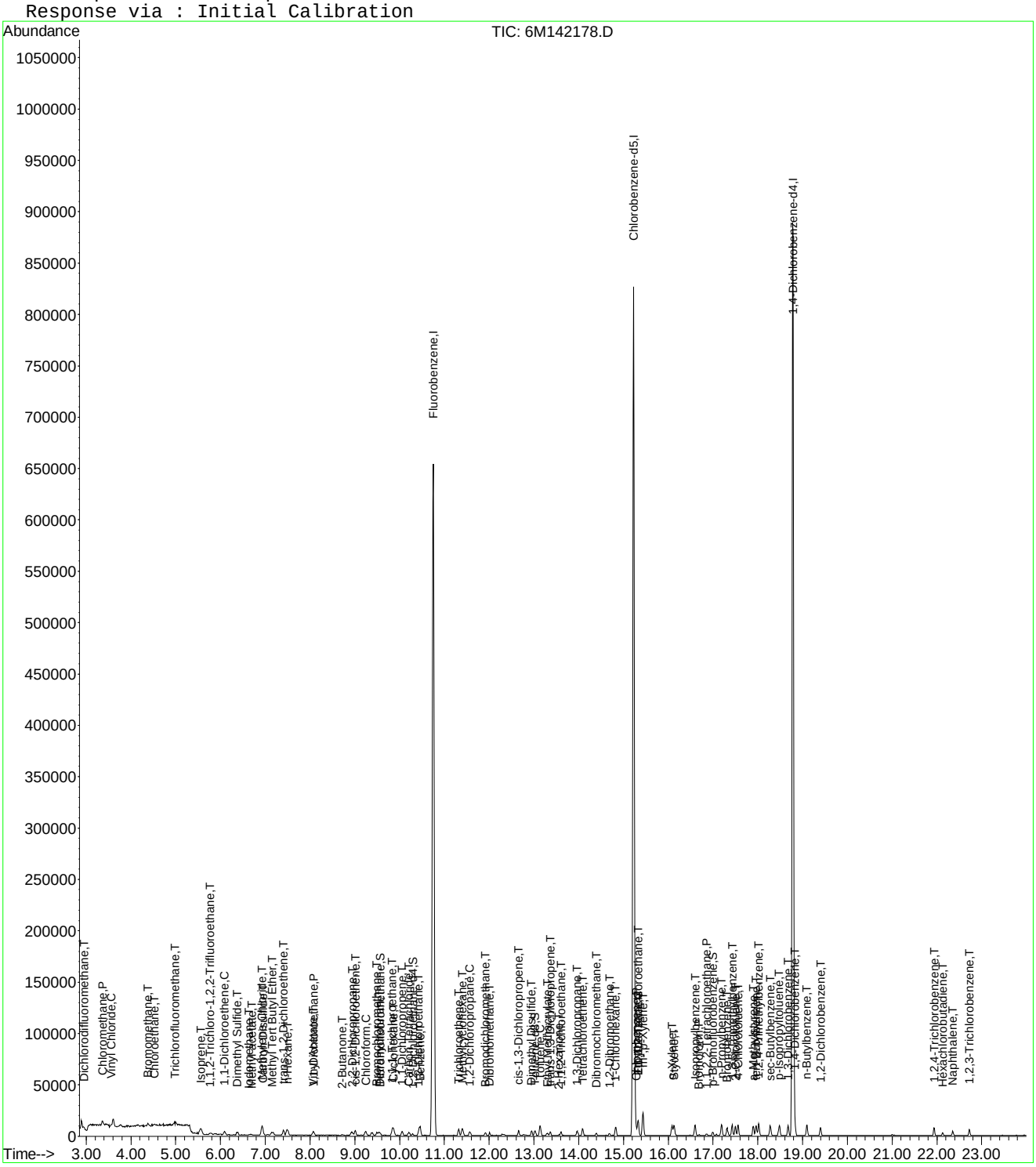
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
59)	Toluene	13.14	91	12343	0.3486	ug/L		92
60)	Ethyl Methacrylate	13.30	69	1725	0.2023	ug/L		65
62)	trans-1,3-Dichloropropene	13.36	75	3148	0.2710	ug/L	#	67
63)	1,1,2-Trichloroethane	13.61	97	1793	0.2714	ug/L		93
64)	2-Hexanone	13.56	43	1206	0.2494	ug/L	#	50
65)	1,3-Dichloropropane	13.97	76	3124	0.2824	ug/L		79
66)	Tetrachloroethene	14.09	166	3167	0.3179	ug/L		93
67)	Dibromochloromethane	14.39	129	2256	0.2500	ug/L		92
68)	1,2-Dibromoethane	14.69	107	1842	0.2659	ug/L		92
69)	1-Chlorohexane	14.82	91	3522	0.3145	ug/L		95
70)	Chlorobenzene	15.28	112	8338	0.3298	ug/L		88
71)	1,1,1,2-Tetrachloroethane	15.32	131	2514	0.2657	ug/L	#	85
72)	Ethylbenzene	15.32	106	4085	0.3012	ug/L		96
73)	m-,p-Xylene	15.44	106	10510	0.6538	ug/L		88
74)	o-Xylene	16.09	106	4810	0.3012	ug/L		98
75)	Styrene	16.13	104	8518	0.3124	ug/L		88
76)	Bromoform	16.68	173	999	0.7387	ug/L	#	56
77)	Isopropylbenzene	16.60	105	12547	0.3213	ug/L		96
79)	1,1,2,2-Tetrachloroethane	16.86	83	1963	0.2712	ug/L		86
83)	n-Propylbenzene	17.19	91	15181	0.3701	ug/L	#	97
84)	Bromobenzene	17.31	156	3376	0.3189	ug/L		96
85)	1,3,5-Trimethylbenzene	17.43	105	10468	0.3445	ug/L		98
86)	2-Chlorotoluene	17.50	91	9966	0.3699	ug/L		91
87)	4-Chlorotoluene	17.56	91	9529	0.3541	ug/L		97
88)	a-Methylstyrene	17.90	118	4689	0.2555	ug/L		88
89)	tert-Butylbenzene	17.96	134	2234	0.3170	ug/L		83
90)	1,2,4-Trimethylbenzene	18.02	105	10752	0.3378	ug/L		98
91)	sec-Butylbenzene	18.28	105	12804	0.3524	ug/L		96
92)	p-Isopropyltoluene	18.48	119	11529	0.3580	ug/L		92
93)	1,3-Dichlorobenzene	18.67	146	7260	0.3593	ug/L		92
94)	1,4-Dichlorobenzene	18.83	146	7332	0.3611	ug/L	#	60
95)	n-Butylbenzene	19.09	91	10560	0.3794	ug/L		93
96)	1,2-Dichlorobenzene	19.41	146	6216	0.3277	ug/L		98
98)	1,2,4-Trichlorobenzene	21.94	180	4279	0.3094	ug/L		90
99)	Hexachlorobutadiene	22.12	225	1849	0.3589	ug/L		81
100)	Naphthalene	22.35	128	6639	0.2640	ug/L		88
101)	1,2,3-Trichlorobenzene	22.73	180	3800	0.3071	ug/L		93

(#) = qualifier out of range (m) = manual integration
6M142178.D 8260WTR.M Tue Sep 27 10:18:49 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142178.D Vial: 2
Acq On : 26 Sep 2016 13:54 Operator: TMB
Sample : WG584797-02 0.3ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:18 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142178.D Vial: 2
Acq On : 26 Sep 2016 13:54 Operator: TMB
Sample : WG584797-02 0.3ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.2743	0.0	100	0.00
3	P	Chloromethane	-1.0000	0.4279	0.0	100	0.00
4	C	Vinyl Chloride	-1.0000	0.3225	0.0	100	0.02
5	T	1,3-Butadiene	-1.0000	-4.3346	0.0	0	0.02
6	T	Bromomethane	-1.0000	0.3849	0.0	100	0.00
7	T	Chloroethane	-1.0000	0.3415	0.0	100	0.00
8	T	Trichlorofluoromethane	-1.0000	0.3228	0.0	100	0.00
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.53#
10	T	Isoprene	-1.0000	0.3242	0.0	100	0.02
11	T	Acrolein	-1.0000	0.0000	0.0	0	-5.78#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.2197	0.0	100	0.00
13	T	Acetone	-1.0000	-0.7290	0.0	0	-0.01
14	C	1,1-Dichloroethene	-1.0000	0.3173	0.0	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.26#
16	T	Dimethyl Sulfide	-1.0000	0.2467	0.0	100	0.00
17	T	Iodomethane	-1.0000	1.2321	0.0	0	0.00
18	T	Methyl acetate	-1.0000	0.3130	0.0	100	0.03
19	T	Methylene Chloride	-1.0000	0.3776	0.0	100	0.00
20	T	Carbon Disulfide	-1.0000	0.4194	0.0	100	0.02
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.13#
22	T	Methyl Tert Butyl Ether	-1.0000	0.2540	0.0	100	0.00
23	T	trans-1,2-Dichloroethene	-1.0000	0.3398	0.0	100	0.00
24	T	n-Hexane	-1.0000	0.3657	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-7.88#
26	T	Vinyl Acetate	-1.0000	0.2325	0.0	100	0.00
27	P	1,1-Dichloroethane	-1.0000	0.2905	0.0	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.52#
29	T	2-Butanone	-1.0000	0.3701	0.0	100	0.00
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.84#
31	T	2,2-Dichloropropane	-1.0000	0.3224	0.0	100	0.00
32	T	cis-1,2-Dichloroethene	-1.0000	0.2791	0.0	100	0.00
33	C	Chloroform	0.3000	0.3426	-14.2	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.39#
35	T	Bromochloromethane	-1.0000	0.2321	0.0	100	0.00
36	T	Tetrahydrofuran	-1.0000	1.1948	0.0	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.1253	0.0	0	0.00
38	T	1,1,1-Trichloroethane	-1.0000	0.2945	0.0	100	0.00
39	T	Cyclohexane	-1.0000	0.3278	0.0	100	0.00
40	T	1,1-Dichloropropene	-1.0000	0.3003	0.0	100	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.20#
42	T	Carbon Tetrachloride	-1.0000	0.2628	0.0	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.1657	0.0	0	0.00
44		Heptane	-1.0000	0.0000	0.0	0	-10.20#
45	T	1,2-Dichloroethane	-1.0000	0.2876	0.0	100	0.00
46	T	Benzene	-1.0000	0.3361	0.0	100	0.00
47	T	Trichloroethene	-1.0000	0.2760	0.0	100	0.00
48	T	Methylcyclohexane	-1.0000	0.3299	0.0	100	0.00
49	C	1,2-Dichloropropane	-1.0000	0.2700	0.0	100	0.00
50	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.92#
51	T	Bromodichloromethane	-1.0000	0.2970	0.0	100	0.00
52	T	Dibromomethane	-1.0000	0.2331	0.0	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.1001	0.0	100	-0.01
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.33#

(#) = Out of Range
6M142178.D 8260WTR.M Tue Sep 27 10:21:09 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142178.D Vial: 2
Acq On : 26 Sep 2016 13:54 Operator: TMB
Sample : WG584797-02 0.3ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	-1.0000	0.2586	0.0	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.2233	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.1987	0.0	0	0.00
59	C	Toluene	-1.0000	0.3486	0.0	100	0.00
60	T	Ethyl Methacrylate	-1.0000	0.2023	0.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	-1.0000	0.2710	0.0	100	0.00
63	T	1,1,2-Trichloroethane	-1.0000	0.2714	0.0	100	0.00
64	T	2-Hexanone	-1.0000	0.2494	0.0	100	-0.01
65	T	1,3-Dichloropropane	-1.0000	0.2824	0.0	100	0.00
66	T	Tetrachloroethene	-1.0000	0.3179	0.0	100	0.00
67	T	Dibromochloromethane	-1.0000	0.2500	0.0	100	0.00
68	T	1,2-Dibromoethane	-1.0000	0.2659	0.0	100	0.00
69	T	1-Chlorohexane	-1.0000	0.3145	0.0	100	-0.01
70	P	Chlorobenzene	-1.0000	0.3298	0.0	100	0.00
71	T	1,1,1,2-Tetrachloroethane	-1.0000	0.2657	0.0	100	0.00
72	C	Ethylbenzene	-1.0000	0.3012	0.0	100	0.00
73	T	m-,p-Xylene	-1.0000	0.6538	0.0	100	0.00
74	T	o-Xylene	-1.0000	0.3012	0.0	100	0.00
75	T	Styrene	-1.0000	0.3124	0.0	100	-0.01
76	P	Bromoform	-1.0000	0.7387	0.0	100	-0.01
77	T	Isopropylbenzene	-1.0000	0.3213	0.0	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	-1.0000	0.2712	0.0	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.1789	0.0	0	0.00
81	T	1,2,3-Trichloropropane	-1.0000	0.0832	0.0	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0947	0.0	100	-0.01
83	T	n-Propylbenzene	-1.0000	0.3701	0.0	100	0.00
84	T	Bromobenzene	0.3000	0.3189	-6.3	100	0.00
85	T	1,3,5-Trimethylbenzene	-1.0000	0.3445	0.0	100	0.00
86	T	2-Chlorotoluene	-1.0000	0.3699	0.0	100	0.00
87	T	4-Chlorotoluene	-1.0000	0.3541	0.0	100	0.00
88	T	a-Methylstyrene	-1.0000	0.2555	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.3170	0.0	100	-0.01
90	T	1,2,4-Trimethylbenzene	-1.0000	0.3378	0.0	100	-0.01
91	T	sec-Butylbenzene	-1.0000	0.3524	0.0	100	0.00
92	T	p-Isopropyltoluene	-1.0000	0.3580	0.0	100	0.00
93	T	1,3-Dichlorobenzene	-1.0000	0.3593	0.0	100	0.00
94	T	1,4-Dichlorobenzene	-1.0000	0.3611	0.0	100	-0.01
95	T	n-Butylbenzene	-1.0000	0.3794	0.0	100	-0.01
96	T	1,2-Dichlorobenzene	0.3000	0.3277	-9.2	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-20.58#
98	T	1,2,4-Trichlorobenzene	0.3000	0.3094	-3.1	100	0.00
99	T	Hexachlorobutadiene	-1.0000	0.3589	0.0	100	0.00
100	T	Naphthalene	-1.0000	0.2640	0.0	100	0.00
101	T	1,2,3-Trichlorobenzene	0.3000	0.3071	-2.4	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M142178.D 8260WTR.M Tue Sep 27 10:21:09 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142179.D Vial: 3
Acq On : 26 Sep 2016 14:35 Operator: TMB
Sample : WG584797-03 0.4ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:18:54 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.75	96	801317	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	607446	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	326055	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	0.00	111	0	0.0000 ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#	
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000 ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#	
58) Toluene-d8	13.02	98	823	0.0301 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.12%#	
80) p-Bromofluorobenzene	0.00	95	0	0.0000 ug/L	
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.00%#	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.95	85	4660	0.3454 ug/L #	74
3) Chloromethane	3.36	50	7746	0.4982 ug/L	98
4) Vinyl Chloride	3.56	62	4030	0.4234 ug/L	92
5) 1,3-Butadiene	3.60	54	4330	Below Cal	73
6) Bromomethane	4.38	94	1797	0.3244 ug/L	89
7) Chloroethane	4.53	64	2131	0.3544 ug/L #	58
8) Trichlorofluoromethane	4.99	101	5548	0.4125 ug/L #	93
10) Isoprene	5.55	67	4779	0.3822 ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	5.77	101	2731	0.3375 ug/L	86
13) Acetone	5.90	43	1669	Below Cal #	48
14) 1,1-Dichloroethene	6.09	61	5378	0.4031 ug/L	94
16) Dimethyl Sulfide	6.37	62	2967	0.3390 ug/L	96
18) Methyl acetate	6.67	43	2173	0.3861 ug/L #	66
19) Methylene Chloride	6.92	84	3845	0.4437 ug/L	94
20) Carbon Disulfide	6.95	76	10203	0.4041 ug/L	98
22) Methyl Tert Butyl Ether	7.16	73	7088	0.3642 ug/L #	73
23) trans-1,2-Dichloroethene	7.41	96	3170	0.3748 ug/L	92
24) n-Hexane	7.49	57	4830	0.4361 ug/L	80
26) Vinyl Acetate	8.06	43	5126	0.3308 ug/L #	78
27) 1,1-Dichloroethane	8.08	63	6232	0.3984 ug/L	86
29) 2-Butanone	8.72	43	1578	0.5356 ug/L #	57
31) 2,2-Dichloropropane	8.93	77	4342	0.3801 ug/L #	66
32) cis-1,2-Dichloroethene	9.01	96	3650	0.3905 ug/L	85
33) Chloroform	9.25	83	6142	0.4076 ug/L	87
35) Bromochloromethane	9.50	130	1987	0.3472 ug/L	99
36) Tetrahydrofuran	9.54	42	3367	1.5743 ug/L #	63
38) 1,1,1-Trichloroethane	9.83	97	4874	0.3732 ug/L	88
39) Cyclohexane	9.86	56	5981	0.4185 ug/L	94
40) 1,1-Dichloropropene	10.05	75	4011	0.3595 ug/L	88
42) Carbon Tetrachloride	10.22	117	4281	0.3560 ug/L #	92
45) 1,2-Dichloroethane	10.43	62	3923	0.3577 ug/L #	91
46) Benzene	10.46	78	13622	0.4211 ug/L	90
47) Trichloroethene	11.32	130	3655	0.3844 ug/L	95
48) Methylcyclohexane	11.41	83	4797	0.3838 ug/L	96
49) 1,2-Dichloropropane	11.57	63	3089	0.3653 ug/L	83
51) Bromodichloromethane	11.91	83	4136	0.3716 ug/L	95
52) Dibromomethane	12.01	93	1631	0.3478 ug/L	93
53) 2-Chloroethyl Vinyl Ether	12.29	63	671	0.1707 ug/L #	41
55) cis-1,3-Dichloropropene	12.66	75	4257	0.3419 ug/L #	87
56) Dimethyl Disulfide	12.95	79	2125	0.2799 ug/L #	47

(#) = qualifier out of range (m) = manual integration

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142179.D Vial: 3
Acq On : 26 Sep 2016 14:35 Operator: TMB
Sample : WG584797-03 0.4ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:18:54 2016 Quant Results File: 8260WTR.RES

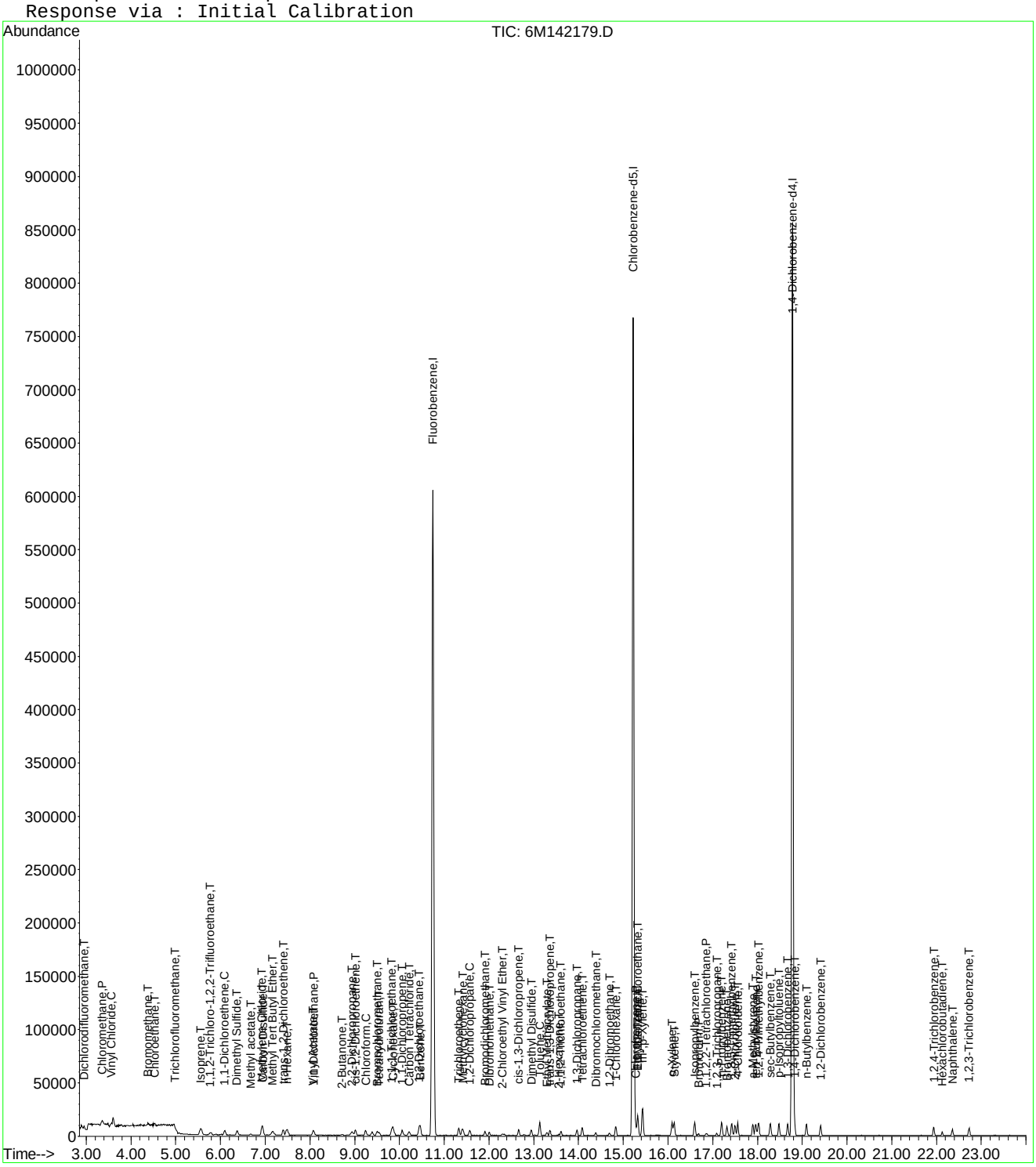
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
59)	Toluene	13.14	91	13511	0.4106	ug/L		98
60)	Ethyl Methacrylate	13.30	69	2208	0.2787	ug/L		72
62)	trans-1,3-Dichloropropene	13.36	75	3713	0.3439	ug/L		98
63)	1,1,2-Trichloroethane	13.60	97	2207	0.3595	ug/L		95
64)	2-Hexanone	13.56	43	1390	0.3093	ug/L	#	51
65)	1,3-Dichloropropane	13.97	76	3455	0.3361	ug/L		73
66)	Tetrachloroethene	14.09	166	3686	0.3981	ug/L		89
67)	Dibromochloromethane	14.39	129	2910	0.3470	ug/L		77
68)	1,2-Dibromoethane	14.69	107	2202	0.3420	ug/L		95
69)	1-Chlorohexane	14.83	91	3696	0.3551	ug/L		91
70)	Chlorobenzene	15.28	112	9138	0.3889	ug/L		86
71)	1,1,1,2-Tetrachloroethane	15.32	131	2861	0.3254	ug/L		91
72)	Ethylbenzene	15.32	106	4737	0.3759	ug/L		98
73)	m-,p-Xylene	15.44	106	11602	0.7766	ug/L		100
74)	o-Xylene	16.09	106	5656	0.3811	ug/L		99
75)	Styrene	16.14	104	9243	0.3648	ug/L		98
76)	Bromoform	16.69	173	1379	0.8111	ug/L	#	66
77)	Isopropylbenzene	16.60	105	14297	0.3940	ug/L		95
79)	1,1,2,2-Tetrachloroethane	16.85	83	2551	0.3675	ug/L		84
81)	1,2,3-Trichloropropane	17.09	110	423	0.1995	ug/L	#	19
83)	n-Propylbenzene	17.19	91	16655	0.4233	ug/L	#	97
84)	Bromobenzene	17.31	156	3824	0.3766	ug/L		91
85)	1,3,5-Trimethylbenzene	17.42	105	11314	0.3882	ug/L		92
86)	2-Chlorotoluene	17.50	91	10704	0.4142	ug/L		93
87)	4-Chlorotoluene	17.56	91	10304	0.3992	ug/L		96
88)	a-Methylstyrene	17.90	118	5813	0.3301	ug/L		99
89)	tert-Butylbenzene	17.97	134	2370	0.3506	ug/L		72
90)	1,2,4-Trimethylbenzene	18.03	105	11900	0.3897	ug/L		96
91)	sec-Butylbenzene	18.28	105	14356	0.4119	ug/L		99
92)	p-Isopropyltoluene	18.48	119	12377	0.4007	ug/L		88
93)	1,3-Dichlorobenzene	18.67	146	7897	0.4075	ug/L		94
94)	1,4-Dichlorobenzene	18.84	146	7790	0.3999	ug/L		96
95)	n-Butylbenzene	19.10	91	10787	0.4041	ug/L		100
96)	1,2-Dichlorobenzene	19.41	146	7113	0.3910	ug/L		90
98)	1,2,4-Trichlorobenzene	21.94	180	5184	0.3907	ug/L		93
99)	Hexachlorobutadiene	22.12	225	1809	0.3661	ug/L	#	79
100)	Naphthalene	22.36	128	8498	0.3522	ug/L		98
101)	1,2,3-Trichlorobenzene	22.73	180	4365	0.3678	ug/L		93

(#) = qualifier out of range (m) = manual integration
6M142179.D 8260WTR.M Tue Sep 27 10:18:58 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142179.D Vial: 3
Acq On : 26 Sep 2016 14:35 Operator: TMB
Sample : WG584797-03 0.4ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:18 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142179.D Vial: 3
Acq On : 26 Sep 2016 14:35 Operator: TMB
Sample : WG584797-03 0.4ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	-1.0000	0.3454	0.0	100	0.00
3	P	Chloromethane	-1.0000	0.4982	0.0	100	0.00
4	C	Vinyl Chloride	0.4000	0.4234	-5.9	100	0.02
5	T	1,3-Butadiene	-1.0000	-4.2195	0.0	0	0.02
6	T	Bromomethane	-1.0000	0.3244	0.0	100	0.00
7	T	Chloroethane	-1.0000	0.3544	0.0	100	0.02
8	T	Trichlorofluoromethane	0.4000	0.4125	-3.1	100	0.00
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.53#
10	T	Isoprene	-1.0000	0.3822	0.0	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-5.78#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.3375	0.0	100	0.00
13	T	Acetone	-1.0000	-1.4198	0.0	0	0.00
14	C	1,1-Dichloroethene	0.4000	0.4032	-0.8	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.26#
16	T	Dimethyl Sulfide	-1.0000	0.3390	0.0	100	0.00
17	T	Iodomethane	-1.0000	0.0000	0.0	0	-6.63#
18	T	Methyl acetate	-1.0000	0.3861	0.0	100	0.00
19	T	Methylene Chloride	-1.0000	0.4437	0.0	100	0.00
20	T	Carbon Disulfide	-1.0000	0.4041	0.0	100	0.02
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.13#
22	T	Methyl Tert Butyl Ether	-1.0000	0.3642	0.0	100	0.00
23	T	trans-1,2-Dichloroethene	0.4000	0.3748	6.3	100	0.00
24	T	n-Hexane	-1.0000	0.4361	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-7.88#
26	T	Vinyl Acetate	-1.0000	0.3308	0.0	100	0.00
27	P	1,1-Dichloroethane	0.4000	0.3984	0.4	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.52#
29	T	2-Butanone	-1.0000	0.5356	0.0	100	0.00
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.84#
31	T	2,2-Dichloropropane	0.4000	0.3801	5.0	100	0.00
32	T	cis-1,2-Dichloroethene	0.4000	0.3905	2.4	100	0.00
33	C	Chloroform	0.4000	0.4076	-1.9	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.39#
35	T	Bromochloromethane	0.4000	0.3472	13.2	100	0.00
36	T	Tetrahydrofuran	-1.0000	1.5743	0.0	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.57#
38	T	1,1,1-Trichloroethane	0.4000	0.3732	6.7	100	0.00
39	T	Cyclohexane	-1.0000	0.4185	0.0	100	0.00
40	T	1,1-Dichloropropene	-1.0000	0.3595	0.0	100	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.20#
42	T	Carbon Tetrachloride	0.4000	0.3560	11.0	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.29#
44		Heptane	-1.0000	0.0000	0.0	0	-10.20#
45	T	1,2-Dichloroethane	0.4000	0.3577	10.6	100	0.00
46	T	Benzene	0.4000	0.4211	-5.3	100	0.00
47	T	Trichloroethene	0.4000	0.3844	3.9	100	0.00
48	T	Methylcyclohexane	-1.0000	0.3838	0.0	100	0.00
49	C	1,2-Dichloropropane	0.4000	0.3653	8.7	100	0.00
50	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.92#
51	T	Bromodichloromethane	0.4000	0.3716	7.1	100	0.00
52	T	Dibromomethane	0.4000	0.3478	13.0	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.1707	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.33#

(#) = Out of Range
6M142179.D 8260WTR.M Tue Sep 27 10:21:24 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142179.D Vial: 3
Acq On : 26 Sep 2016 14:35 Operator: TMB
Sample : WG584797-03 0.4ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.4000	0.3419	14.5	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.2799	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0301	0.0	0	0.00
59	C	Toluene	0.4000	0.4107	-2.7	100	0.00
60	T	Ethyl Methacrylate	-1.0000	0.2787	0.0	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62	T	trans-1,3-Dichloropropene	-1.0000	0.3439	0.0	100	0.00
63	T	1,1,2-Trichloroethane	0.4000	0.3595	10.1	100	-0.01
64	T	2-Hexanone	-1.0000	0.3093	0.0	100	-0.01
65	T	1,3-Dichloropropane	0.4000	0.3361	16.0	100	0.00
66	T	Tetrachloroethene	0.4000	0.3981	0.5	100	0.00
67	T	Dibromochloromethane	0.4000	0.3470	13.2	100	0.00
68	T	1,2-Dibromoethane	0.4000	0.3420	14.5	100	0.00
69	T	1-Chlorohexane	0.4000	0.3552	11.2	100	0.00
70	P	Chlorobenzene	0.4000	0.3889	2.8	100	0.00
71	T	1,1,1,2-Tetrachloroethane	0.4000	0.3254	18.7	100	0.00
72	C	Ethylbenzene	0.4000	0.3759	6.0	100	0.00
73	T	m-,p-Xylene	0.8000	0.7766	2.9	100	0.00
74	T	o-Xylene	-1.0000	0.3811	0.0	100	0.00
75	T	Styrene	0.4000	0.3648	8.8	100	0.00
76	P	Bromoform	-1.0000	0.8111	0.0	100	0.00
77	T	Isopropylbenzene	0.4000	0.3940	1.5	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4000	0.3675	8.1	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-17.00#
81	T	1,2,3-Trichloropropane	-1.0000	0.1995	0.0	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-17.16#
83	T	n-Propylbenzene	0.4000	0.4233	-5.8	100	0.00
84	T	Bromobenzene	0.4000	0.3766	5.9	100	0.00
85	T	1,3,5-Trimethylbenzene	0.4000	0.3882	3.0	100	-0.01
86	T	2-Chlorotoluene	0.4000	0.4142	-3.6	100	0.00
87	T	4-Chlorotoluene	0.4000	0.3992	0.2	100	0.00
88	T	a-Methylstyrene	-1.0000	0.3301	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.3506	0.0	100	0.00
90	T	1,2,4-Trimethylbenzene	-1.0000	0.3897	0.0	100	0.00
91	T	sec-Butylbenzene	-1.0000	0.4119	0.0	100	0.00
92	T	p-Isopropyltoluene	-1.0000	0.4007	0.0	100	0.00
93	T	1,3-Dichlorobenzene	0.4000	0.4075	-1.9	100	0.00
94	T	1,4-Dichlorobenzene	0.4000	0.4000	0.0	100	0.00
95	T	n-Butylbenzene	-1.0000	0.4041	0.0	100	0.00
96	T	1,2-Dichlorobenzene	0.4000	0.3910	2.3	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-20.58#
98	T	1,2,4-Trichlorobenzene	0.4000	0.3907	2.3	100	0.00
99	T	Hexachlorobutadiene	0.4000	0.3661	8.5	100	0.00
100	T	Naphthalene	0.4000	0.3522	11.9	100	0.00
101	T	1,2,3-Trichlorobenzene	0.4000	0.3678	8.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M142179.D 8260WTR.M Tue Sep 27 10:21:25 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142180.D Vial: 4
Acq On : 26 Sep 2016 15:07 Operator: TMB
Sample : WG584797-04 1ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:02 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.75	96	782986	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	600181	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	323891	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	3538	0.4372 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	1.76%#	
43) 1,2-Dichloroethane-d4	10.28	65	4172	0.5140 ug/L	-0.01
Spiked Amount 25.000	Range 80 - 120		Recovery =	2.04%#	
58) Toluene-d8	13.02	98	14131	0.5235 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.08%#	
80) p-Bromofluorobenzene	16.99	95	5736	0.5364 ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.16%#	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.94	85	12276	0.9313 ug/L	92
3) Chloromethane	3.36	50	17444	1.1482 ug/L	96
4) Vinyl Chloride	3.55	62	10178	1.0944 ug/L	93
5) 1,3-Butadiene	3.60	54	10772	Below Cal	91
6) Bromomethane	4.38	94	5772	1.0662 ug/L	94
7) Chloroethane	4.53	64	6114	1.0405 ug/L	81
8) Trichlorofluoromethane	4.99	101	12721	0.9680 ug/L	99
9) Diethyl ether	5.53	59	32874	5.0698 ug/L	96
10) Isoprene	5.56	67	12284	1.0055 ug/L	94
11) Acrolein	5.78	56	1913	2.1335 ug/L	79
12) 1,1,2-Trichloro-1,2,2-Trif	5.79	101	7622	0.9640 ug/L #	74
13) Acetone	5.89	43	3182	Below Cal #	48
14) 1,1-Dichloroethene	6.08	61	13140	1.0081 ug/L	90
15) Tert-Butyl Alcohol	6.24	59	4117	9.3387 ug/L #	75
16) Dimethyl Sulfide	6.37	62	7862	0.9192 ug/L	95
17) Iodomethane	6.63	142	1973	1.4199 ug/L #	49
18) Methyl acetate	6.67	43	5652	1.0278 ug/L #	71
19) Methylene Chloride	6.92	84	8611	1.0169 ug/L	94
20) Carbon Disulfide	6.94	76	25590	1.0373 ug/L	99
21) Acrylonitrile	7.14	53	5628	2.2931 ug/L	86
22) Methyl Tert Butyl Ether	7.17	73	18820	0.9895 ug/L	90
23) trans-1,2-Dichloroethene	7.40	96	8152	0.9863 ug/L	92
24) n-Hexane	7.48	57	11257	1.0402 ug/L	84
25) Diisopropyl ether	7.88	45	165212	5.3660 ug/L	98
26) Vinyl Acetate	8.08	43	13433	0.8871 ug/L	96
27) 1,1-Dichloroethane	8.08	63	15094	0.9876 ug/L	96
28) Ethyl-Tert-Butyl ether	8.51	59	123140	5.0661 ug/L	96
29) 2-Butanone	8.72	43	3309	1.1494 ug/L #	57
30) Propionitrile	8.83	54	3541	4.5866 ug/L #	56
31) 2,2-Dichloropropane	8.94	77	11006	0.9859 ug/L	73
32) cis-1,2-Dichloroethene	9.01	96	8779	0.9611 ug/L	98
33) Chloroform	9.24	83	14703	0.9987 ug/L	95
34) 1-Bromopropane	9.38	122	1173	0.7284 ug/L	98
35) Bromochloromethane	9.49	130	5347	0.9562 ug/L	96
36) Tetrahydrofuran	9.54	42	12913	6.1792 ug/L	91
38) 1,1,1-Trichloroethane	9.83	97	12778	1.0014 ug/L	94
39) Cyclohexane	9.85	56	14243	1.0200 ug/L	90
40) 1,1-Dichloropropene	10.06	75	11219	1.0291 ug/L	98
41) Tert-Amyl-Methyl ether	10.20	73	91758	4.9121 ug/L	91
42) Carbon Tetrachloride	10.21	117	11065	0.9416 ug/L	97

(#) = qualifier out of range (m) = manual integration
6M142180.D 8260WTR.M Tue Sep 27 10:19:06 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142180.D Vial: 4
Acq On : 26 Sep 2016 15:07 Operator: TMB
Sample : WG584797-04 1ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:02 2016 Quant Results File: 8260WTR.RES

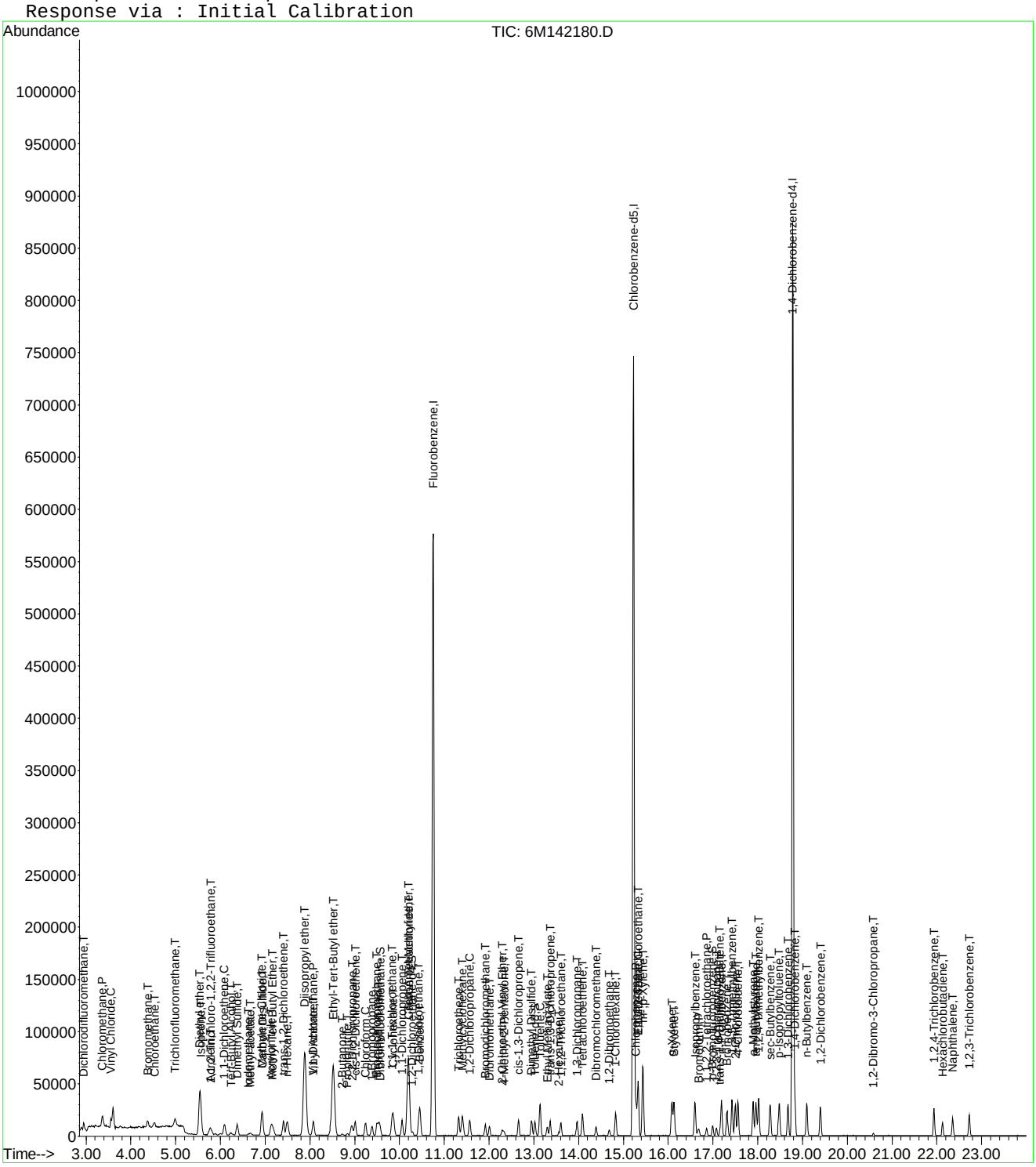
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	1,2-Dichloroethane	10.42	62	10728	1.0012 ug/L		94
46)	Benzene	10.45	78	32468	1.0271 ug/L		94
47)	Trichloroethene	11.32	130	9213	0.9916 ug/L		91
48)	Methylcyclohexane	11.40	83	12743	1.0434 ug/L		91
49)	1,2-Dichloropropane	11.57	63	8005	0.9689 ug/L		97
51)	Bromodichloromethane	11.91	83	10396	0.9559 ug/L		97
52)	Dibromomethane	12.01	93	4227	0.9226 ug/L		92
53)	2-Chloroethyl Vinyl Ether	12.29	63	2950	0.7678 ug/L		82
54)	4-Methyl-2-Pentanone	12.33	58	1782	0.7896 ug/L	#	55
55)	cis-1,3-Dichloropropene	12.66	75	11306	0.9294 ug/L		94
56)	Dimethyl Disulfide	12.95	79	5860	0.7898 ug/L		86
59)	Toluene	13.14	91	34827	1.0713 ug/L		95
60)	Ethyl Methacrylate	13.30	69	6568	0.8389 ug/L		87
62)	trans-1,3-Dichloropropene	13.36	75	9504	0.8910 ug/L		99
63)	1,1,2-Trichloroethane	13.61	97	5877	0.9688 ug/L		95
64)	2-Hexanone	13.56	43	4224	0.9512 ug/L		80
65)	1,3-Dichloropropane	13.97	76	10541	1.0377 ug/L		95
66)	Tetrachloroethene	14.08	166	8843	0.9667 ug/L		99
67)	Dibromochloromethane	14.39	129	7482	0.9030 ug/L		99
68)	1,2-Dibromoethane	14.68	107	6247	0.9821 ug/L		95
69)	1-Chlorohexane	14.82	91	10696	1.0402 ug/L		88
70)	Chlorobenzene	15.27	112	23778	1.0242 ug/L		86
71)	1,1,1,2-Tetrachloroethane	15.33	131	8342	0.9602 ug/L		94
72)	Ethylbenzene	15.33	106	12184	0.9785 ug/L		95
73)	m-,p-Xylene	15.44	106	29898	2.0255 ug/L		94
74)	o-Xylene	16.09	106	13989	0.9541 ug/L		97
75)	Styrene	16.13	104	24009	0.9591 ug/L		98
76)	Bromoform	16.68	173	4221	1.2755 ug/L		91
77)	Isopropylbenzene	16.60	105	36710	1.0240 ug/L		99
79)	1,1,2,2-Tetrachloroethane	16.86	83	6724	0.9751 ug/L		97
81)	1,2,3-Trichloropropane	17.08	110	1935	0.9186 ug/L		84
82)	trans-1,4-Dichloro-2-Buten	17.15	53	1483	0.7258 ug/L		94
83)	n-Propylbenzene	17.19	91	42493	1.0872 ug/L		99
84)	Bromobenzene	17.32	156	9964	0.9878 ug/L		96
85)	1,3,5-Trimethylbenzene	17.42	105	30352	1.0483 ug/L		100
86)	2-Chlorotoluene	17.50	91	26246	1.0224 ug/L		94
87)	4-Chlorotoluene	17.55	91	28439	1.1091 ug/L		96
88)	a-Methylstyrene	17.90	118	15511	0.8868 ug/L		96
89)	tert-Butylbenzene	17.96	134	6591	0.9814 ug/L		78
90)	1,2,4-Trimethylbenzene	18.02	105	31103	1.0254 ug/L		99
91)	sec-Butylbenzene	18.29	105	36520	1.0549 ug/L		99
92)	p-Isopropyltoluene	18.48	119	30595	0.9971 ug/L		98
93)	1,3-Dichlorobenzene	18.67	146	19228	0.9987 ug/L		97
94)	1,4-Dichlorobenzene	18.83	146	20155	1.0417 ug/L		96
95)	n-Butylbenzene	19.09	91	26865	1.0130 ug/L		99
96)	1,2-Dichlorobenzene	19.41	146	18823	1.0415 ug/L		97
97)	1,2-Dibromo-3-Chloropropan	20.58	75	740	0.6271 ug/L		74
98)	1,2,4-Trichlorobenzene	21.93	180	13079	0.9923 ug/L		98
99)	Hexachlorobutadiene	22.13	225	5112	1.0414 ug/L		93
100)	Naphthalene	22.35	128	21889	0.9133 ug/L		97
101)	1,2,3-Trichlorobenzene	22.73	180	11454	0.9715 ug/L		96

(#) = qualifier out of range (m) = manual integration
6M142180.D 8260WTR.M Tue Sep 27 10:19:07 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142180.D Vial: 4
Acq On : 26 Sep 2016 15:07 Operator: TMB
Sample : WG584797-04 1ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142180.D Vial: 4
Acq On : 26 Sep 2016 15:07 Operator: TMB
Sample : WG584797-04 1ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	1.0000	0.9313	6.9	100	0.00
3	P	Chloromethane	1.0000	1.1482	-14.8	100	0.00
4	C	Vinyl Chloride	1.0000	1.0944	-9.4	100	0.00
5	T	1,3-Butadiene	-1.0000	-2.7803	0.0	0	0.02
6	T	Bromomethane	1.0000	1.0662	-6.6	100	0.00
7	T	Chloroethane	1.0000	1.0405	-4.1	100	0.02
8	T	Trichlorofluoromethane	1.0000	0.9680	3.2	100	0.00
9	T	Diethyl ether	5.0000	5.0698	-1.4	100	0.00
10	T	Isoprene	-1.0000	1.0055	0.0	100	0.02
11	T	Acrolein	-1.0000	2.1335	0.0	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	0.9640	3.6	100	0.02
13	T	Acetone	-1.0000	-0.5185	0.0	0	0.00
14	C	1,1-Dichloroethene	1.0000	1.0081	-0.8	100	0.00
15	T	Tert-Butyl Alcohol	10.0000	9.3386	6.6	100	-0.02
16	T	Dimethyl Sulfide	-1.0000	0.9192	0.0	100	0.00
17	T	Iodomethane	1.0000	1.4199	-42.0#	100	0.00
18	T	Methyl acetate	-1.0000	1.0278	0.0	100	0.00
19	T	Methylene Chloride	1.0000	1.0169	-1.7	100	0.00
20	T	Carbon Disulfide	1.0000	1.0374	-3.7	100	0.00
21	T	Acrylonitrile	2.5000	2.2931	8.3	100	0.00
22	T	Methyl Tert Butyl Ether	1.0000	0.9895	1.0	100	0.00
23	T	trans-1,2-Dichloroethene	1.0000	0.9863	1.4	100	0.00
24	T	n-Hexane	-1.0000	1.0402	0.0	100	0.00
25	T	Diisopropyl ether	5.0000	5.3660	-7.3	100	0.00
26	T	Vinyl Acetate	-1.0000	0.8871	0.0	100	0.00
27	P	1,1-Dichloroethane	1.0000	0.9876	1.2	100	0.00
28	T	Ethyl-Tert-Butyl ether	5.0000	5.0661	-1.3	100	0.00
29	T	2-Butanone	-1.0000	1.1494	0.0	100	0.00
30	T	Propionitrile	5.0000	4.5866	8.3	100	-0.01
31	T	2,2-Dichloropropane	1.0000	0.9859	1.4	100	0.00
32	T	cis-1,2-Dichloroethene	1.0000	0.9611	3.9	100	0.00
33	C	Chloroform	1.0000	0.9987	0.1	100	0.00
34		1-Bromopropane	1.0000	0.7284	27.2#	100	-0.01
35	T	Bromochloromethane	1.0000	0.9562	4.4	100	0.00
36	T	Tetrahydrofuran	5.0000	6.1792	-23.6#	100	0.00
37	S	Dibromofluoromethane	0.5000	0.4372	12.6	100	0.00
38	T	1,1,1-Trichloroethane	1.0000	1.0014	-0.1	100	0.00
39	T	Cyclohexane	1.0000	1.0200	-2.0	100	0.00
40	T	1,1-Dichloropropene	1.0000	1.0291	-2.9	100	0.00
41	T	Tert-Amyl-Methyl ether	5.0000	4.9121	1.8	100	0.00
42	T	Carbon Tetrachloride	1.0000	0.9416	5.8	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.5140	0.0	0	-0.01
44		Heptane	-1.0000	0.0000	0.0	100	-0.01
45	T	1,2-Dichloroethane	1.0000	1.0012	-0.1	100	0.00
46	T	Benzene	1.0000	1.0271	-2.7	100	0.00
47	T	Trichloroethene	1.0000	0.9916	0.8	100	0.00
48	T	Methylcyclohexane	-1.0000	1.0434	0.0	100	0.00
49	C	1,2-Dichloropropane	1.0000	0.9689	3.1	100	0.00
50	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.92#
51	T	Bromodichloromethane	1.0000	0.9559	4.4	100	0.00
52	T	Dibromomethane	1.0000	0.9226	7.7	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.7678	0.0	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.7896	0.0	100	0.00

(#) = Out of Range
6M142180.D 8260WTR.M Tue Sep 27 10:21:38 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142180.D Vial: 4
Acq On : 26 Sep 2016 15:07 Operator: TMB
Sample : WG584797-04 1ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	1.0000	0.9294	7.1	100	0.00
56	T	Dimethyl Disulfide	-1.0000	0.7898	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	0.5000	0.5235	-4.7	100	0.00
59	C	Toluene	1.0000	1.0713	-7.1	100	0.00
60	T	Ethyl Methacrylate	1.0000	0.8389	16.1	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	100	0.00
62	T	trans-1,3-Dichloropropene	1.0000	0.8910	10.9	100	0.00
63	T	1,1,2-Trichloroethane	1.0000	0.9688	3.1	100	0.00
64	T	2-Hexanone	-1.0000	0.9512	0.0	100	-0.01
65	T	1,3-Dichloropropane	1.0000	1.0377	-3.8	100	0.00
66	T	Tetrachloroethene	1.0000	0.9667	3.3	100	0.00
67	T	Dibromochloromethane	1.0000	0.9030	9.7	100	0.00
68	T	1,2-Dibromoethane	1.0000	0.9821	1.8	100	0.00
69	T	1-Chlorohexane	1.0000	1.0402	-4.0	100	-0.01
70	P	Chlorobenzene	1.0000	1.0242	-2.4	100	-0.01
71	T	1,1,1,2-Tetrachloroethane	1.0000	0.9602	4.0	100	0.00
72	C	Ethylbenzene	1.0000	0.9785	2.2	100	0.00
73	T	m-,p-Xylene	2.0000	2.0255	-1.3	100	0.00
74	T	o-Xylene	1.0000	0.9541	4.6	100	0.00
75	T	Styrene	1.0000	0.9591	4.1	100	-0.01
76	P	Bromoform	1.0000	1.2755	-27.6#	100	-0.01
77	T	Isopropylbenzene	1.0000	1.0240	-2.4	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	-0.01
79	P	1,1,2,2-Tetrachloroethane	1.0000	0.9751	2.5	100	0.00
80	S	p-Bromofluorobenzene	0.5000	0.5364	-7.3	100	-0.01
81	T	1,2,3-Trichloropropane	1.0000	0.9186	8.1	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	1.0000	0.7258	27.4#	100	-0.01
83	T	n-Propylbenzene	1.0000	1.0872	-8.7	100	0.00
84	T	Bromobenzene	1.0000	0.9878	1.2	100	0.00
85	T	1,3,5-Trimethylbenzene	1.0000	1.0483	-4.8	100	-0.01
86	T	2-Chlorotoluene	1.0000	1.0224	-2.2	100	0.00
87	T	4-Chlorotoluene	1.0000	1.1091	-10.9	100	-0.01
88	T	a-Methylstyrene	-1.0000	0.8868	0.0	100	0.00
89	T	tert-Butylbenzene	1.0000	0.9814	1.9	100	-0.01
90	T	1,2,4-Trimethylbenzene	1.0000	1.0254	-2.5	100	-0.01
91	T	sec-Butylbenzene	1.0000	1.0549	-5.5	100	0.00
92	T	p-Isopropyltoluene	1.0000	0.9971	0.3	100	0.00
93	T	1,3-Dichlorobenzene	1.0000	0.9987	0.1	100	0.00
94	T	1,4-Dichlorobenzene	1.0000	1.0417	-4.2	100	-0.01
95	T	n-Butylbenzene	1.0000	1.0130	-1.3	100	-0.01
96	T	1,2-Dichlorobenzene	1.0000	1.0415	-4.2	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.6271	0.0	100	0.00
98	T	1,2,4-Trichlorobenzene	1.0000	0.9923	0.8	100	0.00
99	T	Hexachlorobutadiene	1.0000	1.0414	-4.1	100	0.00
100	T	Naphthalene	1.0000	0.9133	8.7	100	0.00
101	T	1,2,3-Trichlorobenzene	1.0000	0.9715	2.9	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M142180.D 8260WTR.M Tue Sep 27 10:21:39 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142181.D Vial: 5
Acq On : 26 Sep 2016 15:39 Operator: TMB
Sample : WG584797-05 2ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:10 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.75	96	778559	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	599429	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	323593	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	7422	0.9223	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	3.68%#		
43) 1,2-Dichloroethane-d4	10.29	65	8122	1.0063	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	4.04%#		
58) Toluene-d8	13.02	98	26688	0.9899	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	3.96%#		
80) p-Bromofluorobenzene	16.99	95	10483	0.9813	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	3.92%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.95	85	20719	1.5807	ug/L	91
3) Chloromethane	3.37	50	29354	1.9431	ug/L	100
4) Vinyl Chloride	3.55	62	18029	1.9496	ug/L	95
5) 1,3-Butadiene	3.60	54	16803	Below Cal		87
6) Bromomethane	4.38	94	9804	1.8213	ug/L	96
7) Chloroethane	4.53	64	10475	1.7929	ug/L	98
8) Trichlorofluoromethane	4.99	101	23101	1.7679	ug/L	99
9) Diethyl ether	5.53	59	155342	24.0931	ug/L	97
10) Isoprene	5.56	67	20637	1.6989	ug/L	92
11) Acrolein	5.78	56	10328	11.5839	ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	5.78	101	13402	1.7047	ug/L	99
13) Acetone	5.89	43	5440	0.8114	ug/L #	78
14) 1,1-Dichloroethene	6.09	61	23218	1.7913	ug/L	97
15) Tert-Butyl Alcohol	6.23	59	20167	46.0052	ug/L #	85
16) Dimethyl Sulfide	6.37	62	14907	1.7529	ug/L	98
17) Iodomethane	6.63	142	4720	1.7099	ug/L	82
18) Methyl acetate	6.68	43	10297	1.8832	ug/L #	88
19) Methylene Chloride	6.92	84	15650	1.8587	ug/L	92
20) Carbon Disulfide	6.94	76	43412	1.7698	ug/L	98
21) Acrylonitrile	7.14	53	27829	11.4030	ug/L	96
22) Methyl Tert Butyl Ether	7.17	73	34177	1.8072	ug/L	97
23) trans-1,2-Dichloroethene	7.41	96	14874	1.8098	ug/L	90
24) n-Hexane	7.49	57	18936	1.7598	ug/L	90
25) Diisopropyl ether	7.88	45	752154	24.5684	ug/L	97
26) Vinyl Acetate	8.07	43	26872	1.7847	ug/L	98
27) 1,1-Dichloroethane	8.08	63	28009	1.8431	ug/L	98
28) Ethyl-Tert-Butyl ether	8.51	59	577609	23.8985	ug/L	96
29) 2-Butanone	8.72	43	5931	2.0718	ug/L #	78
30) Propionitrile	8.84	54	18340	23.8906	ug/L	98
31) 2,2-Dichloropropane	8.94	77	19481	1.7550	ug/L	83
32) cis-1,2-Dichloroethene	9.01	96	16602	1.8279	ug/L	93
33) Chloroform	9.25	83	26406	1.8038	ug/L	99
34) 1-Bromopropane	9.38	122	2709	1.6919	ug/L	99
35) Bromochloromethane	9.50	130	10173	1.8296	ug/L	96
36) Tetrahydrofuran	9.53	42	50768	24.4319	ug/L	95
38) 1,1,1-Trichloroethane	9.83	97	22104	1.7421	ug/L	97
39) Cyclohexane	9.86	56	24742	1.7820	ug/L	94
40) 1,1-Dichloropropene	10.06	75	19497	1.7986	ug/L	99
41) Tert-Amyl-Methyl ether	10.20	73	430453	23.1748	ug/L	91
42) Carbon Tetrachloride	10.21	117	18731	1.6030	ug/L	98

(#) = qualifier out of range (m) = manual integration

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142181.D Vial: 5
Acq On : 26 Sep 2016 15:39 Operator: TMB
Sample : WG584797-05 2ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:10 2016 Quant Results File: 8260WTR.RES

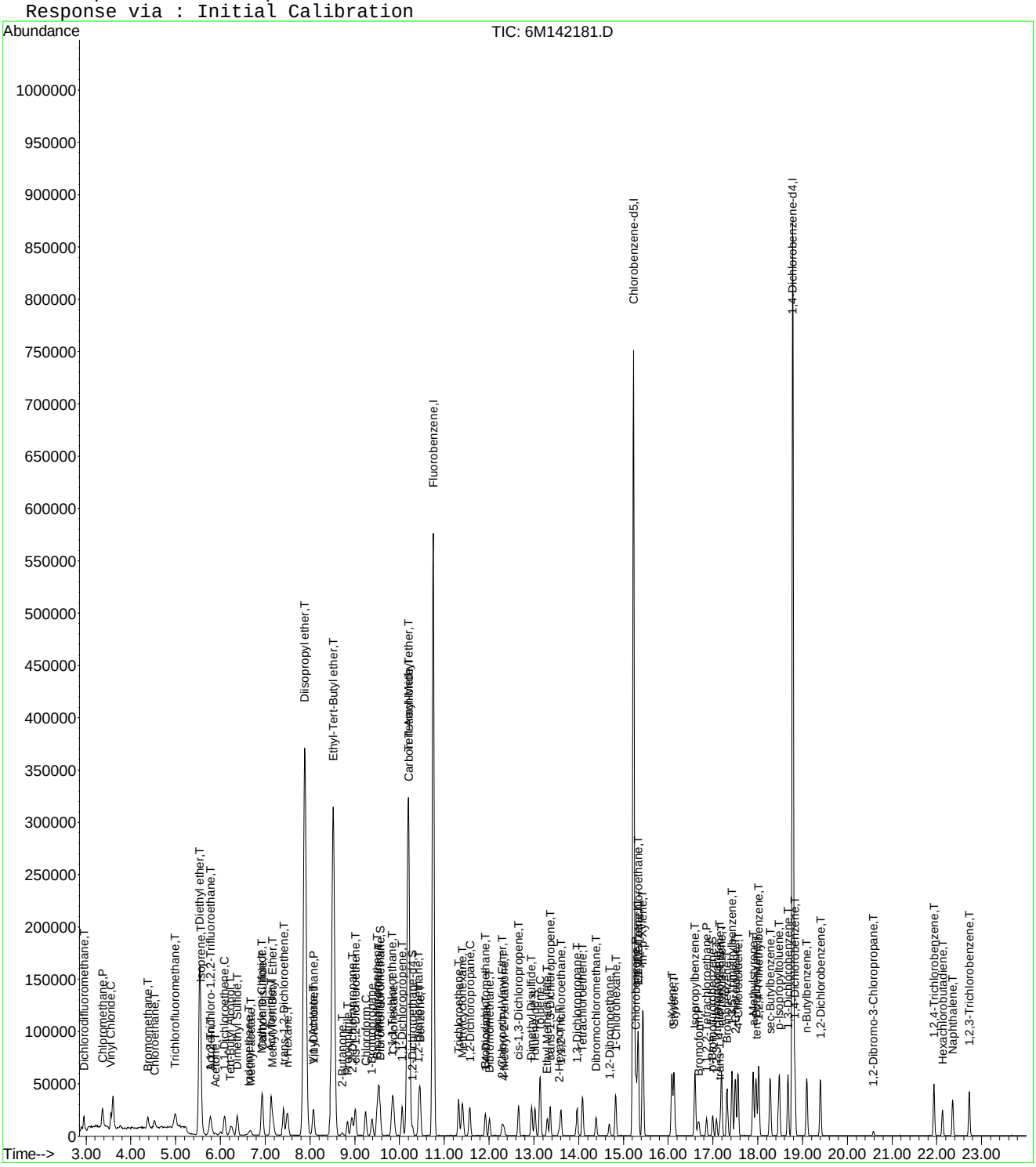
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	19891	1.8668	ug/L	96
46)	Benzene	10.46	78	59321	1.8873	ug/L	94
47)	Trichloroethene	11.32	130	16493	1.7852	ug/L	89
48)	Methylcyclohexane	11.40	83	20964	1.7262	ug/L	93
49)	1,2-Dichloropropane	11.58	63	15366	1.8705	ug/L	99
50)	1,4-Dioxane	11.92	88	1230	25.2526	ug/L	94
51)	Bromodichloromethane	11.91	83	18737	1.7326	ug/L	96
52)	Dibromomethane	12.01	93	8402	1.8442	ug/L	95
53)	2-Chloroethyl Vinyl Ether	12.29	63	6246	1.6349	ug/L	89
54)	4-Methyl-2-Pentanone	12.33	58	3125	1.3926	ug/L	98
55)	cis-1,3-Dichloropropene	12.66	75	20965	1.7332	ug/L	100
56)	Dimethyl Disulfide	12.95	79	11174	1.5146	ug/L	90
59)	Toluene	13.14	91	61410	1.8914	ug/L	99
60)	Ethyl Methacrylate	13.29	69	12597	1.6110	ug/L	91
62)	trans-1,3-Dichloropropene	13.36	75	18339	1.7214	ug/L	98
63)	1,1,2-Trichloroethane	13.61	97	11061	1.8256	ug/L	97
64)	2-Hexanone	13.57	43	7448	1.6794	ug/L	91
65)	1,3-Dichloropropane	13.97	76	19165	1.8890	ug/L	92
66)	Tetrachloroethene	14.08	166	16906	1.8504	ug/L	95
67)	Dibromochloromethane	14.39	129	14437	1.7446	ug/L	98
68)	1,2-Dibromoethane	14.69	107	12113	1.9067	ug/L	100
69)	1-Chlorohexane	14.83	91	17872	1.7403	ug/L	99
70)	Chlorobenzene	15.27	112	43882	1.8925	ug/L	97
71)	1,1,1,2-Tetrachloroethane	15.32	131	14816	1.7076	ug/L	98
72)	Ethylbenzene	15.32	106	22547	1.8129	ug/L	91
73)	m-,p-Xylene	15.43	106	54993	3.7303	ug/L	92
74)	o-Xylene	16.09	106	25617	1.7493	ug/L	96
75)	Styrene	16.13	104	44864	1.7945	ug/L	96
76)	Bromoform	16.68	173	7968	1.8860	ug/L	98
77)	Isopropylbenzene	16.59	105	65979	1.8427	ug/L	99
79)	1,1,2,2-Tetrachloroethane	16.86	83	12587	1.8270	ug/L	100
81)	1,2,3-Trichloropropane	17.08	110	3880	1.8437	ug/L	92
82)	trans-1,4-Dichloro-2-Buten	17.15	53	3465	1.6974	ug/L	86
83)	n-Propylbenzene	17.19	91	75709	1.9388	ug/L	98
84)	Bromobenzene	17.32	156	18278	1.8136	ug/L	93
85)	1,3,5-Trimethylbenzene	17.42	105	53611	1.8533	ug/L	98
86)	2-Chlorotoluene	17.50	91	46702	1.8210	ug/L	91
87)	4-Chlorotoluene	17.56	91	51161	1.9971	ug/L	99
88)	a-Methylstyrene	17.90	118	29308	1.6772	ug/L	95
89)	tert-Butylbenzene	17.97	134	11942	1.7798	ug/L	97
90)	1,2,4-Trimethylbenzene	18.02	105	56209	1.8549	ug/L	96
91)	sec-Butylbenzene	18.29	105	64062	1.8522	ug/L	100
92)	p-Isopropyltoluene	18.48	119	56114	1.8304	ug/L	98
93)	1,3-Dichlorobenzene	18.67	146	36320	1.8883	ug/L	98
94)	1,4-Dichlorobenzene	18.83	146	36261	1.8759	ug/L	86
95)	n-Butylbenzene	19.09	91	48240	1.8207	ug/L	99
96)	1,2-Dichlorobenzene	19.41	146	33361	1.8477	ug/L	100
97)	1,2-Dibromo-3-Chloropropan	20.58	75	1685	1.4293	ug/L	94
98)	1,2,4-Trichlorobenzene	21.93	180	23857	1.8117	ug/L	97
99)	Hexachlorobutadiene	22.13	225	8904	1.8156	ug/L	99
100)	Naphthalene	22.35	128	42589	1.7786	ug/L	97
101)	1,2,3-Trichlorobenzene	22.73	180	21394	1.8162	ug/L	97

(#) = qualifier out of range (m) = manual integration
6M142181.D 8260WTR.M Tue Sep 27 10:19:15 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142181.D Vial: 5
Acq On : 26 Sep 2016 15:39 Operator: TMB
Sample : WG584797-05 2ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142181.D Vial: 5
Acq On : 26 Sep 2016 15:39 Operator: TMB
Sample : WG584797-05 2ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	2.0000	1.5808	21.0#	100	0.00
3	P	Chloromethane	2.0000	1.9431	2.8	100	0.00
4	C	Vinyl Chloride	2.0000	1.9496	2.5	100	0.00
5	T	1,3-Butadiene	-1.0000	-1.4322	0.0	0	0.02
6	T	Bromomethane	2.0000	1.8214	8.9	100	0.00
7	T	Chloroethane	2.0000	1.7929	10.4	100	0.02
8	T	Trichlorofluoromethane	2.0000	1.7679	11.6	100	0.00
9	T	Diethyl ether	25.0000	24.0931	3.6	100	0.00
10	T	Isoprene	-1.0000	1.6989	0.0	100	0.02
11	T	Acrolein	12.5000	11.5839	7.3	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.7047	14.8	100	0.00
13	T	Acetone	-1.0000	0.8114	0.0	0	0.00
14	C	1,1-Dichloroethene	2.0000	1.7913	10.4	100	0.00
15	T	Tert-Butyl Alcohol	50.0000	46.0052	8.0	100	-0.03
16	T	Dimethyl Sulfide	-1.0000	1.7529	0.0	100	0.00
17	T	Iodomethane	2.0000	1.7099	14.5	100	0.00
18	T	Methyl acetate	-1.0000	1.8832	0.0	100	0.00
19	T	Methylene Chloride	2.0000	1.8587	7.1	100	0.00
20	T	Carbon Disulfide	2.0000	1.7698	11.5	100	0.00
21	T	Acrylonitrile	12.5000	11.4030	8.8	100	0.00
22	T	Methyl Tert Butyl Ether	2.0000	1.8072	9.6	100	0.00
23	T	trans-1,2-Dichloroethene	2.0000	1.8099	9.5	100	0.00
24	T	n-Hexane	-1.0000	1.7598	0.0	100	0.00
25	T	Diisopropyl ether	25.0000	24.5684	1.7	100	0.00
26	T	Vinyl Acetate	-1.0000	1.7847	0.0	100	0.00
27	P	1,1-Dichloroethane	2.0000	1.8431	7.8	100	0.00
28	T	Ethyl-Tert-Butyl ether	25.0000	23.8986	4.4	100	0.00
29	T	2-Butanone	-1.0000	2.0718	0.0	100	0.00
30	T	Propionitrile	25.0000	23.8906	4.4	100	0.00
31	T	2,2-Dichloropropane	2.0000	1.7550	12.3	100	0.00
32	T	cis-1,2-Dichloroethene	2.0000	1.8279	8.6	100	0.00
33	C	Chloroform	2.0000	1.8038	9.8	100	0.00
34		1-Bromopropane	2.0000	1.6919	15.4	100	-0.01
35	T	Bromochloromethane	2.0000	1.8296	8.5	100	0.00
36	T	Tetrahydrofuran	25.0000	24.4319	2.3	100	0.00
37	S	Dibromofluoromethane	1.0000	0.9223	7.8	100	0.00
38	T	1,1,1-Trichloroethane	2.0000	1.7421	12.9	100	0.00
39	T	Cyclohexane	2.0000	1.7820	10.9	100	0.00
40	T	1,1-Dichloropropene	2.0000	1.7986	10.1	100	0.00
41	T	Tert-Amyl-Methyl ether	25.0000	23.1748	7.3	100	0.00
42	T	Carbon Tetrachloride	2.0000	1.6030	19.9	100	0.00
43	S	1,2-Dichloroethane-d4	1.0000	1.0063	-0.6	100	0.00
44		Heptane	-1.0000	0.0000	0.0	100	0.00
45	T	1,2-Dichloroethane	2.0000	1.8668	6.7	100	0.00
46	T	Benzene	2.0000	1.8873	5.6	100	0.00
47	T	Trichloroethene	2.0000	1.7852	10.7	100	0.00
48	T	Methylcyclohexane	-1.0000	1.7262	0.0	100	0.00
49	C	1,2-Dichloropropane	2.0000	1.8705	6.5	100	0.00
50	T	1,4-Dioxane	-1.0000	25.2526	0.0	100	0.00
51	T	Bromodichloromethane	2.0000	1.7326	13.4	100	0.00
52	T	Dibromomethane	2.0000	1.8442	7.8	100	0.00
53	T	2-Chloroethyl Vinyl Ether	2.0000	1.6349	18.3	100	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	1.3926	0.0	100	0.00

(#) = Out of Range

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142181.D Vial: 5
Acq On : 26 Sep 2016 15:39 Operator: TMB
Sample : WG584797-05 2ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	2.0000	1.7332	13.3	100	0.00
56	T	Dimethyl Disulfide	-1.0000	1.5146	0.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	1.0000	0.9899	1.0	100	0.00
59	C	Toluene	2.0000	1.8914	5.4	100	0.00
60	T	Ethyl Methacrylate	2.0000	1.6110	19.4	100	-0.01
61		Paraldehyde	-1.0000	0.0000	0.0	100	-0.01
62	T	trans-1,3-Dichloropropene	2.0000	1.7214	13.9	100	0.00
63	T	1,1,2-Trichloroethane	2.0000	1.8256	8.7	100	0.00
64	T	2-Hexanone	-1.0000	1.6794	0.0	100	0.00
65	T	1,3-Dichloropropane	2.0000	1.8890	5.5	100	0.00
66	T	Tetrachloroethene	2.0000	1.8504	7.5	100	0.00
67	T	Dibromochloromethane	2.0000	1.7446	12.8	100	0.00
68	T	1,2-Dibromoethane	2.0000	1.9067	4.7	100	0.00
69	T	1-Chlorohexane	2.0000	1.7403	13.0	100	0.00
70	P	Chlorobenzene	2.0000	1.8925	5.4	100	-0.01
71	T	1,1,1,2-Tetrachloroethane	2.0000	1.7076	14.6	100	0.00
72	C	Ethylbenzene	2.0000	1.8129	9.4	100	0.00
73	T	m-,p-Xylene	4.0000	3.7302	6.7	100	-0.01
74	T	o-Xylene	2.0000	1.7493	12.5	100	0.00
75	T	Styrene	2.0000	1.7945	10.3	100	-0.01
76	P	Bromoform	2.0000	1.8860	5.7	100	-0.01
77	T	Isopropylbenzene	2.0000	1.8427	7.9	100	-0.01
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	-0.01
79	P	1,1,2,2-Tetrachloroethane	2.0000	1.8270	8.7	100	0.00
80	S	p-Bromofluorobenzene	1.0000	0.9813	1.9	100	-0.01
81	T	1,2,3-Trichloropropane	2.0000	1.8437	7.8	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	2.0000	1.6974	15.1	100	-0.01
83	T	n-Propylbenzene	2.0000	1.9388	3.1	100	0.00
84	T	Bromobenzene	2.0000	1.8136	9.3	100	0.00
85	T	1,3,5-Trimethylbenzene	2.0000	1.8533	7.3	100	-0.01
86	T	2-Chlorotoluene	2.0000	1.8210	9.0	100	0.00
87	T	4-Chlorotoluene	2.0000	1.9971	0.1	100	0.00
88	T	a-Methylstyrene	-1.0000	1.6772	0.0	100	0.00
89	T	tert-Butylbenzene	2.0000	1.7798	11.0	100	0.00
90	T	1,2,4-Trimethylbenzene	2.0000	1.8549	7.3	100	-0.01
91	T	sec-Butylbenzene	2.0000	1.8522	7.4	100	0.00
92	T	p-Isopropyltoluene	2.0000	1.8304	8.5	100	0.00
93	T	1,3-Dichlorobenzene	2.0000	1.8883	5.6	100	0.00
94	T	1,4-Dichlorobenzene	2.0000	1.8759	6.2	100	-0.01
95	T	n-Butylbenzene	2.0000	1.8207	9.0	100	-0.01
96	T	1,2-Dichlorobenzene	2.0000	1.8477	7.6	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	2.0000	1.4293	28.5#	100	0.00
98	T	1,2,4-Trichlorobenzene	2.0000	1.8117	9.4	100	0.00
99	T	Hexachlorobutadiene	2.0000	1.8156	9.2	100	0.00
100	T	Naphthalene	2.0000	1.7786	11.1	100	0.00
101	T	1,2,3-Trichlorobenzene	2.0000	1.8162	9.2	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M142181.D 8260WTR.M Tue Sep 27 10:21:52 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142182.D Vial: 6
Acq On : 26 Sep 2016 16:11 Operator: TMB
Sample : WG584797-06 5ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:19 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.75	96	773156	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	599407	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	328032	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	19865	2.4859	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 9.96%#			
43) 1,2-Dichloroethane-d4	10.29	65	20241	2.5253	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 10.12%#			
58) Toluene-d8	13.02	98	67410	2.5004	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 10.00%#			
80) p-Bromofluorobenzene	17.00	95	27209	2.5125	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 10.04%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.95	85	58214	4.4725	ug/L	97
3) Chloromethane	3.36	50	74965	4.9969	ug/L	99
4) Vinyl Chloride	3.55	62	45882	4.9963	ug/L	95
5) 1,3-Butadiene	3.59	54	37803	3.2731	ug/L	95
6) Bromomethane	4.38	94	24687	4.6183	ug/L	99
7) Chloroethane	4.53	64	28172	4.8555	ug/L	100
8) Trichlorofluoromethane	5.00	101	64446	4.9665	ug/L	98
9) Diethyl ether	5.53	59	317994	49.6646	ug/L	97
10) Isoprene	5.56	67	57046	4.7289	ug/L	96
11) Acrolein	5.77	56	21404	24.1745	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	5.76	101	38079	4.8774	ug/L	99
13) Acetone	5.89	43	12935	5.2438	ug/L	94
14) 1,1-Dichloroethene	6.09	61	61680	4.7921	ug/L	92
15) Tert-Butyl Alcohol	6.24	59	45903	105.4463	ug/L	88
16) Dimethyl Sulfide	6.37	62	40719	4.8215	ug/L	99
17) Iodomethane	6.63	142	21079	3.4456	ug/L	99
18) Methyl acetate	6.67	43	28699	5.2853	ug/L	94
19) Methylene Chloride	6.93	84	40660	4.8627	ug/L	91
20) Carbon Disulfide	6.94	76	120146	4.9323	ug/L	100
21) Acrylonitrile	7.13	53	57452	23.7057	ug/L	91
22) Methyl Tert Butyl Ether	7.16	73	92141	4.9063	ug/L	97
23) trans-1,2-Dichloroethene	7.40	96	40085	4.9116	ug/L	90
24) n-Hexane	7.49	57	53964	5.0501	ug/L	94
25) Diisopropyl ether	7.88	45	1515604	49.8517	ug/L	97
26) Vinyl Acetate	8.07	43	74250	4.9659	ug/L	100
27) 1,1-Dichloroethane	8.08	63	73340	4.8598	ug/L	99
28) Ethyl-Tert-Butyl ether	8.51	59	1191304	49.6346	ug/L	96
29) 2-Butanone	8.72	43	15948	5.6099	ug/L	92
30) Propionitrile	8.84	54	39152	51.3578	ug/L	100
31) 2,2-Dichloropropane	8.93	77	54127	4.9102	ug/L	86
32) cis-1,2-Dichloroethene	9.01	96	44714	4.9575	ug/L	100
33) Chloroform	9.25	83	70139	4.8246	ug/L	99
34) 1-Bromopropane	9.39	122	7358	4.6275	ug/L	87
35) Bromochloromethane	9.50	130	27082	4.9047	ug/L	98
36) Tetrahydrofuran	9.54	42	100087	48.5031	ug/L	96
38) 1,1,1-Trichloroethane	9.83	97	61232	4.8595	ug/L	95
39) Cyclohexane	9.86	56	67663	4.9073	ug/L	92
40) 1,1-Dichloropropene	10.05	75	52250	4.8539	ug/L	96
41) Tert-Amyl-Methyl ether	10.20	73	900486	48.8192	ug/L	93
42) Carbon Tetrachloride	10.21	117	55370	4.7717	ug/L	96

(#) = qualifier out of range (m) = manual integration
6M142182.D 8260WTR.M Tue Sep 27 10:19:22 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142182.D Vial: 6
Acq On : 26 Sep 2016 16:11 Operator: TMB
Sample : WG584797-06 5ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:19 2016 Quant Results File: 8260WTR.RES

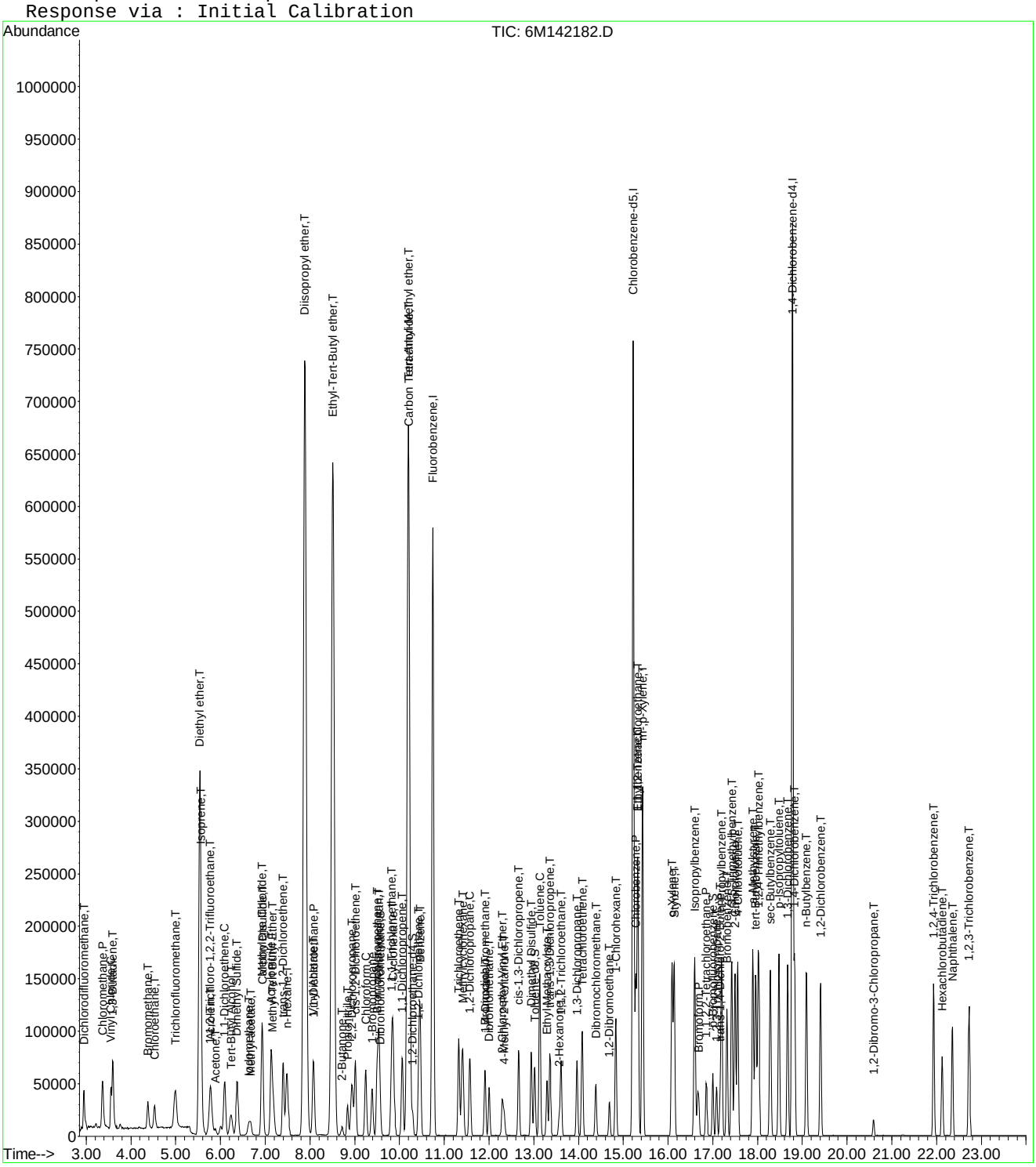
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	53277	5.0352	ug/L	97
46)	Benzene	10.46	78	153313	4.9116	ug/L	95
47)	Trichloroethene	11.32	130	44372	4.8363	ug/L	90
48)	Methylcyclohexane	11.41	83	60030	4.9775	ug/L	93
49)	1,2-Dichloropropane	11.56	63	40480	4.9620	ug/L	99
50)	1,4-Dioxane	11.92	88	4148	85.7559	ug/L	93
51)	Bromodichloromethane	11.91	83	52443	4.8833	ug/L	99
52)	Dibromomethane	12.00	93	22476	4.9678	ug/L	99
53)	2-Chloroethyl Vinyl Ether	12.29	63	17633	4.6478	ug/L	96
54)	4-Methyl-2-Pentanone	12.33	58	10361	4.6494	ug/L	99
55)	cis-1,3-Dichloropropene	12.66	75	59375	4.9430	ug/L	97
56)	Dimethyl Disulfide	12.94	79	31502	4.2999	ug/L	95
59)	Toluene	13.14	91	161527	4.9752	ug/L	100
60)	Ethyl Methacrylate	13.30	69	37501	4.7961	ug/L	95
62)	trans-1,3-Dichloropropene	13.36	75	50605	4.7503	ug/L	96
63)	1,1,2-Trichloroethane	13.61	97	30781	5.0806	ug/L	98
64)	2-Hexanone	13.57	43	22011	4.9632	ug/L	94
65)	1,3-Dichloropropane	13.96	76	51991	5.1248	ug/L	98
66)	Tetrachloroethene	14.09	166	45066	4.9327	ug/L	97
67)	Dibromochloromethane	14.39	129	40061	4.8413	ug/L	98
68)	1,2-Dibromoethane	14.68	107	31455	4.9515	ug/L	99
69)	1-Chlorohexane	14.83	91	49799	4.8494	ug/L	94
70)	Chlorobenzene	15.28	112	115190	4.9680	ug/L	94
71)	1,1,1,2-Tetrachloroethane	15.32	131	40731	4.6946	ug/L	97
72)	Ethylbenzene	15.32	106	59449	4.7803	ug/L	94
73)	m-,p-Xylene	15.43	106	145970	9.9017	ug/L	91
74)	o-Xylene	16.09	106	70598	4.8212	ug/L	93
75)	Styrene	16.14	104	121381	4.8552	ug/L	94
76)	Bromoform	16.69	173	23594	4.4282	ug/L	97
77)	Isopropylbenzene	16.60	105	179041	5.0006	ug/L	98
79)	1,1,2,2-Tetrachloroethane	16.85	83	35910	5.1417	ug/L	96
81)	1,2,3-Trichloropropane	17.08	110	10622	4.9790	ug/L	99
82)	trans-1,4-Dichloro-2-Buten	17.16	53	10107	4.8840	ug/L	99
83)	n-Propylbenzene	17.19	91	202897	5.1255	ug/L	97
84)	Bromobenzene	17.31	156	50229	4.9165	ug/L	91
85)	1,3,5-Trimethylbenzene	17.43	105	147243	5.0211	ug/L	98
86)	2-Chlorotoluene	17.50	91	134365	5.1683	ug/L	96
87)	4-Chlorotoluene	17.56	91	125952	4.8500	ug/L	95
88)	a-Methylstyrene	17.90	118	83466	4.7118	ug/L	93
89)	tert-Butylbenzene	17.96	134	32891	4.8357	ug/L	99
90)	1,2,4-Trimethylbenzene	18.03	105	153518	4.9975	ug/L	95
91)	sec-Butylbenzene	18.28	105	179635	5.1233	ug/L	99
92)	p-Isopropyltoluene	18.48	119	157319	5.0622	ug/L	100
93)	1,3-Dichlorobenzene	18.67	146	96965	4.9729	ug/L	99
94)	1,4-Dichlorobenzene	18.82	146	99419	5.0736	ug/L	97
95)	n-Butylbenzene	19.09	91	134804	5.0191	ug/L	96
96)	1,2-Dichlorobenzene	19.41	146	90228	4.9296	ug/L	99
97)	1,2-Dibromo-3-Chloropropan	20.59	75	5625	4.7068	ug/L	84
98)	1,2,4-Trichlorobenzene	21.93	180	65482	4.9055	ug/L	98
99)	Hexachlorobutadiene	22.12	225	24631	4.9544	ug/L	98
100)	Naphthalene	22.36	128	123435	5.0853	ug/L	99
101)	1,2,3-Trichlorobenzene	22.73	180	58533	4.9018	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M142182.D 8260WTR.M Tue Sep 27 10:19:23 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142182.D Vial: 6
Acq On : 26 Sep 2016 16:11 Operator: TMB
Sample : WG584797-06 5ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142182.D Vial: 6
Acq On : 26 Sep 2016 16:11 Operator: TMB
Sample : WG584797-06 5ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Dichlorodifluoromethane	5.0000	4.4725	10.6	100	0.00
3	P	Chloromethane	5.0000	4.9969	0.1	100	0.00
4	C	Vinyl Chloride	5.0000	4.9963	0.1	100	0.00
5	T	1,3-Butadiene	5.0000	3.2731	34.5#	100	0.00
6	T	Bromomethane	5.0000	4.6183	7.6	100	0.00
7	T	Chloroethane	5.0000	4.8555	2.9	100	0.02
8	T	Trichlorofluoromethane	5.0000	4.9665	0.7	100	0.02
9	T	Diethyl ether	50.0000	49.6646	0.7	100	0.00
10	T	Isoprene	5.0000	4.7289	5.4	100	0.02
11	T	Acrolein	25.0000	24.1745	3.3	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	4.8774	2.5	100	0.00
13	T	Acetone	5.0000	5.2438	-4.9	100	0.00
14	C	1,1-Dichloroethene	5.0000	4.7921	4.2	100	0.00
15	T	Tert-Butyl Alcohol	100.0000	105.4463	-5.4	100	-0.01
16	T	Dimethyl Sulfide	5.0000	4.8215	3.6	100	0.00
17	T	Iodomethane	5.0000	3.4456	31.1#	100	0.00
18	T	Methyl acetate	5.0000	5.2853	-5.7	100	0.00
19	T	Methylene Chloride	5.0000	4.8627	2.7	100	0.00
20	T	Carbon Disulfide	5.0000	4.9323	1.4	100	0.00
21	T	Acrylonitrile	25.0000	23.7057	5.2	100	0.00
22	T	Methyl Tert Butyl Ether	5.0000	4.9063	1.9	100	0.00
23	T	trans-1,2-Dichloroethene	5.0000	4.9116	1.8	100	0.00
24	T	n-Hexane	5.0000	5.0501	-1.0	100	0.00
25	T	Diisopropyl ether	50.0000	49.8517	0.3	100	0.00
26	T	Vinyl Acetate	5.0000	4.9659	0.7	100	0.00
27	P	1,1-Dichloroethane	5.0000	4.8598	2.8	100	0.00
28	T	Ethyl-Tert-Butyl ether	50.0000	49.6346	0.7	100	0.00
29	T	2-Butanone	5.0000	5.6099	-12.2	100	0.00
30	T	Propionitrile	50.0000	51.3578	-2.7	100	0.00
31	T	2,2-Dichloropropane	5.0000	4.9102	1.8	100	0.00
32	T	cis-1,2-Dichloroethene	5.0000	4.9575	0.9	100	0.00
33	C	Chloroform	5.0000	4.8246	3.5	100	0.00
34		1-Bromopropane	5.0000	4.6274	7.5	100	0.00
35	T	Bromochloromethane	5.0000	4.9047	1.9	100	0.00
36	T	Tetrahydrofuran	50.0000	48.5031	3.0	100	0.00
37	S	Dibromofluoromethane	2.5000	2.4859	0.6	100	0.00
38	T	1,1,1-Trichloroethane	5.0000	4.8595	2.8	100	0.00
39	T	Cyclohexane	5.0000	4.9073	1.9	100	0.00
40	T	1,1-Dichloropropene	5.0000	4.8539	2.9	100	0.00
41	T	Tert-Amyl-Methyl ether	50.0000	48.8192	2.4	100	0.00
42	T	Carbon Tetrachloride	5.0000	4.7717	4.6	100	0.00
43	S	1,2-Dichloroethane-d4	2.5000	2.5254	-1.0	100	0.00
44		Heptane	-1.0000	0.0000	0.0	100	0.00
45	T	1,2-Dichloroethane	5.0000	5.0352	-0.7	100	0.00
46	T	Benzene	5.0000	4.9116	1.8	100	0.00
47	T	Trichloroethene	5.0000	4.8363	3.3	100	0.00
48	T	Methylcyclohexane	5.0000	4.9775	0.4	100	0.00
49	C	1,2-Dichloropropane	5.0000	4.9619	0.8	100	0.00
50	T	1,4-Dioxane	100.0000	85.7559	14.2	100	0.00
51	T	Bromodichloromethane	5.0000	4.8833	2.3	100	0.00
52	T	Dibromomethane	5.0000	4.9678	0.6	100	0.00
53	T	2-Chloroethyl Vinyl Ether	5.0000	4.6478	7.0	100	0.00
54	T	4-Methyl-2-Pentanone	5.0000	4.6494	7.0	100	0.00

(#) = Out of Range
6M142182.D 8260WTR.M Tue Sep 27 10:22:05 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142182.D Vial: 6
Acq On : 26 Sep 2016 16:11 Operator: TMB
Sample : WG584797-06 5ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	5.0000	4.9429	1.1	100	0.00
56	T	Dimethyl Disulfide	5.0000	4.2999	14.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	2.5000	2.5004	-0.0	100	0.00
59	C	Toluene	5.0000	4.9752	0.5	100	0.00
60	T	Ethyl Methacrylate	5.0000	4.7961	4.1	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	100	0.00
62	T	trans-1,3-Dichloropropene	5.0000	4.7503	5.0	100	0.00
63	T	1,1,2-Trichloroethane	5.0000	5.0806	-1.6	100	0.00
64	T	2-Hexanone	5.0000	4.9632	0.7	100	0.00
65	T	1,3-Dichloropropane	5.0000	5.1248	-2.5	100	0.00
66	T	Tetrachloroethene	5.0000	4.9327	1.3	100	0.00
67	T	Dibromochloromethane	5.0000	4.8413	3.2	100	0.00
68	T	1,2-Dibromoethane	5.0000	4.9515	1.0	100	0.00
69	T	1-Chlorohexane	5.0000	4.8494	3.0	100	0.00
70	P	Chlorobenzene	5.0000	4.9680	0.6	100	0.00
71	T	1,1,1,2-Tetrachloroethane	5.0000	4.6946	6.1	100	0.00
72	C	Ethylbenzene	5.0000	4.7803	4.4	100	0.00
73	T	m-,p-Xylene	10.0000	9.9017	1.0	100	0.00
74	T	o-Xylene	5.0000	4.8212	3.6	100	0.00
75	T	Styrene	5.0000	4.8552	2.9	100	0.00
76	P	Bromoform	5.0000	4.4282	11.4	100	0.00
77	T	Isopropylbenzene	5.0000	5.0006	-0.0	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	5.0000	5.1417	-2.8	100	0.00
80	S	p-Bromofluorobenzene	2.5000	2.5125	-0.5	100	0.00
81	T	1,2,3-Trichloropropane	5.0000	4.9790	0.4	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	5.0000	4.8840	2.3	100	0.00
83	T	n-Propylbenzene	5.0000	5.1255	-2.5	100	0.00
84	T	Bromobenzene	5.0000	4.9165	1.7	100	0.00
85	T	1,3,5-Trimethylbenzene	5.0000	5.0211	-0.4	100	0.00
86	T	2-Chlorotoluene	5.0000	5.1682	-3.4	100	0.00
87	T	4-Chlorotoluene	5.0000	4.8500	3.0	100	0.00
88	T	a-Methylstyrene	5.0000	4.7118	5.8	100	0.00
89	T	tert-Butylbenzene	5.0000	4.8357	3.3	100	-0.01
90	T	1,2,4-Trimethylbenzene	5.0000	4.9975	0.1	100	0.00
91	T	sec-Butylbenzene	5.0000	5.1233	-2.5	100	0.00
92	T	p-Isopropyltoluene	5.0000	5.0622	-1.2	100	0.00
93	T	1,3-Dichlorobenzene	5.0000	4.9729	0.5	100	0.00
94	T	1,4-Dichlorobenzene	5.0000	5.0736	-1.5	100	-0.01
95	T	n-Butylbenzene	5.0000	5.0191	-0.4	100	-0.01
96	T	1,2-Dichlorobenzene	5.0000	4.9296	1.4	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	5.0000	4.7068	5.9	100	0.00
98	T	1,2,4-Trichlorobenzene	5.0000	4.9055	1.9	100	0.00
99	T	Hexachlorobutadiene	5.0000	4.9544	0.9	100	0.00
100	T	Naphthalene	5.0000	5.0853	-1.7	100	0.00
101	T	1,2,3-Trichlorobenzene	5.0000	4.9018	2.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M142182.D 8260WTR.M Tue Sep 27 10:22:06 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142183.D Vial: 7
Acq On : 26 Sep 2016 16:43 Operator: TMB
Sample : WG584797-07 20ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:27 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.75	96	777242	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	607167	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	345507	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	84323	10.4967 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 42.00%#		
43) 1,2-Dichloroethane-d4	10.29	65	82442	10.2317 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 40.92%#		
58) Toluene-d8	13.02	98	278880	10.2120 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 40.84%#		
80) p-Bromofluorobenzene	17.00	95	115076	10.0889 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 40.36%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.94	85	292930	22.3869 ug/L	98
3) Chloromethane	3.37	50	340840	22.5999 ug/L	100
4) Vinyl Chloride	3.55	62	192878	20.8930 ug/L	100
5) 1,3-Butadiene	3.59	54	137750	25.3827 ug/L	95
6) Bromomethane	4.38	94	97732	18.1870 ug/L	100
7) Chloroethane	4.52	64	126102	21.6198 ug/L	100
8) Trichlorofluoromethane	4.99	101	287249	22.0204 ug/L	99
9) Diethyl ether	5.53	59	506293	78.6576 ug/L	97
10) Isoprene	5.56	67	231642	19.1012 ug/L	94
11) Acrolein	5.78	56	32514	36.5295 ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	5.78	101	163178	20.7911 ug/L	98
13) Acetone	5.88	43	37526	19.5975 ug/L	95
14) 1,1-Dichloroethene	6.09	61	272597	21.0674 ug/L	93
15) Tert-Butyl Alcohol	6.24	59	72481	165.6248 ug/L	89
16) Dimethyl Sulfide	6.37	62	162899	19.1872 ug/L	100
17) Iodomethane	6.62	142	167163	18.8209 ug/L	99
18) Methyl acetate	6.67	43	105356	19.3006 ug/L	99
19) Methylene Chloride	6.92	84	174838	20.7999 ug/L	89
20) Carbon Disulfide	6.94	76	478375	19.5353 ug/L	100
21) Acrylonitrile	7.13	53	95805	39.3230 ug/L	98
22) Methyl Tert Butyl Ether	7.16	73	395312	20.9388 ug/L	99
23) trans-1,2-Dichloroethene	7.40	96	174047	21.2137 ug/L	89
24) n-Hexane	7.49	57	202315	18.8337 ug/L	97
25) Diisopropyl ether	7.88	45	2399493	78.5099 ug/L	97
26) Vinyl Acetate	8.06	43	290877	19.3517 ug/L	99
27) 1,1-Dichloroethane	8.07	63	318335	20.9833 ug/L	100
28) Ethyl-Tert-Butyl ether	8.51	59	1925137	79.7874 ug/L	96
29) 2-Butanone	8.72	43	55786	19.5201 ug/L	98
30) Propionitrile	8.83	54	62193	81.1531 ug/L	99
31) 2,2-Dichloropropane	8.93	77	225288	20.3300 ug/L	91
32) cis-1,2-Dichloroethene	9.01	96	192219	21.1994 ug/L	99
33) Chloroform	9.24	83	300166	20.5389 ug/L	98
34) 1-Bromopropane	9.39	122	33480	20.9449 ug/L	99
35) Bromochloromethane	9.49	130	119404	21.5110 ug/L	100
36) Tetrahydrofuran	9.54	42	156320	75.3560 ug/L	98
38) 1,1,1-Trichloroethane	9.83	97	264343	20.8686 ug/L	97
39) Cyclohexane	9.85	56	262593	18.9445 ug/L	92
40) 1,1-Dichloropropene	10.06	75	224037	20.7030 ug/L	97
41) Tert-Amyl-Methyl ether	10.20	73	1471407	79.3519 ug/L	94
42) Carbon Tetrachloride	10.21	117	248920	21.3387 ug/L	99

(#) = qualifier out of range (m) = manual integration
6M142183.D 8260WTR.M Tue Sep 27 10:19:31 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142183.D Vial: 7
Acq On : 26 Sep 2016 16:43 Operator: TMB
Sample : WG584797-07 20ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:27 2016 Quant Results File: 8260WTR.RES

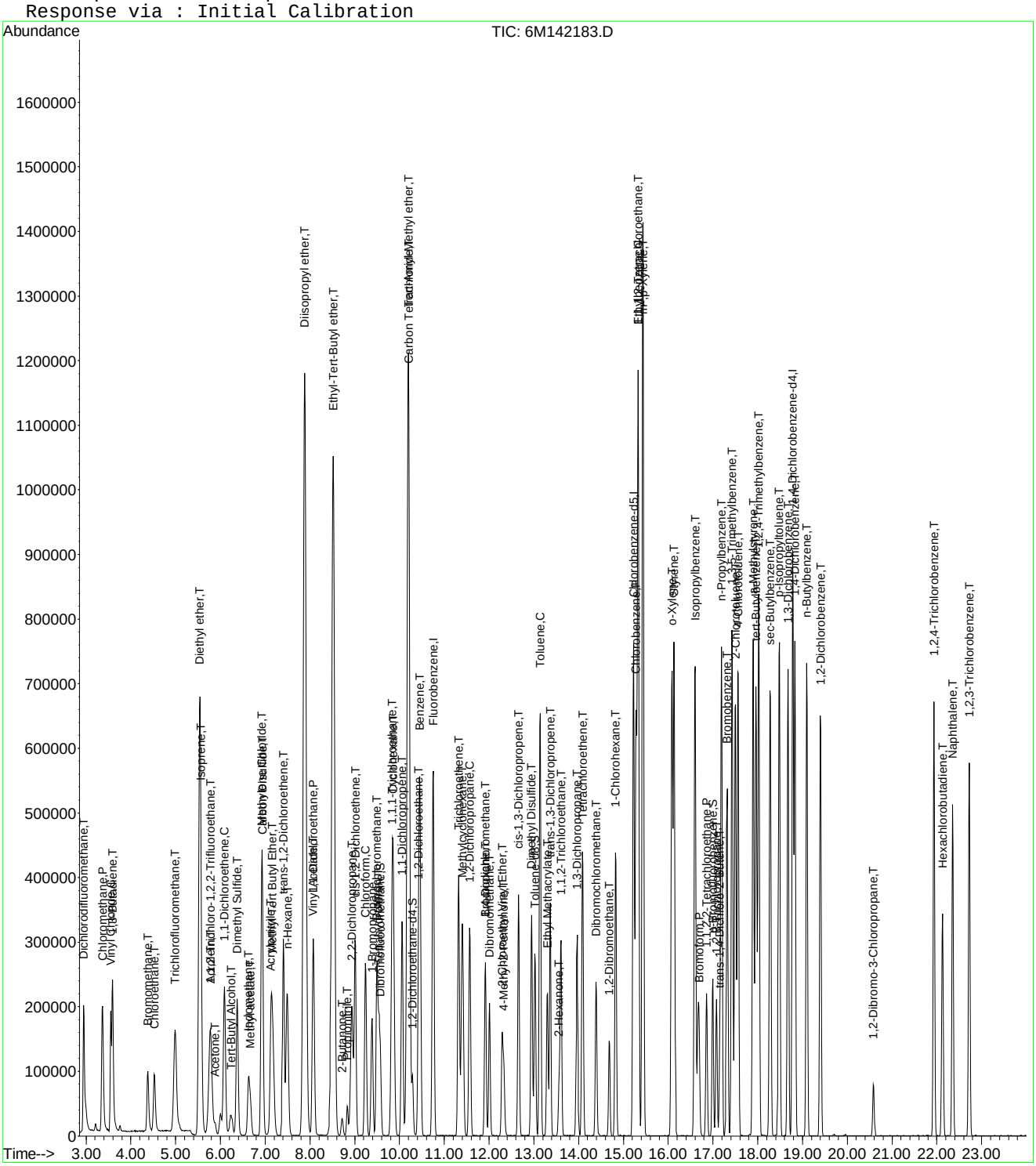
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	227215	21.3611	ug/L	96
46)	Benzene	10.45	78	658810	20.9952	ug/L	96
47)	Trichloroethene	11.32	130	197161	21.3763	ug/L	89
48)	Methylcyclohexane	11.40	83	229730	18.9485	ug/L	92
49)	1,2-Dichloropropane	11.57	63	173921	21.2068	ug/L	97
50)	1,4-Dioxane	11.91	88	8260	169.8698	ug/L	91
51)	Bromodichloromethane	11.91	83	232128	21.5014	ug/L	99
52)	Dibromomethane	12.01	93	97791	21.5009	ug/L	97
53)	2-Chloroethyl Vinyl Ether	12.29	63	81341	21.3277	ug/L	99
54)	4-Methyl-2-Pentanone	12.32	58	43774	19.5398	ug/L	95
55)	cis-1,3-Dichloropropene	12.66	75	262843	21.7666	ug/L	99
56)	Dimethyl Disulfide	12.95	79	137466	18.6651	ug/L	96
59)	Toluene	13.14	91	697905	21.2215	ug/L	100
60)	Ethyl Methacrylate	13.30	69	160265	20.2348	ug/L	97
62)	trans-1,3-Dichloropropene	13.36	75	231775	21.4785	ug/L	95
63)	1,1,2-Trichloroethane	13.61	97	132647	21.6146	ug/L	98
64)	2-Hexanone	13.56	43	88662	19.7367	ug/L	95
65)	1,3-Dichloropropane	13.97	76	221684	21.5722	ug/L	99
66)	Tetrachloroethene	14.09	166	193893	20.9513	ug/L	98
67)	Dibromochloromethane	14.39	129	181662	21.6730	ug/L	99
68)	1,2-Dibromoethane	14.68	107	138567	21.5338	ug/L	99
69)	1-Chlorohexane	14.82	91	204845	19.6926	ug/L	92
70)	Chlorobenzene	15.27	112	497865	21.1980	ug/L	90
71)	1,1,1,2-Tetrachloroethane	15.32	131	189182	21.5260	ug/L	97
72)	Ethylbenzene	15.32	106	264489	20.9957	ug/L	90
73)	m-,p-Xylene	15.44	106	633337	42.4126	ug/L	92
74)	o-Xylene	16.09	106	313016	21.1029	ug/L	91
75)	Styrene	16.13	104	546140	21.5663	ug/L	94
76)	Bromoform	16.69	173	114283	18.9450	ug/L	99
77)	Isopropylbenzene	16.60	105	779289	21.4872	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.86	83	156974	21.3390	ug/L	97
81)	1,2,3-Trichloropropane	17.08	110	47853	21.2965	ug/L	96
82)	trans-1,4-Dichloro-2-Buten	17.15	53	43625	20.0147	ug/L	92
83)	n-Propylbenzene	17.19	91	893634	21.4327	ug/L	97
84)	Bromobenzene	17.32	156	227879	21.1771	ug/L	89
85)	1,3,5-Trimethylbenzene	17.42	105	658525	21.3206	ug/L	96
86)	2-Chlorotoluene	17.50	91	554354	20.2444	ug/L	91
87)	4-Chlorotoluene	17.56	91	593636	21.7026	ug/L	98
88)	a-Methylstyrene	17.90	118	357681	19.1705	ug/L	96
89)	tert-Butylbenzene	17.96	134	148517	20.7311	ug/L	100
90)	1,2,4-Trimethylbenzene	18.02	105	691435	21.3699	ug/L	95
91)	sec-Butylbenzene	18.28	105	795262	21.5343	ug/L	99
92)	p-Isopropyltoluene	18.48	119	710144	21.6951	ug/L	100
93)	1,3-Dichlorobenzene	18.67	146	435553	21.2079	ug/L	98
94)	1,4-Dichlorobenzene	18.83	146	436008	21.1250	ug/L	99
95)	n-Butylbenzene	19.09	91	607411	21.4716	ug/L	96
96)	1,2-Dichlorobenzene	19.41	146	406313	21.0760	ug/L	98
97)	1,2-Dibromo-3-Chloropropan	20.58	75	26464	21.0242	ug/L	82
98)	1,2,4-Trichlorobenzene	21.93	180	298389	21.2226	ug/L	98
99)	Hexachlorobutadiene	22.13	225	110100	21.0259	ug/L	100
100)	Naphthalene	22.35	128	578575	22.6305	ug/L	100
101)	1,2,3-Trichlorobenzene	22.73	180	270482	21.5057	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M142183.D 8260WTR.M Tue Sep 27 10:19:32 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142183.D Vial: 7
Acq On : 26 Sep 2016 16:43 Operator: TMB
Sample : WG584797-07 20ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142184.D Vial: 8
Acq On : 26 Sep 2016 17:15 Operator: TMB
Sample : WG584797-08 50ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:36 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.75	96	791212	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	623465	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.79	152	358963	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	211052	25.8083 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 103.24%		
43) 1,2-Dichloroethane-d4	10.29	65	204642	24.9493 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.80%		
58) Toluene-d8	13.03	98	692250	24.6860 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.76%		
80) p-Bromofluorobenzene	17.00	95	289882	24.4617 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.84%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.95	85	711269	53.3982 ug/L	97
3) Chloromethane	3.37	50	784632	51.1076 ug/L	100
4) Vinyl Chloride	3.55	62	462790	49.2454 ug/L	100
5) 1,3-Butadiene	3.59	54	270426	53.7328 ug/L	94
6) Bromomethane	4.38	94	259309	47.4030 ug/L	99
7) Chloroethane	4.53	64	308368	51.9353 ug/L	100
8) Trichlorofluoromethane	4.99	101	697917	52.5573 ug/L	99
9) Diethyl ether	5.53	59	654924	99.9524 ug/L	97
10) Isoprene	5.56	67	630362	51.0620 ug/L	95
11) Acrolein	5.78	56	44916	49.5722 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	5.78	101	405099	50.7038 ug/L	98
13) Acetone	5.89	43	91027	49.9721 ug/L	99
14) 1,1-Dichloroethene	6.09	61	658227	49.9721 ug/L	92
15) Tert-Butyl Alcohol	6.24	59	93606	210.1204 ug/L	90
16) Dimethyl Sulfide	6.37	62	444702	51.4547 ug/L	99
17) Iodomethane	6.62	142	501225	53.0756 ug/L	99
18) Methyl acetate	6.67	43	281695	50.6938 ug/L	99
19) Methylene Chloride	6.92	84	421171	49.2206 ug/L	89
20) Carbon Disulfide	6.94	76	1301047	52.1925 ug/L	99
21) Acrylonitrile	7.13	53	129606	52.2573 ug/L	99
22) Methyl Tert Butyl Ether	7.16	73	979215	50.9511 ug/L	99
23) trans-1,2-Dichloroethene	7.40	96	421122	50.4220 ug/L	89
24) n-Hexane	7.49	57	562526	51.4415 ug/L	97
25) Diisopropyl ether	7.88	45	3104399	99.7806 ug/L	97
26) Vinyl Acetate	8.07	43	775094	50.6556 ug/L	98
27) 1,1-Dichloroethane	8.08	63	772248	50.0044 ug/L	99
28) Ethyl-Tert-Butyl ether	8.51	59	2492856	101.4924 ug/L	96
29) 2-Butanone	8.72	43	145564	50.0350 ug/L	98
30) Propionitrile	8.83	54	81417	104.3619 ug/L	99
31) 2,2-Dichloropropane	8.93	77	571768	50.6855 ug/L	95
32) cis-1,2-Dichloroethene	9.01	96	464944	50.3723 ug/L	90
33) Chloroform	9.25	83	729168	49.0124 ug/L	99
34) 1-Bromopropane	9.39	122	90810	55.8072 ug/L	99
35) Bromochloromethane	9.50	130	291444	51.5775 ug/L	99
36) Tetrahydrofuran	9.53	42	203801	96.5101 ug/L	98
38) 1,1,1-Trichloroethane	9.83	97	655057	50.8005 ug/L	96
39) Cyclohexane	9.86	56	728424	51.6235 ug/L	93
40) 1,1-Dichloropropene	10.05	75	550073	49.9340 ug/L	97
41) Tert-Amyl-Methyl ether	10.20	73	1928967	102.1911 ug/L	94
42) Carbon Tetrachloride	10.21	117	625285	52.6562 ug/L	99

(#) = qualifier out of range (m) = manual integration
6M142184.D 8260WTR.M Tue Sep 27 10:19:40 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142184.D Vial: 8
Acq On : 26 Sep 2016 17:15 Operator: TMB
Sample : WG584797-08 50ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:36 2016 Quant Results File: 8260WTR.RES

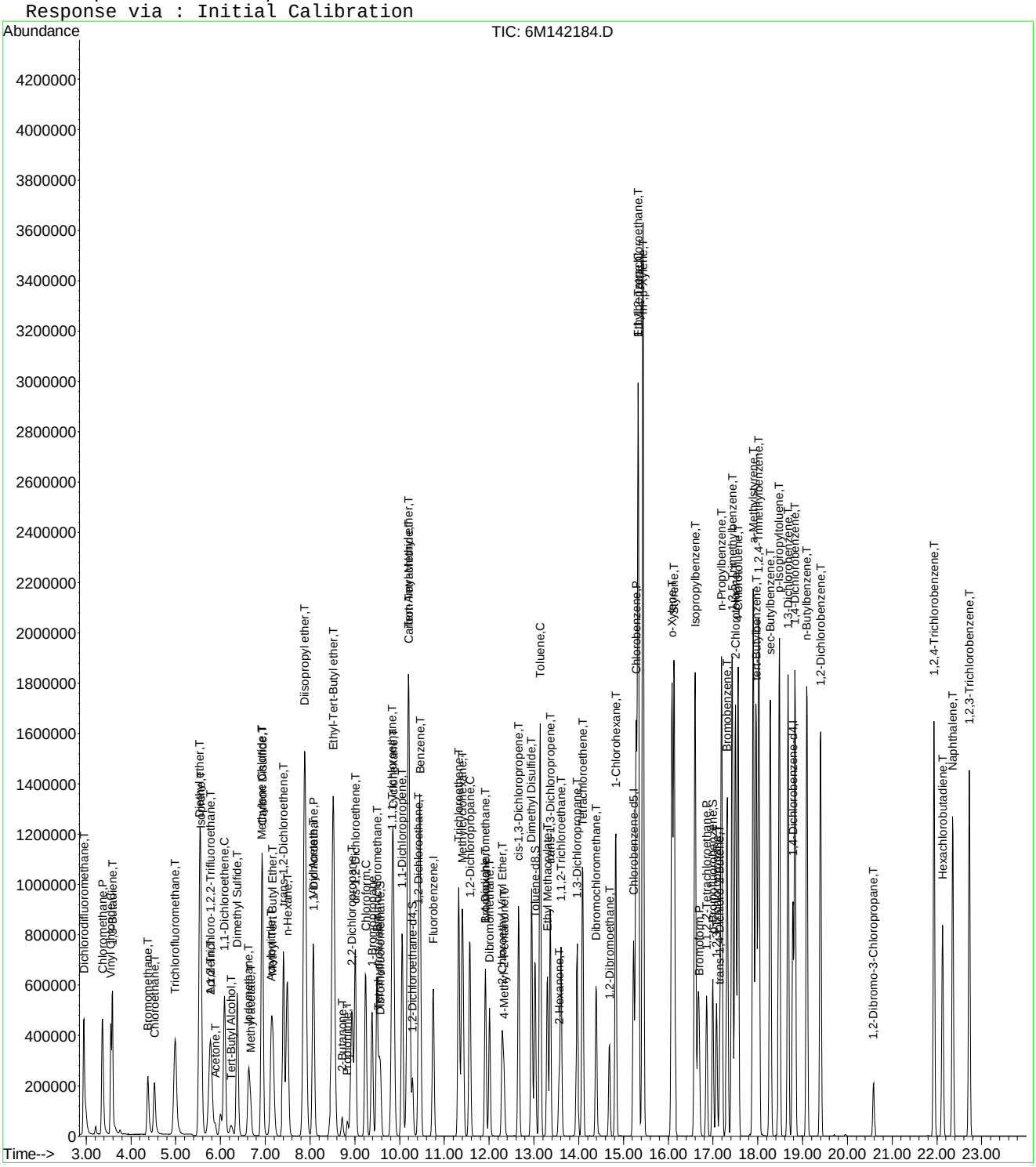
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	548986	50.7003	ug/L	98
46)	Benzene	10.46	78	1596793	49.9886	ug/L	96
47)	Trichloroethene	11.32	130	477028	50.8065	ug/L	89
48)	Methylcyclohexane	11.40	83	631082	51.1337	ug/L	91
49)	1,2-Dichloropropane	11.58	63	424523	50.8496	ug/L	97
50)	1,4-Dioxane	11.91	88	11212	226.5076	ug/L	91
51)	Bromodichloromethane	11.91	83	572350	52.0791	ug/L	100
52)	Dibromomethane	12.00	93	240870	52.0241	ug/L	97
53)	2-Chloroethyl Vinyl Ether	12.29	63	212508	54.7361	ug/L	99
54)	4-Methyl-2-Pentanone	12.33	58	115460	50.6290	ug/L	95
55)	cis-1,3-Dichloropropene	12.66	75	647986	52.7136	ug/L	99
56)	Dimethyl Disulfide	12.94	79	389399	51.9391	ug/L	96
59)	Toluene	13.14	91	1704691	50.4802	ug/L	100
60)	Ethyl Methacrylate	13.30	69	448006	55.0860	ug/L	96
62)	trans-1,3-Dichloropropene	13.36	75	577195	52.0903	ug/L	95
63)	1,1,2-Trichloroethane	13.61	97	325353	51.6298	ug/L	98
64)	2-Hexanone	13.57	43	230640	49.9998	ug/L	97
65)	1,3-Dichloropropane	13.97	76	542732	51.4330	ug/L	99
66)	Tetrachloroethene	14.09	166	476590	50.1521	ug/L	98
67)	Dibromochloromethane	14.38	129	454762	52.8366	ug/L	100
68)	1,2-Dibromoethane	14.69	107	345240	52.2489	ug/L	100
69)	1-Chlorohexane	14.83	91	572716	53.6183	ug/L	91
70)	Chlorobenzene	15.28	112	1220601	50.6119	ug/L	90
71)	1,1,1,2-Tetrachloroethane	15.32	131	478329	53.0037	ug/L	97
72)	Ethylbenzene	15.32	106	649705	50.2268	ug/L	91
73)	m-,p-Xylene	15.44	106	1581267	103.1245	ug/L	91
74)	o-Xylene	16.09	106	776463	50.9791	ug/L	90
75)	Styrene	16.13	104	1362705	52.4045	ug/L	94
76)	Bromoform	16.69	173	299691	47.4655	ug/L	99
77)	Isopropylbenzene	16.60	105	1925404	51.7010	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.86	83	393788	51.5248	ug/L	99
81)	1,2,3-Trichloropropane	17.08	110	120830	51.7583	ug/L	96
82)	trans-1,4-Dichloro-2-Buten	17.15	53	123399	54.4920	ug/L	84
83)	n-Propylbenzene	17.19	91	2203134	50.8588	ug/L	96
84)	Bromobenzene	17.31	156	563052	50.3638	ug/L	89
85)	1,3,5-Trimethylbenzene	17.43	105	1640701	51.1286	ug/L	96
86)	2-Chlorotoluene	17.50	91	1471693	51.7299	ug/L	95
87)	4-Chlorotoluene	17.56	91	1372233	48.2867	ug/L	94
88)	a-Methylstyrene	17.90	118	1006488	51.9222	ug/L	96
89)	tert-Butylbenzene	17.97	134	371924	49.9697	ug/L	82
90)	1,2,4-Trimethylbenzene	18.02	105	1735189	51.6185	ug/L	94
91)	sec-Butylbenzene	18.28	105	1965492	51.2269	ug/L	98
92)	p-Isopropyltoluene	18.48	119	1766926	51.9567	ug/L	99
93)	1,3-Dichlorobenzene	18.67	146	1078851	50.5622	ug/L	98
94)	1,4-Dichlorobenzene	18.83	146	1076817	50.2171	ug/L	98
95)	n-Butylbenzene	19.09	91	1506560	51.2597	ug/L	95
96)	1,2-Dichlorobenzene	19.41	146	998516	49.8529	ug/L	100
97)	1,2-Dibromo-3-Chloropropan	20.58	75	70601	53.9862	ug/L	86
98)	1,2,4-Trichlorobenzene	21.93	180	728140	49.8470	ug/L	99
99)	Hexachlorobutadiene	22.12	225	267811	49.2270	ug/L	100
100)	Naphthalene	22.35	128	1456744	54.8434	ug/L	100
101)	1,2,3-Trichlorobenzene	22.73	180	667939	51.1164	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M142184.D 8260WTR.M Tue Sep 27 10:19:41 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142184.D Vial: 8
Acq On : 26 Sep 2016 17:15 Operator: TMB
Sample : WG584797-08 50ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142185.D Vial: 9
Acq On : 26 Sep 2016 17:47 Operator: TMB
Sample : WG584797-09 100ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:45 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.75	96	788165	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	621408	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	364124	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	427587	52.4893 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 209.96%#		
43) 1,2-Dichloroethane-d4	10.29	65	408854	50.0388 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 200.16%#		
58) Toluene-d8	13.02	98	1405225	50.2769 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 201.12%#		
80) p-Bromofluorobenzene	17.00	95	593296	49.3557 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 197.44%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.95	85	1436942	108.2948 ug/L	98
3) Chloromethane	3.36	50	1398173	91.4231 ug/L	100
4) Vinyl Chloride	3.55	62	922646	98.5581 ug/L	100
5) 1,3-Butadiene	3.59	54	494147	102.8623 ug/L	98
6) Bromomethane	4.38	94	553914	101.6497 ug/L	100
7) Chloroethane	4.52	64	580026	98.0655 ug/L	100
8) Trichlorofluoromethane	4.99	101	1310289	99.0541 ug/L	99
9) Diethyl ether	5.54	59	1307830	200.3684 ug/L	97
10) Isoprene	5.56	67	1232889	100.2553 ug/L	95
11) Acrolein	5.77	56	91228	101.0743 ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	5.77	101	828673	104.1209 ug/L	98
13) Acetone	5.89	43	168732	95.0267 ug/L	98
14) 1,1-Dichloroethene	6.09	61	1327872	101.2009 ug/L	92
15) Tert-Butyl Alcohol	6.24	59	178727	402.7452 ug/L	92
16) Dimethyl Sulfide	6.37	62	857924	99.6507 ug/L	99
17) Iodomethane	6.63	142	988885	103.9296 ug/L	99
18) Methyl acetate	6.67	43	542963	98.0893 ug/L	98
19) Methylene Chloride	6.92	84	855296	100.3414 ug/L	90
20) Carbon Disulfide	6.94	76	2520789	101.5143 ug/L	99
21) Acrylonitrile	7.13	53	255894	103.5757 ug/L	99
22) Methyl Tert Butyl Ether	7.16	73	1938003	101.2292 ug/L	98
23) trans-1,2-Dichloroethene	7.41	96	855255	102.7978 ug/L	89
24) n-Hexane	7.49	57	1083119	99.4312 ug/L	97
25) Diisopropyl ether	7.89	45	6151073	198.4701 ug/L	96
26) Vinyl Acetate	8.07	43	1470603	96.4816 ug/L	97
27) 1,1-Dichloroethane	8.08	63	1566543	101.8286 ug/L	100
28) Ethyl-Tert-Butyl ether	8.51	59	4963450	202.8596 ug/L	96
29) 2-Butanone	8.72	43	277773	95.8486 ug/L	99
30) Propionitrile	8.84	54	158288	203.6811 ug/L	98
31) 2,2-Dichloropropane	8.94	77	1170966	104.2038 ug/L	97
32) cis-1,2-Dichloroethene	9.01	96	939093	102.1351 ug/L	98
33) Chloroform	9.25	83	1467020	98.9897 ug/L	98
34) 1-Bromopropane	9.39	122	177067	109.2370 ug/L	99
35) Bromochloromethane	9.50	130	591936	105.1612 ug/L	100
36) Tetrahydrofuran	9.53	42	393631	187.1249 ug/L	99
38) 1,1,1-Trichloroethane	9.84	97	1328552	103.4293 ug/L	96
39) Cyclohexane	9.86	56	1421068	101.1006 ug/L	93
40) 1,1-Dichloropropene	10.06	75	1105588	100.7500 ug/L	97
41) Tert-Amyl-Methyl ether	10.20	73	3891891	206.9781 ug/L	95
42) Carbon Tetrachloride	10.22	117	1292915	109.2993 ug/L	98

(#) = qualifier out of range (m) = manual integration
6M142185.D 8260WTR.M Tue Sep 27 10:19:48 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142185.D Vial: 9
Acq On : 26 Sep 2016 17:47 Operator: TMB
Sample : WG584797-09 100ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:45 2016 Quant Results File: 8260WTR.RES

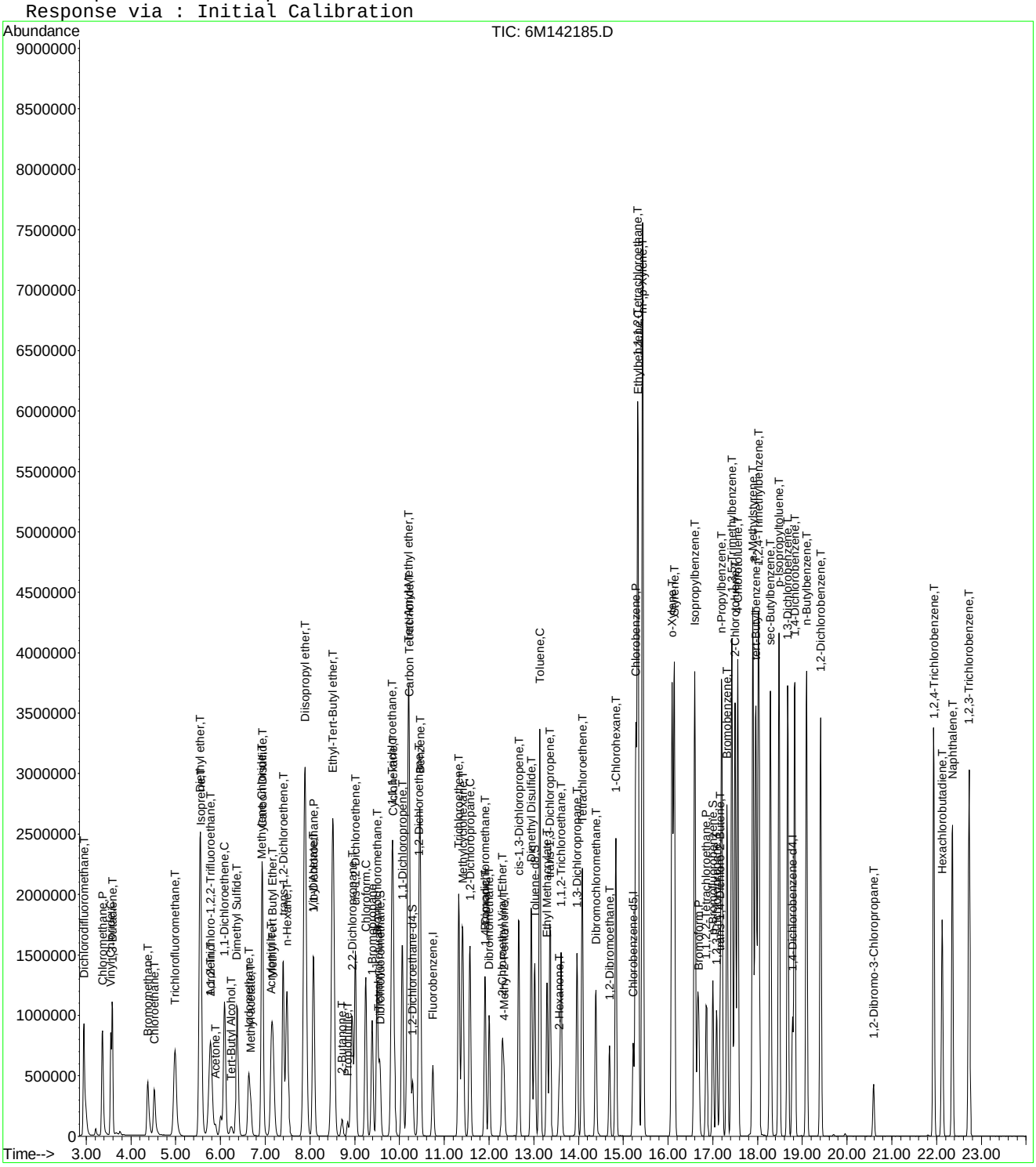
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.43	62	1105350	102.4766	ug/L	98
46)	Benzene	10.46	78	3207859	100.8123	ug/L	96
47)	Trichloroethene	11.32	130	968083	103.5055	ug/L	89
48)	Methylcyclohexane	11.41	83	1229581	100.0125	ug/L	93
49)	1,2-Dichloropropane	11.57	63	854514	102.7499	ug/L	97
50)	1,4-Dioxane	11.92	88	19721	399.9487	ug/L	91
51)	Bromodichloromethane	11.91	83	1144255	104.5202	ug/L	99
52)	Dibromomethane	12.00	93	483748	104.8858	ug/L	98
53)	2-Chloroethyl Vinyl Ether	12.29	63	405175	104.7651	ug/L	100
54)	4-Methyl-2-Pentanone	12.33	58	227824	100.2867	ug/L	94
55)	cis-1,3-Dichloropropene	12.67	75	1305601	106.6212	ug/L	99
56)	Dimethyl Disulfide	12.94	79	764702	102.3923	ug/L	96
59)	Toluene	13.14	91	3417780	101.5441	ug/L	99
60)	Ethyl Methacrylate	13.30	69	880419	108.6130	ug/L	97
62)	trans-1,3-Dichloropropene	13.36	75	1170364	105.9719	ug/L	95
63)	1,1,2-Trichloroethane	13.61	97	650344	103.5437	ug/L	99
64)	2-Hexanone	13.57	43	449630	97.7967	ug/L	98
65)	1,3-Dichloropropane	13.96	76	1078245	102.5201	ug/L	99
66)	Tetrachloroethene	14.09	166	966674	102.0609	ug/L	98
67)	Dibromochloromethane	14.39	129	931039	108.5310	ug/L	100
68)	1,2-Dibromoethane	14.69	107	687688	104.4198	ug/L	100
69)	1-Chlorohexane	14.83	91	1121300	105.3248	ug/L	91
70)	Chlorobenzene	15.28	112	2474843	102.9584	ug/L	91
71)	1,1,1,2-Tetrachloroethane	15.32	131	982107	109.1877	ug/L	98
72)	Ethylbenzene	15.33	106	1355081	105.1042	ug/L	88
73)	m-,p-Xylene	15.43	106	3237803	211.8567	ug/L	87
74)	o-Xylene	16.09	106	1583630	104.3183	ug/L	90
75)	Styrene	16.14	104	2789328	107.6222	ug/L	95
76)	Bromoform	16.69	173	616536	97.3436	ug/L	99
77)	Isopropylbenzene	16.60	105	3897818	105.0108	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.85	83	780727	100.7056	ug/L	99
81)	1,2,3-Trichloropropane	17.08	110	240211	101.4376	ug/L	95
82)	trans-1,4-Dichloro-2-Buten	17.16	53	251548	109.5072	ug/L	83
83)	n-Propylbenzene	17.19	91	4460338	101.5063	ug/L	95
84)	Bromobenzene	17.31	156	1152022	101.5854	ug/L	90
85)	1,3,5-Trimethylbenzene	17.43	105	3386982	104.0513	ug/L	95
86)	2-Chlorotoluene	17.50	91	2931940	101.5967	ug/L	94
87)	4-Chlorotoluene	17.56	91	2895857	100.4563	ug/L	94
88)	a-Methylstyrene	17.90	118	2033197	103.4008	ug/L	95
89)	tert-Butylbenzene	17.97	134	777799	103.0198	ug/L	84
90)	1,2,4-Trimethylbenzene	18.03	105	3574509	104.8276	ug/L	96
91)	sec-Butylbenzene	18.28	105	4033014	103.6232	ug/L	97
92)	p-Isopropyltoluene	18.48	119	3648695	105.7697	ug/L	98
93)	1,3-Dichlorobenzene	18.67	146	2214904	102.3339	ug/L	99
94)	1,4-Dichlorobenzene	18.83	146	2215429	101.8515	ug/L	99
95)	n-Butylbenzene	19.10	91	3127780	104.9122	ug/L	94
96)	1,2-Dichlorobenzene	19.41	146	2053358	101.0649	ug/L	99
97)	1,2-Dibromo-3-Chloropropan	20.59	75	141624	106.7601	ug/L	84
98)	1,2,4-Trichlorobenzene	21.94	180	1520596	102.6214	ug/L	99
99)	Hexachlorobutadiene	22.12	225	567598	102.8528	ug/L	100
100)	Naphthalene	22.36	128	2951709	109.5507	ug/L	99
101)	1,2,3-Trichlorobenzene	22.73	180	1383857	104.4034	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M142185.D 8260WTR.M Tue Sep 27 10:19:49 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142185.D Vial: 9
Acq On : 26 Sep 2016 17:47 Operator: TMB
Sample : WG584797-09 100ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142186.D Vial: 10
Acq On : 26 Sep 2016 18:19 Operator: TMB
Sample : WG584797-10 200ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:53 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.75	96	770327	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	625299	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	371195	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.56	111	824047	103.4999	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 414.00%#			
43) 1,2-Dichloroethane-d4	10.29	65	780095	97.6852	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 390.76%#			
58) Toluene-d8	13.02	98	2721130	96.7523	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 387.00%#			
80) p-Bromofluorobenzene	17.00	95	1196674	97.6538	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 390.60%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.95	85	2846425	219.4877	ug/L	98
3) Chloromethane	3.35	50	2800847	187.3813	ug/L	100
4) Vinyl Chloride	3.55	62	1766182	193.0344	ug/L	99
5) 1,3-Butadiene	3.58	54	936433	204.2788	ug/L	98
6) Bromomethane	4.36	94	1180525	221.6568	ug/L	100
7) Chloroethane	4.52	64	1149620	198.8681	ug/L	100
8) Trichlorofluoromethane	4.98	101	2556971	197.7758	ug/L	99
9) Diethyl ether	5.54	59	998	0.1564	ug/L #	11
10) Isoprene	5.55	67	2434761	202.5730	ug/L	94
11) Acrolein	5.78	56	1550	1.7571	ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	5.77	101	1648411	211.9153	ug/L	97
13) Acetone	5.89	43	347180	202.6693	ug/L	98
14) 1,1-Dichloroethene	6.09	61	2650918	206.7123	ug/L	92
15) Tert-Butyl Alcohol	6.24	59	20284	46.7666	ug/L	85
16) Dimethyl Sulfide	6.37	62	1720015	204.4118	ug/L	98
17) Iodomethane	6.62	142	1920203	205.2846	ug/L	99
18) Methyl acetate	6.67	43	1061262	196.1625	ug/L	97
19) Methylene Chloride	6.92	84	1721777	206.6725	ug/L	90
20) Carbon Disulfide	6.94	76	5050385	208.0929	ug/L	98
21) Acrylonitrile	7.16	53	45129	18.6894	ug/L #	35
22) Methyl Tert Butyl Ether	7.16	73	3822211	204.2717	ug/L	99
23) trans-1,2-Dichloroethene	7.40	96	1702897	209.4201	ug/L	89
24) n-Hexane	7.49	57	2137923	200.8079	ug/L	97
25) Diisopropyl ether	7.88	45	3766	0.1243	ug/L #	79
26) Vinyl Acetate	8.07	43	2919304	195.9613	ug/L	97
27) 1,1-Dichloroethane	8.08	63	3092687	205.6864	ug/L	99
29) 2-Butanone	8.72	43	551247	194.6184	ug/L	100
30) Propionitrile	8.84	54	2292	3.0176	ug/L #	76
31) 2,2-Dichloropropane	8.93	77	2331374	212.2723	ug/L	99
32) cis-1,2-Dichloroethene	9.01	96	1865893	207.6325	ug/L	90
33) Chloroform	9.25	83	2886245	199.2642	ug/L	99
34) 1-Bromopropane	9.39	122	352429	222.4569	ug/L	99
35) Bromochloromethane	9.50	130	1171927	213.0215	ug/L	99
36) Tetrahydrofuran	9.55	42	6444	3.1343	ug/L	87
38) 1,1,1-Trichloroethane	9.84	97	2672099	212.8430	ug/L	97
39) Cyclohexane	9.86	56	2877895	209.4864	ug/L	94
40) 1,1-Dichloropropene	10.05	75	2208829	205.9471	ug/L	96
41) Tert-Amyl-Methyl ether	10.21	73	2458	0.1337	ug/L #	66
42) Carbon Tetrachloride	10.21	117	2506287	216.7806	ug/L	98
45) 1,2-Dichloroethane	10.43	62	2183883	207.1555	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M142186.D 8260WTR.M Tue Sep 27 10:19:57 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142186.D Vial: 10
Acq On : 26 Sep 2016 18:19 Operator: TMB
Sample : WG584797-10 200ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19:53 2016 Quant Results File: 8260WTR.RES

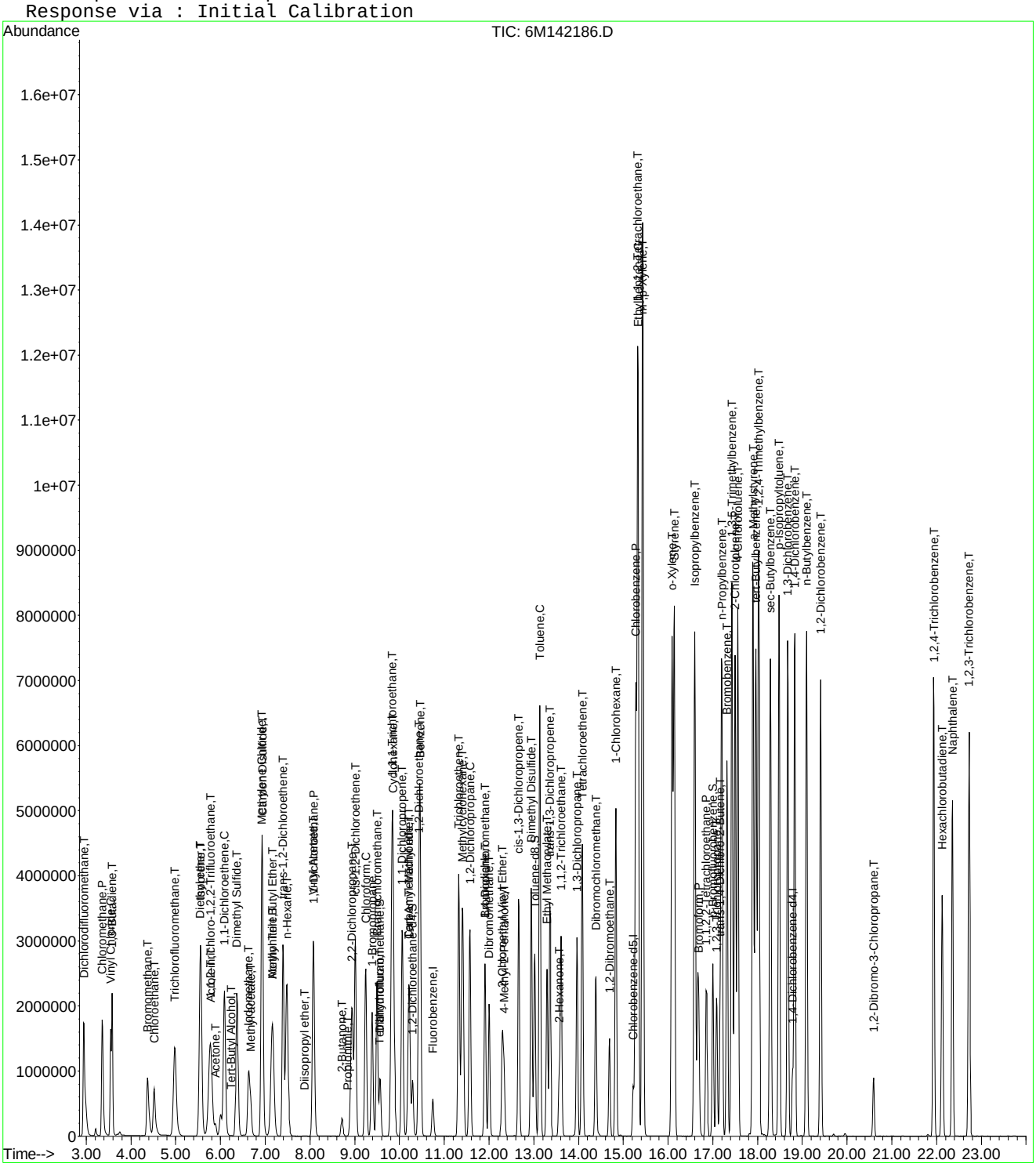
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	Benzene	10.46	78	6193824	199.1586	ug/L	98
47)	Trichloroethene	11.32	130	1911509	209.1074	ug/L	89
48)	Methylcyclohexane	11.40	83	2441589	203.1943	ug/L	92
49)	1,2-Dichloropropane	11.57	63	1703097	209.5288	ug/L	98
50)	1,4-Dioxane	11.91	88	9673	200.7144	ug/L	73
51)	Bromodichloromethane	11.91	83	2283490	213.4118	ug/L	99
52)	Dibromomethane	12.00	93	964809	214.0331	ug/L	98
53)	2-Chloroethyl Vinyl Ether	12.29	63	807147	213.5349	ug/L	100
54)	4-Methyl-2-Pentanone	12.33	58	463785	208.8827	ug/L	93
55)	cis-1,3-Dichloropropene	12.66	75	2608135	217.9240	ug/L	99
56)	Dimethyl Disulfide	12.94	79	1560194	213.7449	ug/L	96
59)	Toluene	13.14	91	6595728	194.7433	ug/L	96
60)	Ethyl Methacrylate	13.30	69	1768885	216.8609	ug/L	98
62)	trans-1,3-Dichloropropene	13.36	75	2355621	211.9650	ug/L	95
63)	1,1,2-Trichloroethane	13.61	97	1300224	205.7254	ug/L	99
64)	2-Hexanone	13.57	43	934606	202.0164	ug/L	98
65)	1,3-Dichloropropane	13.96	76	2148205	202.9815	ug/L	100
66)	Tetrachloroethene	14.09	166	1947639	204.3511	ug/L	98
67)	Dibromochloromethane	14.39	129	1873392	217.0219	ug/L	100
68)	1,2-Dibromoethane	14.69	107	1376349	207.6869	ug/L	100
69)	1-Chlorohexane	14.83	91	2278597	212.6990	ug/L	92
70)	Chlorobenzene	15.28	112	4914458	203.1790	ug/L	95
71)	1,1,1,2-Tetrachloroethane	15.32	131	2029800	224.2627	ug/L	99
72)	Ethylbenzene	15.33	106	2801517	215.9420	ug/L	78
73)	m-,p-Xylene	15.43	106	6339241	412.2097	ug/L	73
74)	o-Xylene	16.09	106	3271104	214.1363	ug/L	86
75)	Styrene	16.14	104	5613069	215.2245	ug/L	99
76)	Bromoform	16.69	173	1292689	202.1910	ug/L	98
77)	Isopropylbenzene	16.60	105	7610674	203.7627	ug/L	93
79)	1,1,2,2-Tetrachloroethane	16.85	83	1614821	204.3271	ug/L	100
81)	1,2,3-Trichloropropane	17.08	110	493389	204.3820	ug/L	97
82)	trans-1,4-Dichloro-2-Buten	17.16	53	521938	222.8886	ug/L	83
83)	n-Propylbenzene	17.20	91	8467615	189.0312	ug/L	90
84)	Bromobenzene	17.31	156	2374837	205.4241	ug/L	90
85)	1,3,5-Trimethylbenzene	17.43	105	6704496	202.0448	ug/L	92
86)	2-Chlorotoluene	17.50	91	5813791	197.6201	ug/L	93
87)	4-Chlorotoluene	17.56	91	5812861	197.8049	ug/L	92
88)	a-Methylstyrene	17.91	118	4132942	206.1821	ug/L	95
89)	tert-Butylbenzene	17.97	134	1626142	211.2802	ug/L	89
90)	1,2,4-Trimethylbenzene	18.03	105	6983079	200.8878	ug/L	92
91)	sec-Butylbenzene	18.28	105	7817684	197.0392	ug/L	94
92)	p-Isopropyltoluene	18.48	119	7033869	200.0161	ug/L	95
93)	1,3-Dichlorobenzene	18.67	146	4429750	200.7663	ug/L	98
94)	1,4-Dichlorobenzene	18.83	146	4409011	198.8374	ug/L	99
95)	n-Butylbenzene	19.10	91	6119231	201.3417	ug/L	92
96)	1,2-Dichlorobenzene	19.41	146	4082175	197.0945	ug/L	98
97)	1,2-Dibromo-3-Chloropropan	20.59	75	291385	215.4698	ug/L	84
98)	1,2,4-Trichlorobenzene	21.94	180	3112658	206.0643	ug/L	99
99)	Hexachlorobutadiene	22.12	225	1167630	207.5524	ug/L	99
100)	Naphthalene	22.36	128	5725947	208.4664	ug/L	97
101)	1,2,3-Trichlorobenzene	22.73	180	2824645	209.0425	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M142186.D 8260WTR.M Tue Sep 27 10:19:58 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142186.D Vial: 10
Acq On : 26 Sep 2016 18:19 Operator: TMB
Sample : WG584797-10 200ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:19 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142187.D Vial: 11
Acq On : 26 Sep 2016 18:51 Operator: TMB
Sample : WG584797-11 300ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:20:02 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	805636	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	634317	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.79	152	374014	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	1301639	156.3201	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 625.28%#			
43) 1,2-Dichloroethane-d4	10.29	65	1233722	147.7184	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 590.88%#			
58) Toluene-d8	13.02	98	4199758	147.2033	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 588.80%#			
80) p-Bromofluorobenzene	17.00	95	1833183	148.4681	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 593.88%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.94	85	4134566	304.8433	ug/L	98
3) Chloromethane	3.36	50	4115863	263.2898	ug/L	99
4) Vinyl Chloride	3.54	62	2562458	267.7888	ug/L	99
5) 1,3-Butadiene	3.58	54	1359032	285.4703	ug/L	99
6) Bromomethane	4.37	94	1862324	334.3469	ug/L	100
7) Chloroethane	4.51	64	1808367	299.1118	ug/L	99
8) Trichlorofluoromethane	4.98	101	4023049	297.5356	ug/L	99
9) Diethyl ether	5.53	59	2090479	313.3300	ug/L	98
10) Isoprene	5.54	67	4006733	318.7513	ug/L	95
11) Acrolein	5.78	56	164805	178.6328	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	5.77	101	2571638	316.1134	ug/L	97
13) Acetone	5.89	43	539864	302.4905	ug/L	100
14) 1,1-Dichloroethene	6.08	61	4150801	309.4840	ug/L	91
15) Tert-Butyl Alcohol	6.26	59	272291	600.2771	ug/L	90
16) Dimethyl Sulfide	6.37	62	2715785	308.6067	ug/L	98
17) Iodomethane	6.63	142	2844972	290.3138	ug/L	100
18) Methyl acetate	6.67	43	1701386	300.6993	ug/L	97
19) Methylene Chloride	6.92	84	2666187	306.0080	ug/L	90
20) Carbon Disulfide	6.93	76	7729348	304.5173	ug/L	97
21) Acrylonitrile	7.13	53	438780	173.7492	ug/L	96
22) Methyl Tert Butyl Ether	7.16	73	6023198	307.7917	ug/L	99
23) trans-1,2-Dichloroethene	7.40	96	2666919	313.6001	ug/L	89
24) n-Hexane	7.48	57	3410903	306.3334	ug/L	97
25) Diisopropyl ether	7.88	45	9271028	292.6513	ug/L	95
26) Vinyl Acetate	8.07	43	5055015	324.4515	ug/L	97
27) 1,1-Dichloroethane	8.08	63	4843846	308.0322	ug/L	99
28) Ethyl-Tert-Butyl ether	8.52	59	7589817	303.4740	ug/L	95
29) 2-Butanone	8.72	43	861797	290.9236	ug/L	98
30) Propionitrile	8.84	54	243899	307.0372	ug/L	98
31) 2,2-Dichloropropane	8.93	77	3689938	321.2452	ug/L	99
32) cis-1,2-Dichloroethene	9.01	96	2905168	309.1121	ug/L	89
33) Chloroform	9.24	83	4453596	293.9972	ug/L	98
34) 1-Bromopropane	9.39	122	562720	339.6275	ug/L	100
35) Bromochloromethane	9.50	130	1823104	316.8623	ug/L	99
36) Tetrahydrofuran	9.54	42	628382	292.2431	ug/L	99
38) 1,1,1-Trichloroethane	9.83	97	4193825	319.4137	ug/L	97
39) Cyclohexane	9.85	56	4609493	320.8266	ug/L	94
40) 1,1-Dichloropropene	10.06	75	3465042	308.9146	ug/L	96
41) Tert-Amyl-Methyl ether	10.20	73	6143717	319.6490	ug/L	96
42) Carbon Tetrachloride	10.21	117	4047112	334.7118	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M142187.D 8260WTR.M Tue Sep 27 10:20:06 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142187.D Vial: 11
Acq On : 26 Sep 2016 18:51 Operator: TMB
Sample : WG584797-11 300ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:20:02 2016 Quant Results File: 8260WTR.RES

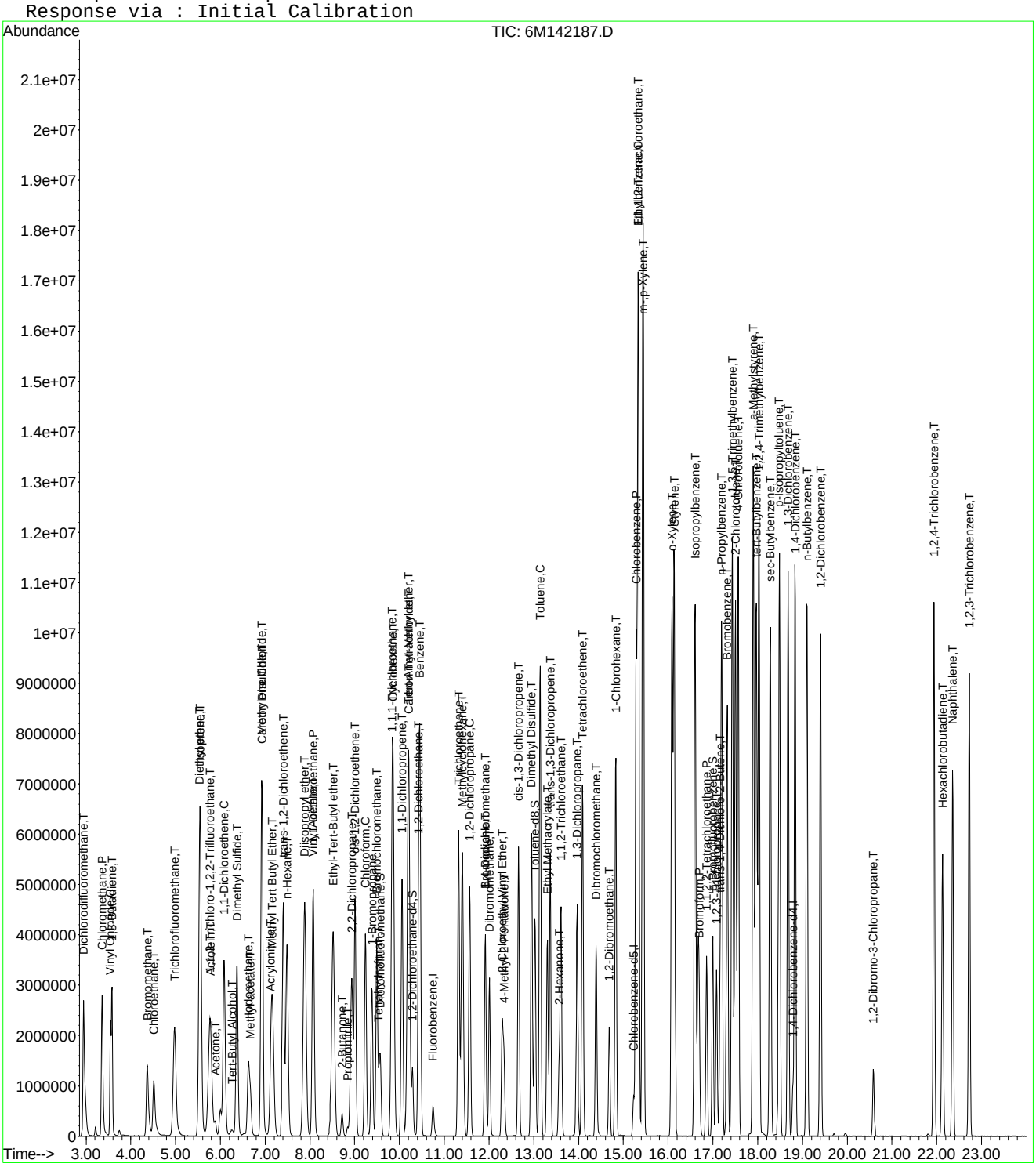
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

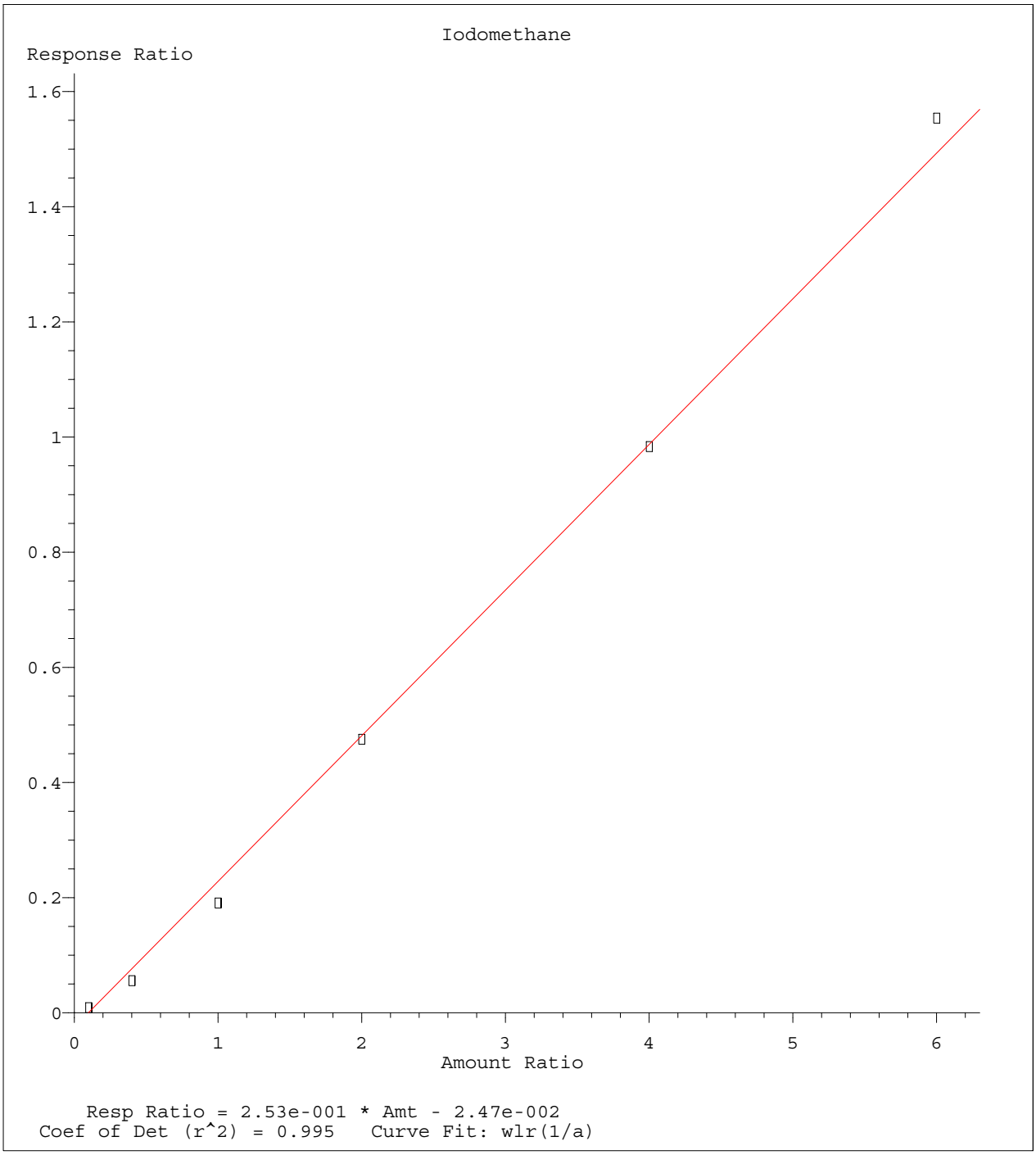
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloroethane	10.42	62	3378571	306.4336	ug/L		99
46)	Benzene	10.46	78	9180134	282.2445	ug/L		99
47)	Trichloroethene	11.32	130	2931616	306.6453	ug/L		90
48)	Methylcyclohexane	11.40	83	3839012	305.4884	ug/L		92
49)	1,2-Dichloropropane	11.57	63	2646241	311.2934	ug/L		98
50)	1,4-Dioxane	11.92	88	28679	569.0070	ug/L		87
51)	Bromodichloromethane	11.92	83	3502275	312.9723	ug/L		99
52)	Dibromomethane	12.01	93	1495861	317.2979	ug/L		98
53)	2-Chloroethyl Vinyl Ether	12.29	63	1158123	292.9592	ug/L		100
54)	4-Methyl-2-Pentanone	12.33	58	719802	309.9810	ug/L		94
55)	cis-1,3-Dichloropropene	12.66	75	3988231	318.6336	ug/L		99
56)	Dimethyl Disulfide	12.95	79	2462678	322.5975	ug/L		97
59)	Toluene	13.14	91	9291621	270.4411	ug/L		91
60)	Ethyl Methacrylate	13.30	69	2761466	333.7358	ug/L		98
62)	trans-1,3-Dichloropropene	13.37	75	3595056	318.8936	ug/L		94
63)	1,1,2-Trichloroethane	13.61	97	1973834	307.8660	ug/L		99
64)	2-Hexanone	13.57	43	1453655	309.7424	ug/L		98
65)	1,3-Dichloropropane	13.97	76	3237918	301.5976	ug/L		100
66)	Tetrachloroethene	14.08	166	2997280	310.0111	ug/L		97
67)	Dibromochloromethane	14.39	129	2832113	323.4201	ug/L		99
68)	1,2-Dibromoethane	14.68	107	2046728	304.4542	ug/L		100
69)	1-Chlorohexane	14.84	91	3449782	317.4468	ug/L		93
70)	Chlorobenzene	15.29	112	6964100	283.8243	ug/L		100
71)	1,1,1,2-Tetrachloroethane	15.33	131	2985879	325.2052	ug/L		98
72)	Ethylbenzene	15.33	106	4083568	310.2881	ug/L		65
73)	m-,p-Xylene	15.44	106	8540443	547.4478	ug/L		64
74)	o-Xylene	16.09	106	4734434	305.5240	ug/L		80
75)	Styrene	16.14	104	7792336	294.5374	ug/L		96
76)	Bromoform	16.69	173	1976583	304.4652	ug/L		98
77)	Isopropylbenzene	16.60	105	10141228	267.6538	ug/L		87
79)	1,1,2,2-Tetrachloroethane	16.86	83	2480475	311.4947	ug/L		100
81)	1,2,3-Trichloropropane	17.08	110	749745	308.2344	ug/L		92
82)	trans-1,4-Dichloro-2-Buten	17.16	53	813051	344.5887	ug/L		79
83)	n-Propylbenzene	17.19	91	10983212	243.3414	ug/L	#	84
84)	Bromobenzene	17.32	156	3524444	302.5677	ug/L		90
85)	1,3,5-Trimethylbenzene	17.43	105	9139237	273.3417	ug/L		87
86)	2-Chlorotoluene	17.50	91	8421256	284.0945	ug/L		90
87)	4-Chlorotoluene	17.56	91	7817104	264.0020	ug/L		87
88)	a-Methylstyrene	17.90	118	6033473	298.7262	ug/L		93
89)	tert-Butylbenzene	17.97	134	2417172	311.6895	ug/L		96
90)	1,2,4-Trimethylbenzene	18.03	105	9394107	268.2108	ug/L		86
91)	sec-Butylbenzene	18.29	105	10454237	261.5056	ug/L		88
92)	p-Isopropyltoluene	18.48	119	9499350	268.0890	ug/L		89
93)	1,3-Dichlorobenzene	18.68	146	6303338	283.5284	ug/L		95
94)	1,4-Dichlorobenzene	18.84	146	6250210	279.7473	ug/L		95
95)	n-Butylbenzene	19.10	91	8435113	275.4496	ug/L		87
96)	1,2-Dichlorobenzene	19.41	146	5833806	279.5434	ug/L		95
97)	1,2-Dibromo-3-Chloropropan	20.58	75	436618	320.4314	ug/L		85
98)	1,2,4-Trichlorobenzene	21.93	180	4557742	299.4576	ug/L		100
99)	Hexachlorobutadiene	22.13	225	1773016	312.7875	ug/L		99
100)	Naphthalene	22.35	128	7750800	280.0590	ug/L		94
101)	1,2,3-Trichlorobenzene	22.73	180	4125684	303.0267	ug/L		99

(#) = qualifier out of range (m) = manual integration
6M142187.D 8260WTR.M Tue Sep 27 10:20:06 2016 Page 2

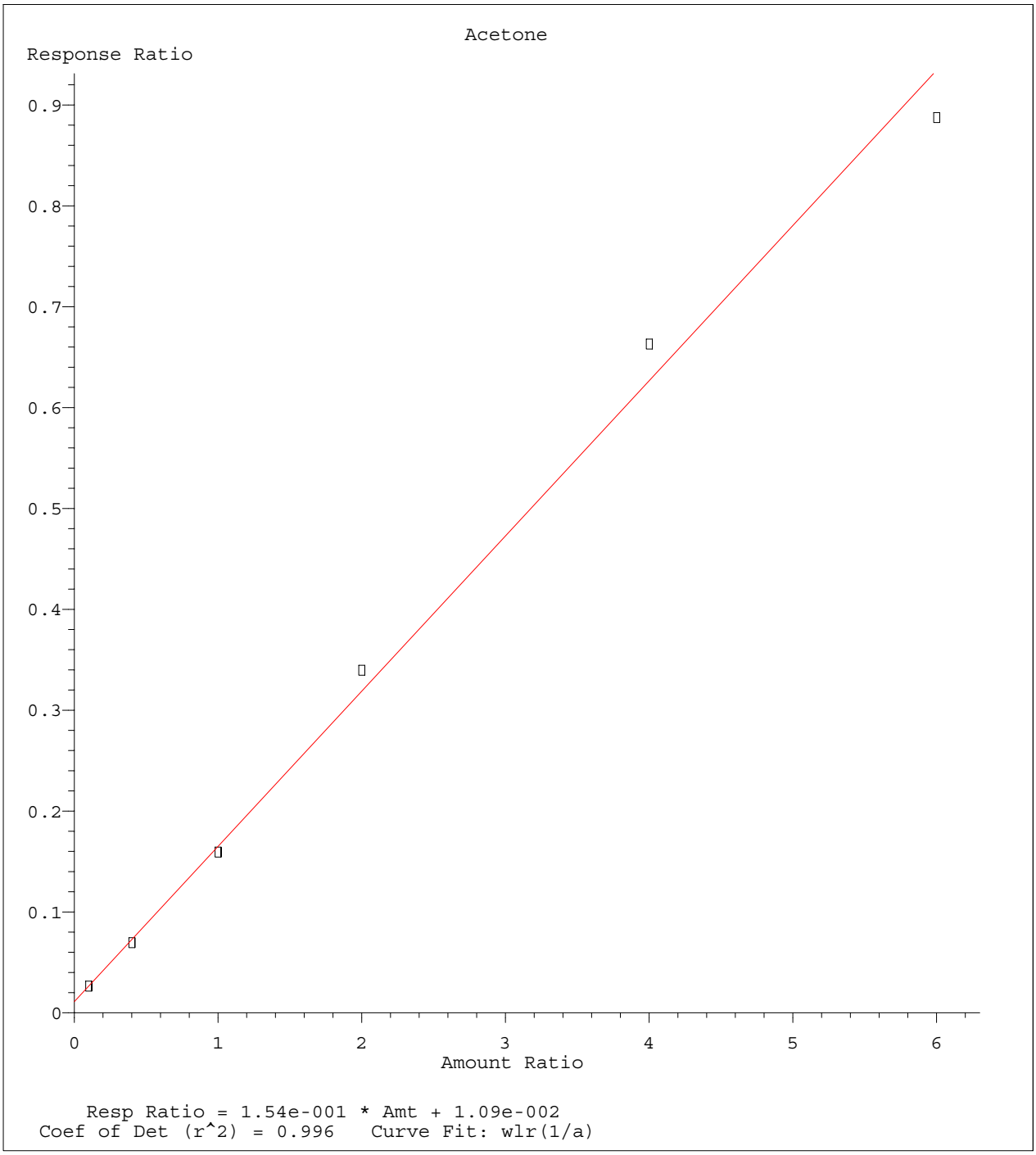
Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142187.D Vial: 11
Acq On : 26 Sep 2016 18:51 Operator: TMB
Sample : WG584797-11 300ug/L STD 8260 Inst : HPMS6
Misc : 1,1 STD78143 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:20 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration

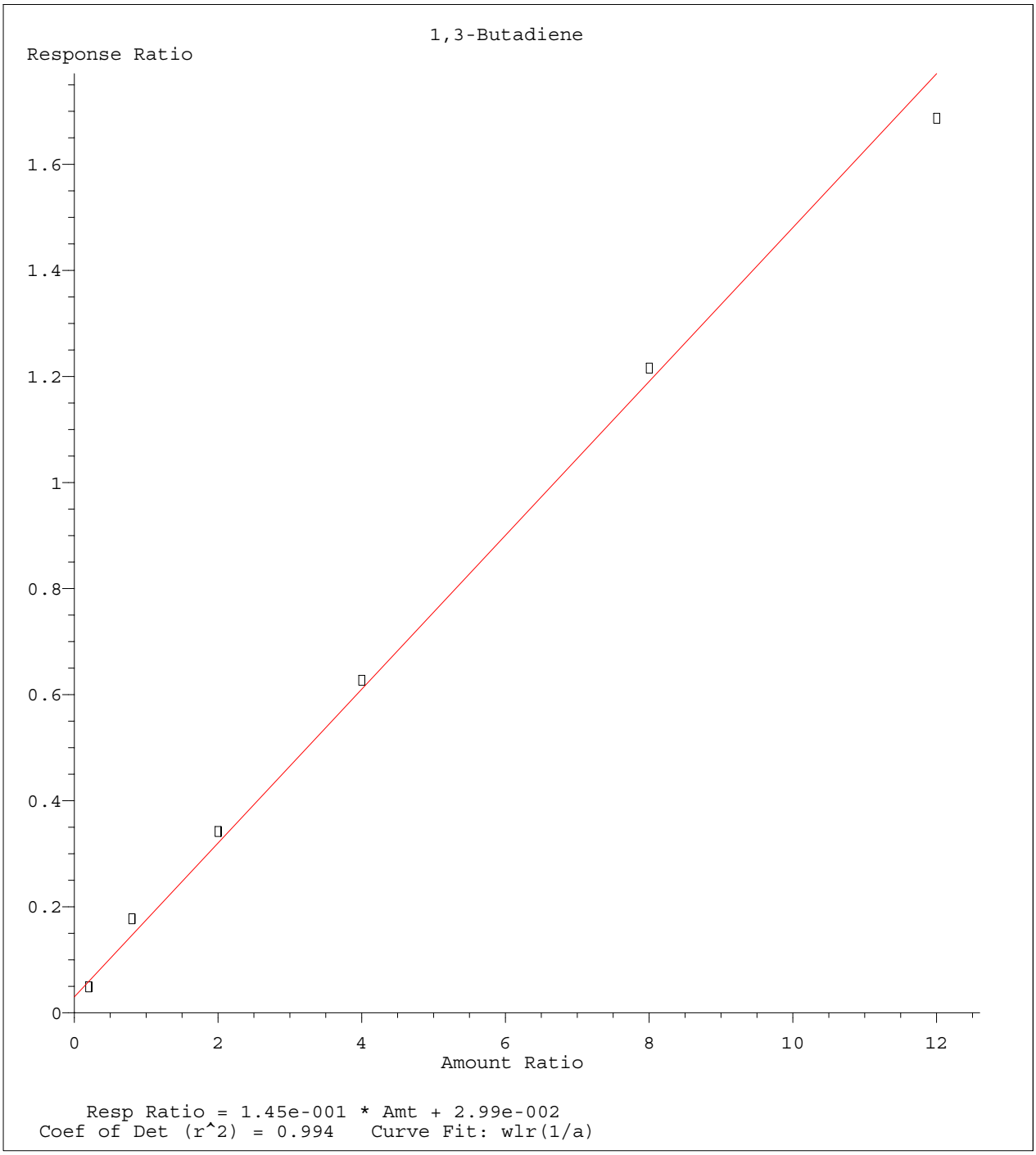




Method Name: C:\MSDCHEM\1\METHODS\8260S.M
Calibration Table Last Updated: Fri Sep 16 14:56:12 2016



Method Name: C:\MSDCHEM\1\METHODS\8260S.M
Calibration Table Last Updated: Fri Sep 16 14:56:12 2016



Method Name: K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M
Calibration Table Last Updated: Tue Sep 27 09:13:49 2016

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142190.D Vial: 14
Acq On : 26 Sep 2016 20:27 Operator: TMB
Sample : WG584797-12 50ug/L ALT SRC STD 8260 Inst : HPMS6
Misc : 1,1 STD78183 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:20:25 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	756396	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	593341	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	343109	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	189415	24.2286 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.92%		
43) 1,2-Dichloroethane-d4	10.29	65	181146	23.1013 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.40%		
58) Toluene-d8	13.02	98	614079	23.0102 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 92.04%		
80) p-Bromofluorobenzene	16.99	95	253251	22.3581 ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 89.44%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.94	85	717443	56.3409 ug/L	98
3) Chloromethane	3.36	50	696075	47.4263 ug/L	100
4) Vinyl Chloride	3.54	62	474149	52.7764 ug/L	100
5) 1,3-Butadiene	3.58	54	161593	31.6548 ug/L	98
6) Bromomethane	4.36	94	237160	45.3496 ug/L	99
7) Chloroethane	4.51	64	312782	55.1034 ug/L	99
8) Trichlorofluoromethane	4.98	101	631879	49.7745 ug/L	99
9) Diethyl ether	5.53	59	648247	103.4871 ug/L	97
10) Isoprene	5.55	67	520504	44.1037 ug/L	95
11) Acrolein	5.78	56	106191	122.5937 ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	5.77	101	401255	52.5343 ug/L	96
13) Acetone	5.89	43	97383	56.2041 ug/L	98
14) 1,1-Dichloroethene	6.08	61	528016	41.9317 ug/L	91
15) Tert-Butyl Alcohol	6.25	59	88981	208.9322 ug/L	91
16) Dimethyl Sulfide	6.37	62	426959	51.6756 ug/L	98
17) Iodomethane	6.63	142	321106	35.9679 ug/L	98
18) Methyl acetate	6.67	43	261810	49.2839 ug/L	98
19) Methylene Chloride	6.92	84	376354	46.0075 ug/L	87
20) Carbon Disulfide	6.94	76	981658	41.1926 ug/L	99
21) Acrylonitrile	7.13	53	121578	51.2768 ug/L	100
22) Methyl Tert Butyl Ether	7.16	73	936951	50.9960 ug/L	97
23) trans-1,2-Dichloroethene	7.40	96	374766	46.9371 ug/L	88
24) n-Hexane	7.48	57	446596	42.7198 ug/L	97
25) Diisopropyl ether	7.88	45	3025176	101.7098 ug/L	97
26) Vinyl Acetate	8.06	43	690511	47.2050 ug/L	97
27) 1,1-Dichloroethane	8.08	63	654965	44.3622 ug/L	100
28) Ethyl-Tert-Butyl ether	8.51	59	2306541	98.2293 ug/L	96
29) 2-Butanone	8.72	43	148560	53.4153 ug/L	100
30) Propionitrile	8.83	54	76773	102.9388 ug/L	99
31) 2,2-Dichloropropane	8.93	77	491283	45.5553 ug/L	95
32) cis-1,2-Dichloroethene	9.00	96	430486	48.7858 ug/L	86
33) Chloroform	9.24	83	652245	45.8599 ug/L	99
34) 1-Bromopropane	9.39	122	91662	58.9236 ug/L	99
35) Bromochloromethane	9.49	130	263166	48.7168 ug/L	100
36) Tetrahydrofuran	9.54	42	189118	93.6792 ug/L	98
38) 1,1,1-Trichloroethane	9.83	97	583395	47.3255 ug/L	96
39) Cyclohexane	9.85	56	636437	47.1805 ug/L	92
40) 1,1-Dichloropropene	10.06	75	476112	45.2094 ug/L	96
41) Tert-Amyl-Methyl ether	10.20	73	1897845	105.1701 ug/L	95
42) Carbon Tetrachloride	10.21	117	549020	48.3619 ug/L	98

(#) = qualifier out of range (m) = manual integration
6M142190.D 8260WTR.M Tue Sep 27 10:20:29 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142190.D Vial: 14
Acq On : 26 Sep 2016 20:27 Operator: TMB
Sample : WG584797-12 50ug/L ALT SRC STD 8260 Inst : HPMS6
Misc : 1,1 STD78183 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:20:25 2016 Quant Results File: 8260WTR.RES

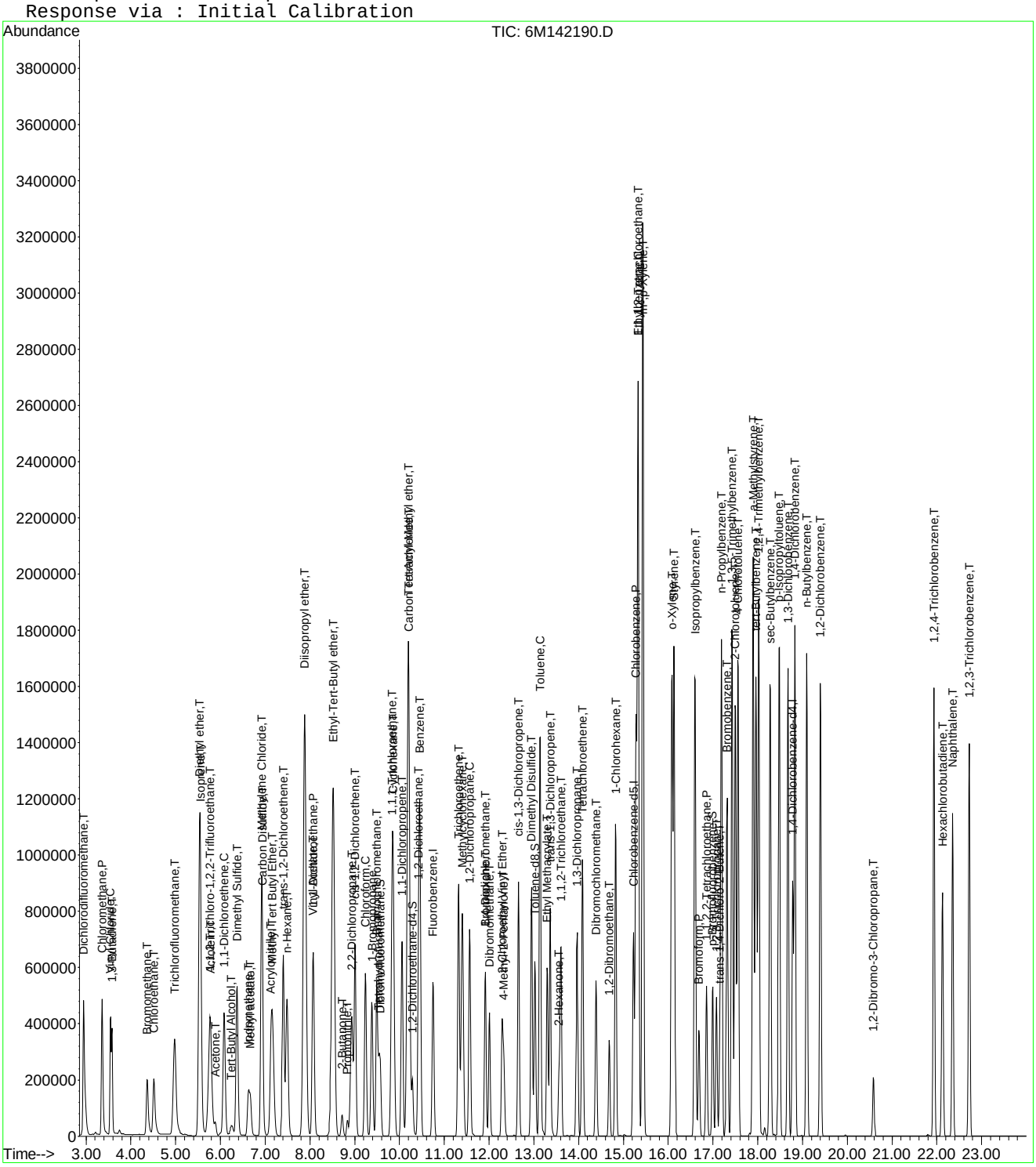
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	501354	48.4326	ug/L	96
46)	Benzene	10.45	78	1429954	46.8261	ug/L	96
47)	Trichloroethene	11.32	130	446252	49.7163	ug/L	88
48)	Methylcyclohexane	11.40	83	559057	47.3828	ug/L	91
49)	1,2-Dichloropropane	11.57	63	398213	49.8937	ug/L	98
50)	1,4-Dioxane	11.91	88	7949	167.9793	ug/L	94
51)	Bromodichloromethane	11.91	83	516594	49.1694	ug/L	99
52)	Dibromomethane	12.01	93	210361	47.5259	ug/L	97
53)	2-Chloroethyl Vinyl Ether	12.29	63	211809	57.0672	ug/L	99
54)	4-Methyl-2-Pentanone	12.32	58	116352	53.3686	ug/L	93
55)	cis-1,3-Dichloropropene	12.66	75	632531	53.8248	ug/L	99
56)	Dimethyl Disulfide	12.95	79	360567	50.3071	ug/L	95
59)	Toluene	13.14	91	1532475	47.6844	ug/L	100
60)	Ethyl Methacrylate	13.29	69	428324	55.3398	ug/L	99
62)	trans-1,3-Dichloropropene	13.36	75	527393	50.0123	ug/L	95
63)	1,1,2-Trichloroethane	13.61	97	300972	50.1856	ug/L	99
64)	2-Hexanone	13.56	43	231527	52.7403	ug/L	96
65)	1,3-Dichloropropane	13.97	76	526671	52.4449	ug/L	99
66)	Tetrachloroethene	14.08	166	431439	47.7058	ug/L	97
67)	Dibromochloromethane	14.39	129	417100	50.9212	ug/L	100
68)	1,2-Dibromoethane	14.68	107	319133	50.7499	ug/L	100
69)	1-Chlorohexane	14.84	91	527272	51.8700	ug/L	90
70)	Chlorobenzene	15.27	112	1132112	49.3260	ug/L	89
71)	1,1,1,2-Tetrachloroethane	15.33	131	433285	50.4500	ug/L	98
72)	Ethylbenzene	15.33	106	590332	47.9539	ug/L	90
73)	m-,p-Xylene	15.44	106	1453898	99.6319	ug/L	90
74)	o-Xylene	16.09	106	727873	50.2152	ug/L	90
75)	Styrene	16.13	104	1247820	50.4228	ug/L	94
76)	Bromoform	16.68	173	263824	43.9505	ug/L	99
77)	Isopropylbenzene	16.60	105	1769088	49.9154	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.86	83	374640	51.2844	ug/L	100
81)	1,2,3-Trichloropropane	17.08	110	116299	52.1194	ug/L	93
82)	trans-1,4-Dichloro-2-Buten	17.15	53	101372	46.8335	ug/L	87
83)	n-Propylbenzene	17.19	91	2056882	49.6766	ug/L	96
84)	Bromobenzene	17.32	156	511079	47.8273	ug/L	89
85)	1,3,5-Trimethylbenzene	17.42	105	1515341	49.4040	ug/L	95
86)	2-Chlorotoluene	17.49	91	1264646	46.5062	ug/L	90
87)	4-Chlorotoluene	17.55	91	1379067	50.7694	ug/L	98
88)	a-Methylstyrene	17.90	118	961845	51.9119	ug/L	96
89)	tert-Butylbenzene	17.96	134	352941	49.6104	ug/L	84
90)	1,2,4-Trimethylbenzene	18.02	105	1572000	48.9248	ug/L	95
91)	sec-Butylbenzene	18.29	105	1834591	50.0246	ug/L	98
92)	p-Isopropyltoluene	18.48	119	1630088	50.1478	ug/L	99
93)	1,3-Dichlorobenzene	18.67	146	1018475	49.9381	ug/L	98
94)	1,4-Dichlorobenzene	18.83	146	1044169	50.9446	ug/L	98
95)	n-Butylbenzene	19.09	91	1391288	49.5249	ug/L	94
96)	1,2-Dichlorobenzene	19.40	146	988954	51.6570	ug/L	98
97)	1,2-Dibromo-3-Chloropropan	20.58	75	69829	55.8631	ug/L	83
98)	1,2,4-Trichlorobenzene	21.93	180	719350	51.5207	ug/L	99
99)	Hexachlorobutadiene	22.13	225	280104	53.8656	ug/L	99
100)	Naphthalene	22.35	128	1298557	51.1470	ug/L	100
101)	1,2,3-Trichlorobenzene	22.73	180	650164	52.0551	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M142190.D 8260WTR.M Tue Sep 27 10:20:30 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142190.D Vial: 14
Acq On : 26 Sep 2016 20:27 Operator: TMB
Sample : WG584797-12 50ug/L ALT SRC STD 8260 Inst : HPMS6
Misc : 1,1 STD78183 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 27 10:20 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142190.D Vial: 14
Acq On : 26 Sep 2016 20:27 Operator: TMB
Sample : WG584797-12 50ug/L ALT SRC STD 8260 Inst : HPMS6
Misc : 1,1 STD78183 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	96	0.00
2	T	Dichlorodifluoromethane	50.0000	56.3409	-12.7	101	0.00
3	P	Chloromethane	50.0000	47.4263	5.1	89	0.00
4	C	Vinyl Chloride	50.0000	52.7764	-5.6	102	0.00
5	T	1,3-Butadiene	50.0000	31.6548	36.7#	60	0.00
6	T	Bromomethane	50.0000	45.3496	9.3	91	-0.01
7	T	Chloroethane	50.0000	55.1034	-10.2	101	0.00
8	T	Trichlorofluoromethane	50.0000	49.7745	0.5	91	0.00
9	T	Diethyl ether	100.0000	103.4871	-3.5	99	0.00
10	T	Isoprene	50.0000	44.1037	11.8	83	0.00
11	T	Acrolein	50.0000	122.5937	-145.2#	236	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	52.5343	-5.1	99	0.00
13	T	Acetone	50.0000	56.2041	-12.4	107	0.00
14	C	1,1-Dichloroethene	50.0000	41.9318	16.1	80	0.00
15	T	Tert-Butyl Alcohol	200.0000	208.9322	-4.5	95	-0.01
16	T	Dimethyl Sulfide	50.0000	51.6756	-3.4	96	0.00
17	T	Iodomethane	50.0000	35.9679	28.1#	64	0.00
18	T	Methyl acetate	50.0000	49.2839	1.4	93	0.00
19	T	Methylene Chloride	50.0000	46.0075	8.0	89	0.00
20	T	Carbon Disulfide	50.0000	41.1926	17.6	75	0.00
21	T	Acrylonitrile	50.0000	51.2768	-2.6	94	0.00
22	T	Methyl Tert Butyl Ether	50.0000	50.9960	-2.0	96	0.00
23	T	trans-1,2-Dichloroethene	50.0000	46.9371	6.1	89	0.00
24	T	n-Hexane	50.0000	42.7198	14.6	79	0.00
25	T	Diisopropyl ether	100.0000	101.7098	-1.7	97	0.00
26	T	Vinyl Acetate	50.0000	47.2049	5.6	89	0.00
27	P	1,1-Dichloroethane	50.0000	44.3623	11.3	85	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	98.2293	1.8	93	0.00
29	T	2-Butanone	50.0000	53.4153	-6.8	102	0.00
30	T	Propionitrile	100.0000	102.9388	-2.9	94	-0.01
31	T	2,2-Dichloropropane	50.0000	45.5553	8.9	86	0.00
32	T	cis-1,2-Dichloroethene	50.0000	48.7858	2.4	93	0.00
33	C	Chloroform	50.0000	45.8599	8.3	89	0.00
34		1-Bromopropane	50.0000	58.9236	-17.8	101	0.00
35	T	Bromochloromethane	50.0000	48.7168	2.6	90	0.00
36	T	Tetrahydrofuran	100.0000	93.6792	6.3	93	0.00
37	S	Dibromofluoromethane	25.0000	24.2286	3.1	90	0.00
38	T	1,1,1-Trichloroethane	50.0000	47.3255	5.3	89	0.00
39	T	Cyclohexane	50.0000	47.1805	5.6	87	0.00
40	T	1,1-Dichloropropene	50.0000	45.2094	9.6	87	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	105.1702	-5.2	98	0.00
42	T	Carbon Tetrachloride	50.0000	48.3619	3.3	88	0.00
43	S	1,2-Dichloroethane-d4	25.0000	23.1013	7.6	89	0.00
44		Heptane	-1.0000	0.0000	0.0	96	0.00
45	T	1,2-Dichloroethane	50.0000	48.4326	3.1	91	0.00
46	T	Benzene	50.0000	46.8261	6.3	90	0.00
47	T	Trichloroethene	50.0000	49.7163	0.6	94	0.00
48	T	Methylcyclohexane	50.0000	47.3828	5.2	89	0.00
49	C	1,2-Dichloropropane	50.0000	49.8937	0.2	94	0.00
50	T	1,4-Dioxane	200.0000	167.9793	16.0	71	0.00
51	T	Bromodichloromethane	50.0000	49.1694	1.7	90	0.00
52	T	Dibromomethane	50.0000	47.5260	4.9	87	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	57.0672	-14.1	100	0.00
54	T	4-Methyl-2-Pentanone	50.0000	53.3686	-6.7	101	-0.01

(#) = Out of Range
6M142190.D 8260WTR.M Tue Sep 27 10:23:08 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142190.D Vial: 14
Acq On : 26 Sep 2016 20:27 Operator: TMB
Sample : WG584797-12 50ug/L ALT SRC STD 8260 Inst : HPMS6
Misc : 1,1 STD78183 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	53.8248	-7.6	98	0.00
56	T	Dimethyl Disulfide	50.0000	50.3071	-0.6	93	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	95	0.00
58	S	Toluene-d8	25.0000	23.0101	8.0	89	0.00
59	C	Toluene	50.0000	47.6844	4.6	90	0.00
60	T	Ethyl Methacrylate	50.0000	55.3398	-10.7	96	-0.01
61		Paraldehyde	-1.0000	0.0000	0.0	89	0.00
62	T	trans-1,3-Dichloropropene	50.0000	50.0123	-0.0	91	0.00
63	T	1,1,2-Trichloroethane	50.0000	50.1856	-0.4	93	0.00
64	T	2-Hexanone	50.0000	52.7403	-5.5	100	-0.01
65	T	1,3-Dichloropropane	50.0000	52.4449	-4.9	97	0.00
66	T	Tetrachloroethene	50.0000	47.7058	4.6	91	0.00
67	T	Dibromochloromethane	50.0000	50.9212	-1.8	92	0.00
68	T	1,2-Dibromoethane	50.0000	50.7499	-1.5	92	0.00
69	T	1-Chlorohexane	50.0000	51.8700	-3.7	92	0.00
70	P	Chlorobenzene	50.0000	49.3260	1.3	93	-0.01
71	T	1,1,1,2-Tetrachloroethane	50.0000	50.4500	-0.9	91	0.00
72	C	Ethylbenzene	50.0000	47.9539	4.1	91	0.00
73	T	m-,p-Xylene	100.0000	99.6319	0.4	92	0.00
74	T	o-Xylene	50.0000	50.2152	-0.4	94	0.00
75	T	Styrene	50.0000	50.4228	-0.8	92	-0.01
76	P	Bromoform	50.0000	43.9505	12.1	88	-0.01
77	T	Isopropylbenzene	50.0000	49.9154	0.2	92	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	96	-0.01
79	P	1,1,2,2-Tetrachloroethane	50.0000	51.2844	-2.6	95	0.00
80	S	p-Bromofluorobenzene	25.0000	22.3581	10.6	87	-0.01
81	T	1,2,3-Trichloropropane	50.0000	52.1194	-4.2	96	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	46.8335	6.3	82	-0.01
83	T	n-Propylbenzene	50.0000	49.6766	0.6	93	0.00
84	T	Bromobenzene	50.0000	47.8273	4.3	91	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	49.4040	1.2	92	-0.01
86	T	2-Chlorotoluene	50.0000	46.5062	7.0	86	-0.01
87	T	4-Chlorotoluene	50.0000	50.7694	-1.5	100	-0.01
88	T	a-Methylstyrene	50.0000	51.9119	-3.8	96	0.00
89	T	tert-Butylbenzene	50.0000	49.6104	0.8	95	-0.01
90	T	1,2,4-Trimethylbenzene	50.0000	48.9248	2.2	91	-0.01
91	T	sec-Butylbenzene	50.0000	50.0246	-0.0	93	0.00
92	T	p-Isopropyltoluene	50.0000	50.1478	-0.3	92	0.00
93	T	1,3-Dichlorobenzene	50.0000	49.9381	0.1	94	0.00
94	T	1,4-Dichlorobenzene	50.0000	50.9446	-1.9	97	-0.01
95	T	n-Butylbenzene	50.0000	49.5249	1.0	92	-0.01
96	T	1,2-Dichlorobenzene	50.0000	51.6570	-3.3	99	-0.01
97	T	1,2-Dibromo-3-Chloropropane	50.0000	55.8631	-11.7	99	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	51.5207	-3.0	99	0.00
99	T	Hexachlorobutadiene	50.0000	53.8656	-7.7	105	0.00
100	T	Naphthalene	50.0000	51.1470	-2.3	89	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	52.0551	-4.1	97	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M142190.D 8260WTR.M Tue Sep 27 10:23:09 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\101716\11M14559.D Vial: 1
Acq On : 17 Oct 2016 13:05 Operator: FJB
Sample : WG587866-02 50ug/L CCV 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 17 13:26:57 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	816915	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	624150	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	321680	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	232941	23.7049	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.80%			
43) 1,2-Dichloroethane-d4	10.18	65	244905	22.1987	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 88.80%			
57) Toluene-d8	12.43	98	818216	24.7376	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.96%			
78) p-Bromofluorobenzene	15.59	95	313070	24.3265	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	701315	50.6020	ug/L	96
3) Chloromethane	3.66	50	710651	46.7517	ug/L	97
4) Vinyl Chloride	3.90	62	665002	49.0608	ug/L	99
5) 1,3-Butadiene	3.94	54	639158	57.9265	ug/L	98
6) Bromomethane	4.80	94	374585	57.0329	ug/L	100
7) Chloroethane	4.94	64	383207	48.2569	ug/L	99
8) Trichlorofluoromethane	5.43	101	781538	49.5376	ug/L	100
9) Diethyl ether	5.95	59	690335	89.5178	ug/L	95
10) Isoprene	5.99	67	706381	49.0626	ug/L	97
11) Acrolein	6.17	56	43591	67.8418	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	434304	51.1857	ug/L	96
13) Acetone	6.27	43	109329	34.4956	ug/L	90
14) 1,1-Dichloroethene	6.50	61	820267	48.6547	ug/L	95
15) Tert-Butyl Alcohol	6.60	59	88155	107.7645	ug/L	98
16) Dimethyl Sulfide	6.75	62	542908	46.9852	ug/L	93
17) Iodomethane	7.00	142	543556	48.5366	ug/L	97
18) Methyl acetate	7.01	43	387304	41.4381	ug/L	97
19) Methylene Chloride	7.26	84	449883	46.9390	ug/L	91
20) Carbon Disulfide	7.31	76	1345846	48.1618	ug/L	100
21) Acrylonitrile	7.43	53	187267	43.9795	ug/L	100
22) Methyl Tert Butyl Ether	7.47	73	1099214	46.6454	ug/L	99
23) trans-1,2-Dichloroethene	7.70	96	454791	47.6037	ug/L	96
24) n-Hexane	7.77	57	880248	53.8790	ug/L	100
25) Diisopropyl ether	8.10	45	4311491	93.3106	ug/L	97
26) Vinyl Acetate	8.26	43	1224630	49.5851	ug/L	98
27) 1,1-Dichloroethane	8.29	63	933807	47.6908	ug/L	100
28) Ethyl-Tert-Butyl ether	8.64	59	3188566	93.0528	ug/L	99
29) 2-Butanone	8.82	43	206714	38.8179	ug/L	99
30) Propionitrile	8.93	54	112972	76.5673	ug/L	100
31) 2,2-Dichloropropane	9.04	77	685926	51.4048	ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	512678	48.7271	ug/L	97
33) Chloroform	9.31	83	785934	45.7469	ug/L	99
34) 1-Bromopropane	9.43	122	89438	49.6303	ug/L	96
35) Bromochloromethane	9.52	130	317803	46.8573	ug/L	92
36) Tetrahydrofuran	9.54	42	285376	78.7097	ug/L	94
38) 1,1,1-Trichloroethane	9.81	97	735223	48.5366	ug/L	95
39) Cyclohexane	9.84	56	1107379	49.8702	ug/L	100
40) 1,1-Dichloropropene	10.00	75	607856	48.4743	ug/L	99
41) Carbon Tetrachloride	10.13	117	688709	48.6612	ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	2162128	93.1784	ug/L	95

(#) = qualifier out of range (m) = manual integration
11M14559.D 8260WT.M Mon Oct 17 13:26:59 2016 Page 1

Data File : C:\MSDchem\1\data\101716\11M14559.D Vial: 1
Acq On : 17 Oct 2016 13:05 Operator: FJB
Sample : WG587866-02 50ug/L CCV 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 17 13:26:57 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

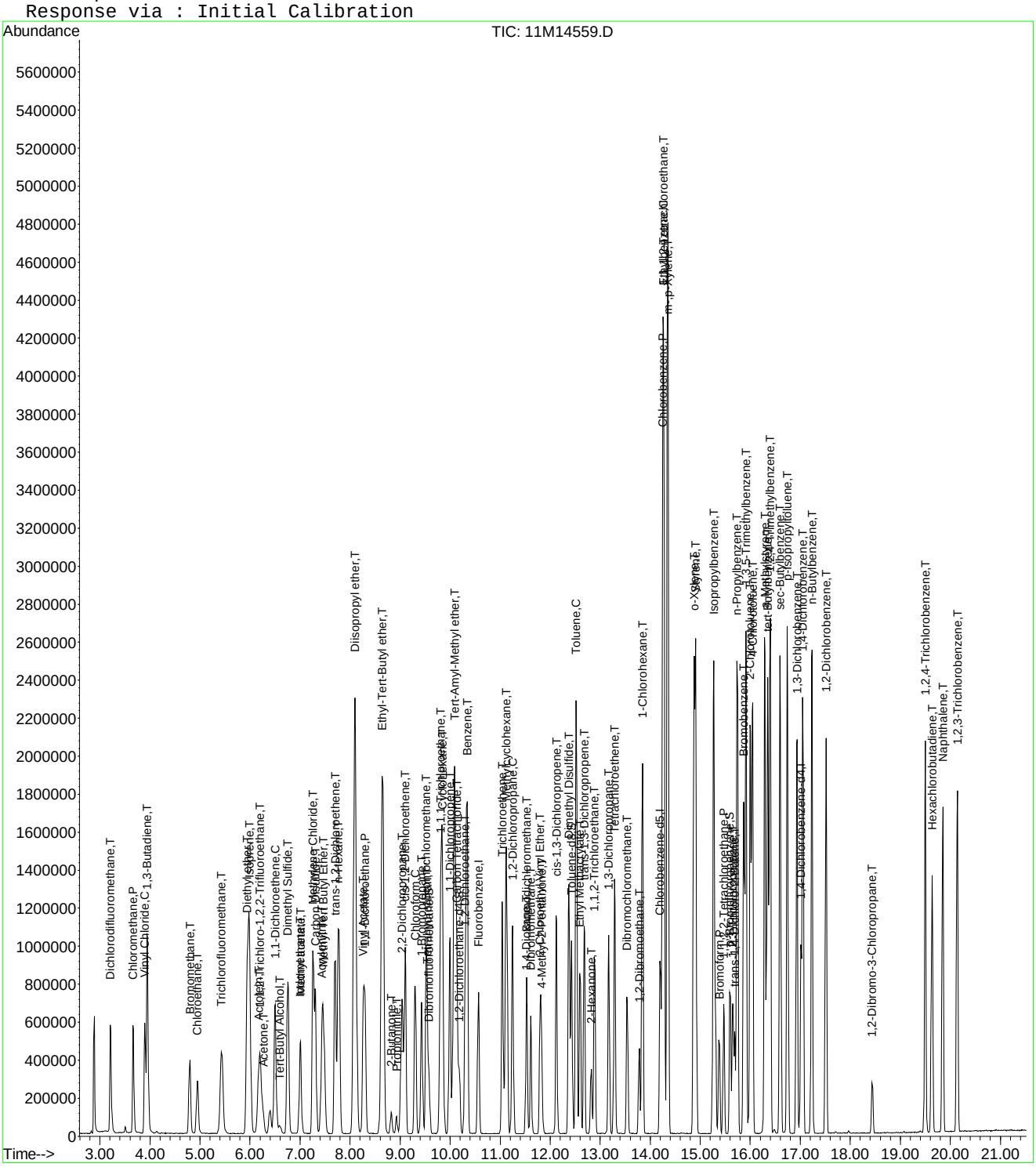
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	679590	46.0464	ug/L	99
45)	Benzene	10.34	78	1800901	48.6184	ug/L	99
46)	Trichloroethene	11.04	130	508599	47.4729	ug/L	98
47)	Methylcyclohexane	11.13	83	776730	53.4813	ug/L	97
48)	1,2-Dichloropropane	11.25	63	523964	47.9890	ug/L	98
49)	1,4-Dioxane	11.52	88	6959	91.4339	ug/L	94
50)	Bromodichloromethane	11.53	83	616386	47.4834	ug/L	99
51)	Dibromomethane	11.61	93	265343	45.8359	ug/L	98
52)	2-Chloroethyl Vinyl Ether	11.80	63	287033	44.8817	ug/L	98
53)	4-Methyl-2-Pentanone	11.83	58	162872	41.4813	ug/L	99
54)	cis-1,3-Dichloropropene	12.13	75	708317	49.3673	ug/L	100
55)	Dimethyl Disulfide	12.38	79	414746	48.1639	ug/L	97
58)	Toluene	12.52	91	1969277	50.1048	ug/L	99
59)	Ethyl Methacrylate	12.59	69	477300	47.5121	ug/L	89
60)	trans-1,3-Dichloropropene	12.68	75	635808	49.4093	ug/L	99
61)	1,1,2-Trichloroethane	12.88	97	367557	48.0675	ug/L	98
62)	2-Hexanone	12.82	43	317290	38.4950	ug/L	94
63)	1,3-Dichloropropane	13.17	76	596944	46.4396	ug/L	88
64)	Tetrachloroethene	13.29	164	417220	48.9073	ug/L	99
65)	Dibromochloromethane	13.53	129	497538	48.5451	ug/L	99
66)	1,2-Dibromoethane	13.78	107	367230	46.6521	ug/L	100
67)	1-Chlorohexane	13.84	91	662822	52.2594	ug/L	93
68)	Chlorobenzene	14.25	112	1350484	48.4229	ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.27	131	494214	49.6837	ug/L	99
70)	Ethylbenzene	14.27	106	711498	49.8925	ug/L	98
71)	m-,p-Xylene	14.35	106	1692410	100.7313	ug/L	99
72)	o-Xylene	14.88	106	838605	50.7405	ug/L	100
73)	Styrene	14.91	104	1434240	51.1232	ug/L	98
74)	Bromoform	15.39	173	311632	46.8873	ug/L	98
75)	Isopropylbenzene	15.27	105	2183644	51.5690	ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	432778	47.7061	ug/L	99
79)	1,2,3-Trichloropropane	15.65	110	131353	47.7456	ug/L	97
80)	trans-1,4-Dichloro-2-Buten	15.69	53	177022	47.7762	ug/L	94
81)	n-Propylbenzene	15.74	91	2593655	54.1928	ug/L	99
82)	Bromobenzene	15.87	156	597810	48.7345	ug/L	95
83)	1,3,5-Trimethylbenzene	15.91	105	1863590	54.2878	ug/L	100
84)	2-Chlorotoluene	16.00	91	1528844	50.4812	ug/L	87
85)	4-Chlorotoluene	16.05	91	1646328	53.3735	ug/L	89
86)	a-Methylstyrene	16.30	118	1067580	52.9099	ug/L	99
87)	tert-Butylbenzene	16.35	134	401668	53.4846	ug/L	98
88)	1,2,4-Trimethylbenzene	16.40	105	1896472	53.7031	ug/L	99
89)	sec-Butylbenzene	16.60	105	2366585	54.4409	ug/L	99
90)	p-Isopropyltoluene	16.74	119	2083838	55.0884	ug/L	100
91)	1,3-Dichlorobenzene	16.94	146	1138653	50.3496	ug/L	99
92)	1,4-Dichlorobenzene	17.05	146	1131068	48.8059	ug/L	99
93)	n-Butylbenzene	17.24	91	1906415	53.7169	ug/L	99
94)	1,2-Dichlorobenzene	17.52	146	1073077	49.6723	ug/L	98
95)	1,2-Dibromo-3-Chloropropan	18.44	75	76953	44.1318	ug/L	90
96)	1,2,4-Trichlorobenzene	19.50	180	802480	50.0881	ug/L	100
97)	Hexachlorobutadiene	19.63	225	348142	55.5206	ug/L	98
98)	Naphthalene	19.85	128	1681145	50.4701	ug/L	99
99)	1,2,3-Trichlorobenzene	20.14	180	746740	48.3032	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M14559.D 8260WT.M Mon Oct 17 13:26:59 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\101716\11M14559.D Vial: 1
Acq On : 17 Oct 2016 13:05 Operator: FJB
Sample : WG587866-02 50ug/L CCV 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 17 13:26 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101716\11M14559.D Vial: 1
Acq On : 17 Oct 2016 13:05 Operator: FJB
Sample : WG587866-02 50ug/L CCV 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
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	Fluorobenzene	1.0000	1.0000	0.0	112	0.00
2	T	Dichlorodifluoromethane	0.4241	0.4293	-1.2	104	0.00
3	P	Chloromethane	0.4652	0.4350	6.5	109	0.00
4	C	Vinyl Chloride	0.4148	0.4070	1.9	106	0.00
5	T	1,3-Butadiene	0.3377	0.3912	-15.9	129	0.00
6	T	Bromomethane	0.2010	0.2293	-14.1	131	0.00
7	T	Chloroethane	0.2430	0.2346	3.5	105	-0.01
8	T	Trichlorofluoromethane	0.4828	0.4784	0.9	106	0.00
9	T	Diethyl ether	0.2360	0.2113	10.5	99	0.00
10	T	Isoprene	0.4406	0.4324	1.9	109	0.00
11	T	Acrolein	0.0197	0.0267	-35.7#	164#	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2597	0.2658	-2.4	109	0.00
13	T	Acetone	0.0970	0.0669	31.0#	83	-0.01
14	C	1,1-Dichloroethene	0.5159	0.5021	2.7	105	0.01
15	T	Tert-Butyl Alcohol	0.0250	0.0135	46.1#	64	0.00
16	T	Dimethyl Sulfide	0.3536	0.3323	6.0	105	0.00
17	T	Iodomethane	0.2694	0.3327	-23.5	107	0.00
18	T	Methyl acetate	0.2860	0.2371	17.1	97	0.00
19	T	Methylene Chloride	0.2933	0.2753	6.1	104	0.00
20	T	Carbon Disulfide	0.8552	0.8237	3.7	106	0.00
21	T	Acrylonitrile	0.1303	0.1146	12.0	96	0.00
22	T	Methyl Tert Butyl Ether	0.7212	0.6728	6.7	102	0.00
23	T	trans-1,2-Dichloroethene	0.2924	0.2784	4.8	106	0.00
24	T	n-Hexane	0.5000	0.5388	-7.8	117	0.00
25	T	Diisopropyl ether	1.4140	1.3194	6.7	103	0.00
26	T	Vinyl Acetate	0.7558	0.7496	0.8	110	0.00
27	P	1,1-Dichloroethane	0.5992	0.5715	4.6	104	0.00
28	T	Ethyl-Tert-Butyl ether	1.0487	0.9758	6.9	103	0.00
29	T	2-Butanone	0.1630	0.1265	22.4	90	0.00
30	T	Propionitrile	0.0452	0.0346	23.4	88	0.01
31	T	2,2-Dichloropropane	0.4083	0.4198	-2.8	114	0.00
32	T	cis-1,2-Dichloroethene	0.3220	0.3138	2.5	105	0.00
33	C	Chloroform	0.5258	0.4810	8.5	103	0.00
34	T	1-Bromopropane	0.0551	0.0547	0.7	109	0.00
35	T	Bromochloromethane	0.2076	0.1945	6.3	105	0.00
36	T	Tetrahydrofuran	0.1192	0.0873	26.8#	91	0.00
37	S	Dibromofluoromethane	0.3007	0.2852	5.2	105	0.00
38	T	1,1,1-Trichloroethane	0.4636	0.4500	2.9	105	0.00
39	T	Cyclohexane	0.6795	0.6778	0.3	110	0.00
40	T	1,1-Dichloropropene	0.3837	0.3720	3.1	106	0.00
41	T	Carbon Tetrachloride	0.4331	0.4215	2.7	104	0.00
42	T	Tert-Amyl-Methyl ether	0.7101	0.6617	6.8	104	0.00
43	S	1,2-Dichloroethane-d4	0.3376	0.2998	11.2	99	0.00
44	T	1,2-Dichloroethane	0.4517	0.4159	7.9	101	0.00
45	T	Benzene	1.1336	1.1023	2.8	106	0.00
46	T	Trichloroethene	0.3279	0.3113	5.1	105	0.00
47	T	Methylcyclohexane	0.4445	0.4754	-7.0	117	0.00
48	C	1,2-Dichloropropane	0.3341	0.3207	4.0	105	0.00
49	T	1,4-Dioxane	0.0023	0.0011	54.5#	53	0.01
50	T	Bromodichloromethane	0.3973	0.3773	5.0	103	0.00
51	T	Dibromomethane	0.1772	0.1624	8.3	102	0.00
52	T	2-Chloroethyl Vinyl Ether	0.1957	0.1757	10.2	102	0.00
53	T	4-Methyl-2-Pentanone	0.1202	0.0997	17.0	98	0.00
54	T	cis-1,3-Dichloropropene	0.4391	0.4335	1.3	105	0.01

(#) = Out of Range
11M14559.D 8260WT.M Mon Oct 17 13:32:36 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101716\11M14559.D Vial: 1
Acq On : 17 Oct 2016 13:05 Operator: FJB
Sample : WG587866-02 50ug/L CCV 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
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)
55	T	Dimethyl Disulfide	0.2635	0.2539	3.7	106	0.00
56	I	Chlorobenzene-d5	1.0000	1.0000	0.0	109	0.00
57	S	Toluene-d8	1.3248	1.3109	1.0	107	0.00
58	C	Toluene	1.5743	1.5776	-0.2	106	0.00
59	T	Ethyl Methacrylate	0.4024	0.3824	5.0	102	0.00
60	T	trans-1,3-Dichloropropene	0.5154	0.5093	1.2	105	0.00
61	T	1,1,2-Trichloroethane	0.3063	0.2944	3.9	102	0.00
62	T	2-Hexanone	0.3301	0.2542	23.0	91	0.00
63	T	1,3-Dichloropropane	0.5149	0.4782	7.1	102	0.00
64	T	Tetrachloroethene	0.3417	0.3342	2.2	109	0.00
65	T	Dibromochloromethane	0.4105	0.3986	2.9	104	0.00
66	T	1,2-Dibromoethane	0.3153	0.2942	6.7	102	0.00
67	T	1-Chlorohexane	0.5080	0.5310	-4.5	111	0.00
68	P	Chlorobenzene	1.1171	1.0819	3.2	105	0.00
69	T	1,1,1,2-Tetrachloroethane	0.3984	0.3959	0.6	105	0.00
70	C	Ethylbenzene	0.5712	0.5700	0.2	106	0.00
71	T	m-,p-Xylene	0.6730	0.6779	-0.7	107	0.00
72	T	o-Xylene	0.6620	0.6718	-1.5	106	0.00
73	T	Styrene	1.1237	1.1489	-2.2	105	0.00
74	P	Bromoform	0.2662	0.2497	6.2	100	0.01
75	T	Isopropylbenzene	1.6961	1.7493	-3.1	108	0.00
76	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	107	0.00
77	P	1,1,2,2-Tetrachloroethane	0.7050	0.6727	4.6	103	0.00
78	S	p-Bromofluorobenzene	1.0002	0.9732	2.7	104	0.00
79	T	1,2,3-Trichloropropane	0.2138	0.2042	4.5	102	0.00
80	T	trans-1,4-Dichloro-2-Butene	0.2880	0.2752	4.4	100	0.00
81	T	n-Propylbenzene	3.7195	4.0314	-8.4	107	0.00
82	T	Bromobenzene	0.9533	0.9292	2.5	106	0.00
83	T	1,3,5-Trimethylbenzene	2.6679	2.8967	-8.6	109	0.00
84	T	2-Chlorotoluene	2.3537	2.3763	-1.0	103	0.00
85	T	4-Chlorotoluene	2.3972	2.5589	-6.7	108	0.01
86	T	a-Methylstyrene	1.5681	1.6594	-5.8	108	0.01
87	T	tert-Butylbenzene	0.5837	0.6243	-7.0	108	0.00
88	T	1,2,4-Trimethylbenzene	2.7445	2.9478	-7.4	107	0.00
89	T	sec-Butylbenzene	3.3784	3.6785	-8.9	109	0.00
90	T	p-Isopropyltoluene	2.9398	3.2390	-10.2	109	0.00
91	T	1,3-Dichlorobenzene	1.7576	1.7698	-0.7	106	0.00
92	T	1,4-Dichlorobenzene	1.8011	1.7581	2.4	105	0.00
93	T	n-Butylbenzene	2.7582	2.9632	-7.4	109	0.01
94	T	1,2-Dichlorobenzene	1.6789	1.6679	0.7	106	0.00
95	T	1,2-Dibromo-3-Chloropropane	0.1355	0.1196	11.7	97	0.00
96	T	1,2,4-Trichlorobenzene	1.2451	1.2473	-0.2	107	0.00
97	T	Hexachlorobutadiene	0.4873	0.5411	-11.0	123	0.00
98	T	Naphthalene	2.5887	2.6131	-0.9	101	0.00
99	T	1,2,3-Trichlorobenzene	1.2015	1.1607	3.4	108	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M14559.D 8260WT.M Mon Oct 17 13:32:37 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\101716\11M14559.D Vial: 1
Acq On : 17 Oct 2016 13:05 Operator: FJB
Sample : WG587866-02 50ug/L CCV 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
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	Fluorobenzene	25.0000	25.0000	0.0	112	0.00
2	T	Dichlorodifluoromethane	50.0000	50.6020	-1.2	104	0.00
3	P	Chloromethane	50.0000	46.7517	6.5	109	0.00
4	C	Vinyl Chloride	50.0000	49.0608	1.9	106	0.00
5	T	1,3-Butadiene	50.0000	57.9265	-15.9	129	0.00
6	T	Bromomethane	50.0000	57.0329	-14.1	131	0.00
7	T	Chloroethane	50.0000	48.2569	3.5	105	-0.01
8	T	Trichlorofluoromethane	50.0000	49.5376	0.9	106	0.00
9	T	Diethyl ether	100.0000	89.5178	10.5	99	0.00
10	T	Isoprene	50.0000	49.0626	1.9	109	0.00
11	T	Acrolein	50.0000	67.8418	-35.7#	164	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	51.1857	-2.4	109	0.00
13	T	Acetone	50.0000	34.4956	31.0#	83	-0.01
14	C	1,1-Dichloroethene	50.0000	48.6547	2.7	105	0.01
15	T	Tert-Butyl Alcohol	200.0000	107.7645	46.1#	64	0.00
16	T	Dimethyl Sulfide	50.0000	46.9852	6.0	105	0.00
17	T	Iodomethane	50.0000	48.5366	2.9	107	0.00
18	T	Methyl acetate	50.0000	41.4381	17.1	97	0.00
19	T	Methylene Chloride	50.0000	46.9390	6.1	104	0.00
20	T	Carbon Disulfide	50.0000	48.1618	3.7	106	0.00
21	T	Acrylonitrile	50.0000	43.9795	12.0	96	0.00
22	T	Methyl Tert Butyl Ether	50.0000	46.6454	6.7	102	0.00
23	T	trans-1,2-Dichloroethene	50.0000	47.6037	4.8	106	0.00
24	T	n-Hexane	50.0000	53.8790	-7.8	117	0.00
25	T	Diisopropyl ether	100.0000	93.3106	6.7	103	0.00
26	T	Vinyl Acetate	50.0000	49.5851	0.8	110	0.00
27	P	1,1-Dichloroethane	50.0000	47.6908	4.6	104	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	93.0528	6.9	103	0.00
29	T	2-Butanone	50.0000	38.8180	22.4	90	0.00
30	T	Propionitrile	100.0000	76.5673	23.4	88	0.01
31	T	2,2-Dichloropropane	50.0000	51.4049	-2.8	114	0.00
32	T	cis-1,2-Dichloroethene	50.0000	48.7270	2.5	105	0.00
33	C	Chloroform	50.0000	45.7469	8.5	103	0.00
34	T	1-Bromopropane	50.0000	49.6303	0.7	109	0.00
35	T	Bromochloromethane	50.0000	46.8573	6.3	105	0.00
36	T	Tetrahydrofuran	100.0000	78.7097	21.3	91	0.00
37	S	Dibromofluoromethane	25.0000	23.7049	5.2	105	0.00
38	T	1,1,1-Trichloroethane	50.0000	48.5366	2.9	105	0.00
39	T	Cyclohexane	50.0000	49.8702	0.3	110	0.00
40	T	1,1-Dichloropropene	50.0000	48.4743	3.1	106	0.00
41	T	Carbon Tetrachloride	50.0000	48.6612	2.7	104	0.00
42	T	Tert-Amyl-Methyl ether	100.0000	93.1784	6.8	104	0.00
43	S	1,2-Dichloroethane-d4	25.0000	22.1987	11.2	99	0.00
44	T	1,2-Dichloroethane	50.0000	46.0464	7.9	101	0.00
45	T	Benzene	50.0000	48.6184	2.8	106	0.00
46	T	Trichloroethene	50.0000	47.4729	5.1	105	0.00
47	T	Methylcyclohexane	50.0000	53.4813	-7.0	117	0.00
48	C	1,2-Dichloropropane	50.0000	47.9890	4.0	105	0.00
49	T	1,4-Dioxane	200.0000	91.4339	54.3#	53	0.01
50	T	Bromodichloromethane	50.0000	47.4834	5.0	103	0.00
51	T	Dibromomethane	50.0000	45.8359	8.3	102	0.00
52	T	2-Chloroethyl Vinyl Ether	50.0000	44.8817	10.2	102	0.00
53	T	4-Methyl-2-Pentanone	50.0000	41.4813	17.0	98	0.00
54	T	cis-1,3-Dichloropropene	50.0000	49.3674	1.3	105	0.01

(#) = Out of Range
11M14559.D 8260WT.M Mon Oct 17 13:32:40 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101716\11M14559.D Vial: 1
Acq On : 17 Oct 2016 13:05 Operator: FJB
Sample : WG587866-02 50ug/L CCV 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
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)
55	T	Dimethyl Disulfide	50.0000	48.1639	3.7	106	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	109	0.00
57	S	Toluene-d8	25.0000	24.7376	1.0	107	0.00
58	C	Toluene	50.0000	50.1048	-0.2	106	0.00
59	T	Ethyl Methacrylate	50.0000	47.5121	5.0	102	0.00
60	T	trans-1,3-Dichloropropene	50.0000	49.4093	1.2	105	0.00
61	T	1,1,2-Trichloroethane	50.0000	48.0675	3.9	102	0.00
62	T	2-Hexanone	50.0000	38.4950	23.0	91	0.00
63	T	1,3-Dichloropropane	50.0000	46.4396	7.1	102	0.00
64	T	Tetrachloroethene	50.0000	48.9073	2.2	109	0.00
65	T	Dibromochloromethane	50.0000	48.5451	2.9	104	0.00
66	T	1,2-Dibromoethane	50.0000	46.6521	6.7	102	0.00
67	T	1-Chlorohexane	50.0000	52.2594	-4.5	111	0.00
68	P	Chlorobenzene	50.0000	48.4229	3.2	105	0.00
69	T	1,1,1,2-Tetrachloroethane	50.0000	49.6837	0.6	105	0.00
70	C	Ethylbenzene	50.0000	49.8925	0.2	106	0.00
71	T	m-,p-Xylene	100.0000	100.7313	-0.7	107	0.00
72	T	o-Xylene	50.0000	50.7405	-1.5	106	0.00
73	T	Styrene	50.0000	51.1232	-2.2	105	0.00
74	P	Bromoform	50.0000	46.8873	6.2	100	0.01
75	T	Isopropylbenzene	50.0000	51.5690	-3.1	108	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	107	0.00
77	P	1,1,2,2-Tetrachloroethane	50.0000	47.7061	4.6	103	0.00
78	S	p-Bromofluorobenzene	25.0000	24.3265	2.7	104	0.00
79	T	1,2,3-Trichloropropane	50.0000	47.7456	4.5	102	0.00
80	T	trans-1,4-Dichloro-2-Butene	50.0000	47.7762	4.4	100	0.00
81	T	n-Propylbenzene	50.0000	54.1928	-8.4	107	0.00
82	T	Bromobenzene	50.0000	48.7345	2.5	106	0.00
83	T	1,3,5-Trimethylbenzene	50.0000	54.2878	-8.6	109	0.00
84	T	2-Chlorotoluene	50.0000	50.4812	-1.0	103	0.00
85	T	4-Chlorotoluene	50.0000	53.3735	-6.7	108	0.01
86	T	a-Methylstyrene	50.0000	52.9099	-5.8	108	0.01
87	T	tert-Butylbenzene	50.0000	53.4846	-7.0	108	0.00
88	T	1,2,4-Trimethylbenzene	50.0000	53.7031	-7.4	107	0.00
89	T	sec-Butylbenzene	50.0000	54.4409	-8.9	109	0.00
90	T	p-Isopropyltoluene	50.0000	55.0884	-10.2	109	0.00
91	T	1,3-Dichlorobenzene	50.0000	50.3496	-0.7	106	0.00
92	T	1,4-Dichlorobenzene	50.0000	48.8059	2.4	105	0.00
93	T	n-Butylbenzene	50.0000	53.7169	-7.4	109	0.01
94	T	1,2-Dichlorobenzene	50.0000	49.6723	0.7	106	0.00
95	T	1,2-Dibromo-3-Chloropropane	50.0000	44.1318	11.7	97	0.00
96	T	1,2,4-Trichlorobenzene	50.0000	50.0881	-0.2	107	0.00
97	T	Hexachlorobutadiene	50.0000	55.5206	-11.0	123	0.00
98	T	Naphthalene	50.0000	50.4701	-0.9	101	0.00
99	T	1,2,3-Trichlorobenzene	50.0000	48.3032	3.4	108	0.00

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142657.D Vial: 3
Acq On : 12 Oct 2016 15:32 Operator: TMB
Sample : WG587314-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD78469 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 08:12:09 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.75	96	721810	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	575891	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	351037	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	200681	26.8996 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 107.60%		
43) 1,2-Dichloroethane-d4	10.29	65	187735	25.0887 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.36%		
58) Toluene-d8	13.02	98	662790	25.5879 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.36%		
80) p-Bromofluorobenzene	17.00	95	267825	23.1107 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 92.44%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.95	85	674909	55.5403 ug/L	97
3) Chloromethane	3.36	50	593001	42.3394 ug/L	100
4) Vinyl Chloride	3.55	62	436675	50.9342 ug/L	99
5) 1,3-Butadiene	3.58	54	296439	65.6031 ug/L	96
6) Bromomethane	4.38	94	195887	39.2522 ug/L	96
7) Chloroethane	4.52	64	256588	47.3696 ug/L	97
8) Trichlorofluoromethane	4.99	101	731219	60.3597 ug/L	99
9) Diethyl ether	5.53	59	558951	93.5074 ug/L	97
10) Isoprene	5.55	67	529568	47.0218 ug/L	95
11) Acrolein	5.78	56	36755	44.4655 ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	5.78	101	396006	54.3314 ug/L	97
13) Acetone	5.89	43	88698	53.5367 ug/L	99
14) 1,1-Dichloroethene	6.09	61	594990	49.5144 ug/L	90
15) Tert-Butyl Alcohol	6.23	59	87018	214.1132 ug/L	90
16) Dimethyl Sulfide	6.37	62	365184	46.3167 ug/L	99
17) Iodomethane	6.62	142	433944	50.4312 ug/L	100
18) Methyl acetate	6.66	43	234334	46.2254 ug/L	99
19) Methylene Chloride	6.92	84	381951	48.9289 ug/L	87
20) Carbon Disulfide	6.94	76	1117876	49.1562 ug/L	99
21) Acrylonitrile	7.13	53	112530	49.7348 ug/L	98
22) Methyl Tert Butyl Ether	7.16	73	827898	47.2196 ug/L	98
23) trans-1,2-Dichloroethene	7.40	96	386688	50.7508 ug/L	85
24) n-Hexane	7.48	57	477558	47.8704 ug/L	96
25) Diisopropyl ether	7.88	45	2617871	92.2331 ug/L	96
26) Vinyl Acetate	8.06	43	767885	55.0097 ug/L	98
27) 1,1-Dichloroethane	8.08	63	688221	48.8483 ug/L	100
28) Ethyl-Tert-Butyl ether	8.51	59	2069944	92.3772 ug/L	95
29) 2-Butanone	8.72	43	135092	50.9002 ug/L	98
30) Propionitrile	8.83	54	71053	99.8342 ug/L	100
31) 2,2-Dichloropropane	8.93	77	540591	52.5294 ug/L	99
32) cis-1,2-Dichloroethene	9.01	96	418915	49.7493 ug/L	100
33) Chloroform	9.24	83	659137	48.5651 ug/L	98
34) 1-Bromopropane	9.39	122	82435	55.5313 ug/L	99
35) Bromochloromethane	9.49	130	271358	52.6402 ug/L	100
36) Tetrahydrofuran	9.53	42	178104	92.4507 ug/L	98
38) 1,1,1-Trichloroethane	9.83	97	601829	51.1602 ug/L	94
39) Cyclohexane	9.86	56	610933	47.4599 ug/L	91
40) 1,1-Dichloropropene	10.05	75	492788	49.0350 ug/L	94
41) Tert-Amyl-Methyl ether	10.20	73	1635366	94.9671 ug/L	95
42) Carbon Tetrachloride	10.21	117	592755	54.7163 ug/L	98

(#) = qualifier out of range (m) = manual integration
6M142657.D 8260WTR.M Thu Oct 13 08:12:25 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142657.D Vial: 3
Acq On : 12 Oct 2016 15:32 Operator: TMB
Sample : WG587314-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD78469 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 08:12:09 2016 Quant Results File: 8260WTR.RES

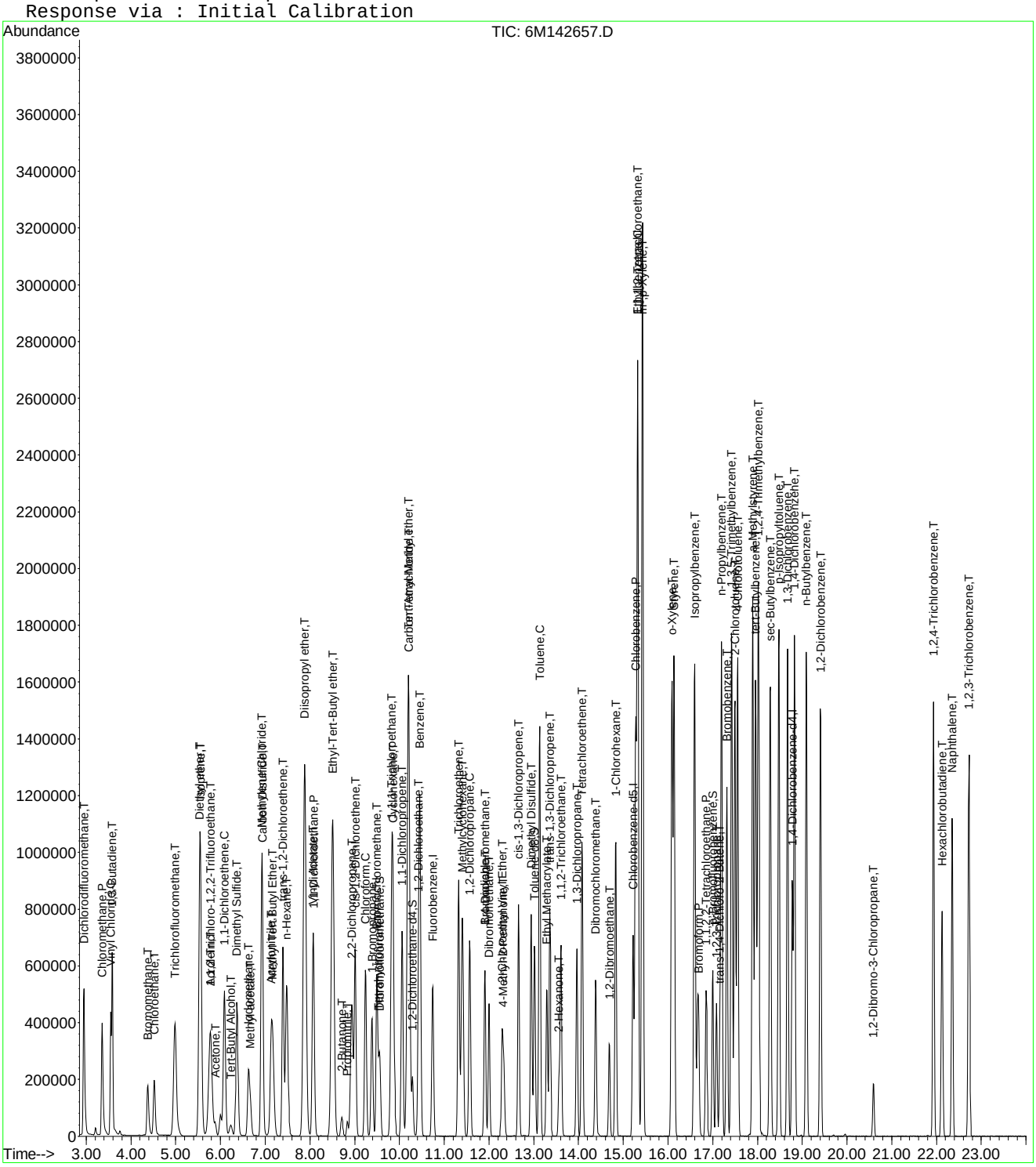
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	483207	48.9162	ug/L	98
46)	Benzene	10.45	78	1420683	48.7517	ug/L	95
47)	Trichloroethene	11.32	130	440854	51.4683	ug/L	85
48)	Methylcyclohexane	11.40	83	536902	47.6855	ug/L	91
49)	1,2-Dichloropropane	11.57	63	370284	48.6174	ug/L	97
50)	1,4-Dioxane	11.91	88	9841	217.9259	ug/L	93
51)	Bromodichloromethane	11.91	83	506679	50.5364	ug/L	99
52)	Dibromomethane	12.00	93	215834	51.0989	ug/L	97
53)	2-Chloroethyl Vinyl Ether	12.29	63	181860	51.3459	ug/L	100
54)	4-Methyl-2-Pentanone	12.32	58	103592	49.7925	ug/L	93
55)	cis-1,3-Dichloropropene	12.66	75	566793	50.5419	ug/L	98
56)	Dimethyl Disulfide	12.94	79	303807	44.4188	ug/L	95
59)	Toluene	13.14	91	1527797	48.9793	ug/L	99
60)	Ethyl Methacrylate	13.29	69	370878	49.3697	ug/L	98
62)	trans-1,3-Dichloropropene	13.36	75	510049	49.8331	ug/L	93
63)	1,1,2-Trichloroethane	13.61	97	291516	50.0818	ug/L	98
64)	2-Hexanone	13.56	43	209160	49.0890	ug/L	96
65)	1,3-Dichloropropane	13.97	76	472577	48.4842	ug/L	98
66)	Tetrachloroethene	14.08	166	458424	52.2256	ug/L	97
67)	Dibromochloromethane	14.38	129	419441	52.7586	ug/L	100
68)	1,2-Dibromoethane	14.69	107	306464	50.2120	ug/L	99
69)	1-Chlorohexane	14.83	91	494781	50.1485	ug/L	89
70)	Chlorobenzene	15.28	112	1111463	49.8937	ug/L	88
71)	1,1,1,2-Tetrachloroethane	15.32	131	444207	53.2889	ug/L	97
72)	Ethylbenzene	15.32	106	584282	48.9006	ug/L	91
73)	m-,p-Xylene	15.44	106	1414846	99.8936	ug/L	91
74)	o-Xylene	16.09	106	693692	49.3072	ug/L	91
75)	Styrene	16.13	104	1213687	50.5296	ug/L	93
76)	Bromoform	16.69	173	283323	48.5662	ug/L	98
77)	Isopropylbenzene	16.60	105	1753128	50.9639	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.85	83	356681	47.7233	ug/L	99
81)	1,2,3-Trichloropropane	17.08	110	109595	48.0057	ug/L	92
82)	trans-1,4-Dichloro-2-Buten	17.15	53	103841	46.8907	ug/L	86
83)	n-Propylbenzene	17.19	91	2009667	47.4401	ug/L	95
84)	Bromobenzene	17.31	156	538947	49.2961	ug/L	85
85)	1,3,5-Trimethylbenzene	17.42	105	1506403	48.0034	ug/L	95
86)	2-Chlorotoluene	17.50	91	1346604	48.4017	ug/L	93
87)	4-Chlorotoluene	17.56	91	1233519	44.3856	ug/L	92
88)	a-Methylstyrene	17.90	118	881083	46.4791	ug/L	95
89)	tert-Butylbenzene	17.96	134	350865	48.2047	ug/L	84
90)	1,2,4-Trimethylbenzene	18.02	105	1612108	49.0399	ug/L	95
91)	sec-Butylbenzene	18.28	105	1815840	48.3951	ug/L	97
92)	p-Isopropyltoluene	18.48	119	1650789	49.6377	ug/L	98
93)	1,3-Dichlorobenzene	18.67	146	1044419	50.0536	ug/L	95
94)	1,4-Dichlorobenzene	18.83	146	1045088	49.8378	ug/L	95
95)	n-Butylbenzene	19.09	91	1388783	48.3193	ug/L	93
96)	1,2-Dichlorobenzene	19.41	146	961896	49.1089	ug/L	96
97)	1,2-Dibromo-3-Chloropropan	20.58	75	60332	47.1755	ug/L	79
98)	1,2,4-Trichlorobenzene	21.93	180	691460	48.4047	ug/L	99
99)	Hexachlorobutadiene	22.12	225	257502	48.4008	ug/L	100
100)	Naphthalene	22.35	128	1274751	49.0753	ug/L	100
101)	1,2,3-Trichlorobenzene	22.73	180	630190	49.3164	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M142657.D 8260WTR.M Thu Oct 13 08:12:26 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142657.D Vial: 3
Acq On : 12 Oct 2016 15:32 Operator: TMB
Sample : WG587314-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD78469 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 8:12 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



Continuing Calibration Area and RT check

Instrument: HPMS6
Initial cal date: 26 Sep 2016 17:15
CCV date: 12 Oct 2016 15:32
CCV Filename: 6M142657.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Amount	RT	Amount	RT	Amount	RT
InitCal	791212	10.75	623465	15.22	358963	18.79
CCV	721810	10.75	575891	15.22	351037	18.78

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142657.D Vial: 3
Acq On : 12 Oct 2016 15:32 Operator: TMB
Sample : WG587314-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD78469 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	91	0.00
2	T	Dichlorodifluoromethane	0.4209	0.4675	-11.1	95	0.00
3	P	Chloromethane	0.4851	0.4108	15.3	76	0.00
4	C	Vinyl Chloride	0.2969	0.3025	-1.9	94	0.00
5	T	1,3-Butadiene	0.1810	0.2053	-13.4	110	0.00
6	T	Bromomethane	0.1729	0.1357	21.5#	76	0.00
7	T	Chloroethane	0.1876	0.1777	5.3	83	0.00
8	T	Trichlorofluoromethane	0.4196	0.5065	-20.7#	105	0.00
9	T	Diethyl ether	0.2070	0.1936	6.5	85	0.00
10	T	Isoprene	0.3901	0.3668	6.0	84	0.00
11	T	Acrolein	0.0286	0.0255	11.1	82	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2525	0.2743	-8.7	98	0.00
13	T	Acetone	0.0612	0.0614	-0.4	97	0.00
14	C	1,1-Dichloroethene	0.4162	0.4122	1.0	90	0.00
15	T	Tert-Butyl Alcohol	0.0141	0.0151	-7.0	93	-0.02
16	T	Dimethyl Sulfide	0.2731	0.2530	7.4	82	0.00
17	T	Iodomethane	0.2225	0.3006	-35.1#	87	0.00
18	T	Methyl acetate	0.1756	0.1623	7.6	83	0.00
19	T	Methylene Chloride	0.2704	0.2646	2.1	91	0.00
20	T	Carbon Disulfide	0.7876	0.7744	1.7	86	0.00
21	T	Acrylonitrile	0.0784	0.0780	0.5	87	0.00
22	T	Methyl Tert Butyl Ether	0.6073	0.5735	5.6	85	0.00
23	T	trans-1,2-Dichloroethene	0.2639	0.2679	-1.5	92	0.00
24	T	n-Hexane	0.3455	0.3308	4.3	85	0.00
25	T	Diisopropyl ether	0.9831	0.9067	7.8	84	0.00
26	T	Vinyl Acetate	0.4835	0.5319	-10.0	99	0.00
27	P	1,1-Dichloroethane	0.4880	0.4767	2.3	89	0.00
28	T	Ethyl-Tert-Butyl ether	0.7761	0.7169	7.6	83	0.00
29	T	2-Butanone	0.0919	0.0936	-1.8	93	0.00
30	T	Propionitrile	0.0246	0.0246	0.2	87	-0.01
31	T	2,2-Dichloropropane	0.3564	0.3745	-5.1	95	0.00
32	T	cis-1,2-Dichloroethene	0.2917	0.2902	0.5	90	0.00
33	C	Chloroform	0.4701	0.4566	2.9	90	0.00
34		1-Bromopropane	0.0514	0.0571	-11.0	91	0.00
35	T	Bromochloromethane	0.1785	0.1880	-5.3	93	0.00
36	T	Tetrahydrofuran	0.0667	0.0617	7.5	87	0.00
37	S	Dibromofluoromethane	0.2584	0.2780	-7.6	95	0.00
38	T	1,1,1-Trichloroethane	0.4074	0.4169	-2.3	92	0.00
39	T	Cyclohexane	0.4459	0.4232	5.1	84	0.00
40	T	1,1-Dichloropropene	0.3481	0.3414	1.9	90	0.00
41	T	Tert-Amyl-Methyl ether	0.5964	0.5664	5.0	85	0.00
42	T	Carbon Tetrachloride	0.3752	0.4106	-9.4	95	0.00
43	S	1,2-Dichloroethane-d4	0.2592	0.2601	-0.4	92	0.00
44		Heptane	0.0000	0.0000	0.0	85	-0.01
45	T	1,2-Dichloroethane	0.3421	0.3347	2.2	88	0.00
46	T	Benzene	1.0093	0.9841	2.5	89	0.00
47	T	Trichloroethene	0.2967	0.3054	-2.9	92	0.00
48	T	Methylcyclohexane	0.3900	0.3719	4.6	85	0.00
49	C	1,2-Dichloropropane	0.2638	0.2565	2.8	87	0.00
50	T	1,4-Dioxane	0.0016	0.0017	-9.0	88	0.00
51	T	Bromodichloromethane	0.3473	0.3510	-1.1	89	0.00
52	T	Dibromomethane	0.1463	0.1495	-2.2	90	0.00
53	T	2-Chloroethyl Vinyl Ether	0.1227	0.1260	-2.7	86	0.00
54	T	4-Methyl-2-Pentanone	0.0721	0.0718	0.4	90	-0.01

(#) = Out of Range
6M142657.D 8260WTR.M Thu Oct 13 08:22:16 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142657.D Vial: 3
Acq On : 12 Oct 2016 15:32 Operator: TMB
Sample : WG587314-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD78469 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.3884	0.3926	-1.1	87	0.00
56	T	Dimethyl Disulfide	0.2369	0.2105	11.2	78	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	92	0.00
58	S	Toluene-d8	1.1244	1.1509	-2.4	96	0.00
59	C	Toluene	1.3541	1.3265	2.0	90	0.00
60	T	Ethyl Methacrylate	0.3261	0.3220	1.3	83	-0.01
61		Paraldehyde	0.0000	0.0000	0.0	90	0.00
62	T	trans-1,3-Dichloropropene	0.4443	0.4428	0.3	88	0.00
63	T	1,1,2-Trichloroethane	0.2527	0.2531	-0.2	90	0.00
64	T	2-Hexanone	0.1850	0.1816	1.8	91	-0.01
65	T	1,3-Dichloropropane	0.4231	0.4103	3.0	87	0.00
66	T	Tetrachloroethene	0.3811	0.3980	-4.5	96	0.00
67	T	Dibromochloromethane	0.3451	0.3642	-5.5	92	0.00
68	T	1,2-Dibromoethane	0.2650	0.2661	-0.4	89	0.00
69	T	1-Chlorohexane	0.4283	0.4296	-0.3	86	0.00
70	P	Chlorobenzene	0.9670	0.9650	0.2	91	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3619	0.3857	-6.6	93	0.00
72	C	Ethylbenzene	0.5187	0.5073	2.2	90	0.00
73	T	m-,p-Xylene	0.6149	0.6142	0.1	89	0.00
74	T	o-Xylene	0.6107	0.6023	1.4	89	0.00
75	T	Styrene	1.0427	1.0538	-1.1	89	-0.01
76	P	Bromoform	0.2226	0.2460	-10.5	95	0.00
77	T	Isopropylbenzene	1.4933	1.5221	-1.9	91	0.00
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	98	0.00
79	P	1,1,2,2-Tetrachloroethane	0.5323	0.5080	4.6	91	0.00
80	S	p-Bromofluorobenzene	0.8253	0.7630	7.6	92	0.00
81	T	1,2,3-Trichloropropane	0.1626	0.1561	4.0	91	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.1577	0.1479	6.2	84	-0.01
83	T	n-Propylbenzene	3.0169	2.8625	5.1	91	0.00
84	T	Bromobenzene	0.7786	0.7677	1.4	96	0.00
85	T	1,3,5-Trimethylbenzene	2.2349	2.1456	4.0	92	-0.01
86	T	2-Chlorotoluene	1.9814	1.9180	3.2	92	0.00
87	T	4-Chlorotoluene	1.9792	1.7570	11.2	90	0.00
88	T	a-Methylstyrene	1.3500	1.2550	7.0	88	0.00
89	T	tert-Butylbenzene	0.5184	0.4998	3.6	94	-0.01
90	T	1,2,4-Trimethylbenzene	2.3412	2.2962	1.9	93	-0.01
91	T	sec-Butylbenzene	2.6722	2.5864	3.2	92	0.00
92	T	p-Isopropyltoluene	2.3685	2.3513	0.7	93	0.00
93	T	1,3-Dichlorobenzene	1.4860	1.4876	-0.1	97	0.00
94	T	1,4-Dichlorobenzene	1.4934	1.4886	0.3	97	-0.01
95	T	n-Butylbenzene	2.0469	1.9781	3.4	92	-0.01
96	T	1,2-Dichlorobenzene	1.3949	1.3701	1.8	96	0.00
97	T	1,2-Dibromo-3-Chloropropane	0.0911	0.0859	5.7	85	0.00
98	T	1,2,4-Trichlorobenzene	1.0173	0.9849	3.2	95	0.00
99	T	Hexachlorobutadiene	0.3789	0.3668	3.2	96	0.00
100	T	Naphthalene	1.8499	1.8157	1.8	88	0.00
101	T	1,2,3-Trichlorobenzene	0.9101	0.8976	1.4	94	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M142657.D 8260WTR.M Thu Oct 13 08:22:17 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142657.D Vial: 3
Acq On : 12 Oct 2016 15:32 Operator: TMB
Sample : WG587314-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD78469 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	91	0.00
2	T	Dichlorodifluoromethane	50.0000	55.5403	-11.1	95	0.00
3	P	Chloromethane	50.0000	42.3394	15.3	76	0.00
4	C	Vinyl Chloride	50.0000	50.9342	-1.9	94	0.00
5	T	1,3-Butadiene	50.0000	65.6031	-31.2#	110	0.00
6	T	Bromomethane	50.0000	39.2522	21.5#	76	0.00
7	T	Chloroethane	50.0000	47.3695	5.3	83	0.00
8	T	Trichlorofluoromethane	50.0000	60.3597	-20.7#	105	0.00
9	T	Diethyl ether	100.0000	93.5074	6.5	85	0.00
10	T	Isoprene	50.0000	47.0218	6.0	84	0.00
11	T	Acrolein	50.0000	44.4655	11.1	82	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	54.3314	-8.7	98	0.00
13	T	Acetone	50.0000	53.5367	-7.1	97	0.00
14	C	1,1-Dichloroethene	50.0000	49.5144	1.0	90	0.00
15	T	Tert-Butyl Alcohol	200.0000	214.1132	-7.1	93	-0.02
16	T	Dimethyl Sulfide	50.0000	46.3167	7.4	82	0.00
17	T	Iodomethane	50.0000	50.4312	-0.9	87	0.00
18	T	Methyl acetate	50.0000	46.2254	7.5	83	0.00
19	T	Methylene Chloride	50.0000	48.9289	2.1	91	0.00
20	T	Carbon Disulfide	50.0000	49.1562	1.7	86	0.00
21	T	Acrylonitrile	50.0000	49.7348	0.5	87	0.00
22	T	Methyl Tert Butyl Ether	50.0000	47.2196	5.6	85	0.00
23	T	trans-1,2-Dichloroethene	50.0000	50.7508	-1.5	92	0.00
24	T	n-Hexane	50.0000	47.8704	4.3	85	0.00
25	T	Diisopropyl ether	100.0000	92.2331	7.8	84	0.00
26	T	Vinyl Acetate	50.0000	55.0097	-10.0	99	0.00
27	P	1,1-Dichloroethane	50.0000	48.8483	2.3	89	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	92.3772	7.6	83	0.00
29	T	2-Butanone	50.0000	50.9002	-1.8	93	0.00
30	T	Propionitrile	100.0000	99.8342	0.2	87	-0.01
31	T	2,2-Dichloropropane	50.0000	52.5294	-5.1	95	0.00
32	T	cis-1,2-Dichloroethene	50.0000	49.7493	0.5	90	0.00
33	C	Chloroform	50.0000	48.5651	2.9	90	0.00
34		1-Bromopropane	50.0000	55.5313	-11.1	91	0.00
35	T	Bromochloromethane	50.0000	52.6402	-5.3	93	0.00
36	T	Tetrahydrofuran	100.0000	92.4507	7.5	87	0.00
37	S	Dibromofluoromethane	25.0000	26.8996	-7.6	95	0.00
38	T	1,1,1-Trichloroethane	50.0000	51.1602	-2.3	92	0.00
39	T	Cyclohexane	50.0000	47.4599	5.1	84	0.00
40	T	1,1-Dichloropropene	50.0000	49.0350	1.9	90	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	94.9671	5.0	85	0.00
42	T	Carbon Tetrachloride	50.0000	54.7163	-9.4	95	0.00
43	S	1,2-Dichloroethane-d4	25.0000	25.0887	-0.4	92	0.00
44		Heptane	-1.0000	0.0000	0.0	85	-0.01
45	T	1,2-Dichloroethane	50.0000	48.9162	2.2	88	0.00
46	T	Benzene	50.0000	48.7517	2.5	89	0.00
47	T	Trichloroethene	50.0000	51.4683	-2.9	92	0.00
48	T	Methylcyclohexane	50.0000	47.6855	4.6	85	0.00
49	C	1,2-Dichloropropane	50.0000	48.6174	2.8	87	0.00
50	T	1,4-Dioxane	200.0000	217.9259	-9.0	88	0.00
51	T	Bromodichloromethane	50.0000	50.5364	-1.1	89	0.00
52	T	Dibromomethane	50.0000	51.0989	-2.2	90	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	51.3459	-2.7	86	0.00
54	T	4-Methyl-2-Pentanone	50.0000	49.7925	0.4	90	-0.01

(#) = Out of Range
6M142657.D 8260WTR.M Thu Oct 13 08:22:20 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142657.D Vial: 3
Acq On : 12 Oct 2016 15:32 Operator: TMB
Sample : WG587314-02 50ug/L CCV STD 8260 Inst : HPMS6
Misc : 1,1 STD78469 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Multiple Level Calibration

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

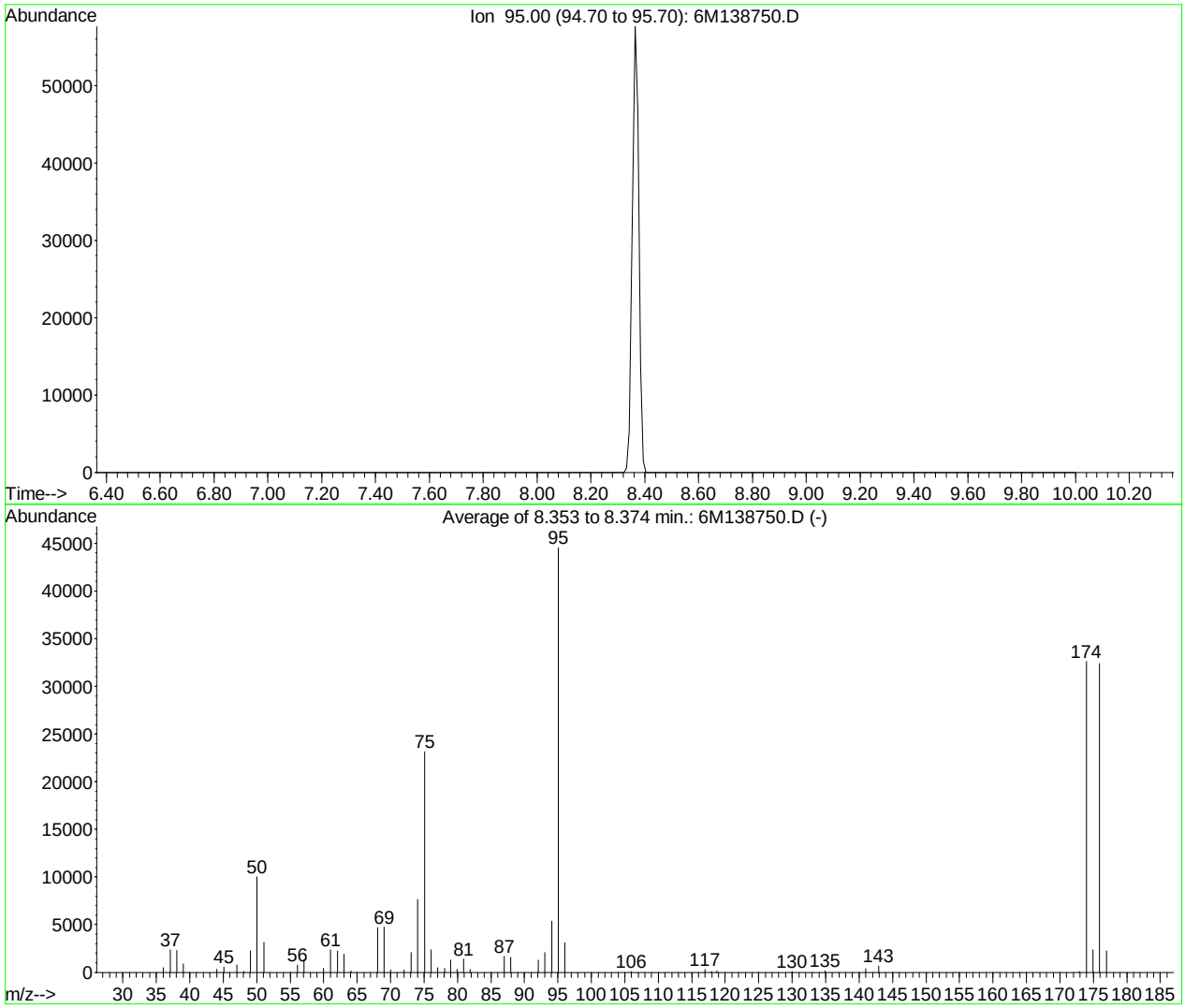
		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	50.5419	-1.1	87	0.00
56	T	Dimethyl Disulfide	50.0000	44.4188	11.2	78	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	92	0.00
58	S	Toluene-d8	25.0000	25.5879	-2.4	96	0.00
59	C	Toluene	50.0000	48.9793	2.0	90	0.00
60	T	Ethyl Methacrylate	50.0000	49.3697	1.3	83	-0.01
61		Paraldehyde	-1.0000	0.0000	0.0	90	0.00
62	T	trans-1,3-Dichloropropene	50.0000	49.8331	0.3	88	0.00
63	T	1,1,2-Trichloroethane	50.0000	50.0818	-0.2	90	0.00
64	T	2-Hexanone	50.0000	49.0890	1.8	91	-0.01
65	T	1,3-Dichloropropane	50.0000	48.4843	3.0	87	0.00
66	T	Tetrachloroethene	50.0000	52.2256	-4.5	96	0.00
67	T	Dibromochloromethane	50.0000	52.7586	-5.5	92	0.00
68	T	1,2-Dibromoethane	50.0000	50.2120	-0.4	89	0.00
69	T	1-Chlorohexane	50.0000	50.1486	-0.3	86	0.00
70	P	Chlorobenzene	50.0000	49.8937	0.2	91	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	53.2889	-6.6	93	0.00
72	C	Ethylbenzene	50.0000	48.9006	2.2	90	0.00
73	T	m-,p-Xylene	100.0000	99.8936	0.1	89	0.00
74	T	o-Xylene	50.0000	49.3072	1.4	89	0.00
75	T	Styrene	50.0000	50.5296	-1.1	89	-0.01
76	P	Bromoform	50.0000	48.5662	2.9	95	0.00
77	T	Isopropylbenzene	50.0000	50.9639	-1.9	91	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	98	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	47.7233	4.6	91	0.00
80	S	p-Bromofluorobenzene	25.0000	23.1107	7.6	92	0.00
81	T	1,2,3-Trichloropropane	50.0000	48.0057	4.0	91	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	46.8907	6.2	84	-0.01
83	T	n-Propylbenzene	50.0000	47.4401	5.1	91	0.00
84	T	Bromobenzene	50.0000	49.2961	1.4	96	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	48.0034	4.0	92	-0.01
86	T	2-Chlorotoluene	50.0000	48.4017	3.2	92	0.00
87	T	4-Chlorotoluene	50.0000	44.3856	11.2	90	0.00
88	T	a-Methylstyrene	50.0000	46.4791	7.0	88	0.00
89	T	tert-Butylbenzene	50.0000	48.2047	3.6	94	-0.01
90	T	1,2,4-Trimethylbenzene	50.0000	49.0399	1.9	93	-0.01
91	T	sec-Butylbenzene	50.0000	48.3951	3.2	92	0.00
92	T	p-Isopropyltoluene	50.0000	49.6377	0.7	93	0.00
93	T	1,3-Dichlorobenzene	50.0000	50.0536	-0.1	97	0.00
94	T	1,4-Dichlorobenzene	50.0000	49.8378	0.3	97	-0.01
95	T	n-Butylbenzene	50.0000	48.3193	3.4	92	-0.01
96	T	1,2-Dichlorobenzene	50.0000	49.1089	1.8	96	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	47.1754	5.6	85	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	48.4047	3.2	95	0.00
99	T	Hexachlorobutadiene	50.0000	48.4008	3.2	96	0.00
100	T	Naphthalene	50.0000	49.0753	1.8	88	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	49.3164	1.4	94	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M142657.D 8260WTR.M Thu Oct 13 08:22:21 2016 Page 2

2.1.1.5 Raw QC Data

BFB

Data File : C:\MSDCHEM\1\DATA\042416\6M138750.D Vial: 1
Acq On : 24 Apr 2016 16:33 Operator: JDS
Sample : WG566155-01 50ng BFB 826-A9 Inst : HPMS6
Misc : 1,1 STD75485 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\BFB.M (RTE Integrator)
Title : SOP: OVL MSV01



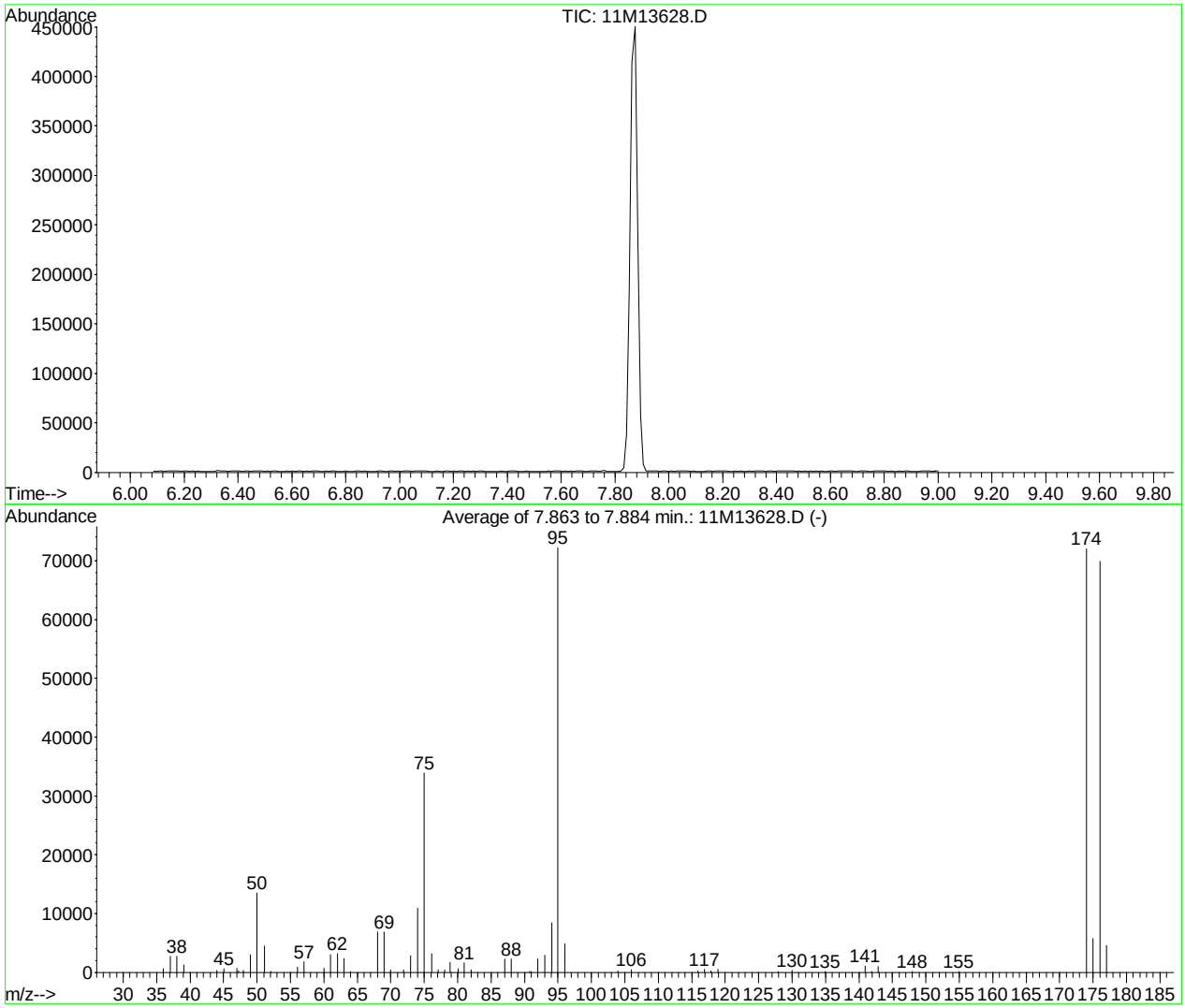
AutoFind: Scans 320, 321, 322; Background Corrected with Scan 315

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.5	10010	PASS
75	95	30	60	52.0	23152	PASS
95	95	100	100	100.0	44552	PASS
96	95	5	9	6.9	3085	PASS
173	174	0.00	2	0.3	113	PASS
174	95	50	100	73.2	32632	PASS
175	174	5	9	7.2	2336	PASS
176	174	95	101	99.2	32384	PASS
177	176	5	9	7.0	2251	PASS

6M138750.D BFB.M Mon Apr 25 09:21:54 2016

CLPBFB

Data File : C:\MSDCHEM\1\DATA\081516\11M13628.D Vial: 2
Acq On : 15 Aug 2016 14:52 Operator: JDS
Sample : WG580279-01 50ng BFB STD 8260 Inst : hpms11
Misc : 1,1 STD77509 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11



AutoFind: Scans 173, 174, 175; Background Corrected with Scan 167

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.7	13531	PASS
75	95	30	60	47.0	33928	PASS
95	95	100	100	100.0	72218	PASS
96	95	5	9	6.7	4803	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	99.7	72018	PASS
175	174	5	9	8.0	5730	PASS
176	174	95	101	97.1	69941	PASS
177	176	5	9	6.5	4520	PASS

11M13628.D A9FOOWT.M Tue Aug 16 08:54:32 2016

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13628.D Vial: 2
Acq On : 15 Aug 2016 14:52 Operator: JDS
Sample : WG580279-01 50ng BFB STD 8260 Inst : hpms11
Misc : 1,1 STD77509 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:15 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : BFB

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	0.00	96	0	0.00	ug/L	-10.59
12) Chlorobenzene-d5	0.00	117	0	0.00	ug/L	-14.23
13) 1,4-Dichlorobenzene-d4	0.00	152	0	0.00	ug/L	-17.04

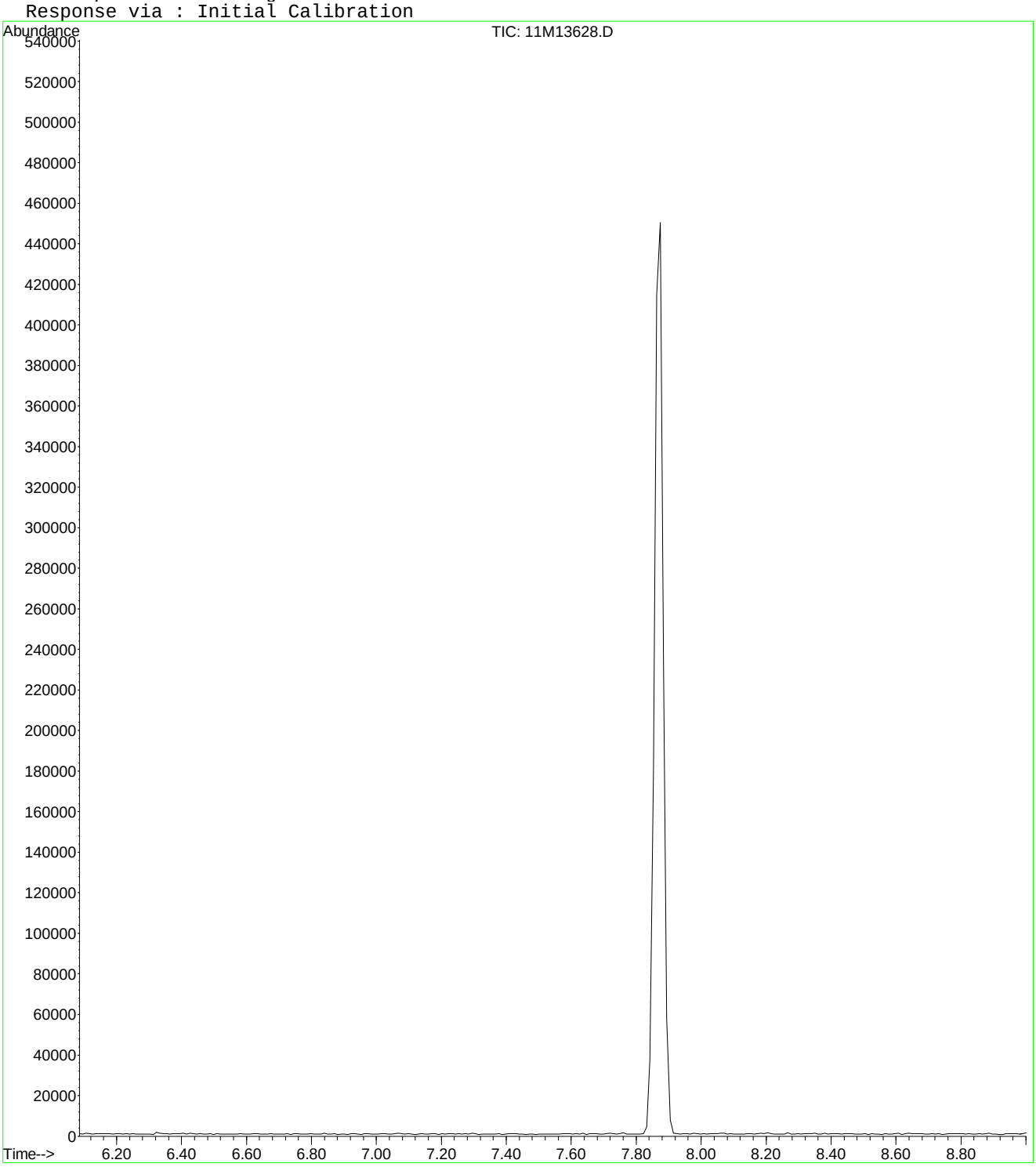
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
11M13628.D A9FOOWT.M Tue Aug 16 09:05:17 2016 Page 1

Quantitation Report (Not Reviewed)

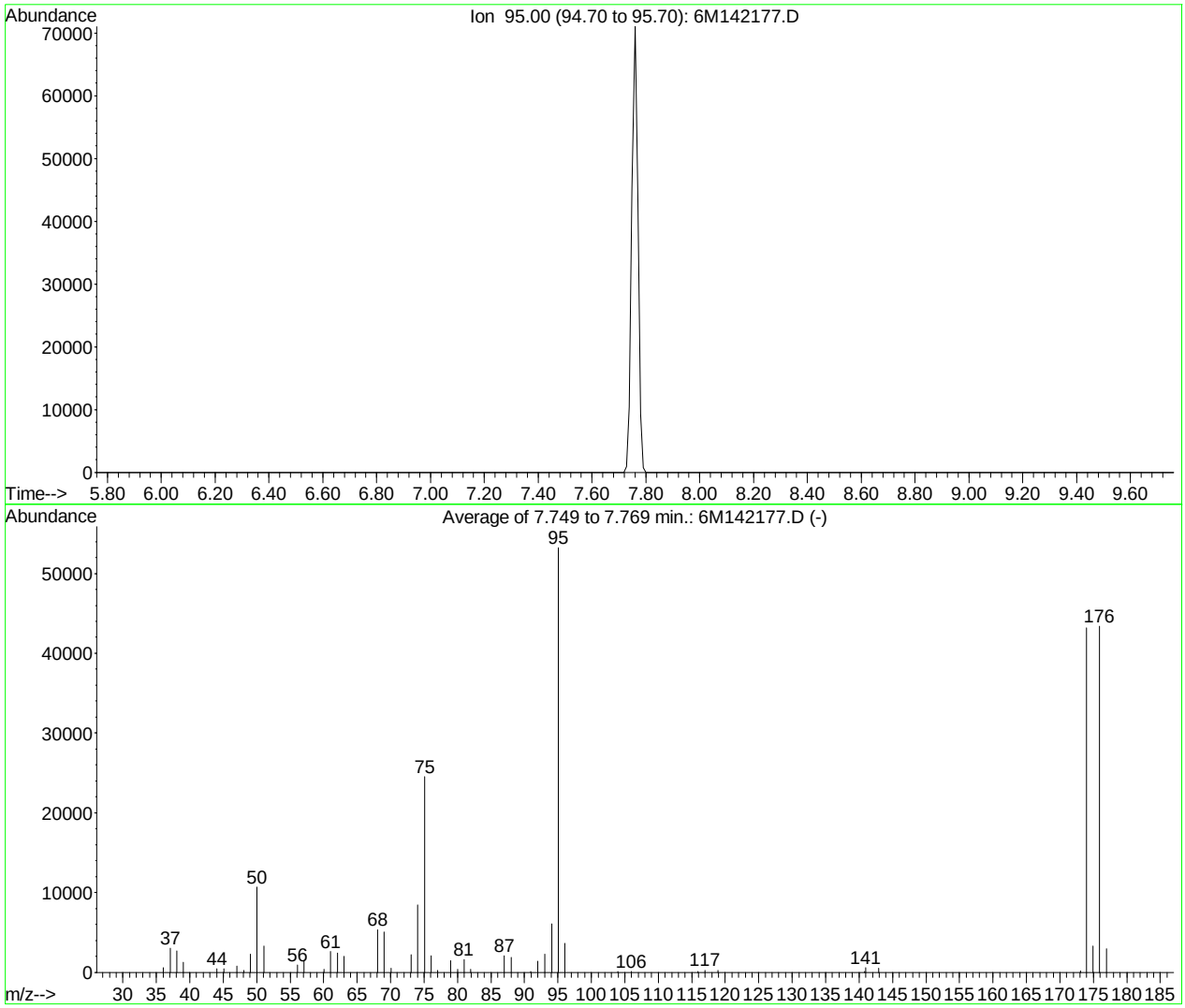
Data File : C:\MSDCHEM\1\DATA\081516\11M13628.D Vial: 2
Acq On : 15 Aug 2016 14:52 Operator: JDS
Sample : WG580279-01 50ng BFB STD 8260 Inst : hpms11
Misc : 1,1 STD77509 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



BFB

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\092616\6M142177.D Vial: 1
Acq On : 26 Sep 2016 13:29 Operator: TMB
Sample : WG584797-01 50ng BFB STD 8260 Inst : HPMS6
Misc : 1,1 STD77992 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6



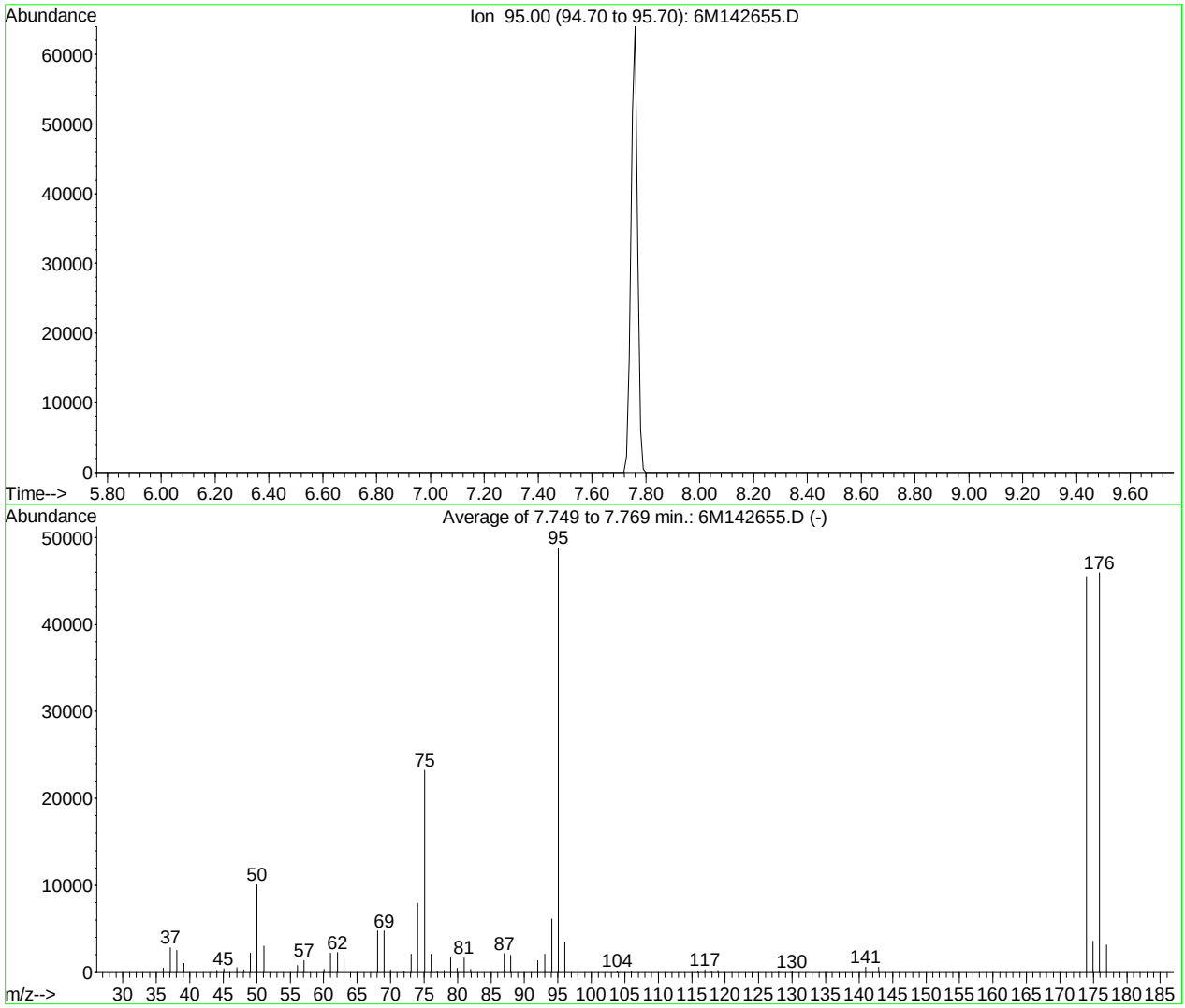
AutoFind: Scans 261, 262, 263; Background Corrected with Scan 256

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.0	10661	PASS
75	95	30	60	46.1	24528	PASS
95	95	100	100	100.0	53242	PASS
96	95	5	9	6.8	3617	PASS
173	174	0.00	2	0.4	192	PASS
174	95	50	100	81.1	43162	PASS
175	174	5	9	7.6	3287	PASS
176	174	95	101	100.5	43386	PASS
177	176	5	9	6.9	2974	PASS

6M142177.D 8260WTR.M Tue Sep 27 10:20:56 2016

BFB

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142655.D Vial: 4
Acq On : 12 Oct 2016 14:33 Operator: TMB
Sample : WG587314-01 50ng BFB STD 8260 Inst : HPMS6
Misc : 1,1 STD77992 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6



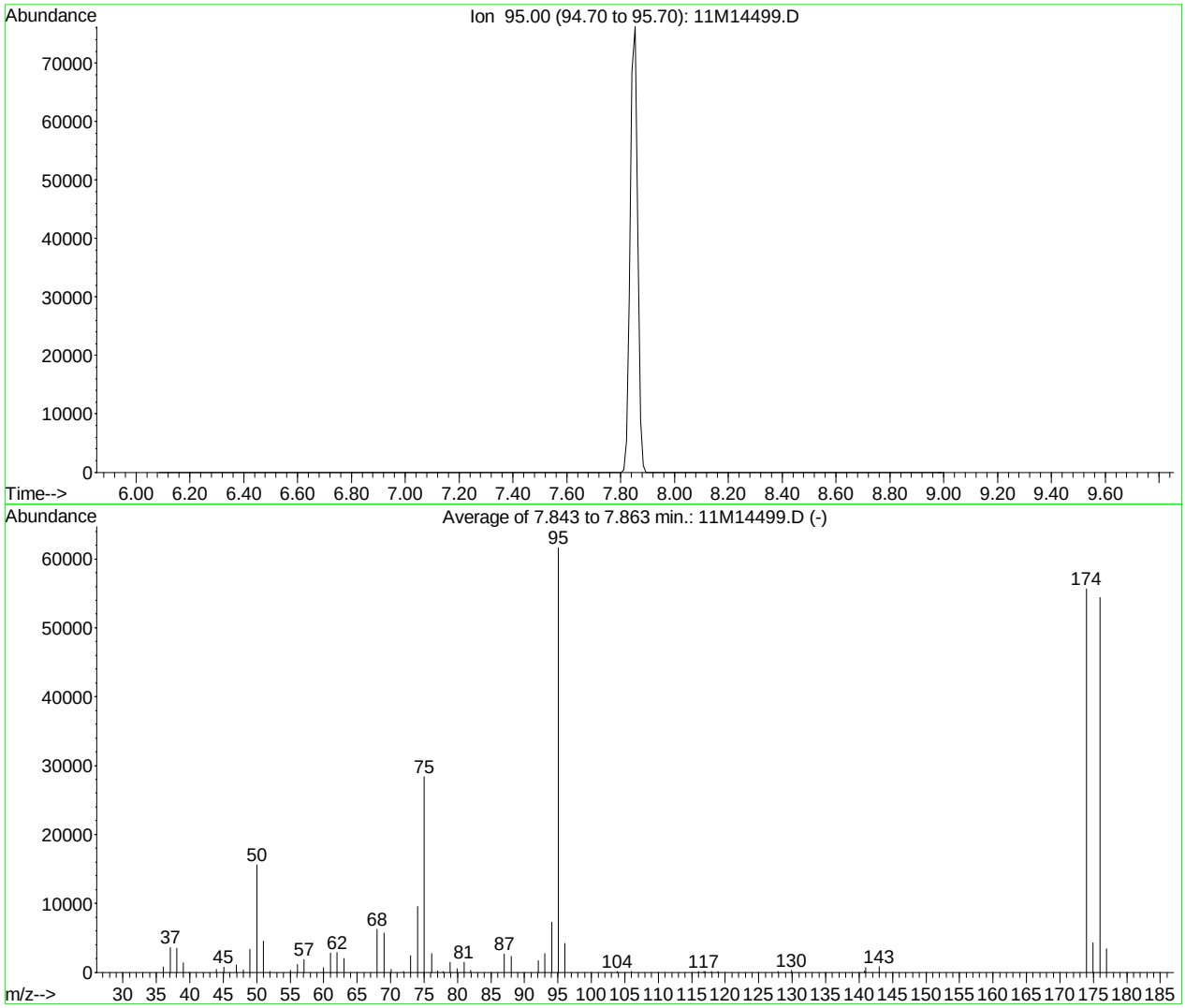
AutoFind: Scans 261, 262, 263; Background Corrected with Scan 256

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.6	10040	PASS
75	95	30	60	47.6	23243	PASS
95	95	100	100	100.0	48837	PASS
96	95	5	9	7.1	3473	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	93.2	45528	PASS
175	174	5	9	7.8	3559	PASS
176	174	95	101	100.9	45952	PASS
177	176	5	9	6.9	3167	PASS

6M142655.D 8260WTR.M Thu Oct 13 08:21:51 2016

BFB

Data File : C:\MSDCHEM\1\DATA\101316\11M14499.D Vial: 1
Acq On : 13 Oct 2016 12:50 Operator: FJB
Sample : WG587480-01 BFB 50ng 8260 Inst : hpms11
Misc : 1,1 STD78474 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11



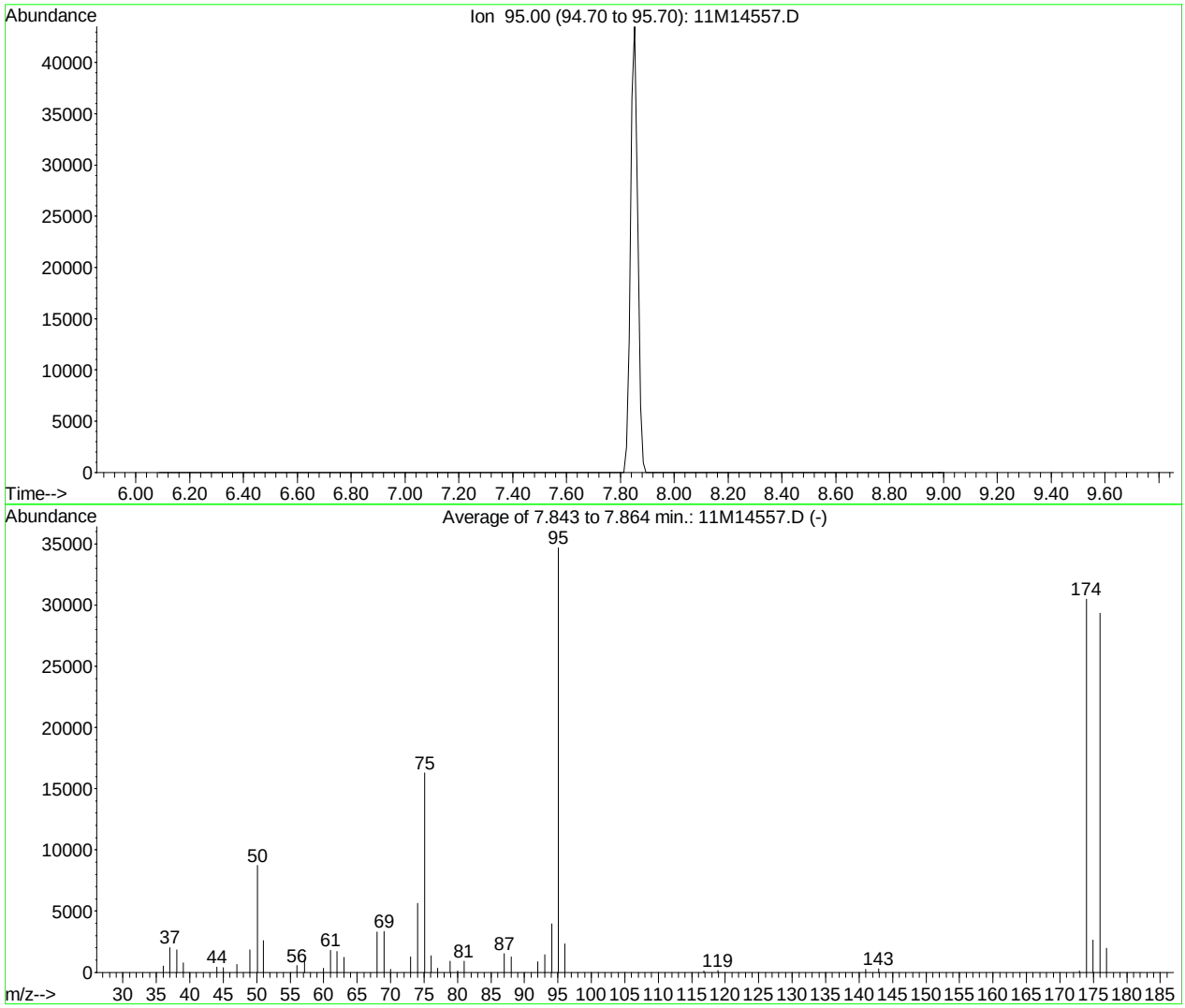
AutoFind: Scans 171, 172, 173; Background Corrected with Scan 165

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.3	15619	PASS
75	95	30	60	46.1	28389	PASS
95	95	100	100	100.0	61637	PASS
96	95	5	9	6.8	4166	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	90.3	55672	PASS
175	174	5	9	7.7	4260	PASS
176	174	95	101	97.7	54378	PASS
177	176	5	9	6.2	3381	PASS

11M14499.D 8260WT.M Fri Oct 14 09:26:00 2016

BFB

Data File : C:\MSDCHEM\1\DATA\101716\11M14557.D Vial: 1
Acq On : 17 Oct 2016 12:08 Operator: FJB
Sample : WG587866-01 BFB 50ng 8260 Inst : hpms11
Misc : 1,1 STD78474 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11



AutoFind: Scans 171, 172, 173; Background Corrected with Scan 166

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.2	8728	PASS
75	95	30	60	46.9	16284	PASS
95	95	100	100	100.0	34690	PASS
96	95	5	9	6.7	2331	PASS
173	174	0.00	2	0.3	102	PASS
174	95	50	100	87.9	30490	PASS
175	174	5	9	8.6	2627	PASS
176	174	95	101	96.2	29341	PASS
177	176	5	9	6.8	1987	PASS

11M14557.D 8260WT.M Mon Oct 17 16:00:14 2016

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14514.D Vial: 16
Acq On : 13 Oct 2016 19:58 Operator: FJB
Sample : WG587598-01 BLANK 8260 Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:48:36 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

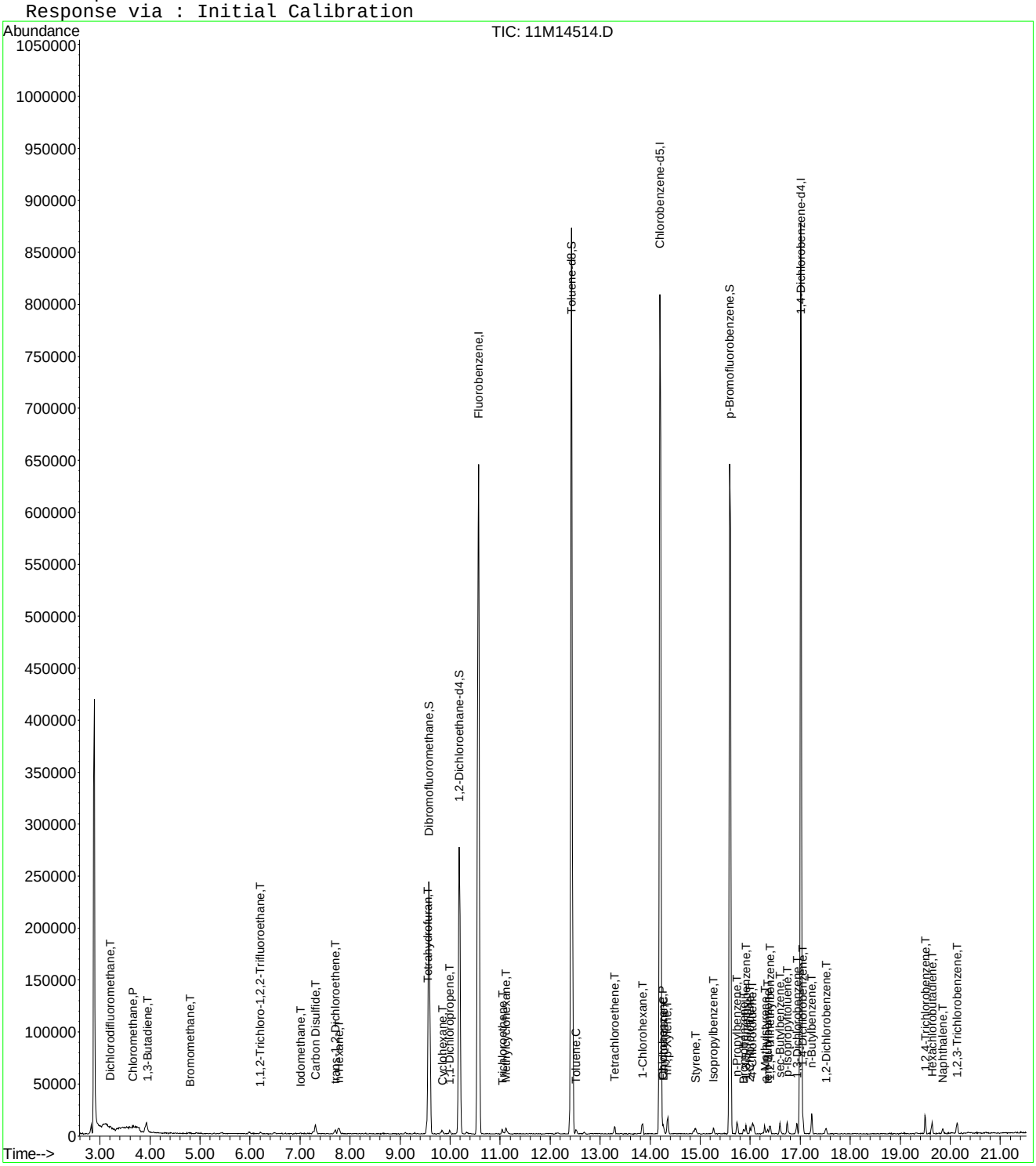
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	715244	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	545415	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	279662	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	201741	23.4482	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.80%			
43) 1,2-Dichloroethane-d4	10.18	65	218097	22.5788	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 90.32%			
57) Toluene-d8	12.43	98	695769	24.0723	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.28%			
78) p-Bromofluorobenzene	15.59	95	266440	23.8137	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.24%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	2694	0.2220	ug/L #	60
3) Chloromethane	3.66	50	3189	0.2396	ug/L #	66
5) 1,3-Butadiene	3.95	54	1666	0.1725	ug/L #	65
6) Bromomethane	4.80	94	923	0.1605	ug/L #	53
12) 1,1,2-Trichloro-1,2,2-Trif	6.20	101	1146	0.1543	ug/L	84
17) Iodomethane	7.01	142	934	0.9621	ug/L #	32
20) Carbon Disulfide	7.31	76	15461	0.6319	ug/L	99
23) trans-1,2-Dichloroethene	7.70	96	1760	0.2104	ug/L	89
24) n-Hexane	7.78	57	4367	0.3053	ug/L #	75
36) Tetrahydrofuran	9.55	42	10508	0.7463	ug/L	98
39) Cyclohexane	9.84	56	3267	0.1680	ug/L #	81
40) 1,1-Dichloropropene	9.99	75	2387	0.2174	ug/L	79
46) Trichloroethene	11.05	130	1947	0.2076	ug/L	95
47) Methylcyclohexane	11.12	83	2954	0.2323	ug/L	95
58) Toluene	12.52	91	4253	0.1238	ug/L	96
64) Tetrachloroethene	13.29	164	2550	0.3421	ug/L	91
67) 1-Chlorohexane	13.84	91	3410	0.3077	ug/L	100
68) Chlorobenzene	14.25	112	4063	0.1667	ug/L	87
70) Ethylbenzene	14.27	106	1817	0.1458	ug/L	64
71) m-,p-Xylene	14.34	106	5699	0.3882	ug/L	92
73) Styrene	14.91	104	3501	0.1428	ug/L	99
75) Isopropylbenzene	15.26	105	6254	0.1690	ug/L	87
81) n-Propylbenzene	15.74	91	11659	0.2802	ug/L	100
82) Bromobenzene	15.87	156	1538	0.1442	ug/L	72
83) 1,3,5-Trimethylbenzene	15.91	105	6467	0.2167	ug/L	88
84) 2-Chlorotoluene	16.00	91	5644	0.2144	ug/L #	41
85) 4-Chlorotoluene	16.04	91	7966	0.2971	ug/L #	57
86) a-Methylstyrene	16.30	118	3154	0.1798	ug/L	90
87) tert-Butylbenzene	16.35	134	805	0.1233	ug/L #	41
88) 1,2,4-Trimethylbenzene	16.40	105	7317	0.2383	ug/L	83
89) sec-Butylbenzene	16.60	105	9777	0.2587	ug/L	97
90) p-Isopropyltoluene	16.74	119	10693	0.3252	ug/L	100
91) 1,3-Dichlorobenzene	16.94	146	5795	0.2947	ug/L	91
92) 1,4-Dichlorobenzene	17.05	146	7789	0.3866	ug/L	96
93) n-Butylbenzene	17.23	91	15074	0.4886	ug/L	94
94) 1,2-Dichlorobenzene	17.52	146	3938	0.2097	ug/L	95
96) 1,2,4-Trichlorobenzene	19.50	180	8860	0.6361	ug/L	88
97) Hexachlorobutadiene	19.64	225	3290	0.6035	ug/L	88
98) Naphthalene	19.84	128	6196	0.2140	ug/L #	85
99) 1,2,3-Trichlorobenzene	20.13	180	5585	0.4155	ug/L	86

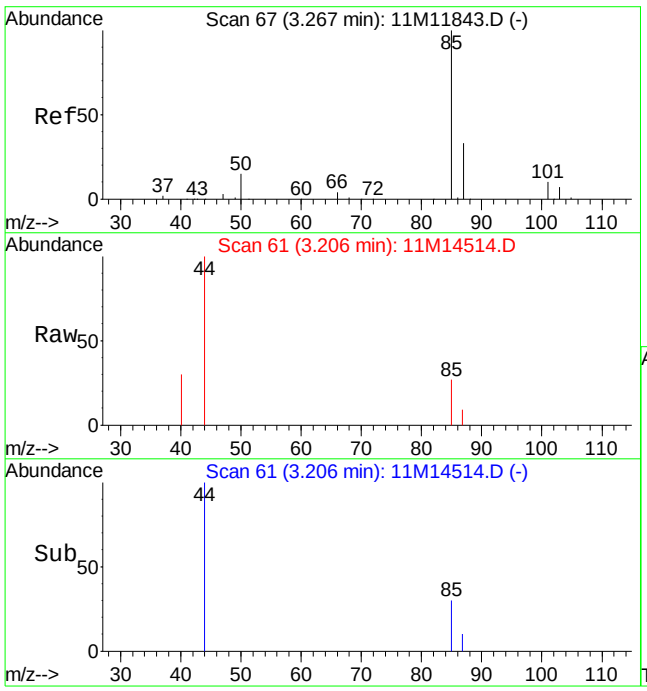
(#) = qualifier out of range (m) = manual integration
11M14514.D 8260WT.M Fri Oct 14 09:48:38 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14514.D Vial: 16
Acq On : 13 Oct 2016 19:58 Operator: FJB
Sample : WG587598-01 BLANK 8260 Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:48 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration

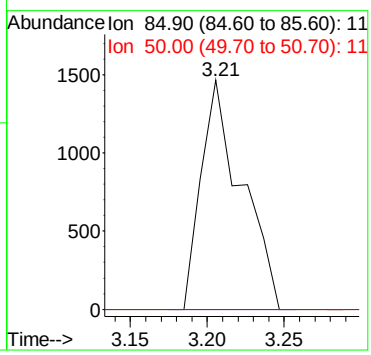


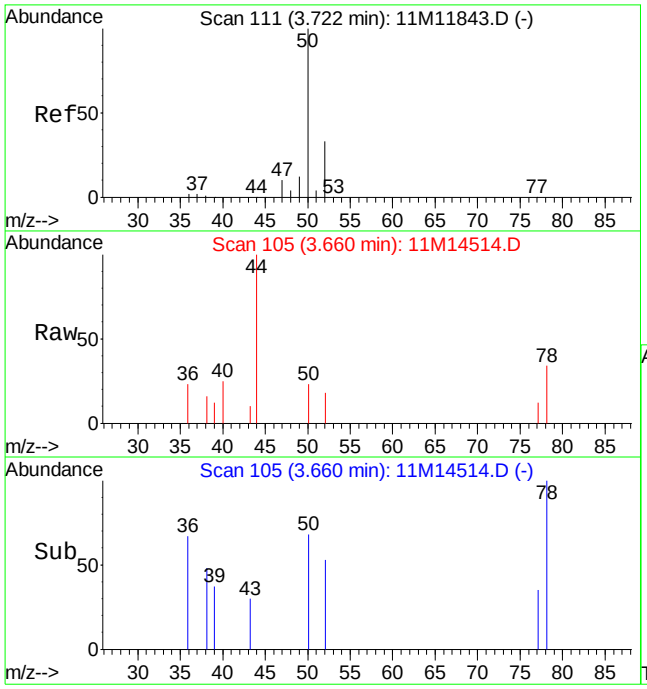


#2
Dichlorodifluoromethane
Concen: 0.22 ug/L
RT: 3.21 min Scan# 61
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 85 Resp: 2694

Ion	Ratio	Lower	Upper
85	100		
50	0.0	10.5	24.5#

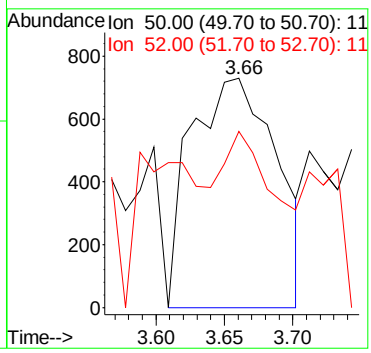


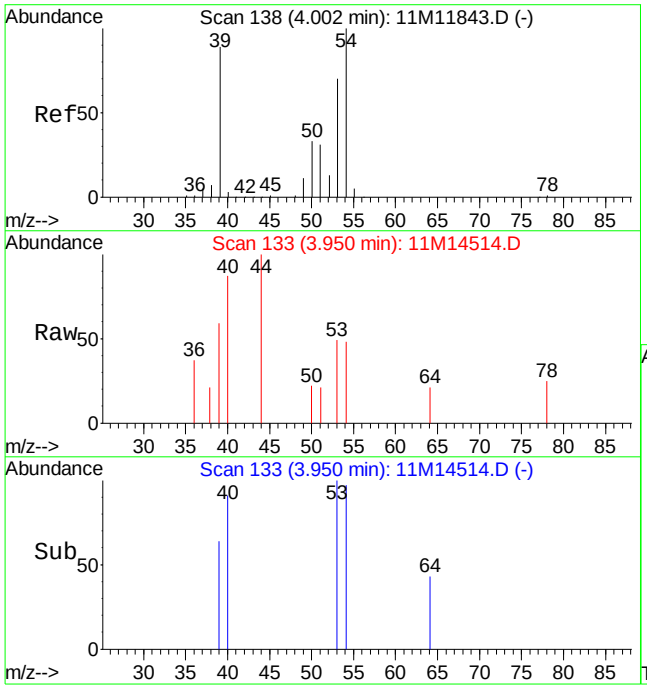


#3
Chloromethane
Concen: 0.24 ug/L
RT: 3.66 min Scan# 105
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 50 Resp: 3189

Ion	Ratio	Lower	Upper
50	100		
52	49.4	18.4	42.8#

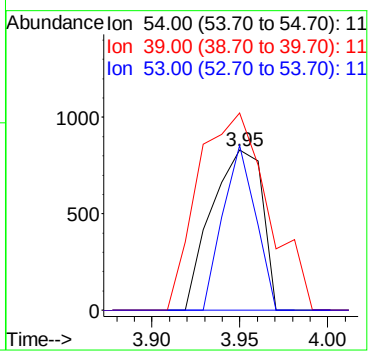


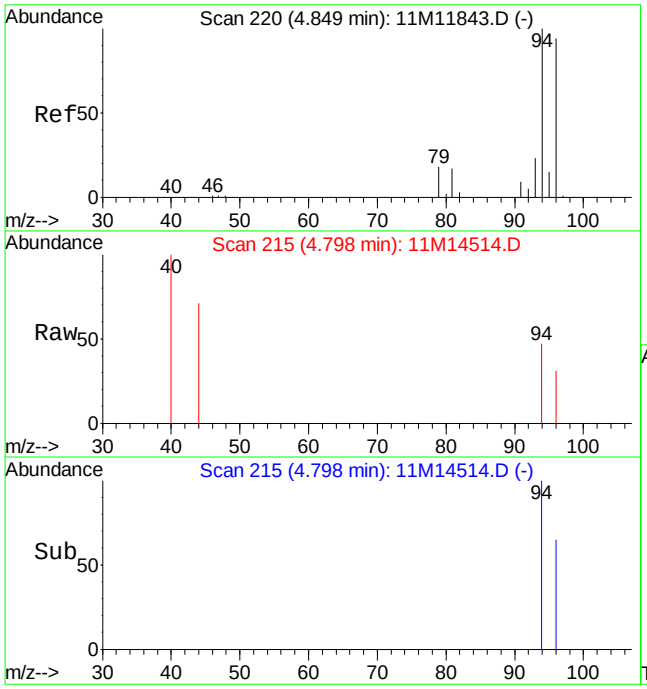


#5
1,3-Butadiene
Concen: 0.17 ug/L
RT: 3.95 min Scan# 133
Delta R.T. 0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 54 Resp: 1666

Ion	Ratio	Lower	Upper
54	100		
39	170.8	67.6	157.6#
53	66.3	42.5	99.1

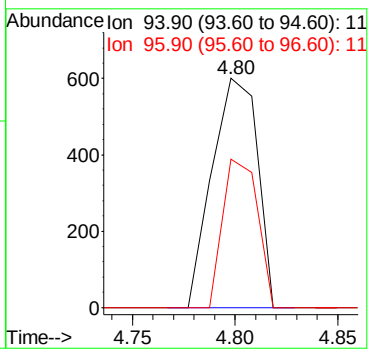


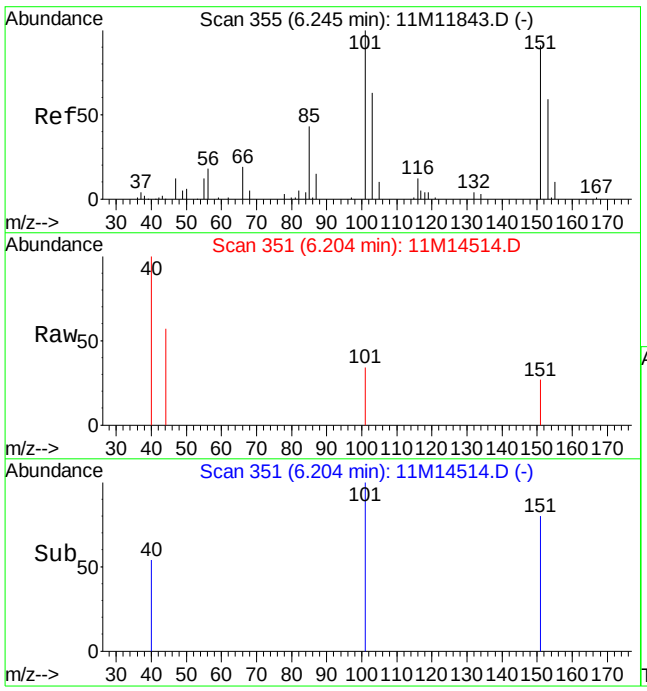


#6
Bromomethane
Concen: 0.16 ug/L
RT: 4.80 min Scan# 215
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 94 Resp: 923

Ion	Ratio	Lower	Upper
94	100		
96	49.8	57.2	133.4#

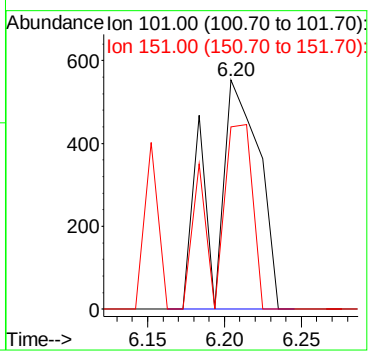


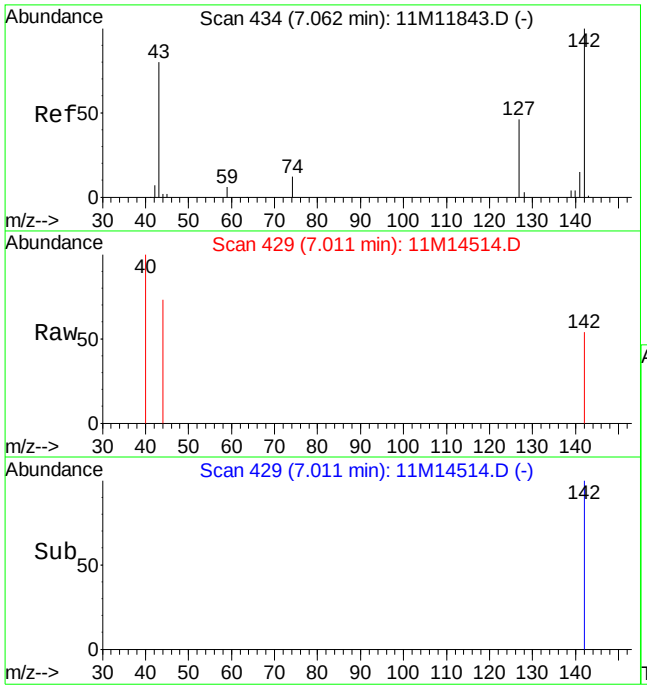


#12
1,1,2-Trichloro-1,2,2-Trifluoroethane
Concen: 0.15 ug/L
RT: 6.20 min Scan# 351
Delta R.T. 0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:101 Resp: 1146

Ion	Ratio	Lower	Upper
101	100		
151	66.9	41.2	121.2

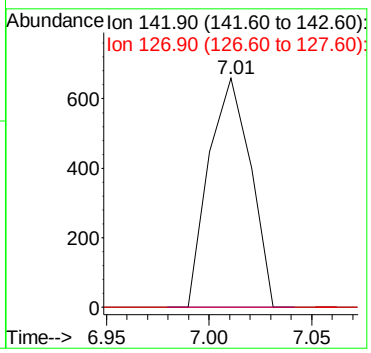


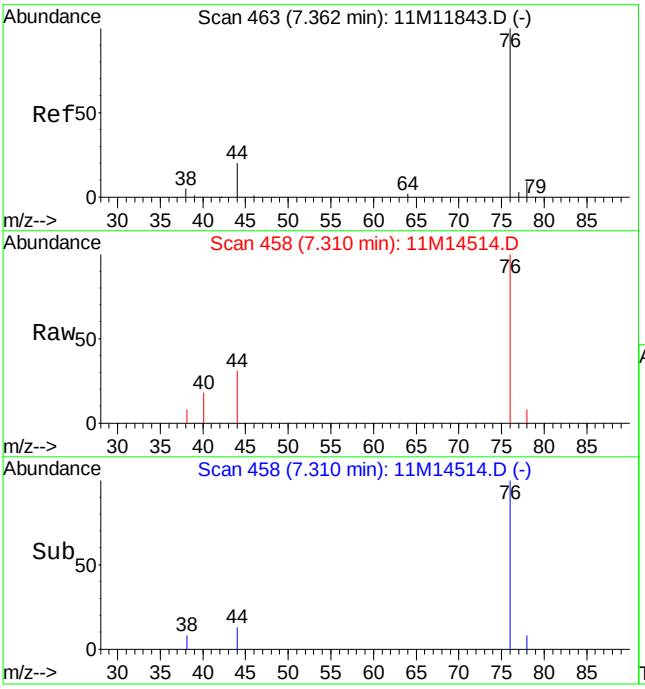


#17
Iodomethane
Concen: 0.96 ug/L
RT: 7.01 min Scan# 429
Delta R.T. 0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:142 Resp: 934

Ion	Ratio	Lower	Upper
142	100		
127	0.0	26.5	61.9#

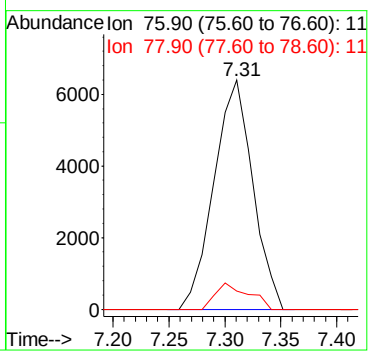


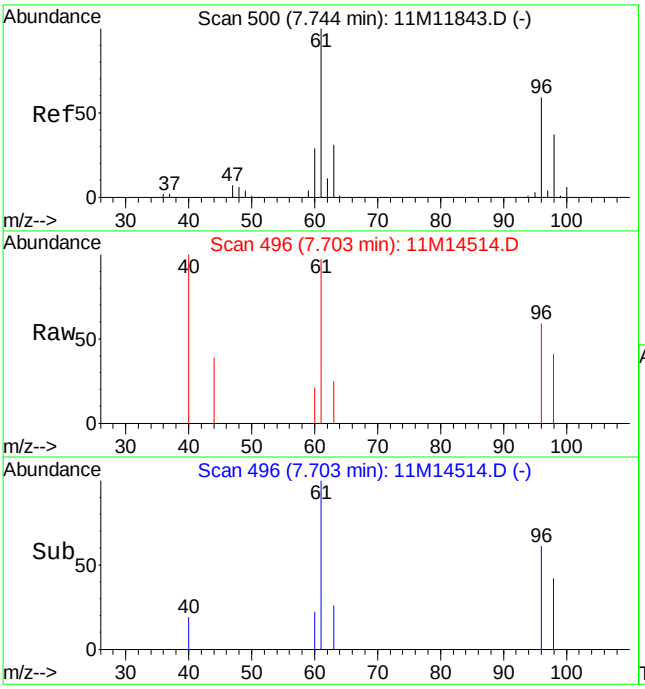


#20
Carbon Disulfide
Concen: 0.63 ug/L
RT: 7.31 min Scan# 458
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 76 Resp: 15461

Ion	Ratio	Lower	Upper
76	100		
78	9.7	5.6	13.0

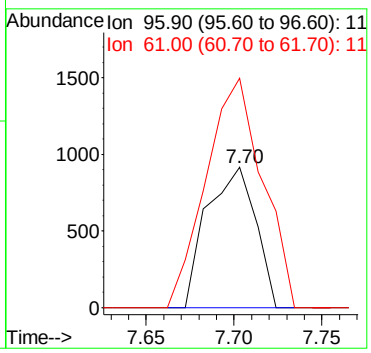


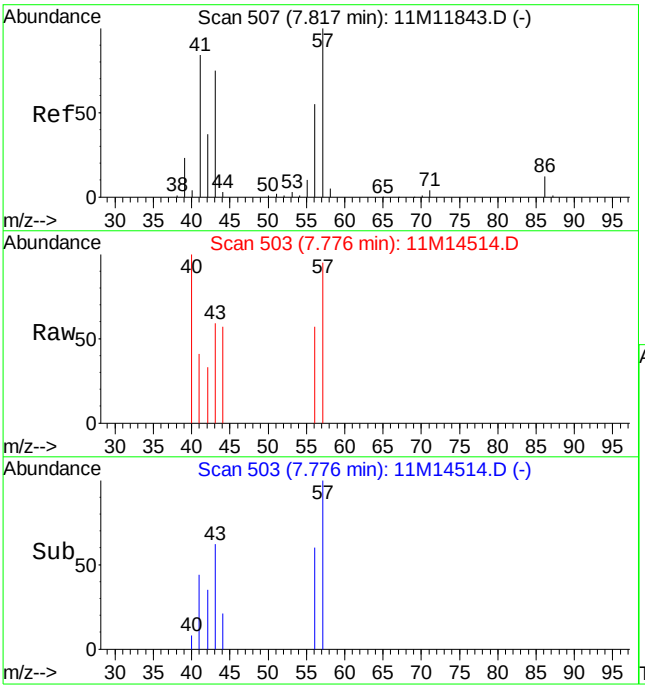


#23
trans-1,2-Dichloroethene
Concen: 0.21 ug/L
RT: 7.70 min Scan# 496
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 96 Resp: 1760

Ion	Ratio	Lower	Upper
96	100		
61	189.8	105.1	245.1

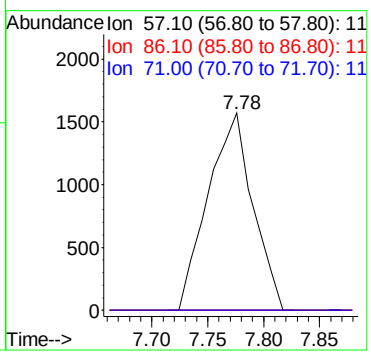


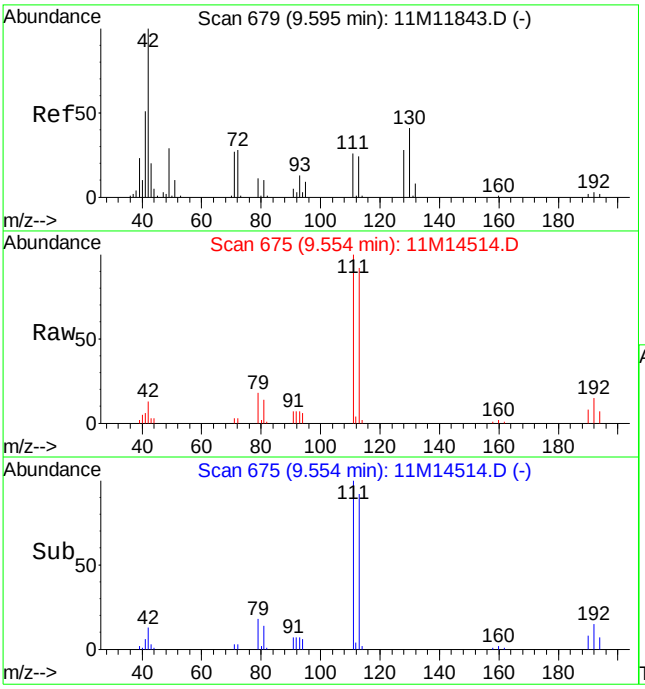


#24
n-Hexane
Concen: 0.31 ug/L
RT: 7.78 min Scan# 503
Delta R.T. 0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 57 Resp: 4367

Ion	Ratio	Lower	Upper
57	100		
86	0.0	6.9	16.1#
71	0.0	2.5	5.7#

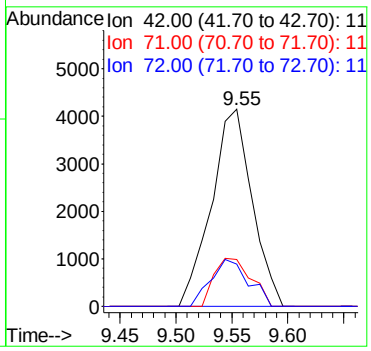


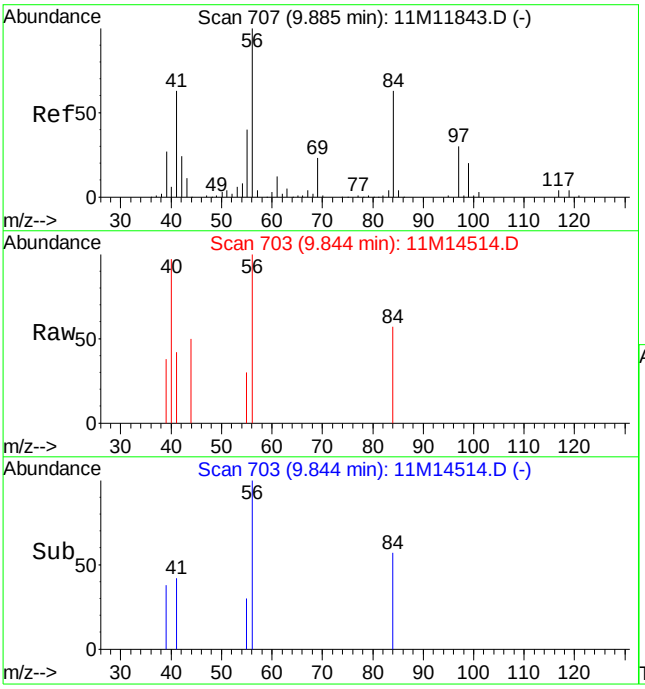


#36
Tetrahydrofuran
Concen: 0.75 ug/L
RT: 9.55 min Scan# 675
Delta R.T. 0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 42 Resp: 10508

Ion	Ratio	Lower	Upper
42	100		
71	22.2	12.8	30.0
72	22.2	14.0	32.6

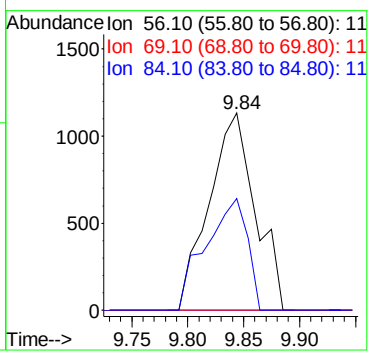


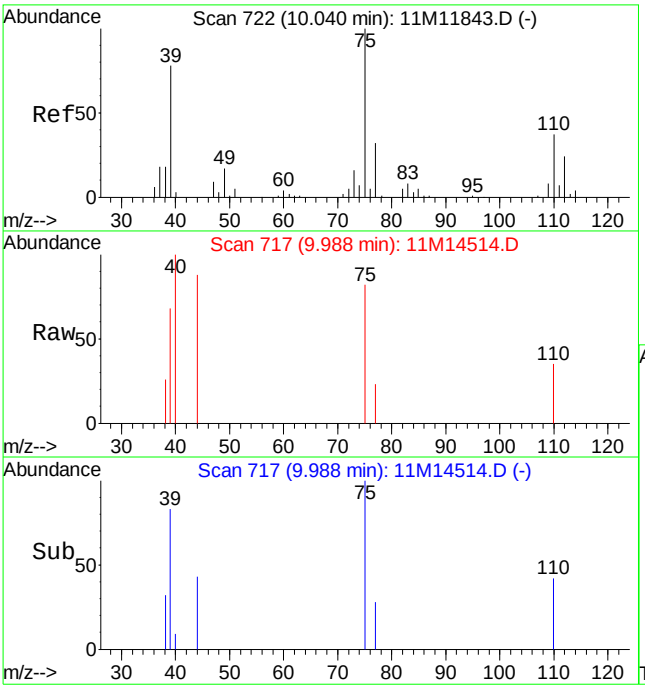


#39
Cyclohexane
Concen: 0.17 ug/L
RT: 9.84 min Scan# 703
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 56 Resp: 3267

Ion	Ratio	Lower	Upper
56	100		
69	0.0	12.4	29.0#
84	50.8	34.7	81.1

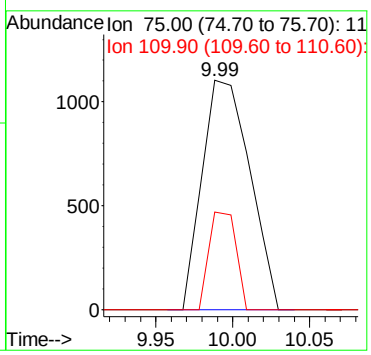


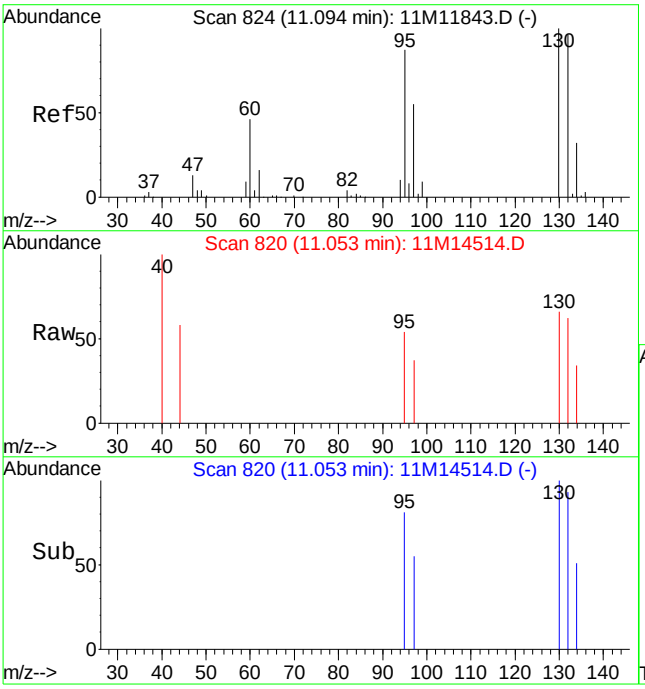


#40
1,1-Dichloropropene
Concen: 0.22 ug/L
RT: 9.99 min Scan# 717
Delta R.T. -0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 75 Resp: 2387

Ion	Ratio	Lower	Upper
75	100		
110	24.0	21.8	50.8

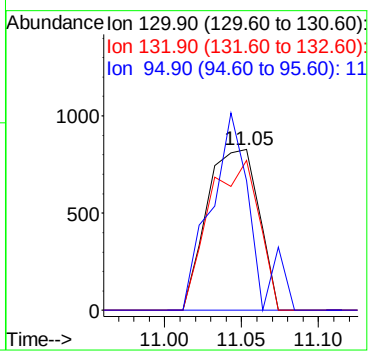


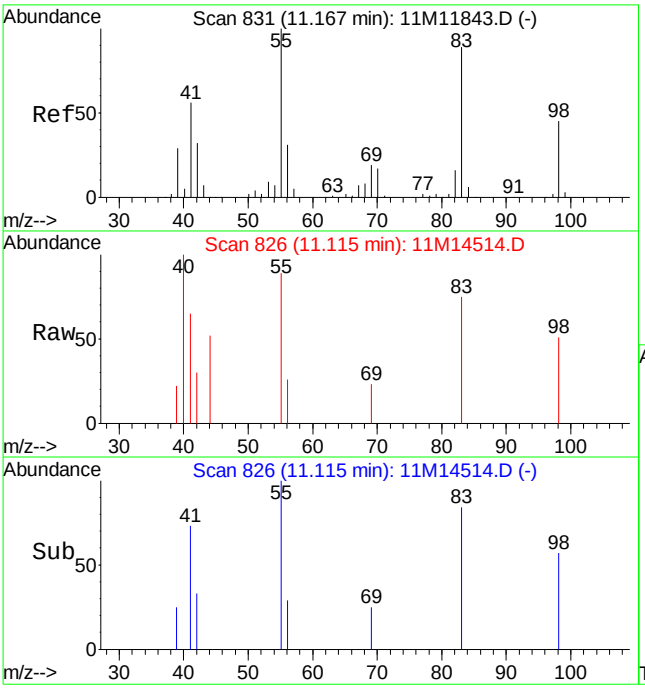


#46
Trichloroethene
Concen: 0.21 ug/L
RT: 11.05 min Scan# 820
Delta R.T. 0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:130 Resp: 1947

Ion	Ratio	Lower	Upper
130	100		
132	89.7	58.4	136.4
95	95.1	58.0	135.4

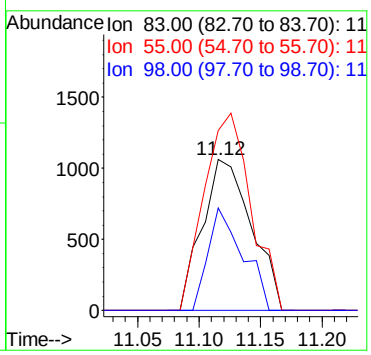


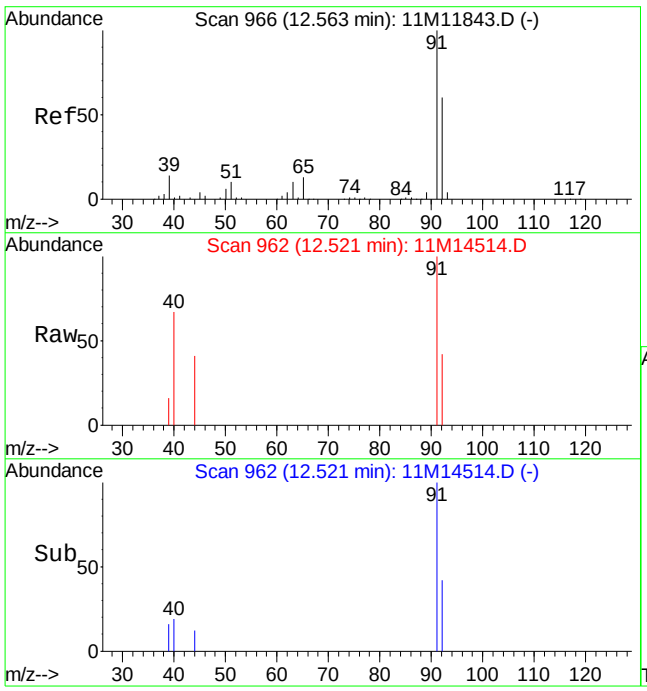


#47
Methylcyclohexane
Concen: 0.23 ug/L
RT: 11.12 min Scan# 826
Delta R.T. -0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 83 Resp: 2954

Ion	Ratio	Lower	Upper
83	100		
55	124.4	70.3	164.1
98	48.2	28.2	65.8

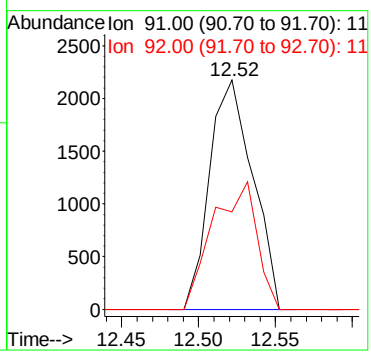


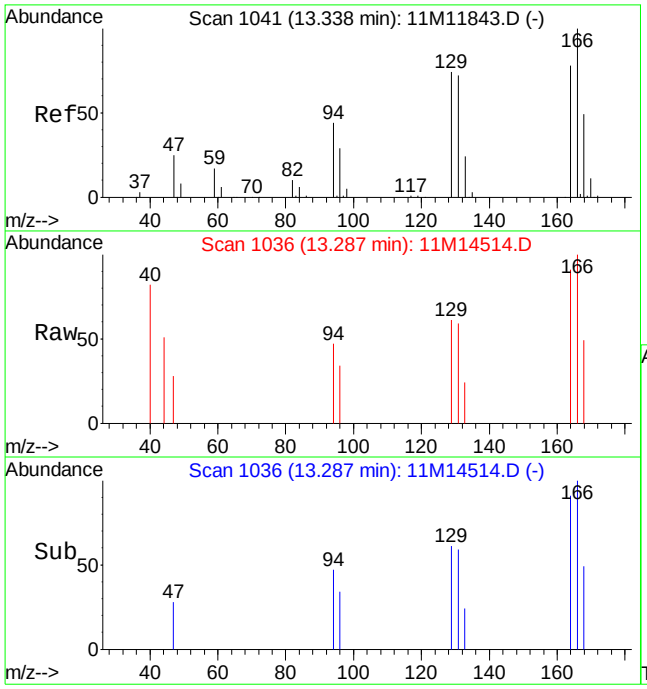


#58
Toluene
Concen: 0.12 ug/L
RT: 12.52 min Scan# 962
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 91 Resp: 4253

Ion	Ratio	Lower	Upper
91	100		
92	56.8	35.8	83.6

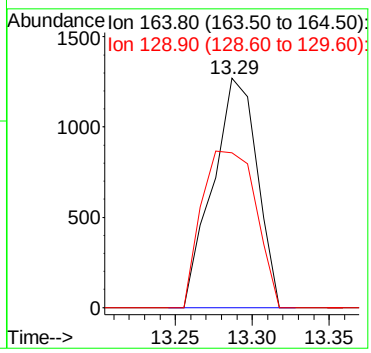


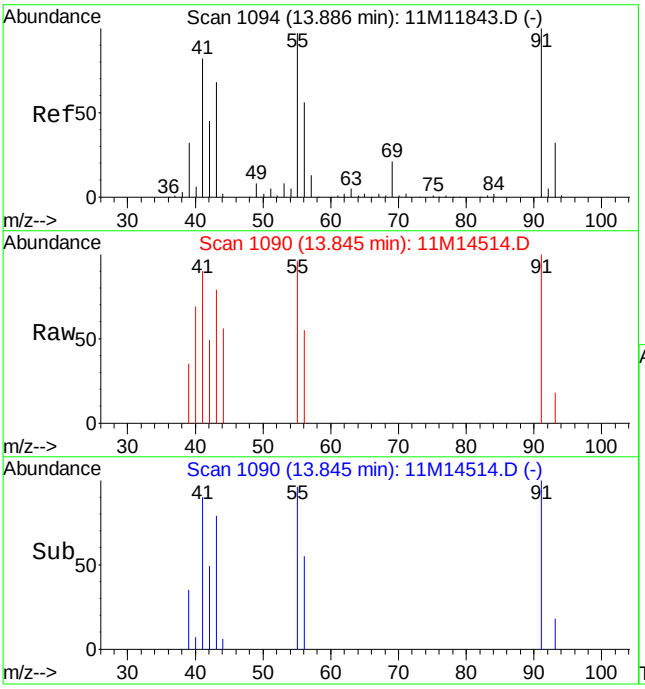


#64
Tetrachloroethene
Concen: 0.34 ug/L
RT: 13.29 min Scan# 1036
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:164 Resp: 2550

Ion	Ratio	Lower	Upper
164	100		
129	83.3	55.3	129.1

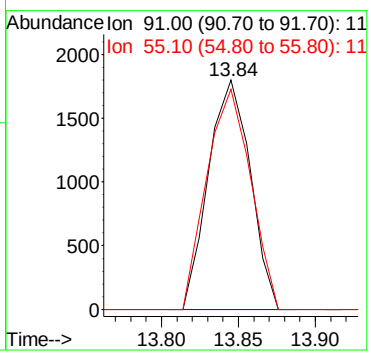


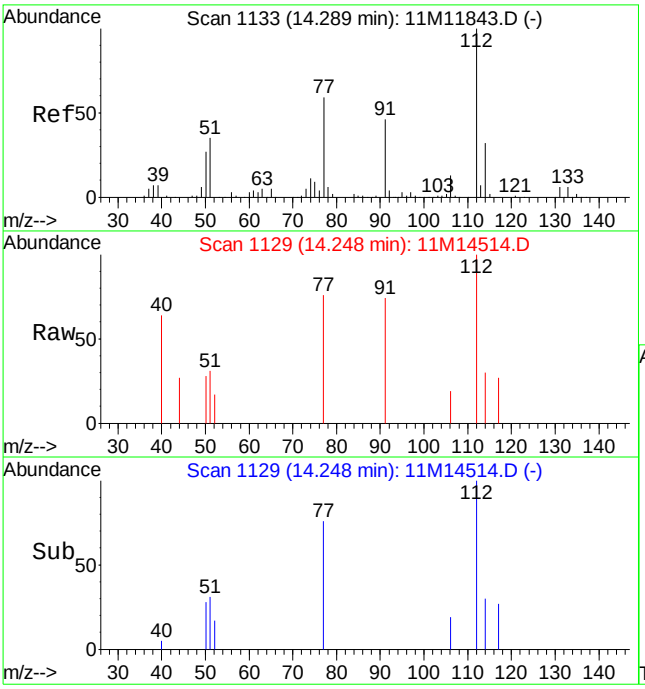


#67
1-Chlorohexane
Concen: 0.31 ug/L
RT: 13.84 min Scan# 1090
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 91 Resp: 3410

Ion	Ratio	Lower	Upper
91	100		
55	100.7	60.4	141.0

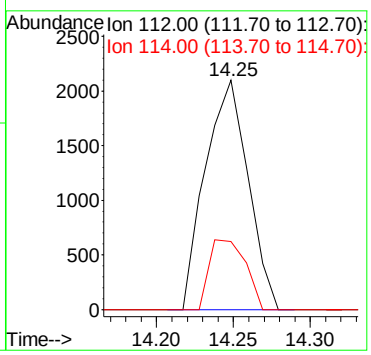


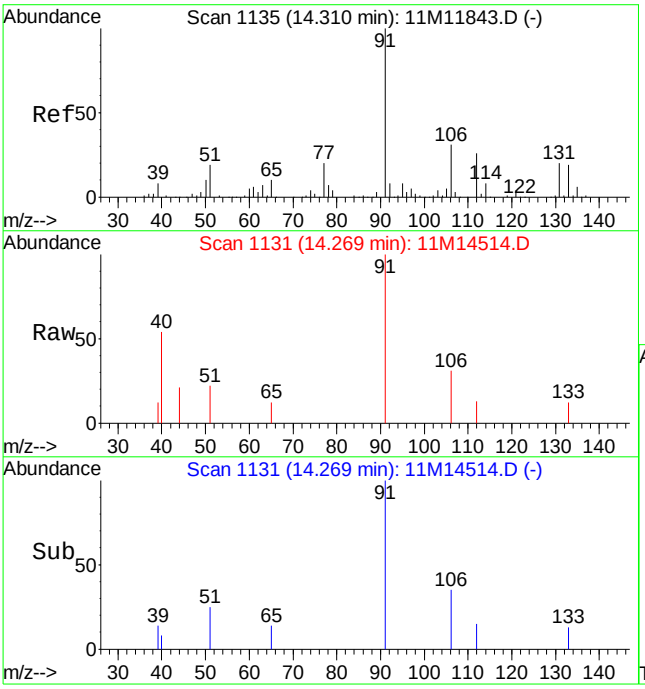


#68
Chlorobenzene
Concen: 0.17 ug/L
RT: 14.25 min Scan# 1129
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:112 Resp: 4063

Ion	Ratio	Lower	Upper
112	100		
114	25.7	19.7	46.1

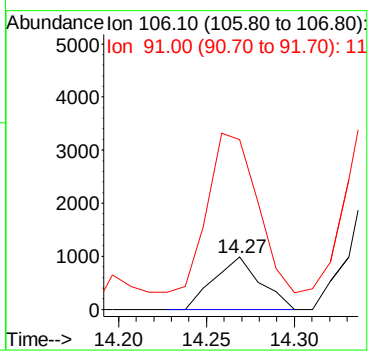


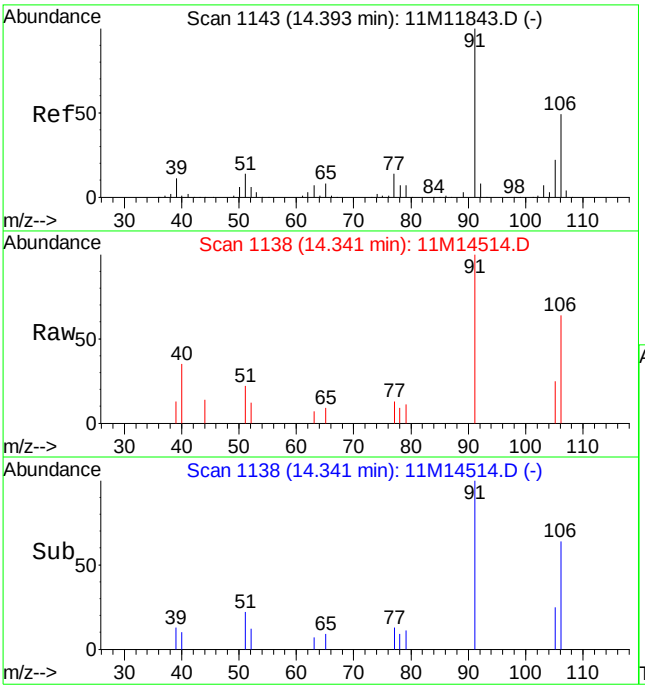


#70
Ethylbenzene
Concen: 0.15 ug/L
RT: 14.27 min Scan# 1131
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:106 Resp: 1817

Ion	Ratio	Lower	Upper
106	100		
91	396.1	193.0	450.4

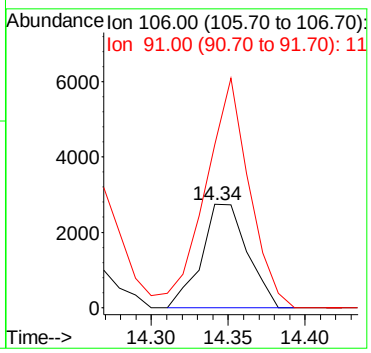


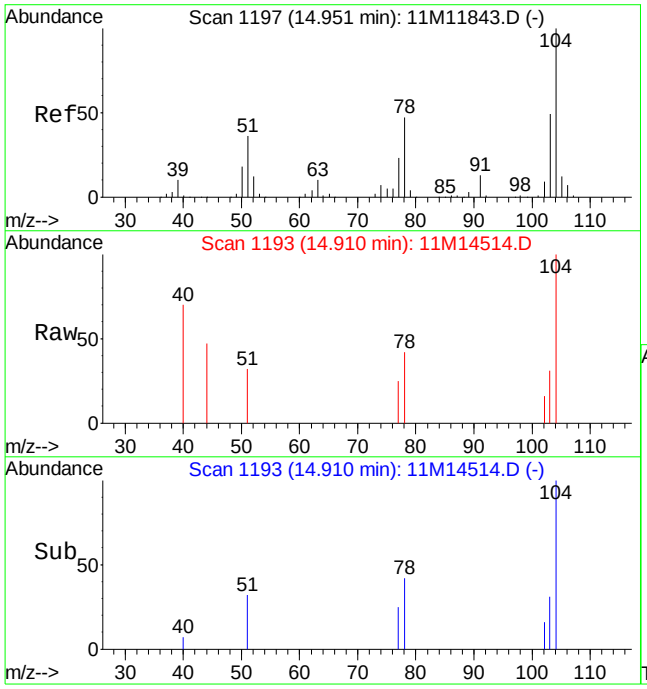


#71
m-,p-Xylene
Concen: 0.39 ug/L
RT: 14.34 min Scan# 1138
Delta R.T. -0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:106 Resp: 5699

Ion	Ratio	Lower	Upper
106	100		
91	212.6	119.9	279.7

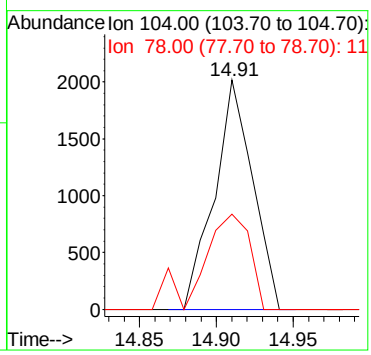


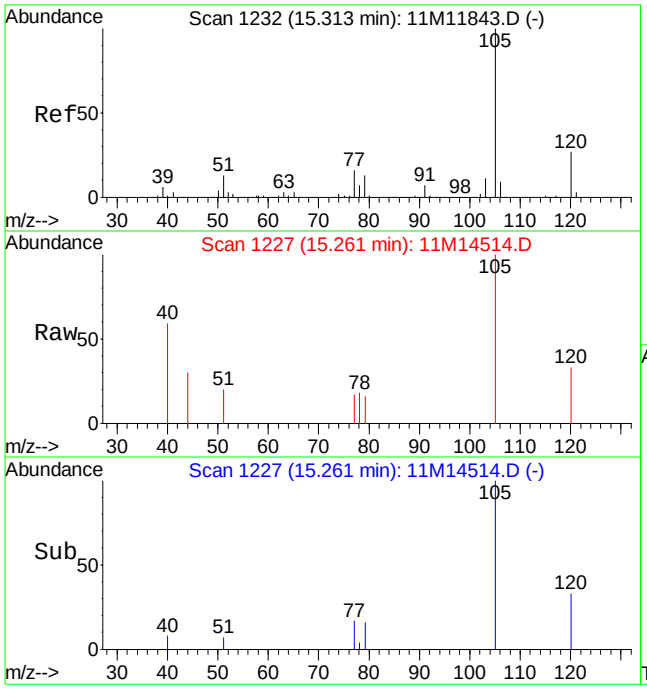


#73
Styrene
Concen: 0.14 ug/L
RT: 14.91 min Scan# 1193
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:104 Resp: 3501

Ion	Ratio	Lower	Upper
104	100		
78	51.3	30.3	70.7

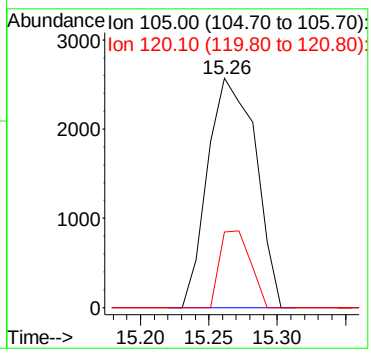


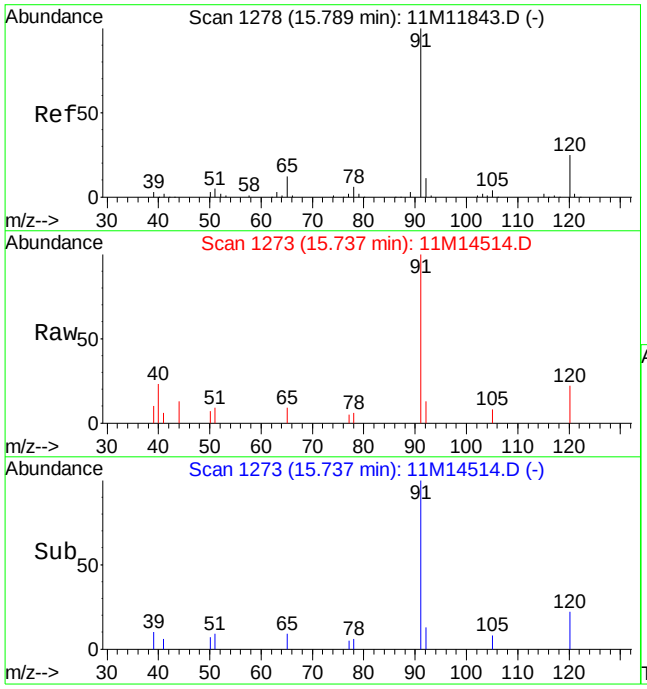


#75
Isopropylbenzene
Concen: 0.17 ug/L
RT: 15.26 min Scan# 1227
Delta R.T. -0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:105 Resp: 6254

Ion	Ratio	Lower	Upper
105	100		
120	21.4	16.9	39.5

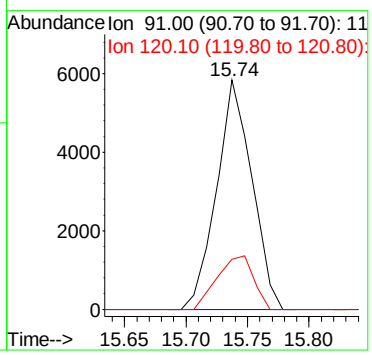


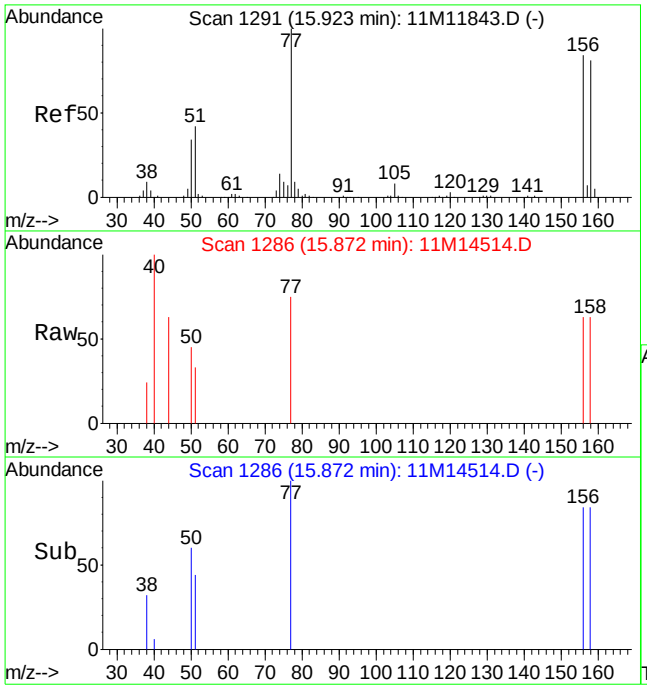


#81
n-Propylbenzene
Concen: 0.28 ug/L
RT: 15.74 min Scan# 1273
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 91 Resp: 11659

Ion	Ratio	Lower	Upper
91	100		
120	23.9	14.2	33.2

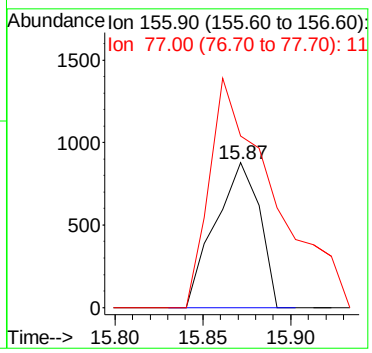


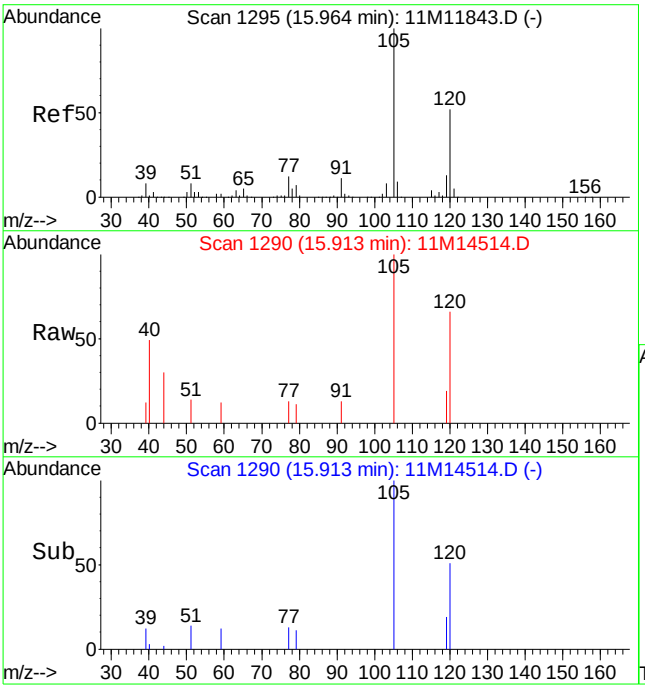


#82
Bromobenzene
Concen: 0.14 ug/L
RT: 15.87 min Scan# 1286
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:156 Resp: 1538

Ion	Ratio	Lower	Upper
156	100		
77	228.0	112.4	262.2

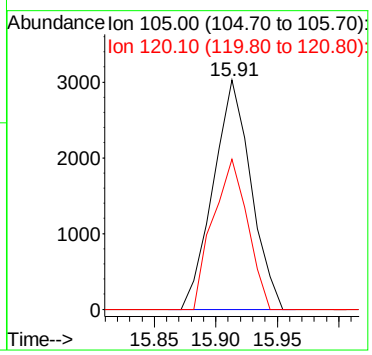


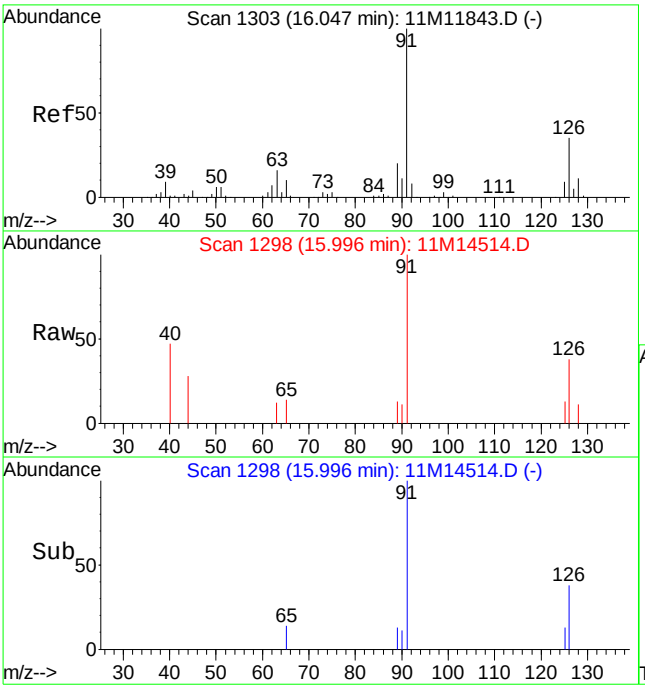


#83
1,3,5-Trimethylbenzene
Concen: 0.22 ug/L
RT: 15.91 min Scan# 1290
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:105 Resp: 6467

Ion	Ratio	Lower	Upper
105	100		
120	60.0	30.8	72.0

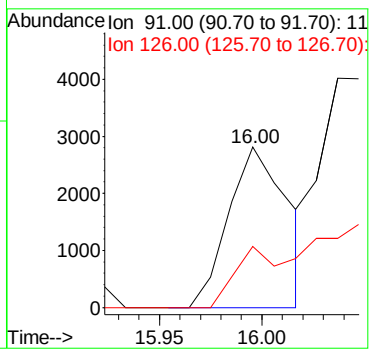


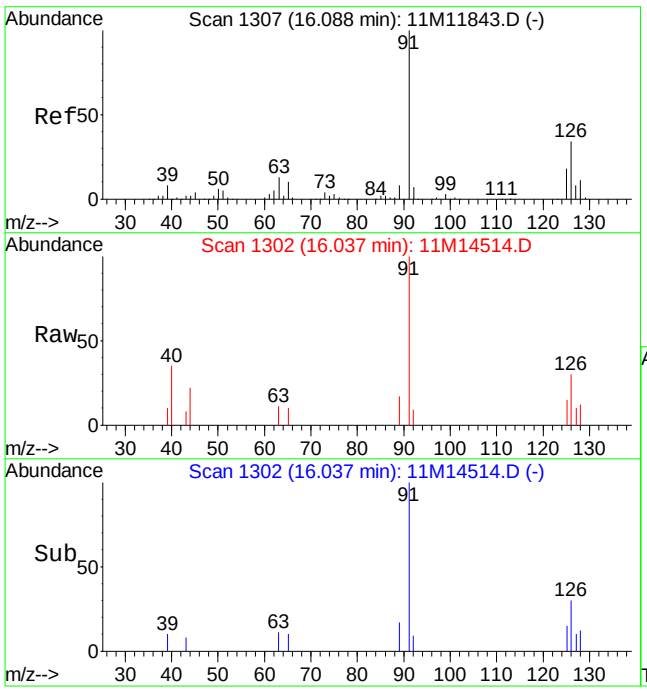


#84
2-Chlorotoluene
Concen: 0.21 ug/L
RT: 16.00 min Scan# 1298
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 91 Resp: 5644

Ion	Ratio	Lower	Upper
91	100		
126	0.0	20.4	47.6#

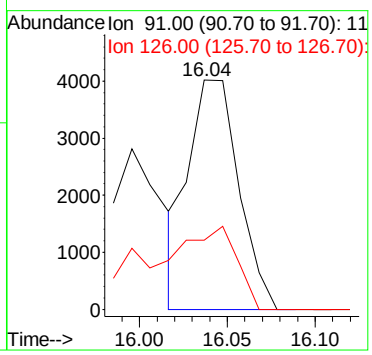


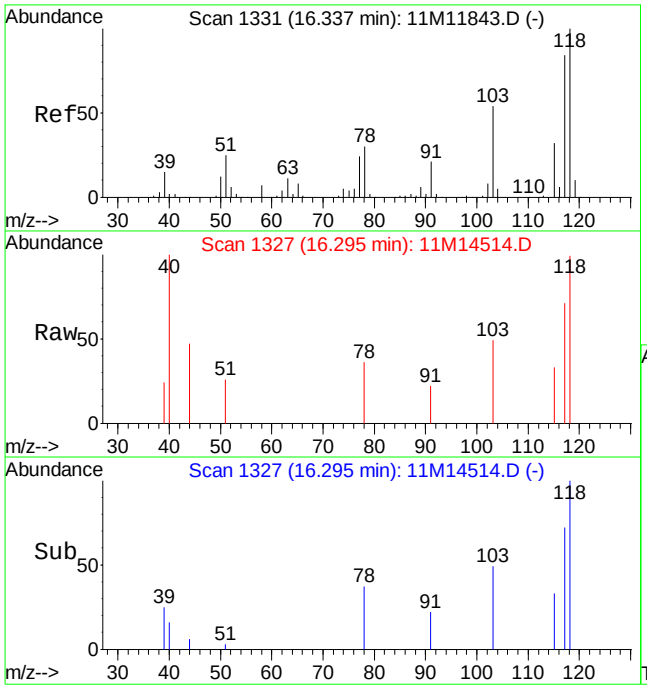


#85
4-Chlorotoluene
Concen: 0.30 ug/L
RT: 16.04 min Scan# 1302
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 91 Resp: 7966

Ion	Ratio	Lower	Upper
91	100		
126	60.9	21.5	50.1#

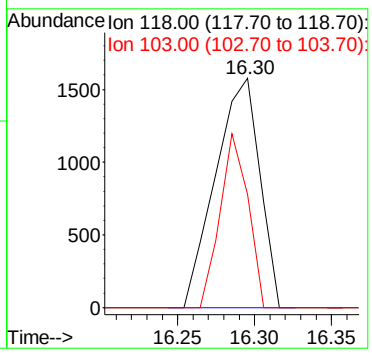


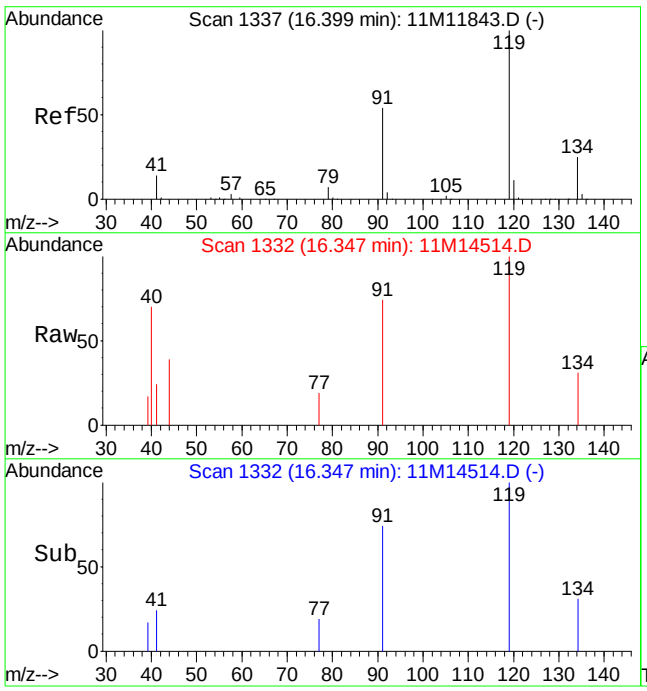


#86
a-Methylstyrene
Concen: 0.18 ug/L
RT: 16.30 min Scan# 1327
Delta R.T. 0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:118 Resp: 3154

Ion	Ratio	Lower	Upper
118	100		
103	47.9	32.9	76.9

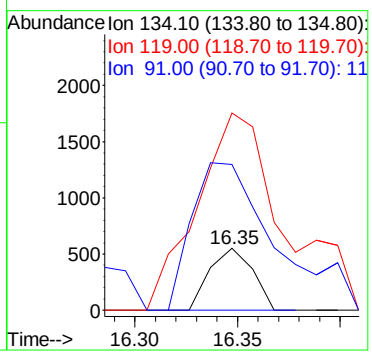


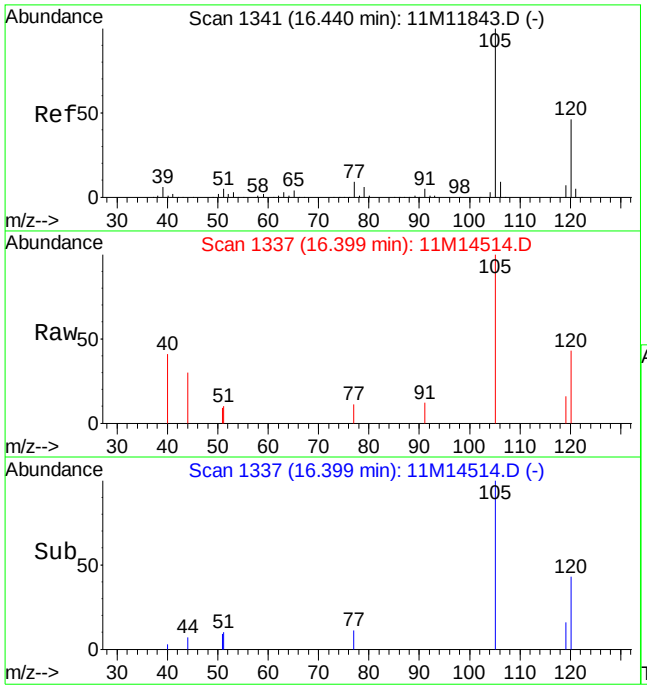


#87
tert-Butylbenzene
Concen: 0.12 ug/L
RT: 16.35 min Scan# 1332
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:134 Resp: 805

Ion	Ratio	Lower	Upper
134	100		
119	643.4	295.3	688.9
91	462.5	197.0	459.6#

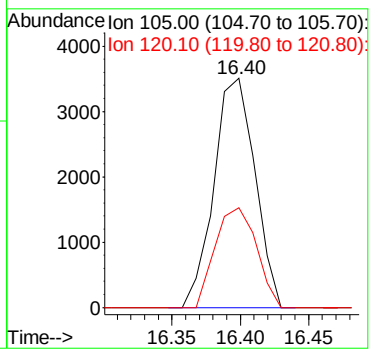


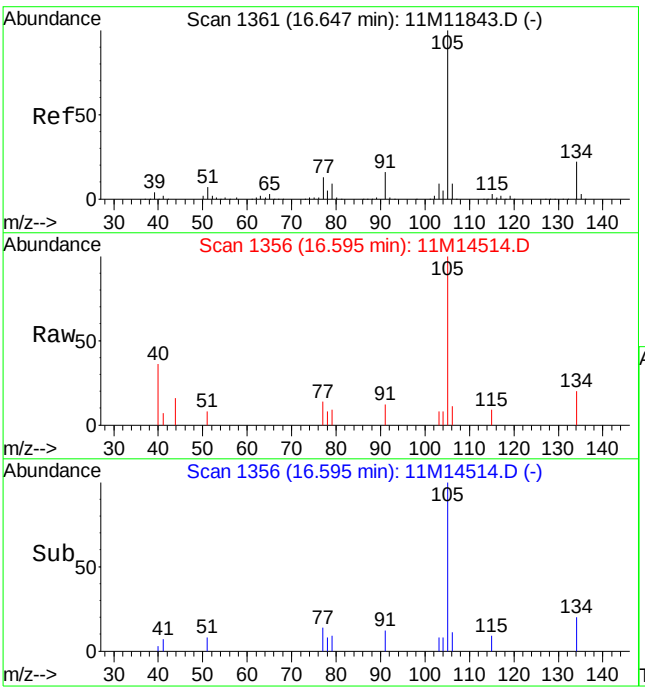


#88
1,2,4-Trimethylbenzene
Concen: 0.24 ug/L
RT: 16.40 min Scan# 1337
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:105 Resp: 7317

Ion	Ratio	Lower	Upper
105	100		
120	43.7	33.8	79.0

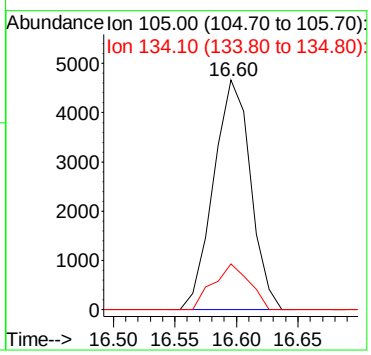


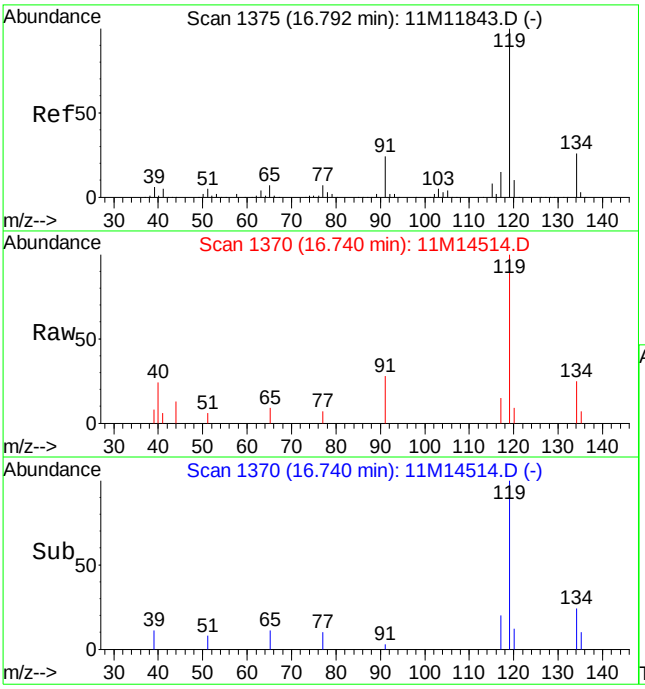


#89
sec-Butylbenzene
Concen: 0.26 ug/L
RT: 16.60 min Scan# 1356
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:105 Resp: 9777

Ion	Ratio	Lower	Upper
105	100		
134	19.2	12.3	28.7

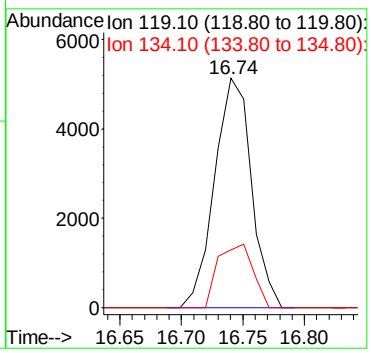


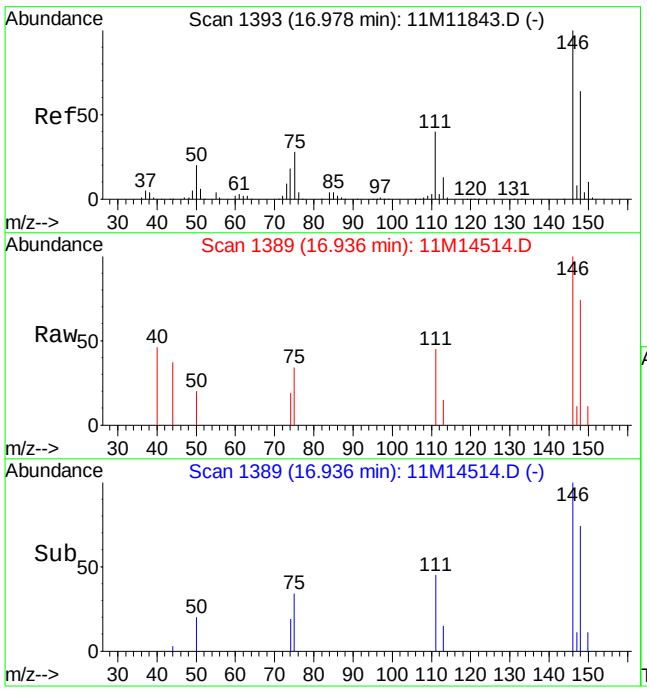


#90
p-Isopropyltoluene
Concen: 0.33 ug/L
RT: 16.74 min Scan# 1370
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:119 Resp: 10693

Ion	Ratio	Lower	Upper
119	100		
134	26.1	15.7	36.7

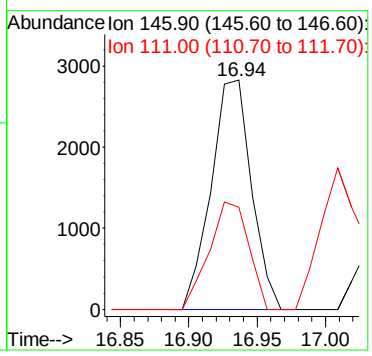


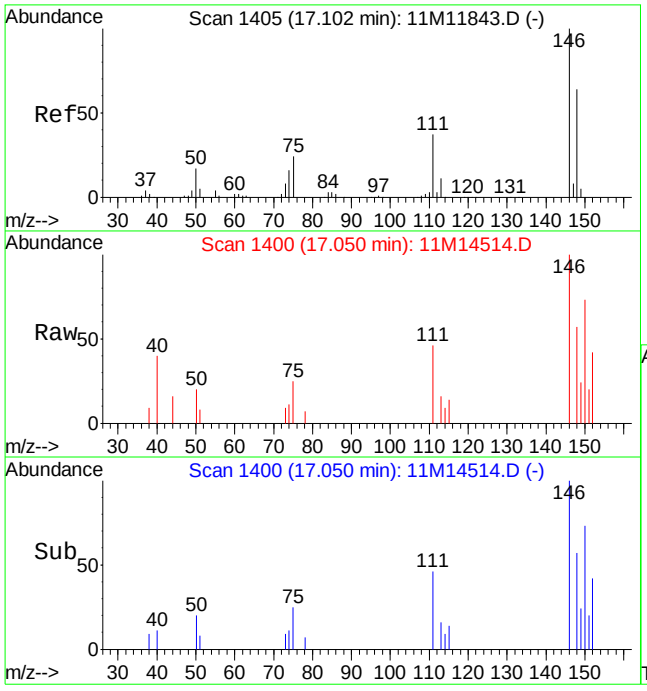


#91
1,3-Dichlorobenzene
Concen: 0.29 ug/L
RT: 16.94 min Scan# 1389
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:146 Resp: 5795

Ion	Ratio	Lower	Upper
146	100		
111	45.8	24.0	56.0

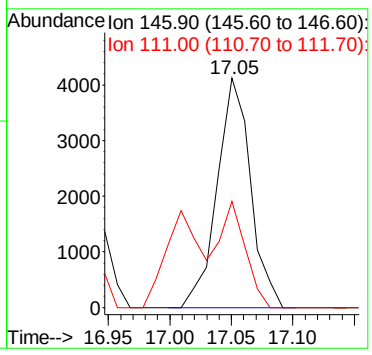


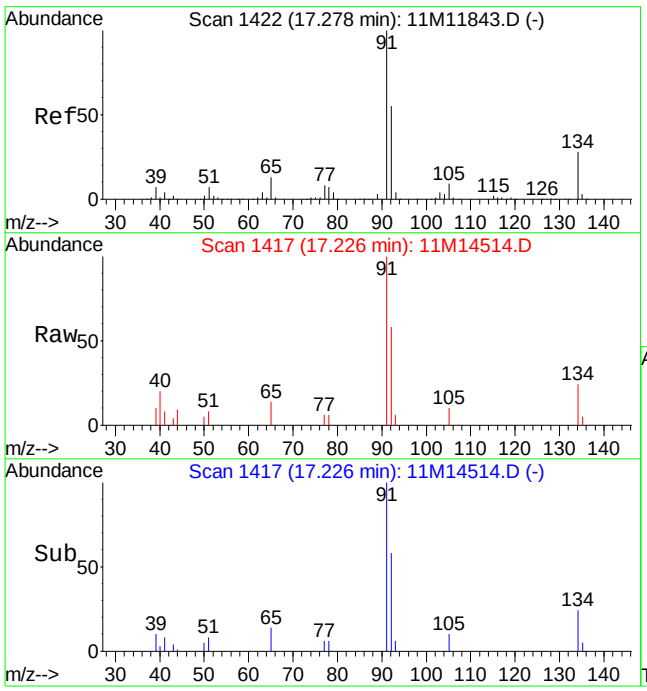


#92
1,4-Dichlorobenzene
Concen: 0.39 ug/L
RT: 17.05 min Scan# 1400
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:146 Resp: 7789

Ion	Ratio	Lower	Upper
146	100		
111	36.2	23.3	54.5

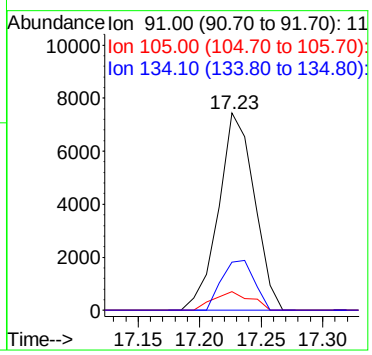


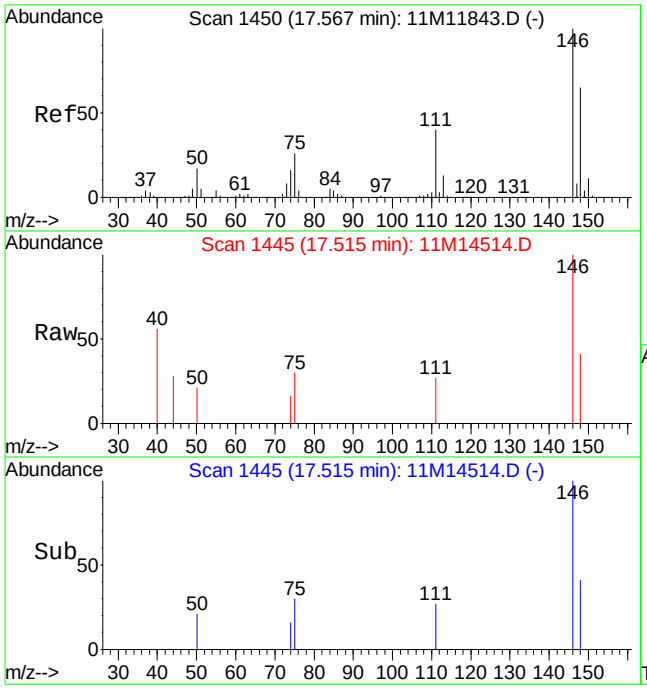


#93
n-Butylbenzene
Concen: 0.49 ug/L
RT: 17.23 min Scan# 1417
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion: 91 Resp: 15074

Ion	Ratio	Lower	Upper
91	100		
105	9.9	5.2	12.2
134	23.1	16.0	37.4

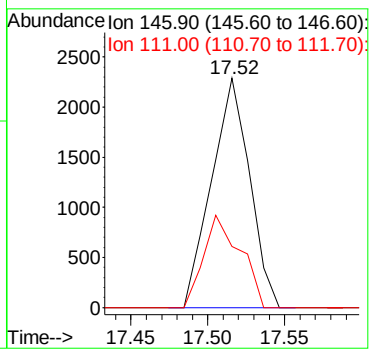


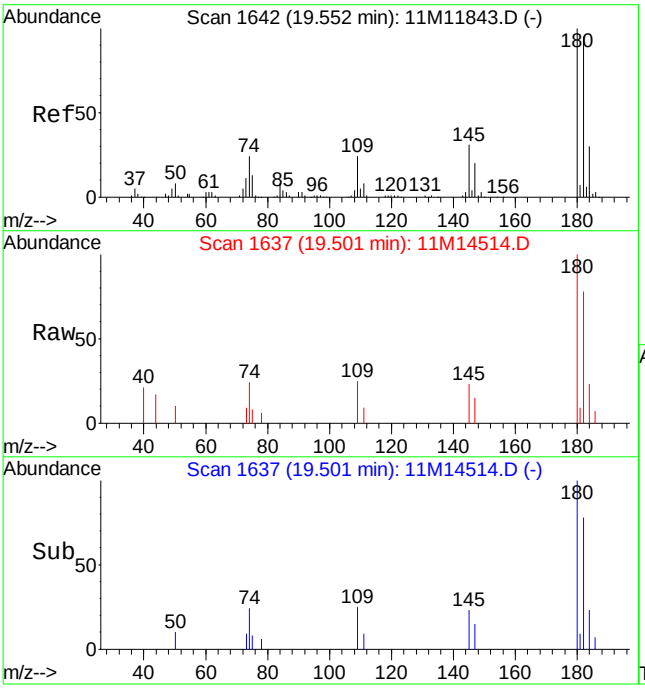


#94
1,2-Dichlorobenzene
Concen: 0.21 ug/L
RT: 17.52 min Scan# 1445
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:146 Resp: 3938

Ion	Ratio	Lower	Upper
146	100		
111	38.8	25.0	58.4

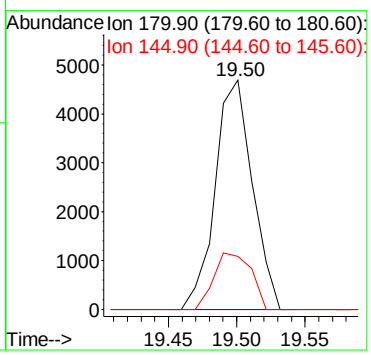


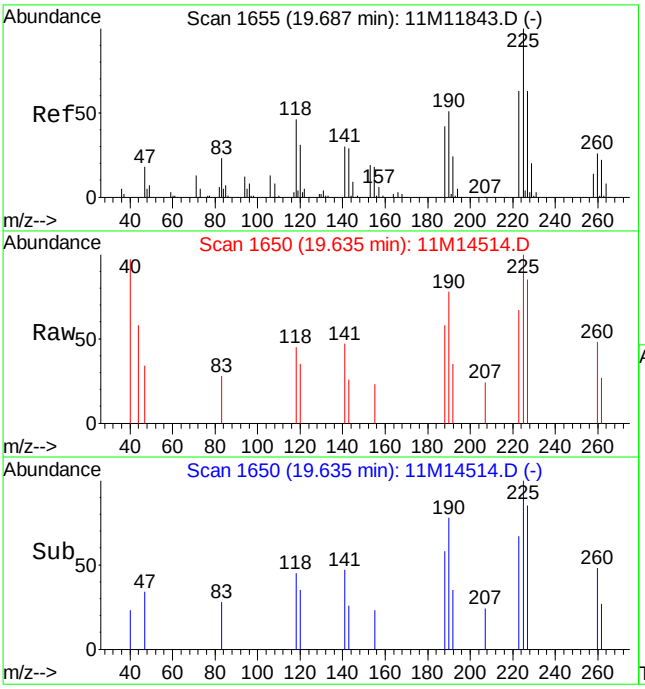


#96
1,2,4-Trichlorobenzene
Concen: 0.64 ug/L
RT: 19.50 min Scan# 1637
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:180 Resp: 8860

Ion	Ratio	Lower	Upper
180	100		
145	24.4	18.5	43.3

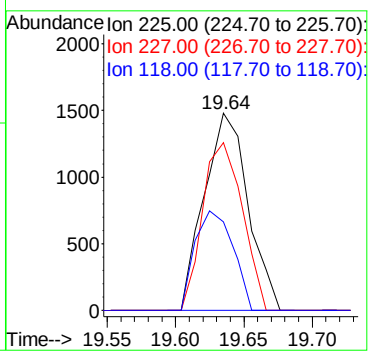


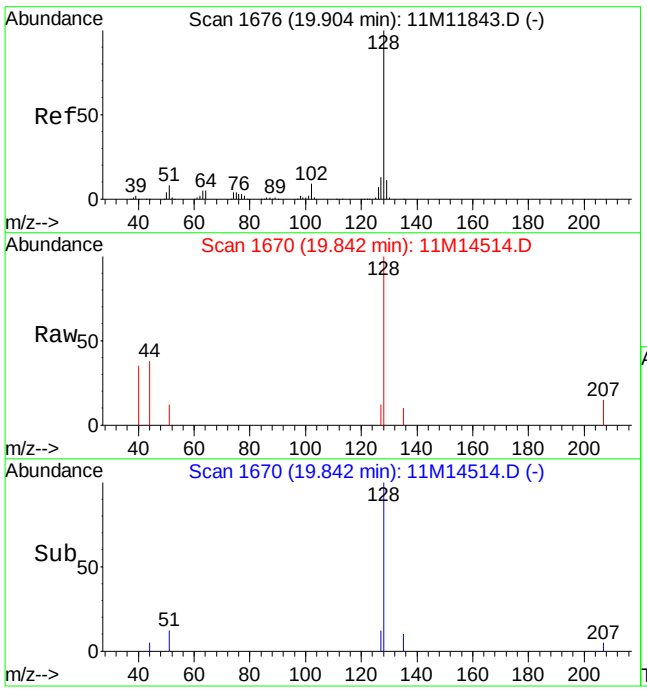


#97
Hexachlorobutadiene
Concen: 0.60 ug/L
RT: 19.64 min Scan# 1650
Delta R.T. 0.00 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:225 Resp: 3290

Ion	Ratio	Lower	Upper
225	100		
227	77.2	38.3	89.3
118	43.9	28.2	65.8

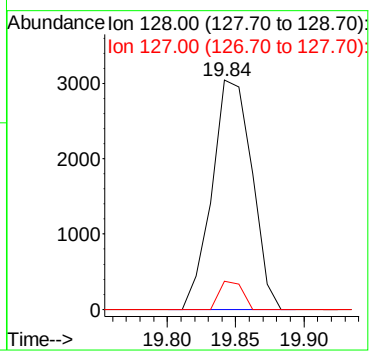


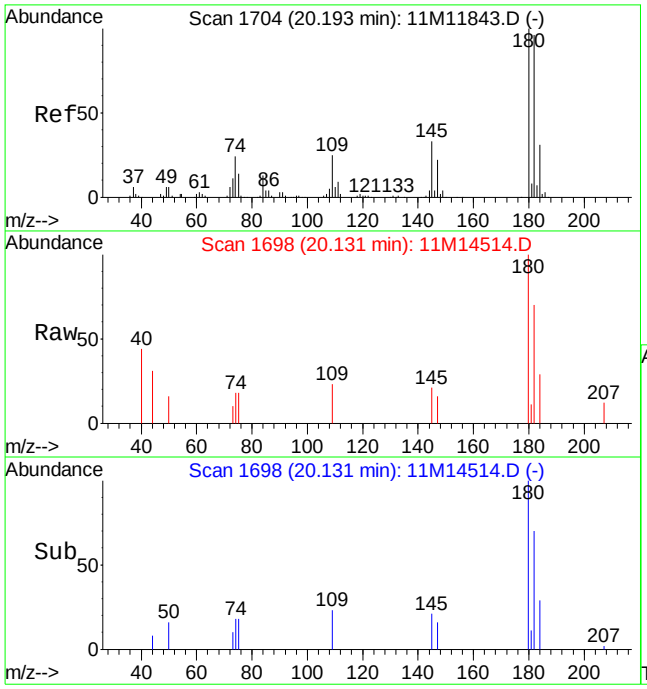


#98
Naphthalene
Concen: 0.21 ug/L
RT: 19.84 min Scan# 1670
Delta R.T. -0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:128 Resp: 6196

Ion	Ratio	Lower	Upper
128	100		
127	7.1	11.6	14.2#

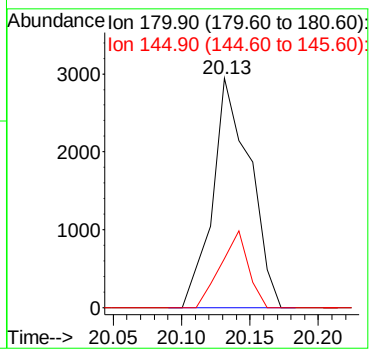




#99
1,2,3-Trichlorobenzene
Concen: 0.42 ug/L
RT: 20.13 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 11M14514.D
Acq: 13 Oct 2016 19:58

Tgt Ion:180 Resp: 5585

Ion	Ratio	Lower	Upper
180	100		
145	24.9	19.5	45.5



Data File : C:\MSDCHEM\1\DATA\101716\11M14561.D Vial: 3
Acq On : 17 Oct 2016 14:07 Operator: FJB
Sample : WG587867-01 BLANK 8260 Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 18 14:46:31 2016 Quant Results File: 8260WT.RES

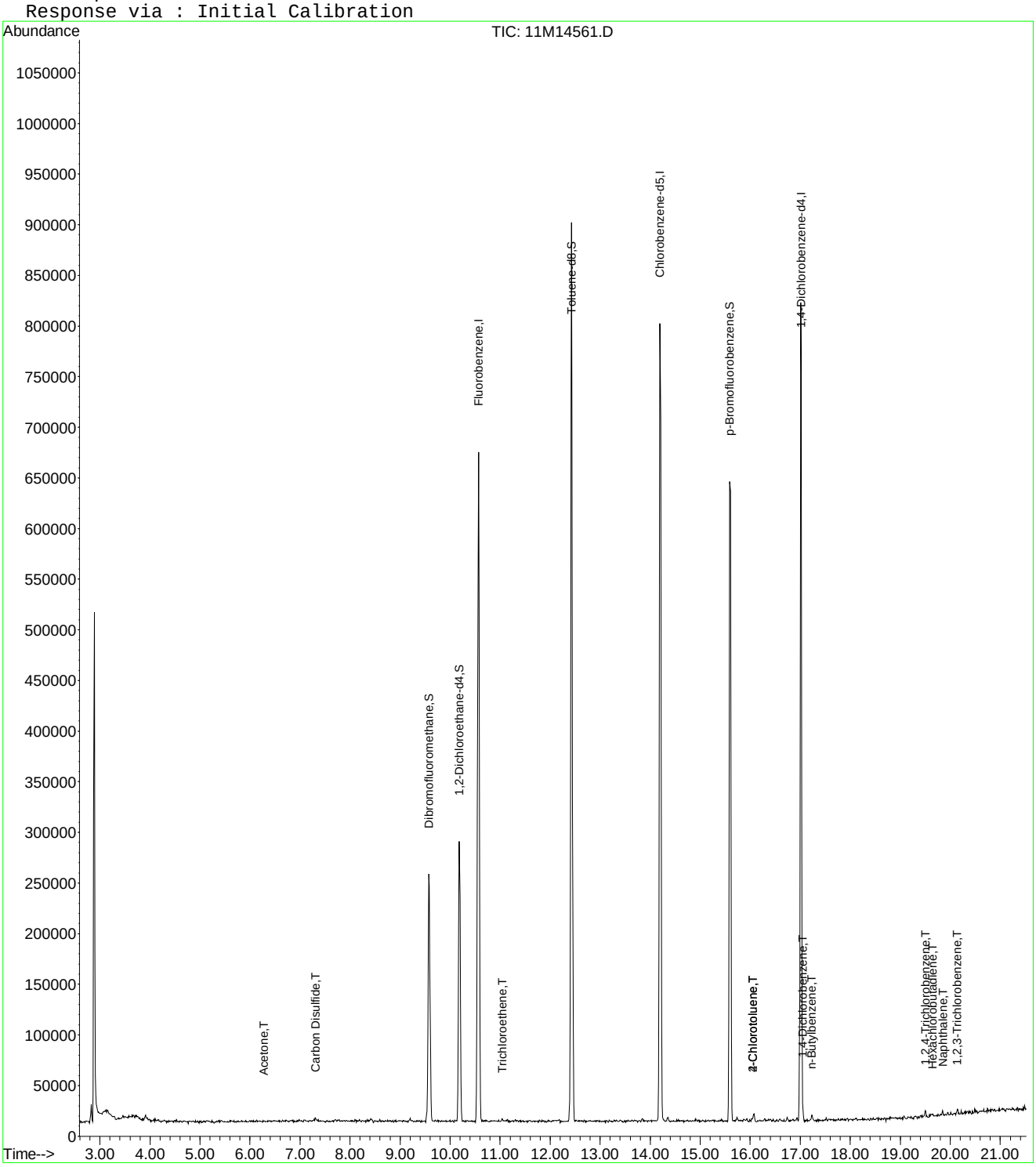
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

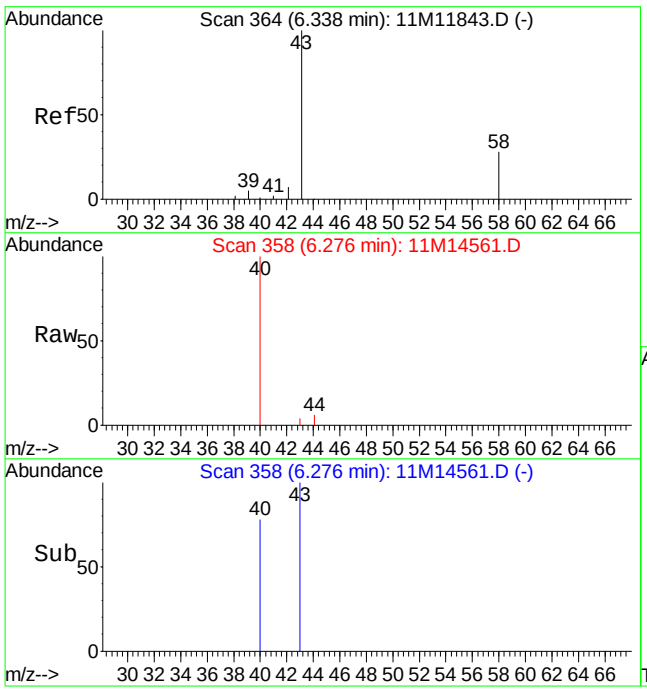
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	726651	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	544201	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.02	152	267000	25.00 ug/L	0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	205237	23.4800 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.92%		
43) 1,2-Dichloroethane-d4	10.18	65	219326	22.3496 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 89.40%		
57) Toluene-d8	12.43	98	719549	24.9506 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.80%		
78) p-Bromofluorobenzene	15.59	95	269814	25.2589 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.04%		
Target Compounds					Qvalue
13) Acetone	6.28	43	1123	0.3983 ug/L #	50
20) Carbon Disulfide	7.31	76	4671	0.1879 ug/L #	87
36) Tetrahydrofuran	9.54	42	6794	Below Cal	93
46) Trichloroethene	11.04	130	1166	0.1224 ug/L	96
84) 2-Chlorotoluene	16.05	91	4622	0.1839 ug/L #	70
85) 4-Chlorotoluene	16.05	91	4810	0.1879 ug/L #	67
92) 1,4-Dichlorobenzene	17.05	146	2638	0.1371 ug/L #	1
93) n-Butylbenzene	17.23	91	5411	0.1837 ug/L #	86
96) 1,2,4-Trichlorobenzene	19.50	180	3344	0.2515 ug/L	91
97) Hexachlorobutadiene	19.65	225	1095	0.2104 ug/L #	50
98) Naphthalene	19.85	128	3598	0.1301 ug/L #	67
99) 1,2,3-Trichlorobenzene	20.13	180	2118	0.1651 ug/L	83

(#) = qualifier out of range (m) = manual integration
11M14561.D 8260WT.M Tue Oct 18 14:46:32 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101716\11M14561.D Vial: 3
Acq On : 17 Oct 2016 14:07 Operator: FJB
Sample : WG587867-01 BLANK 8260 Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 18 14:46 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration

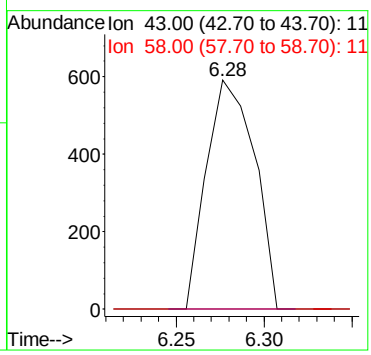


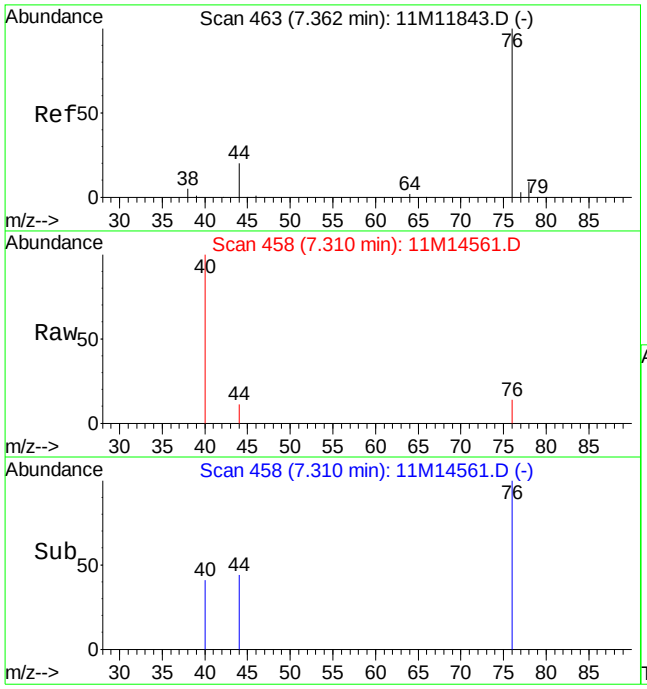


#13
Acetone
Concen: 0.40 ug/L
RT: 6.28 min Scan# 358
Delta R.T. 0.00 min
Lab File: 11M14561.D
Acq: 17 Oct 2016 14:07

Tgt Ion: 43 Resp: 1123

Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.1	35.1#

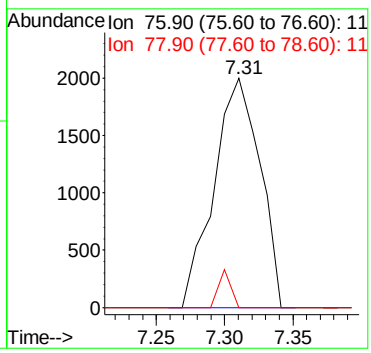


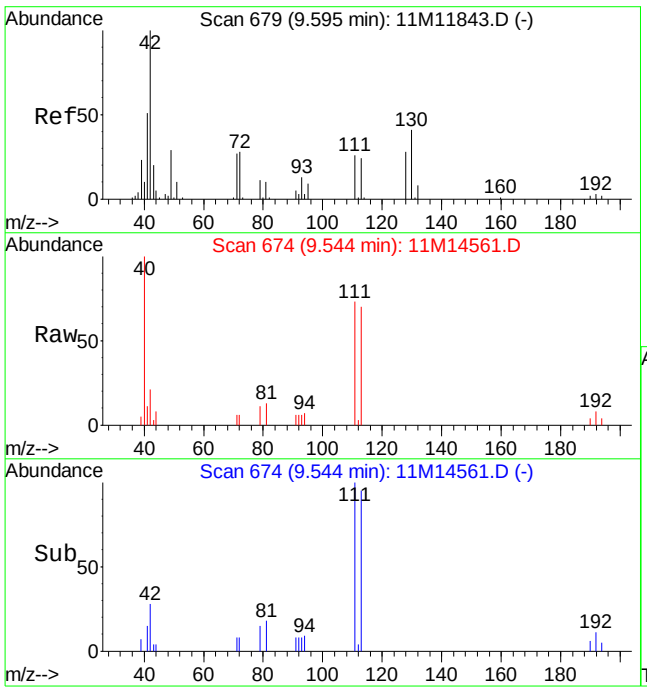


#20
Carbon Disulfide
Concen: 0.19 ug/L
RT: 7.31 min Scan# 458
Delta R.T. 0.00 min
Lab File: 11M14561.D
Acq: 17 Oct 2016 14:07

Tgt Ion: 76 Resp: 4671

Ion	Ratio	Lower	Upper
76	100		
78	4.4	5.6	13.0#

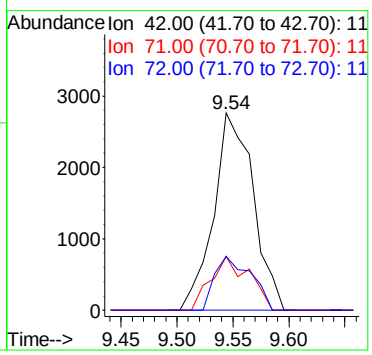


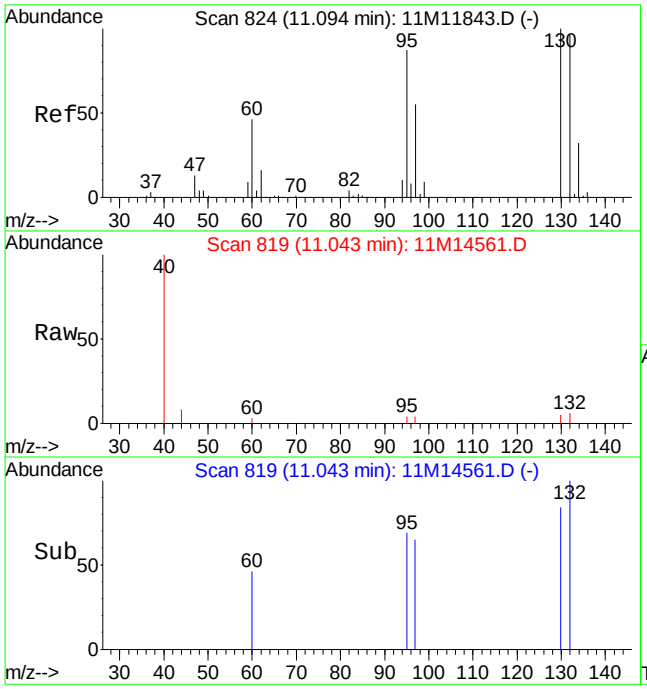


#36
Tetrahydrofuran
Concen: Below Cal
RT: 9.54 min Scan# 674
Delta R.T. 0.00 min
Lab File: 11M14561.D
Acq: 17 Oct 2016 14:07

Tgt Ion: 42 Resp: 6794

Ion	Ratio	Lower	Upper
42	100		
71	26.4	12.8	30.0
72	25.2	14.0	32.6

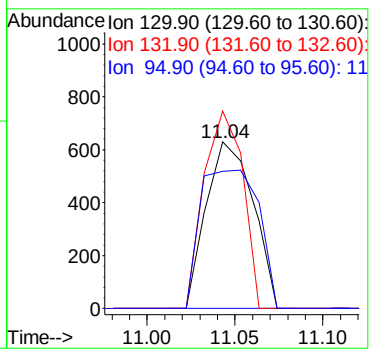


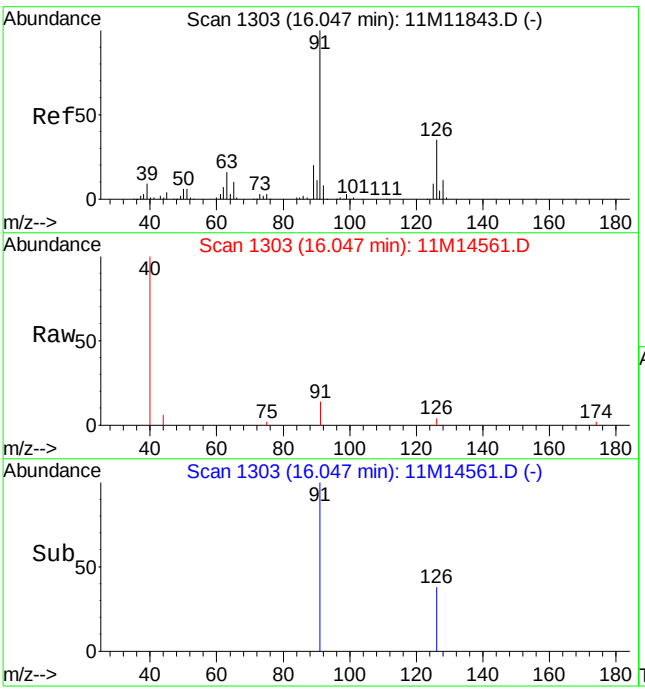


#46
Trichloroethene
Concen: 0.12 ug/L
RT: 11.04 min Scan# 819
Delta R.T. 0.00 min
Lab File: 11M14561.D
Acq: 17 Oct 2016 14:07

Tgt Ion:130 Resp: 1166

Ion	Ratio	Lower	Upper
130	100		
132	98.3	58.4	136.4
95	103.4	58.0	135.4

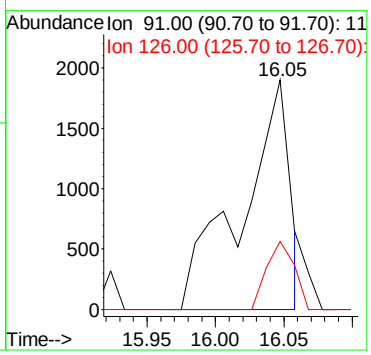


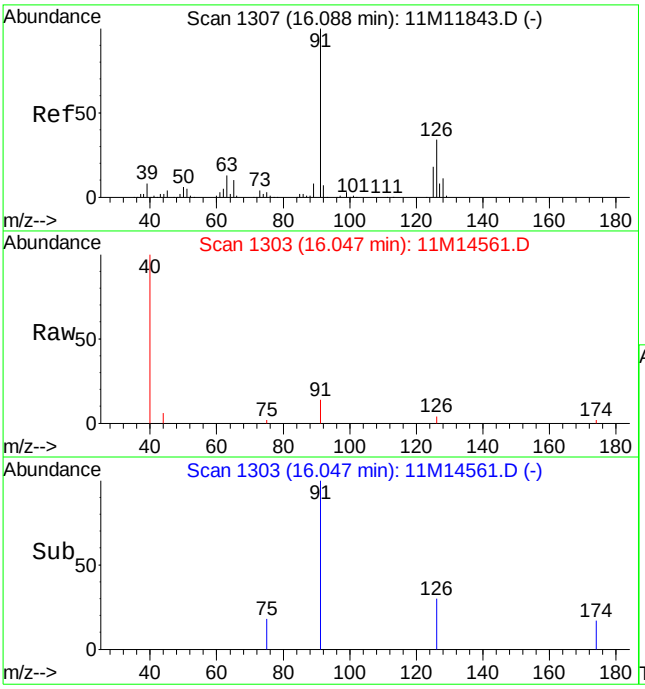


#84
2-Chlorotoluene
Concen: 0.18 ug/L
RT: 16.05 min Scan# 1303
Delta R.T. 0.05 min
Lab File: 11M14561.D
Acq: 17 Oct 2016 14:07

Tgt Ion: 91 Resp: 4622

Ion	Ratio	Lower	Upper
91	100		
126	17.1	20.4	47.6#

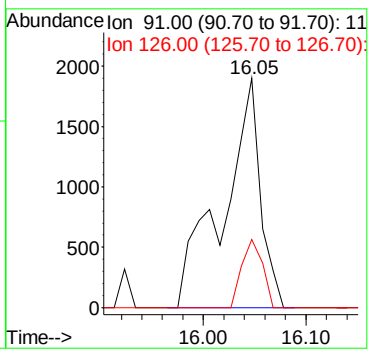


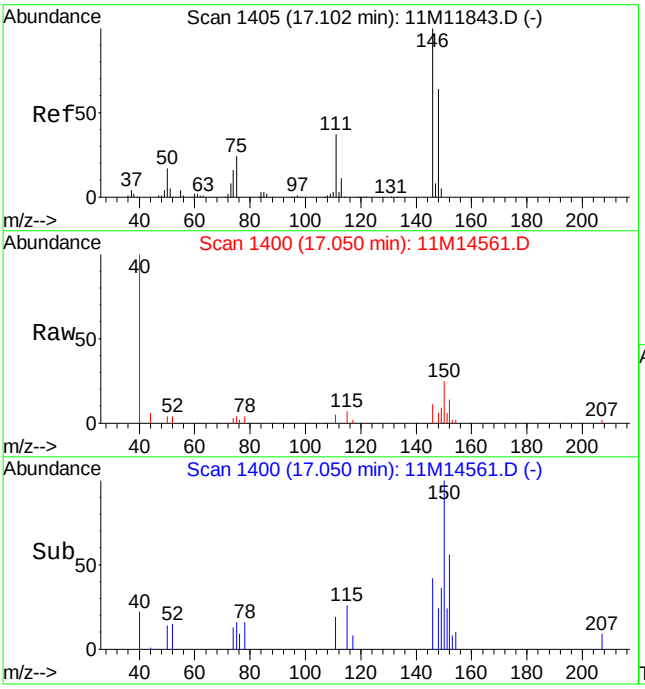


#85
4-Chlorotoluene
Concen: 0.19 ug/L
RT: 16.05 min Scan# 1303
Delta R.T. 0.01 min
Lab File: 11M14561.D
Acq: 17 Oct 2016 14:07

Tgt Ion: 91 Resp: 4810

Ion	Ratio	Lower	Upper
91	100		
126	16.4	21.5	50.1#

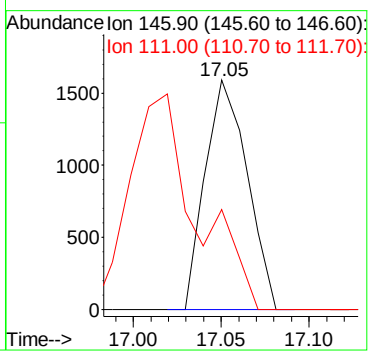


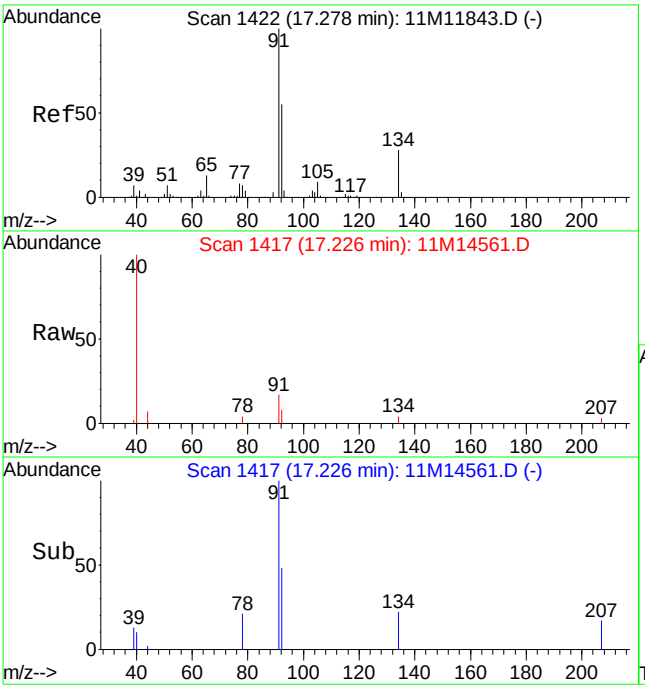


#92
1,4-Dichlorobenzene
Concen: 0.14 ug/L
RT: 17.05 min Scan# 1400
Delta R.T. 0.00 min
Lab File: 11M14561.D
Acq: 17 Oct 2016 14:07

Tgt Ion:146 Resp: 2638

Ion	Ratio	Lower	Upper
146	100		
111	148.9	23.3	54.5#

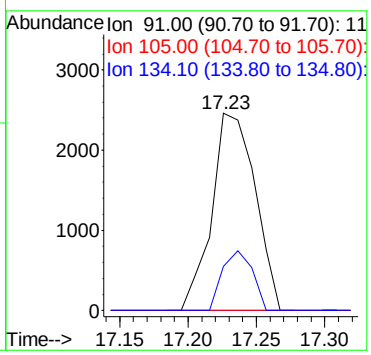


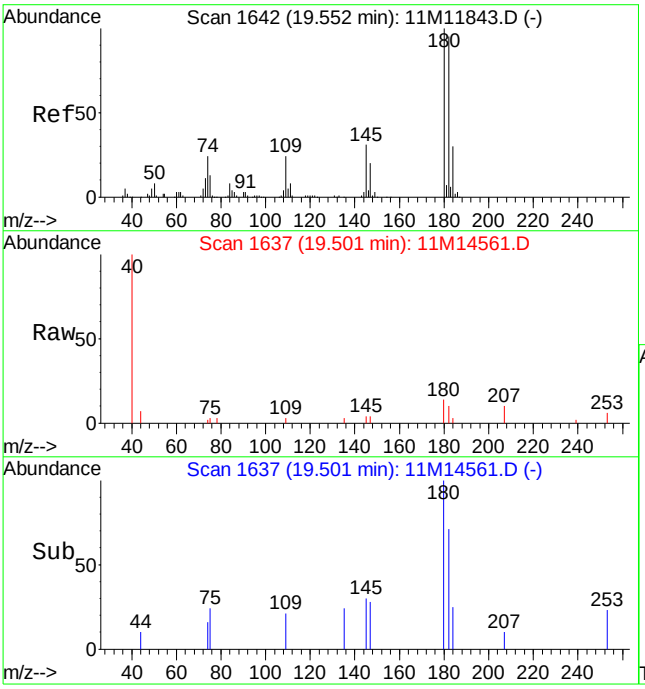


#93
n-Butylbenzene
Concen: 0.18 ug/L
RT: 17.23 min Scan# 1417
Delta R.T. 0.00 min
Lab File: 11M14561.D
Acq: 17 Oct 2016 14:07

Tgt Ion: 91 Resp: 5411

Ion	Ratio	Lower	Upper
91	100		
105	0.0	5.2	12.2#
134	21.0	16.0	37.4

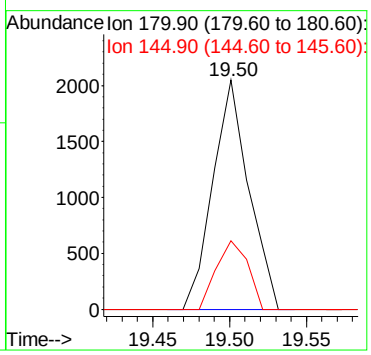


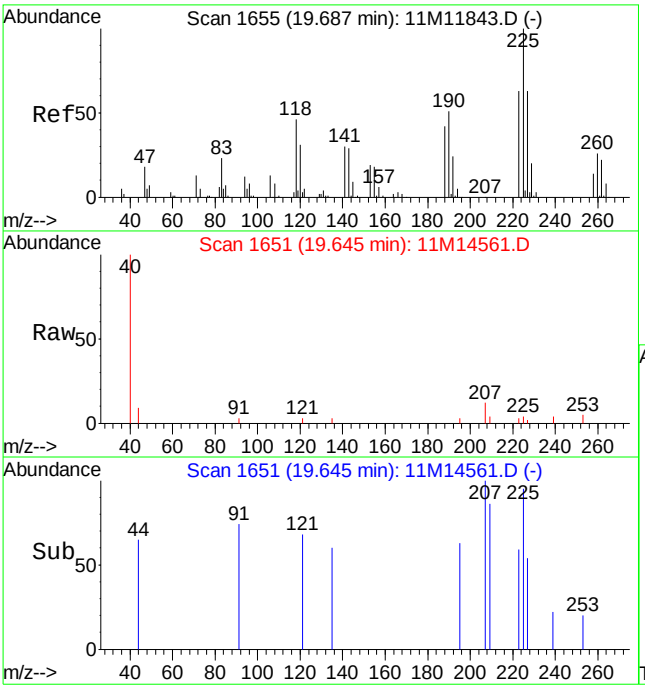


#96
1,2,4-Trichlorobenzene
Concen: 0.25 ug/L
RT: 19.50 min Scan# 1637
Delta R.T. 0.00 min
Lab File: 11M14561.D
Acq: 17 Oct 2016 14:07

Tgt Ion:180 Resp: 3344

Ion	Ratio	Lower	Upper
180	100		
145	26.1	18.5	43.3

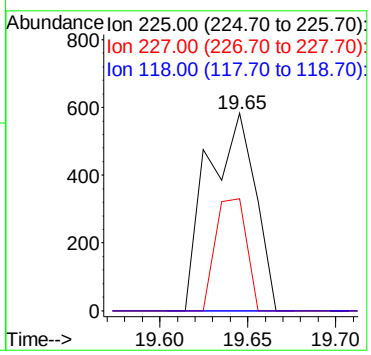


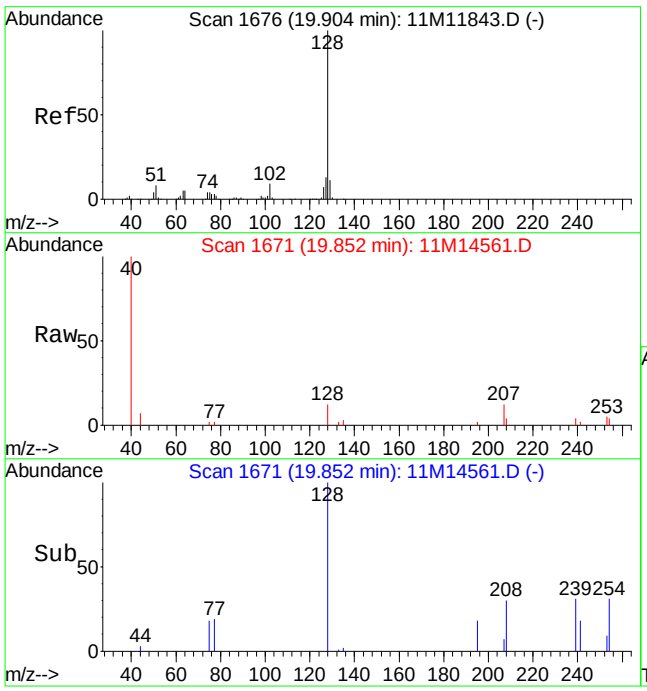


#97
Hexachlorobutadiene
Concen: 0.21 ug/L
RT: 19.65 min Scan# 1651
Delta R.T. 0.01 min
Lab File: 11M14561.D
Acq: 17 Oct 2016 14:07

Tgt Ion:225 Resp: 1095

Ion	Ratio	Lower	Upper
225	100		
227	37.0	38.3	89.3#
118	0.0	28.2	65.8#

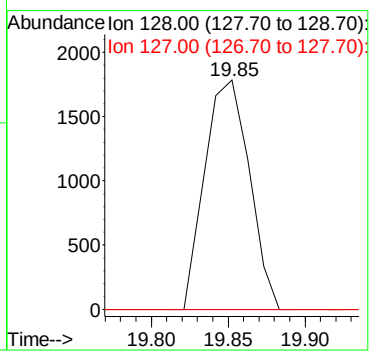


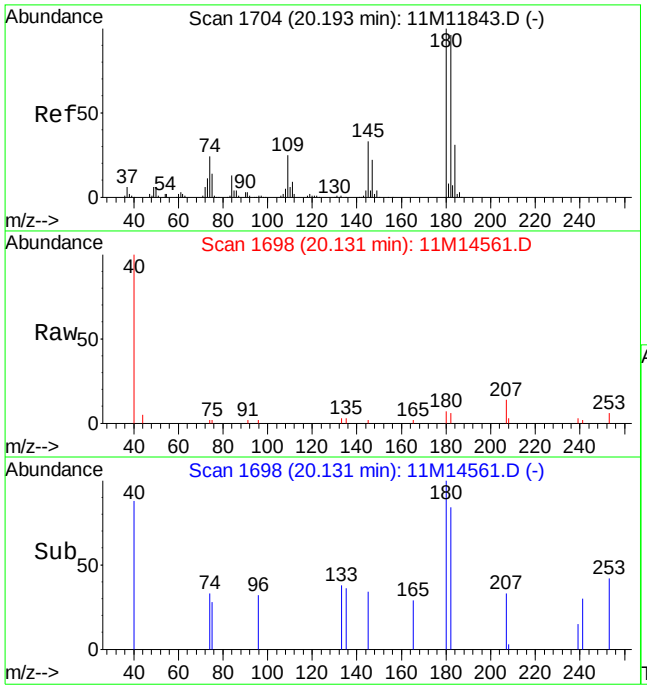


#98
Naphthalene
Concen: 0.13 ug/L
RT: 19.85 min Scan# 1671
Delta R.T. 0.00 min
Lab File: 11M14561.D
Acq: 17 Oct 2016 14:07

Tgt Ion:128 Resp: 3598

Ion	Ratio	Lower	Upper
128	100		
127	0.0	11.6	14.2#

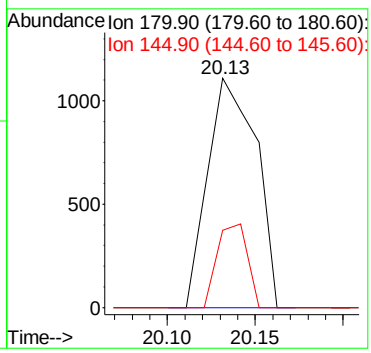




#99
1,2,3-Trichlorobenzene
Concen: 0.17 ug/L
RT: 20.13 min Scan# 1698
Delta R.T. -0.01 min
Lab File: 11M14561.D
Acq: 17 Oct 2016 14:07

Tgt Ion:180 Resp: 2118

Ion	Ratio	Lower	Upper
180	100		
145	22.8	19.5	45.5



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142659.D Vial: 5
Acq On : 12 Oct 2016 16:35 Operator: TMB
Sample : WG587315-01 VBLK1012 BLANK STD 8260 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 09:25:50 2016 Quant Results File: 8260WTR.RES

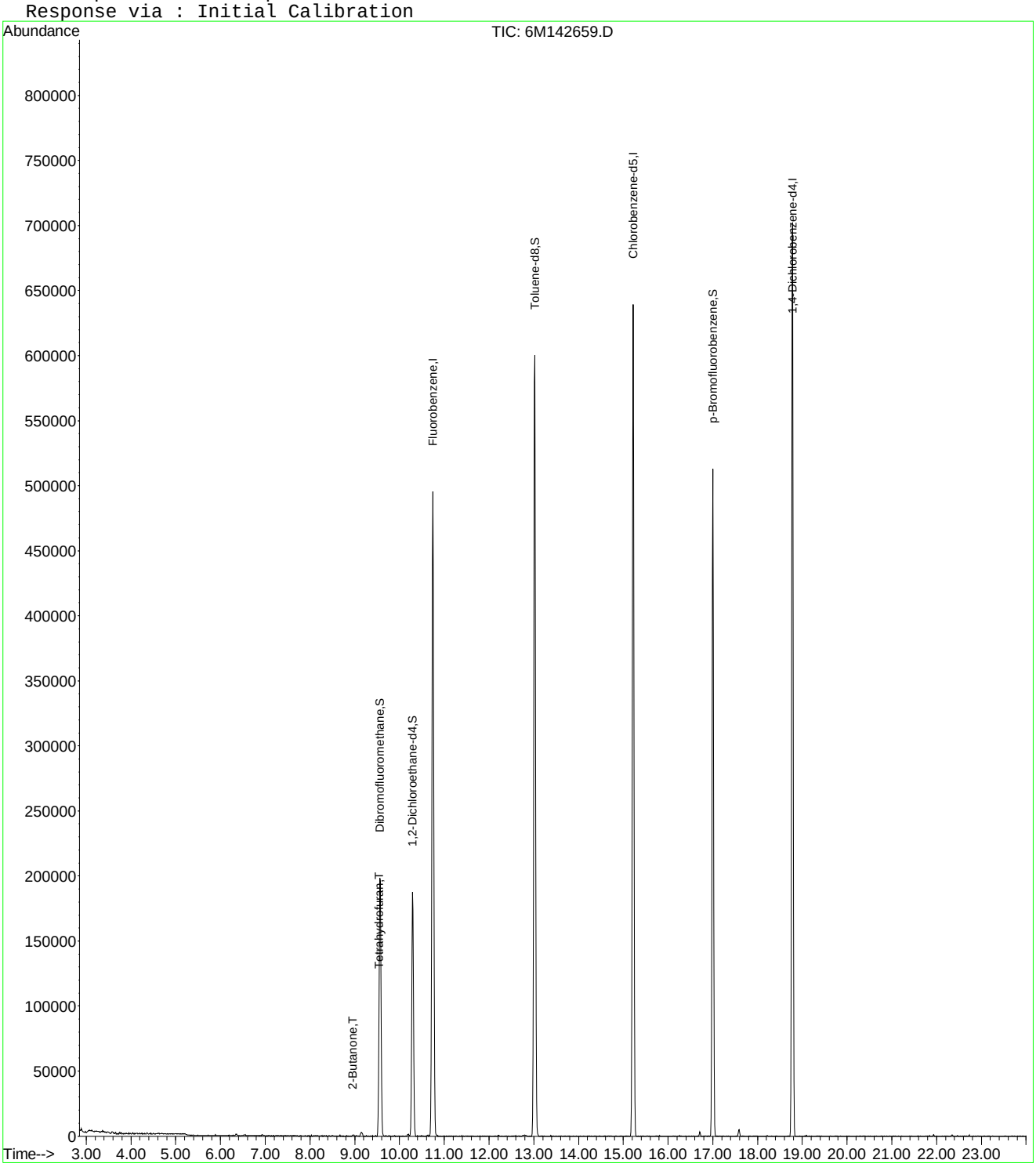
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

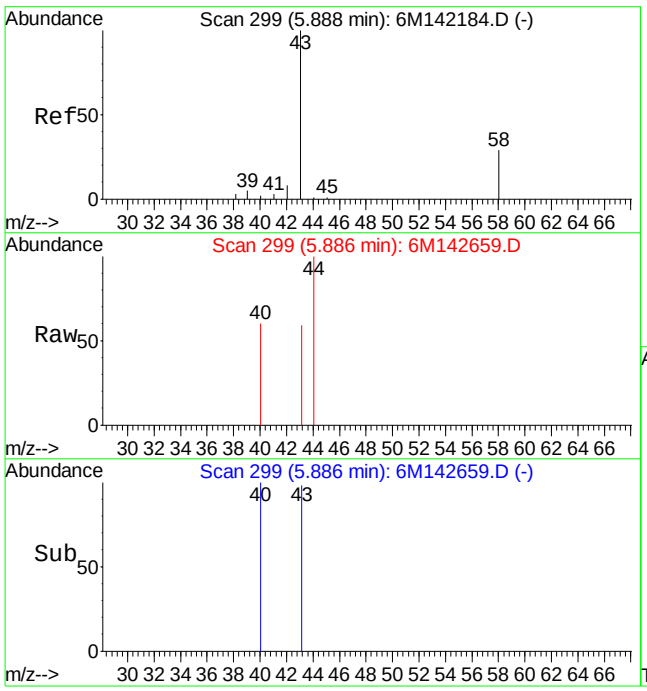
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.75	96	660535	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	513733	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	275383	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	183637	26.8985 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 107.60%		
43) 1,2-Dichloroethane-d4	10.29	65	174785	25.5249 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 102.08%		
58) Toluene-d8	13.02	98	590125	25.5391 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.16%		
80) p-Bromofluorobenzene	17.00	95	224376	24.6805 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.72%		
Target Compounds					Qvalue
13) Acetone	5.89	43	196	Below Cal #	48
29) 2-Butanone	8.95	43	1386	0.5707 ug/L #	57
36) Tetrahydrofuran	9.54	42	4101	2.3262 ug/L	79

(#) = qualifier out of range (m) = manual integration
6M142659.D 8260WTR.M Thu Oct 13 09:25:53 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142659.D Vial: 5
Acq On : 12 Oct 2016 16:35 Operator: TMB
Sample : WG587315-01 VBLK1012 BLANK STD 8260 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 9:25 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration

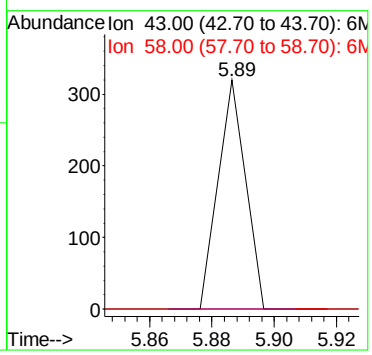


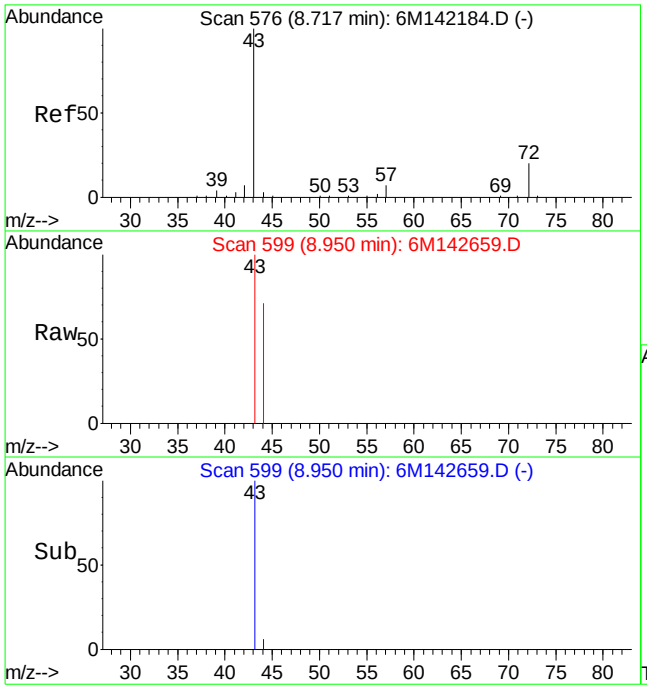


#13
Acetone
Concen: Below Cal
RT: 5.89 min Scan# 299
Delta R.T. -0.00 min
Lab File: 6M142659.D
Acq: 12 Oct 2016 16:35

Tgt Ion: 43 Resp: 196

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

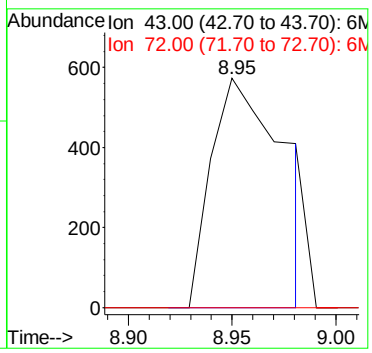


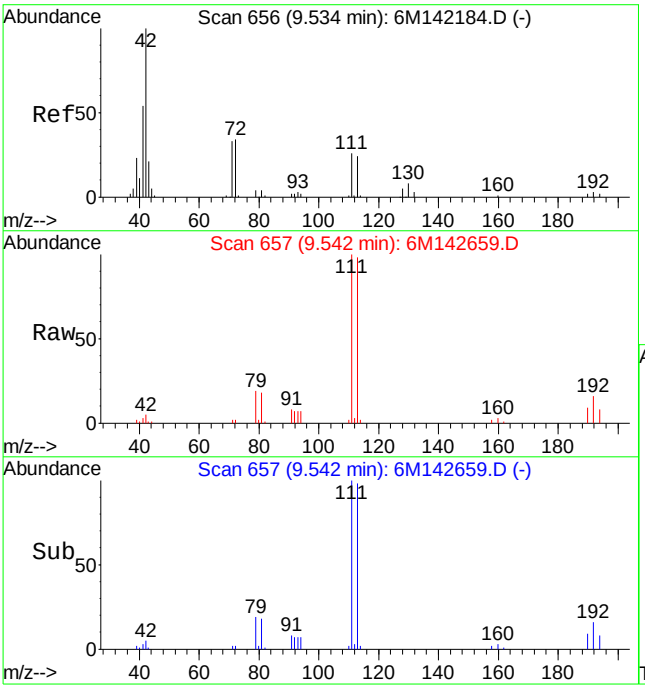


#29
2-Butanone
Concen: 0.57 ug/L
RT: 8.95 min Scan# 599
Delta R.T. 0.23 min
Lab File: 6M142659.D
Acq: 12 Oct 2016 16:35

Tgt Ion: 43 Resp: 1386

Ion	Ratio	Lower	Upper
43	100		
72	0.0	11.9	27.9#

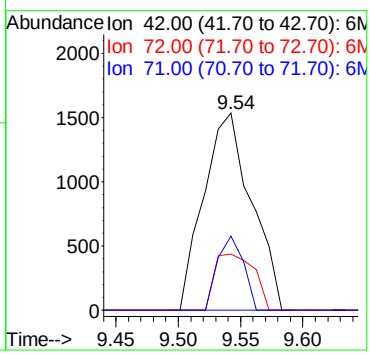




#36
Tetrahydrofuran
Concen: 2.33 ug/L
RT: 9.54 min Scan# 657
Delta R.T. 0.01 min
Lab File: 6M142659.D
Acq: 12 Oct 2016 16:35

Tgt Ion: 42 Resp: 4101

Ion	Ratio	Lower	Upper
42	100		
72	23.4	20.8	48.4
71	20.5	19.9	46.5



Data File : C:\MSDCHEM\1\DATA\101316\11M14524.D Vial: 26
Acq On : 14 Oct 2016 00:49 Operator: FJB
Sample : WG587598-04 624 BLANK Inst : hpms11
Misc : 2,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:50:29 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

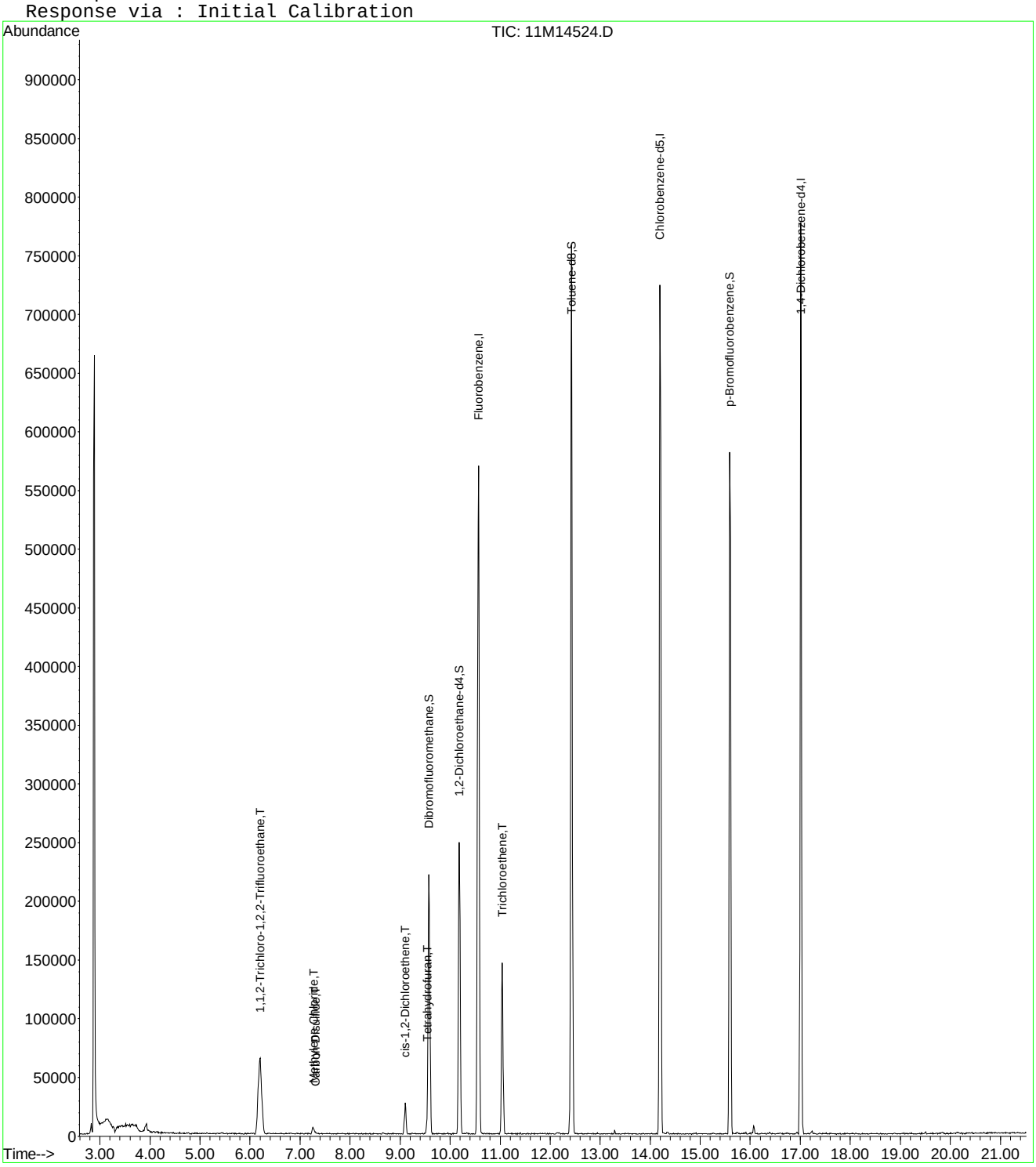
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	632225	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	483519	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	246539	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	181118	23.8155	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.28%			
43) 1,2-Dichloroethane-d4	10.18	65	198550	23.2544	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 93.00%			
57) Toluene-d8	12.43	98	614141	23.9681	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 95.88%			
78) p-Bromofluorobenzene	15.59	95	234099	23.7343	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 94.92%			
Target Compounds						Qvalue
12) 1,1,2-Trichloro-1,2,2-Trif	6.20	101	71501	10.8886	ug/L	100
19) Methylene Chloride	7.27	84	2491	0.3358	ug/L	89
20) Carbon Disulfide	7.31	76	2899	0.1340	ug/L #	74
32) cis-1,2-Dichloroethene	9.10	96	13252	1.6275	ug/L	82
36) Tetrahydrofuran	9.54	42	9149	0.6950	ug/L	98
46) Trichloroethene	11.04	130	61222	7.3838	ug/L	98

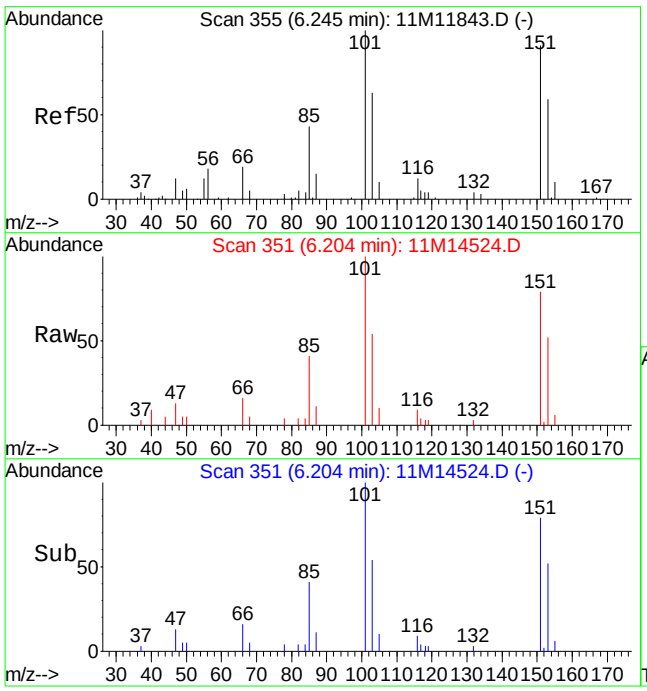
(#) = qualifier out of range (m) = manual integration
11M14524.D 8260WT.M Fri Oct 14 09:50:31 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14524.D Vial: 26
Acq On : 14 Oct 2016 00:49 Operator: FJB
Sample : WG587598-04 624 BLANK Inst : hpms11
Misc : 2,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:50 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration

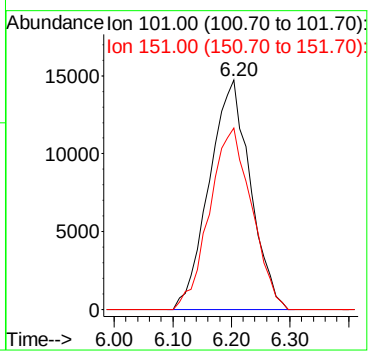


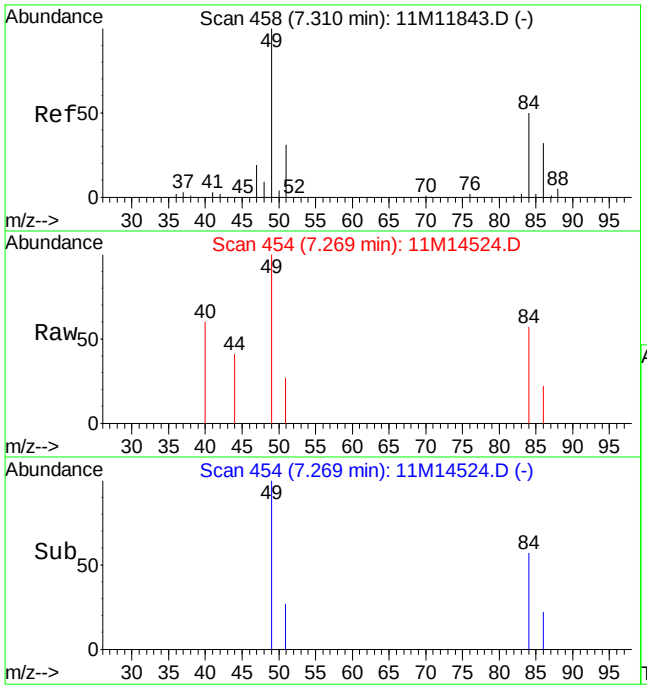


#12
1,1,2-Trichloro-1,2,2-Trifluoroethane
Concen: 10.89 ug/L
RT: 6.20 min Scan# 351
Delta R.T. 0.01 min
Lab File: 11M14524.D
Acq: 14 Oct 2016 00:49

Tgt Ion:101 Resp: 71501

Ion	Ratio	Lower	Upper
101	100		
151	81.1	41.2	121.2

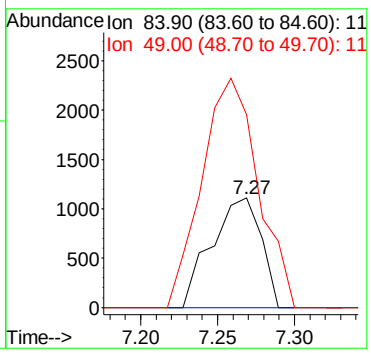


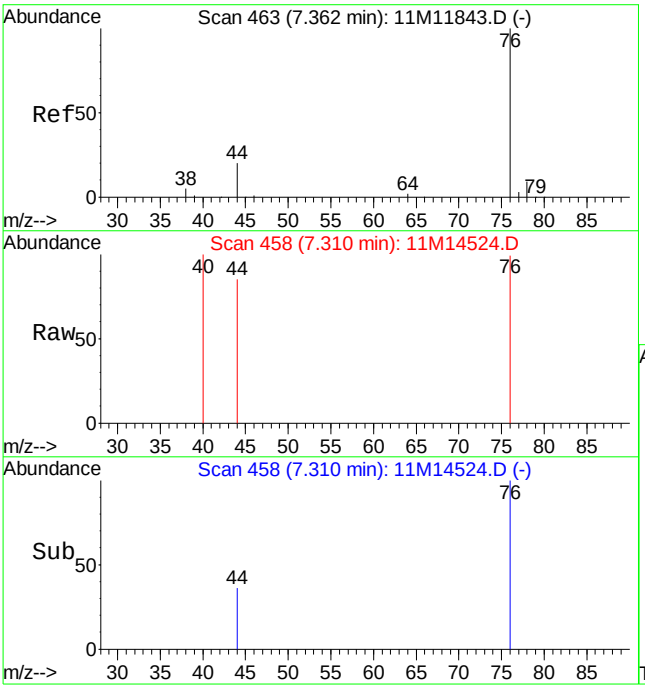


#19
Methylene Chloride
Concen: 0.34 ug/L
RT: 7.27 min Scan# 454
Delta R.T. 0.01 min
Lab File: 11M14524.D
Acq: 14 Oct 2016 00:49

Tgt Ion: 84 Resp: 2491

Ion	Ratio	Lower	Upper
84	100		
49	237.5	131.8	307.4

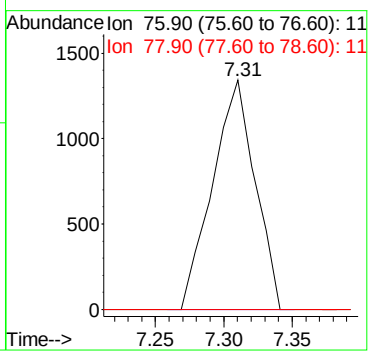


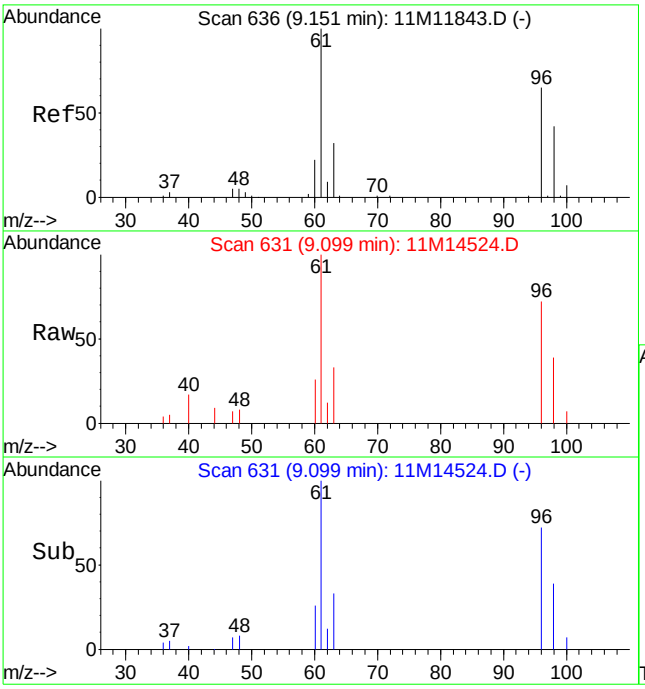


#20
Carbon Disulfide
Concen: 0.13 ug/L
RT: 7.31 min Scan# 458
Delta R.T. -0.00 min
Lab File: 11M14524.D
Acq: 14 Oct 2016 00:49

Tgt Ion: 76 Resp: 2899

Ion	Ratio	Lower	Upper
76	100		
78	0.0	5.6	13.0#

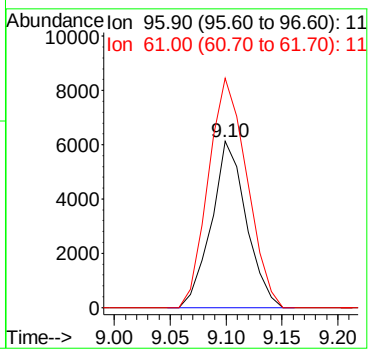


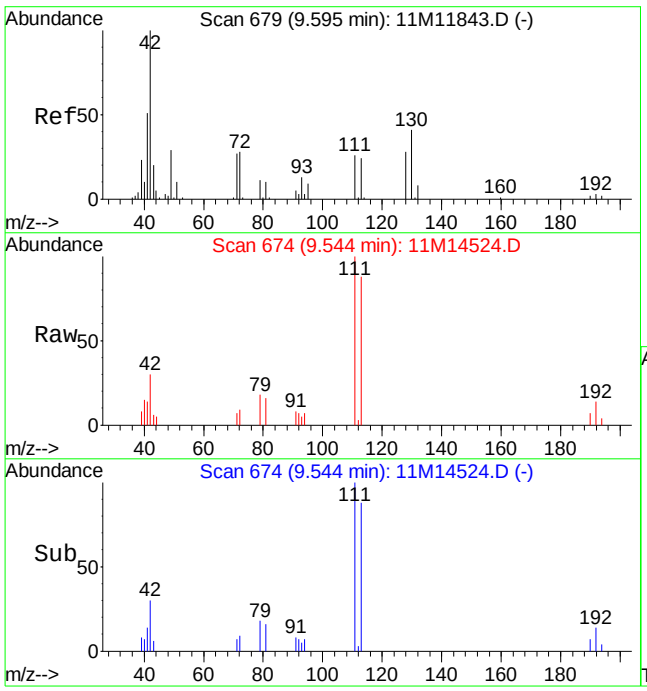


#32
cis-1,2-Dichloroethene
Concen: 1.63 ug/L
RT: 9.10 min Scan# 631
Delta R.T. -0.00 min
Lab File: 11M14524.D
Acq: 14 Oct 2016 00:49

Tgt Ion: 96 Resp: 13252

Ion	Ratio	Lower	Upper
96	100		
61	153.0	107.5	250.7

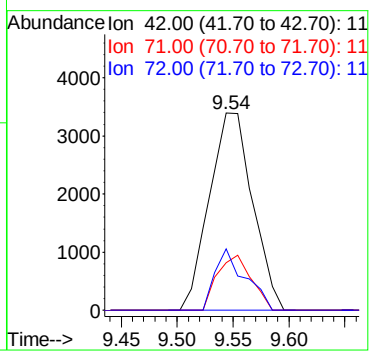


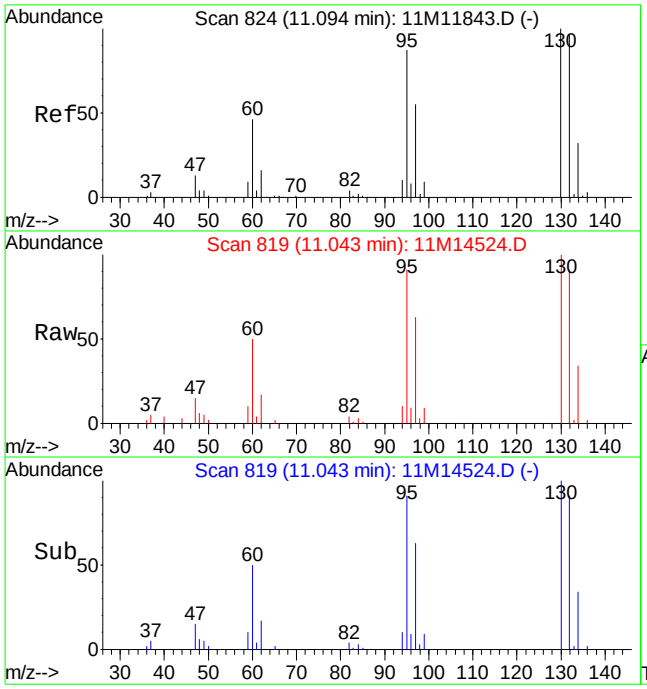


#36
Tetrahydrofuran
Concen: 0.69 ug/L
RT: 9.54 min Scan# 674
Delta R.T. -0.00 min
Lab File: 11M14524.D
Acq: 14 Oct 2016 00:49

Tgt Ion: 42 Resp: 9149

Ion	Ratio	Lower	Upper
42	100		
71	22.0	12.8	30.0
72	21.7	14.0	32.6

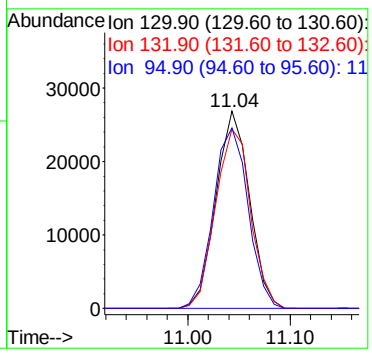




#46
Trichloroethene
Concen: 7.38 ug/L
RT: 11.04 min Scan# 819
Delta R.T. -0.00 min
Lab File: 11M14524.D
Acq: 14 Oct 2016 00:49

Tgt Ion:130 Resp: 61222

Ion	Ratio	Lower	Upper
130	100		
132	94.9	58.4	136.4
95	94.7	58.0	135.4



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142679.D Vial: 25
Acq On : 13 Oct 2016 3:18 Operator: TMB
Sample : WG587315-04 VBLK1012 BLANK STD 624 Inst : HPMS6
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 09:27:55 2016 Quant Results File: 8260WTR.RES

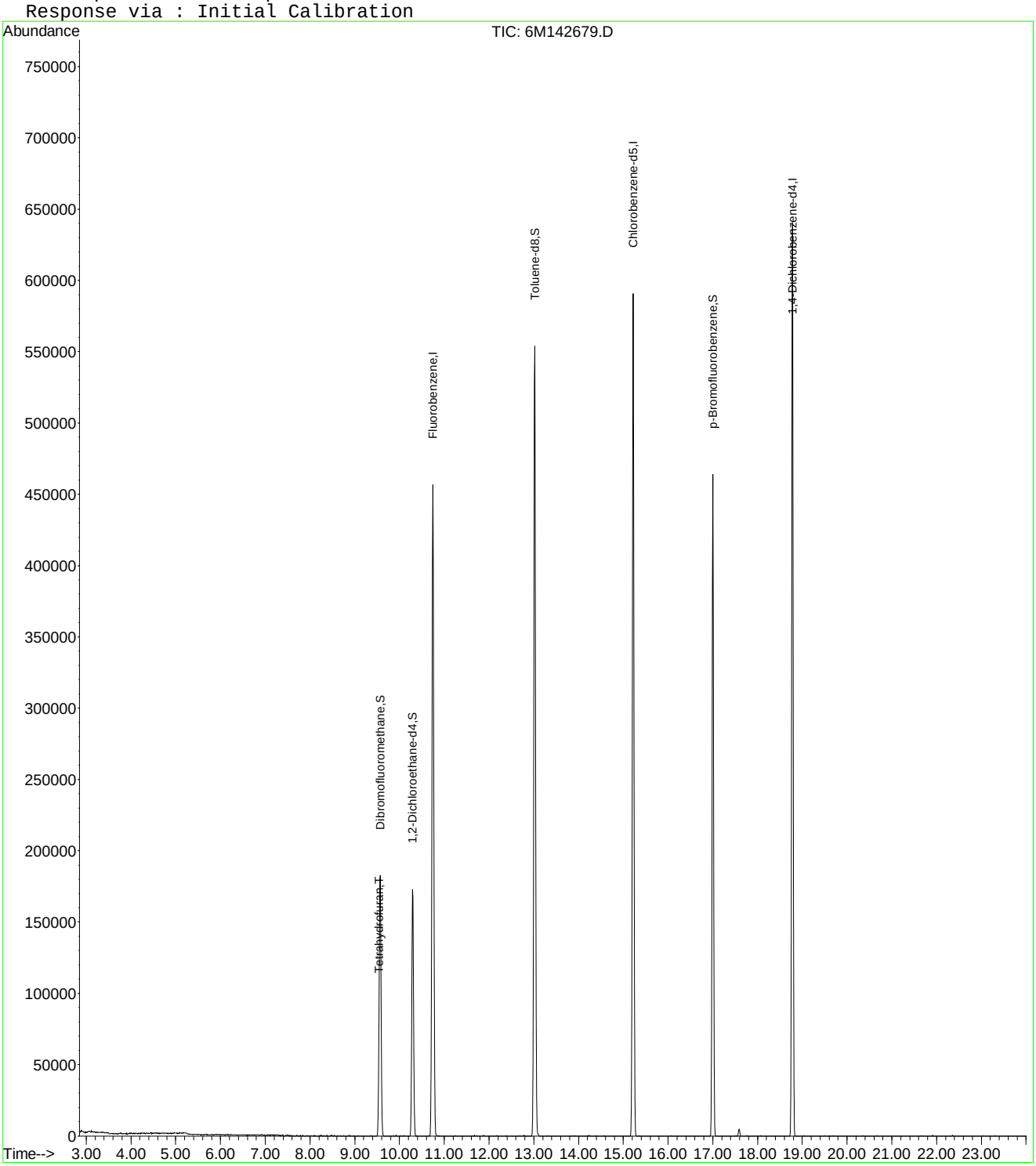
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

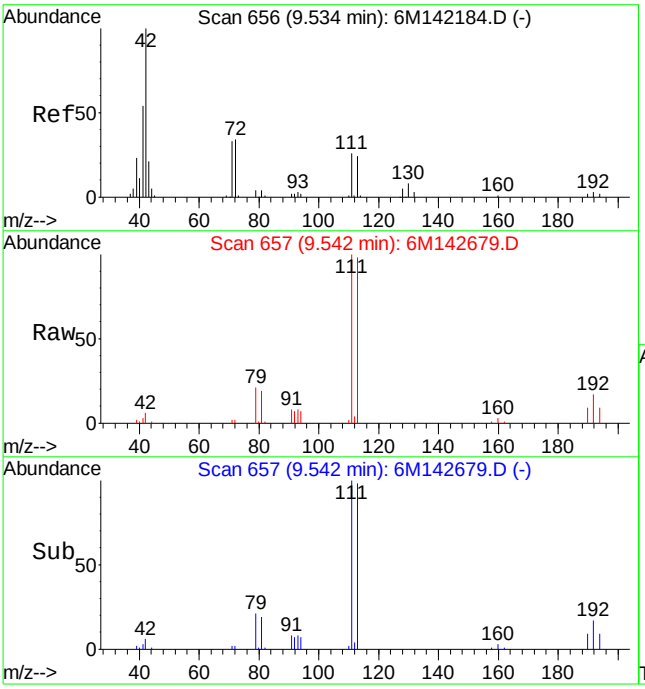
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.75	96	606684	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	472776	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	251326	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	171119	27.2897	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 109.16%			
43) 1,2-Dichloroethane-d4	10.29	65	161430	25.6672	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 102.68%			
58) Toluene-d8	13.02	98	541221	25.4518	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.80%			
80) p-Bromofluorobenzene	17.00	95	201280	24.2593	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.04%			
Target Compounds						Qvalue
36) Tetrahydrofuran	9.54	42	3860	2.3839	ug/L #	63

(#) = qualifier out of range (m) = manual integration
6M142679.D 8260WTR.M Thu Oct 13 09:27:58 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142679.D Vial: 25
Acq On : 13 Oct 2016 3:18 Operator: TMB
Sample : WG587315-04 VBLK1012 BLANK STD 624 Inst : HPMS6
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 9:27 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration

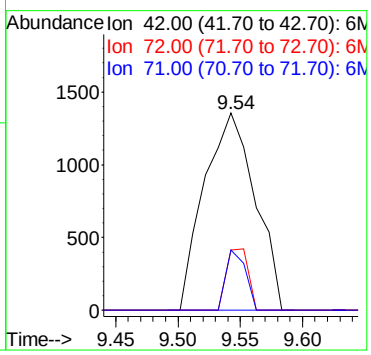




#36
Tetrahydrofuran
Concen: 2.38 ug/L
RT: 9.54 min Scan# 657
Delta R.T. 0.01 min
Lab File: 6M142679.D
Acq: 13 Oct 2016 3:18

Tgt Ion: 42 Resp: 3860

Ion	Ratio	Lower	Upper
42	100		
72	13.3	20.8	48.4#
71	11.7	19.9	46.5#



Data File : C:\MSDCHEM\1\DATA\101316\11M14515.D Vial: 17
Acq On : 13 Oct 2016 20:27 Operator: FJB
Sample : WG587598-02 20ug/L LCS 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:46:21 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	720522	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	550250	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	285272	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	205112	23.6653	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.68%			
43) 1,2-Dichloroethane-d4	10.18	65	220501	22.6605	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 90.64%			
57) Toluene-d8	12.43	98	719987	24.6913	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.76%			
78) p-Bromofluorobenzene	15.59	95	271277	23.7693	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.08%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	254413	20.8124	ug/L	97
3) Chloromethane	3.66	50	260154	19.4044	ug/L	97
4) Vinyl Chloride	3.90	62	250247	20.9320	ug/L	99
5) 1,3-Butadiene	3.94	54	169565	17.4235	ug/L	88
6) Bromomethane	4.79	94	109379	18.8816	ug/L	98
7) Chloroethane	4.94	64	144171	20.5842	ug/L	98
8) Trichlorofluoromethane	5.43	101	263923	18.9667	ug/L	100
9) Diethyl ether	5.95	59	811423	119.2961	ug/L	95
10) Isoprene	5.99	67	228579	18.0002	ug/L	99
11) Acrolein	6.18	56	89173	157.3488	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	147903	19.7634	ug/L	97
13) Acetone	6.28	43	57858	20.6977	ug/L	95
14) 1,1-Dichloroethene	6.50	61	273480	18.3918	ug/L	96
15) Tert-Butyl Alcohol	6.60	59	144361	200.0821	ug/L	97
16) Dimethyl Sulfide	6.75	62	209147	20.5218	ug/L	93
17) Iodomethane	7.00	142	119278	12.4208	ug/L	96
18) Methyl acetate	7.01	43	162368	19.6960	ug/L	96
19) Methylene Chloride	7.26	84	162923	19.2728	ug/L	93
20) Carbon Disulfide	7.31	76	431560	17.5097	ug/L	99
21) Acrylonitrile	7.43	53	76629	20.4038	ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	419433	20.1799	ug/L	100
23) trans-1,2-Dichloroethene	7.70	96	158272	18.7829	ug/L	97
24) n-Hexane	7.77	57	259267	17.9925	ug/L	100
25) Diisopropyl ether	8.10	45	4369590	107.2196	ug/L	97
26) Vinyl Acetate	8.26	43	410792	18.8581	ug/L	99
27) 1,1-Dichloroethane	8.29	63	333987	19.3391	ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	3045682	100.7740	ug/L	99
29) 2-Butanone	8.83	43	91502	19.4815	ug/L	97
30) Propionitrile	8.93	54	127727	98.1487	ug/L	99
31) 2,2-Dichloropropane	9.04	77	223164	18.9618	ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	185758	20.0172	ug/L	96
33) Chloroform	9.31	83	293573	19.3741	ug/L	100
34) 1-Bromopropane	9.44	122	39480	24.8389	ug/L	98
35) Bromochloromethane	9.52	130	116640	19.4983	ug/L	92
36) Tetrahydrofuran	9.54	42	299603	94.1980	ug/L	95
38) 1,1,1-Trichloroethane	9.80	97	263895	19.7520	ug/L	95
39) Cyclohexane	9.84	56	373132	19.0518	ug/L	99
40) 1,1-Dichloropropene	9.99	75	209799	18.9690	ug/L	97
41) Carbon Tetrachloride	10.13	117	241915	19.3794	ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	2192512	107.1286	ug/L	94

(#) = qualifier out of range (m) = manual integration
11M14515.D 8260WT.M Fri Oct 14 09:46:23 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14515.D Vial: 17
Acq On : 13 Oct 2016 20:27 Operator: FJB
Sample : WG587598-02 20ug/L LCS 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:46:21 2016 Quant Results File: 8260WT.RES

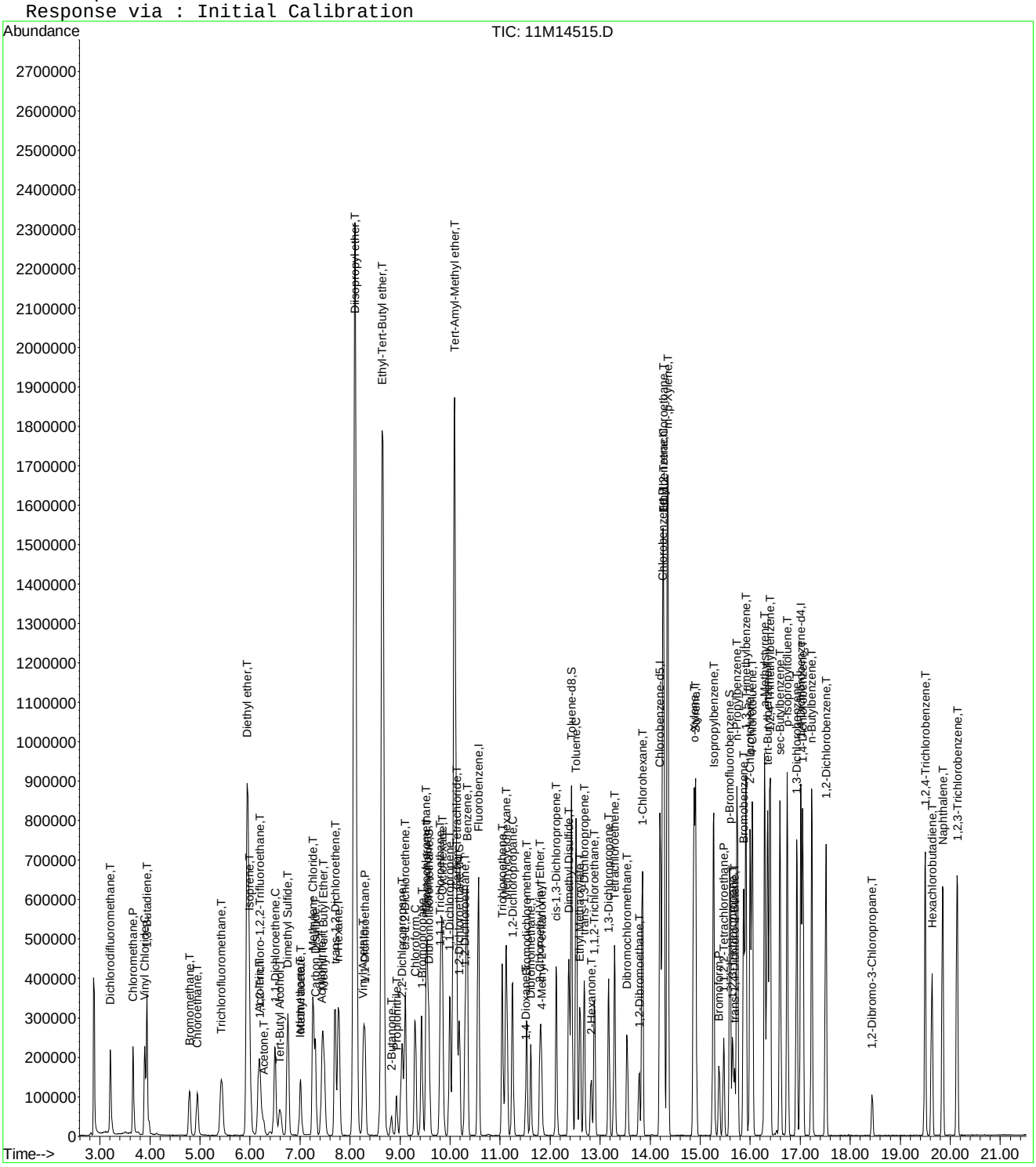
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	248561	19.0946 ug/L	99
45)	Benzene	10.34	78	642945	19.6795 ug/L	100
46)	Trichloroethene	11.04	130	181931	19.2534 ug/L	97
47)	Methylcyclohexane	11.13	83	247135	19.2928 ug/L	98
48)	1,2-Dichloropropane	11.25	63	186410	19.3570 ug/L	99
49)	1,4-Dioxane	11.51	88	13691	203.9507 ug/L	97
50)	Bromodichloromethane	11.53	83	212475	18.5578 ug/L	98
51)	Dibromomethane	11.61	93	95658	18.7348 ug/L	96
52)	2-Chloroethyl Vinyl Ether	11.80	63	108601	19.2531 ug/L	97
53)	4-Methyl-2-Pentanone	11.83	58	62403	18.0194 ug/L	96
54)	cis-1,3-Dichloropropene	12.12	75	260952	20.6207 ug/L	99
55)	Dimethyl Disulfide	12.38	79	138836	18.2798 ug/L	90
58)	Toluene	12.52	91	697858	20.1404 ug/L	100
59)	Ethyl Methacrylate	12.59	69	182556	20.6128 ug/L	92
60)	trans-1,3-Dichloropropene	12.68	75	220820	19.4648 ug/L	100
61)	1,1,2-Trichloroethane	12.88	97	132743	19.6910 ug/L	100
62)	2-Hexanone	12.82	43	132509	18.2357 ug/L	97
63)	1,3-Dichloropropane	13.17	76	227415	20.0679 ug/L	89
64)	Tetrachloroethene	13.29	164	144391	19.1990 ug/L	99
65)	Dibromochloromethane	13.53	129	174413	19.3031 ug/L	98
66)	1,2-Dibromoethane	13.78	107	131894	19.0058 ug/L	99
67)	1-Chlorohexane	13.84	91	230399	20.6052 ug/L	93
68)	Chlorobenzene	14.25	112	484861	19.7200 ug/L	98
69)	1,1,1,2-Tetrachloroethane	14.27	131	171033	19.5033 ug/L	98
70)	Ethylbenzene	14.27	106	253329	20.1500 ug/L	99
71)	m-,p-Xylene	14.35	106	602731	40.6922 ug/L	98
72)	o-Xylene	14.88	106	294328	20.2003 ug/L	98
73)	Styrene	14.91	104	511133	20.6661 ug/L	98
74)	Bromoform	15.38	173	107512	18.3485 ug/L	99
75)	Isopropylbenzene	15.27	105	746745	20.0036 ug/L	99
77)	1,1,2,2-Tetrachloroethane	15.47	83	152499	18.9557 ug/L	100
79)	1,2,3-Trichloropropane	15.65	110	48898	20.0424 ug/L	97
80)	trans-1,4-Dichloro-2-Buten	15.69	53	54822	16.6841 ug/L	91
81)	n-Propylbenzene	15.74	91	895758	21.1050 ug/L	100
82)	Bromobenzene	15.87	156	214308	19.7005 ug/L	95
83)	1,3,5-Trimethylbenzene	15.91	105	648103	21.2893 ug/L	99
84)	2-Chlorotoluene	16.00	91	552235	20.5615 ug/L	99
85)	4-Chlorotoluene	16.04	91	568281	20.7748 ug/L	100
86)	a-Methylstyrene	16.29	118	380150	21.2450 ug/L	99
87)	tert-Butylbenzene	16.35	134	136195	20.4497 ug/L	96
88)	1,2,4-Trimethylbenzene	16.40	105	657968	21.0098 ug/L	99
89)	sec-Butylbenzene	16.60	105	799698	20.7441 ug/L	99
90)	p-Isopropyltoluene	16.74	119	705317	21.0254 ug/L	99
91)	1,3-Dichlorobenzene	16.93	146	400938	19.9916 ug/L	99
92)	1,4-Dichlorobenzene	17.05	146	400331	19.4790 ug/L	100
93)	n-Butylbenzene	17.23	91	635284	20.1849 ug/L	100
94)	1,2-Dichlorobenzene	17.52	146	384611	20.0757 ug/L	96
95)	1,2-Dibromo-3-Chloropropan	18.44	75	30388	19.6514 ug/L	97
96)	1,2,4-Trichlorobenzene	19.50	180	292328	20.5748 ug/L	100
97)	Hexachlorobutadiene	19.64	225	107473	19.3269 ug/L	99
98)	Naphthalene	19.85	128	647518	21.9203 ug/L	99
99)	1,2,3-Trichlorobenzene	20.14	180	276159	20.1433 ug/L	99

(#) = qualifier out of range (m) = manual integration
11M14515.D 8260WT.M Fri Oct 14 09:46:24 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14515.D Vial: 17
Acq On : 13 Oct 2016 20:27 Operator: FJB
Sample : WG587598-02 20ug/L LCS 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:46 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101716\11M14562.D Vial: 4
Acq On : 17 Oct 2016 14:36 Operator: FJB
Sample : WG587867-02 20ug/L LCS 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 18 14:35:04 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	716821	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	552337	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	284712	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	196865	22.8311 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 91.32%		
43) 1,2-Dichloroethane-d4	10.18	65	213132	22.0163 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 88.08%		
57) Toluene-d8	12.43	98	687929	23.5028 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 94.00%		
78) p-Bromofluorobenzene	15.59	95	255877	22.4640 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 89.84%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.21	85	202095	16.6179 ug/L	97
3) Chloromethane	3.66	50	267506	20.0558 ug/L	97
4) Vinyl Chloride	3.90	62	247223	20.7858 ug/L	99
5) 1,3-Butadiene	3.94	54	176513	18.2311 ug/L	91
6) Bromomethane	4.80	94	128149	22.2360 ug/L	99
7) Chloroethane	4.94	64	148449	21.3044 ug/L	99
8) Trichlorofluoromethane	5.43	101	273802	19.7782 ug/L	99
9) Diethyl ether	5.95	59	834322	123.2961 ug/L	94
10) Isoprene	5.99	67	241656	19.1283 ug/L	97
11) Acrolein	6.17	56	119823	212.5234 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	162894	21.8789 ug/L	99
13) Acetone	6.28	43	51272	18.4364 ug/L	93
14) 1,1-Dichloroethene	6.50	61	292961	19.8037 ug/L	96
15) Tert-Butyl Alcohol	6.60	59	90953	126.7103 ug/L	96
16) Dimethyl Sulfide	6.75	62	216937	21.3961 ug/L	92
17) Iodomethane	7.00	142	153927	15.8903 ug/L	96
18) Methyl acetate	7.01	43	163668	19.9562 ug/L	97
19) Methylene Chloride	7.26	84	168996	20.0945 ug/L	95
20) Carbon Disulfide	7.31	76	443751	18.0973 ug/L	100
21) Acrylonitrile	7.43	53	76298	20.4206 ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	436395	21.1044 ug/L	100
23) trans-1,2-Dichloroethene	7.70	96	171725	20.4846 ug/L	94
24) n-Hexane	7.77	57	279441	19.4927 ug/L	99
25) Diisopropyl ether	8.10	45	4500205	110.9947 ug/L	97
26) Vinyl Acetate	8.26	43	376567	17.3762 ug/L	99
27) 1,1-Dichloroethane	8.29	63	351870	20.4798 ug/L	100
28) Ethyl-Tert-Butyl ether	8.64	59	3127522	104.0161 ug/L	99
29) 2-Butanone	8.82	43	88565	18.9536 ug/L	100
30) Propionitrile	8.93	54	116396	89.9035 ug/L	99
31) 2,2-Dichloropropane	9.04	77	240980	20.5814 ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	193360	20.9439 ug/L	96
33) Chloroform	9.30	83	303625	20.1409 ug/L	98
34) 1-Bromopropane	9.43	122	41705	26.3742 ug/L	97
35) Bromochloromethane	9.52	130	122027	20.5041 ug/L	92
36) Tetrahydrofuran	9.54	42	291000	91.9021 ug/L	94
38) 1,1,1-Trichloroethane	9.81	97	282513	21.2547 ug/L	96
39) Cyclohexane	9.83	56	400481	20.5538 ug/L	99
40) 1,1-Dichloropropene	10.00	75	230071	20.9093 ug/L	100
41) Carbon Tetrachloride	10.13	117	254609	20.5016 ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	2252577	110.6317 ug/L	94

(#) = qualifier out of range (m) = manual integration
11M14562.D 8260WT.M Tue Oct 18 14:35:06 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101716\11M14562.D Vial: 4
Acq On : 17 Oct 2016 14:36 Operator: FJB
Sample : WG587867-02 20ug/L LCS 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 18 14:35:04 2016 Quant Results File: 8260WT.RES

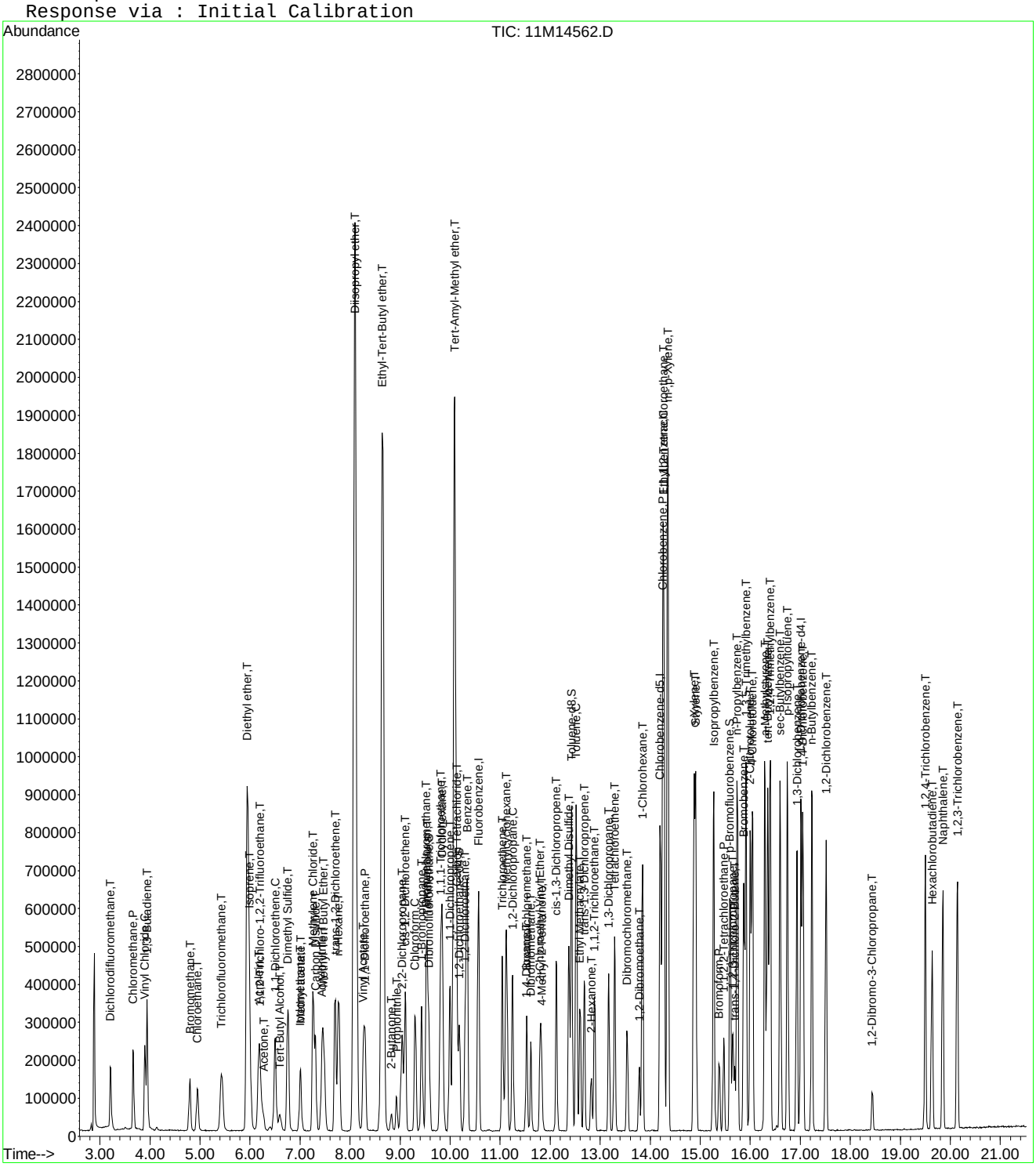
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	257609	19.8919 ug/L	99
45)	Benzene	10.34	78	683536	21.0300 ug/L	99
46)	Trichloroethene	11.04	130	194288	20.6672 ug/L	98
47)	Methylcyclohexane	11.13	83	270637	21.2366 ug/L	98
48)	1,2-Dichloropropane	11.25	63	199955	20.8708 ug/L	97
49)	1,4-Dioxane	11.52	88	5581	83.5677 ug/L	93
50)	Bromodichloromethane	11.53	83	227176	19.9442 ug/L	99
51)	Dibromomethane	11.61	93	100753	19.8346 ug/L	98
52)	2-Chloroethyl Vinyl Ether	11.80	63	111258	19.8260 ug/L	99
53)	4-Methyl-2-Pentanone	11.83	58	64251	18.6489 ug/L	98
54)	cis-1,3-Dichloropropene	12.12	75	280158	22.2526 ug/L	99
55)	Dimethyl Disulfide	12.38	79	154005	20.3817 ug/L	94
58)	Toluene	12.52	91	738531	21.2337 ug/L	100
59)	Ethyl Methacrylate	12.59	69	185835	20.9038 ug/L	89
60)	trans-1,3-Dichloropropene	12.68	75	226896	19.9248 ug/L	98
61)	1,1,2-Trichloroethane	12.88	97	138906	20.5273 ug/L	97
62)	2-Hexanone	12.82	43	126096	17.2876 ug/L	93
63)	1,3-Dichloropropane	13.17	76	237168	20.8495 ug/L	89
64)	Tetrachloroethene	13.29	164	157672	20.8857 ug/L	99
65)	Dibromochloromethane	13.53	129	178210	19.6488 ug/L	100
66)	1,2-Dibromoethane	13.78	107	139888	20.0816 ug/L	97
67)	1-Chlorohexane	13.84	91	240943	21.4668 ug/L	93
68)	Chlorobenzene	14.25	112	502910	20.3768 ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.27	131	179555	20.3977 ug/L	99
70)	Ethylbenzene	14.27	106	266902	21.1494 ug/L	99
71)	m-,p-Xylene	14.35	106	637117	42.8512 ug/L	98
72)	o-Xylene	14.88	106	314176	21.4810 ug/L	99
73)	Styrene	14.91	104	538494	21.6901 ug/L	97
74)	Bromoform	15.38	173	111483	18.9543 ug/L	99
75)	Isopropylbenzene	15.27	105	793712	21.1814 ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	155648	19.3852 ug/L	99
79)	1,2,3-Trichloropropane	15.65	110	49758	20.4350 ug/L	98
80)	trans-1,4-Dichloro-2-Buten	15.69	53	56184	17.1323 ug/L	87
81)	n-Propylbenzene	15.74	91	957839	22.6121 ug/L	100
82)	Bromobenzene	15.87	156	222723	20.5143 ug/L	95
83)	1,3,5-Trimethylbenzene	15.91	105	689495	22.6935 ug/L	100
84)	2-Chlorotoluene	16.00	91	566478	21.1333 ug/L	87
85)	4-Chlorotoluene	16.04	91	606503	22.2157 ug/L	88
86)	a-Methylstyrene	16.30	118	389006	21.7827 ug/L	99
87)	tert-Butylbenzene	16.35	134	150559	22.6510 ug/L	97
88)	1,2,4-Trimethylbenzene	16.40	105	692093	22.1430 ug/L	99
89)	sec-Butylbenzene	16.60	105	853494	22.1831 ug/L	99
90)	p-Isopropyltoluene	16.74	119	763349	22.8001 ug/L	100
91)	1,3-Dichlorobenzene	16.94	146	412473	20.6072 ug/L	99
92)	1,4-Dichlorobenzene	17.05	146	413954	20.1815 ug/L	99
93)	n-Butylbenzene	17.23	91	671768	21.3861 ug/L	100
94)	1,2-Dichlorobenzene	17.52	146	394448	20.6296 ug/L	98
95)	1,2-Dibromo-3-Chloropropan	18.44	75	28517	18.4777 ug/L	90
96)	1,2,4-Trichlorobenzene	19.50	180	286362	20.1945 ug/L	98
97)	Hexachlorobutadiene	19.64	225	120672	21.7432 ug/L	98
98)	Naphthalene	19.85	128	624706	21.1896 ug/L	98
99)	1,2,3-Trichlorobenzene	20.14	180	272905	19.9451 ug/L	99

(#) = qualifier out of range (m) = manual integration
11M14562.D 8260WT.M Tue Oct 18 14:35:06 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\101716\11M14562.D Vial: 4
Acq On : 17 Oct 2016 14:36 Operator: FJB
Sample : WG587867-02 20ug/L LCS 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 18 14:35 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142676.D Vial: 22
Acq On : 13 Oct 2016 1:42 Operator: TMB
Sample : WG587315-02 20ug/L LCS STD 8260 Inst : HPMS6
Misc : 1,1 STD78472 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 08:15:28 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.75	96	621588	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	498165	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.79	152	306991	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	174984	27.2370 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 108.96%		
43) 1,2-Dichloroethane-d4	10.29	65	162506	25.2187 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.88%		
58) Toluene-d8	13.03	98	574420	25.6363 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 102.56%		
80) p-Bromofluorobenzene	17.00	95	228014	22.4984 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 90.00%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.95	85	251378	24.0221 ug/L	96
3) Chloromethane	3.36	50	204778	16.9782 ug/L	99
4) Vinyl Chloride	3.55	62	181620	24.6000 ug/L	100
5) 1,3-Butadiene	3.58	54	120688	28.2997 ug/L	97
6) Bromomethane	4.37	94	57842	13.4593 ug/L	99
7) Chloroethane	4.52	64	103061	22.0942 ug/L	98
8) Trichlorofluoromethane	4.98	101	281504	26.9839 ug/L	99
9) Diethyl ether	5.53	59	500919	97.3105 ug/L	97
10) Isoprene	5.55	67	183866	18.9583 ug/L	95
11) Acrolein	5.78	56	69017	96.9579 ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	5.78	101	138081	21.9990 ug/L	96
13) Acetone	5.89	43	36205	24.1310 ug/L	100
14) 1,1-Dichloroethene	6.09	61	183088	17.6930 ug/L	91
15) Tert-Butyl Alcohol	6.25	59	77048	220.1487 ug/L	86
16) Dimethyl Sulfide	6.37	62	139109	20.4881 ug/L	98
17) Iodomethane	6.62	142	100716	14.4786 ug/L	99
18) Methyl acetate	6.67	43	89335	20.4639 ug/L	98
19) Methylene Chloride	6.92	84	125994	18.7425 ug/L	88
20) Carbon Disulfide	6.94	76	359777	18.3712 ug/L	99
21) Acrylonitrile	7.13	53	40831	20.9557 ug/L	98
22) Methyl Tert Butyl Ether	7.16	73	285239	18.8919 ug/L	96
23) trans-1,2-Dichloroethene	7.40	96	124160	18.9228 ug/L	84
24) n-Hexane	7.49	57	137358	15.9888 ug/L	96
25) Diisopropyl ether	7.89	45	2354632	96.3345 ug/L	96
26) Vinyl Acetate	8.07	43	138771	11.5442 ug/L	99
27) 1,1-Dichloroethane	8.08	63	221324	18.2419 ug/L	98
28) Ethyl-Tert-Butyl ether	8.51	59	1739298	90.1365 ug/L	95
29) 2-Butanone	8.72	43	48962	21.4225 ug/L	96
30) Propionitrile	8.84	54	66007	107.6979 ug/L	99
31) 2,2-Dichloropropane	8.93	77	137330	15.4960 ug/L	95
32) cis-1,2-Dichloroethene	9.01	96	137410	18.9496 ug/L	85
33) Chloroform	9.25	83	224206	19.1830 ug/L	98
34) 1-Bromopropane	9.39	122	31232	24.4313 ug/L	99
35) Bromochloromethane	9.50	130	91628	20.6407 ug/L	100
36) Tetrahydrofuran	9.53	42	154642	93.2147 ug/L	97
38) 1,1,1-Trichloroethane	9.84	97	202172	19.9572 ug/L	96
39) Cyclohexane	9.86	56	209308	18.8816 ug/L	90
40) 1,1-Dichloropropene	10.05	75	158118	18.2704 ug/L	95
41) Tert-Amyl-Methyl ether	10.20	73	1459315	98.4073 ug/L	93
42) Carbon Tetrachloride	10.21	117	200321	21.4728 ug/L	99

(#) = qualifier out of range (m) = manual integration
6M142676.D 8260WTR.M Thu Oct 13 08:15:32 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142676.D Vial: 22
Acq On : 13 Oct 2016 1:42 Operator: TMB
Sample : WG587315-02 20ug/L LCS STD 8260 Inst : HPMS6
Misc : 1,1 STD78472 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 08:15:28 2016 Quant Results File: 8260WTR.RES

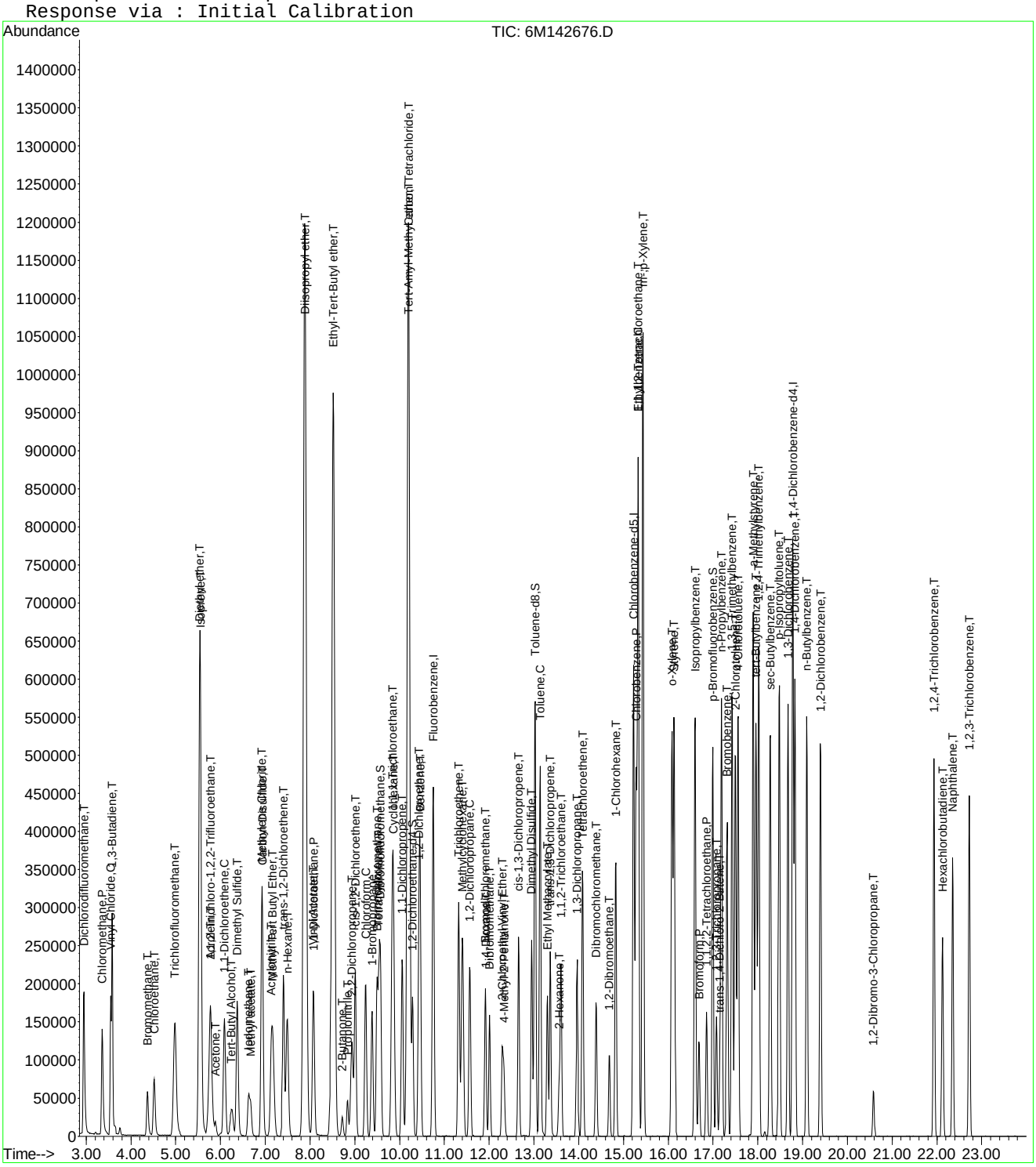
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.43	62	160085	18.8187	ug/L	97
46)	Benzene	10.46	78	473771	18.8791	ug/L	95
47)	Trichloroethene	11.32	130	151115	20.4868	ug/L	84
48)	Methylcyclohexane	11.40	83	179782	18.5420	ug/L	91
49)	1,2-Dichloropropane	11.57	63	121133	18.4688	ug/L	97
50)	1,4-Dioxane	11.92	88	7005	180.1349	ug/L	96
51)	Bromodichloromethane	11.91	83	161676	18.7257	ug/L	100
52)	Dibromomethane	12.00	93	73531	20.2154	ug/L	98
53)	2-Chloroethyl Vinyl Ether	12.29	63	56573	18.5480	ug/L	99
54)	4-Methyl-2-Pentanone	12.33	58	35026	19.5501	ug/L	96
55)	cis-1,3-Dichloropropene	12.66	75	181122	18.7551	ug/L	98
56)	Dimethyl Disulfide	12.94	79	96376	16.3628	ug/L	95
59)	Toluene	13.14	91	511407	18.9531	ug/L	99
60)	Ethyl Methacrylate	13.30	69	128963	19.8455	ug/L	100
62)	trans-1,3-Dichloropropene	13.36	75	156078	17.6285	ug/L	94
63)	1,1,2-Trichloroethane	13.61	97	100353	19.9303	ug/L	97
64)	2-Hexanone	13.57	43	69109	18.7503	ug/L	95
65)	1,3-Dichloropropane	13.97	76	163533	19.3955	ug/L	97
66)	Tetrachloroethene	14.09	166	157865	20.7907	ug/L	96
67)	Dibromochloromethane	14.38	129	135691	19.7306	ug/L	99
68)	1,2-Dibromoethane	14.68	107	100355	19.0079	ug/L	100
69)	1-Chlorohexane	14.83	91	168445	19.7365	ug/L	90
70)	Chlorobenzene	15.28	112	369918	19.1965	ug/L	88
71)	1,1,1,2-Tetrachloroethane	15.32	131	142611	19.7775	ug/L	97
72)	Ethylbenzene	15.32	106	193719	18.7426	ug/L	91
73)	m-,p-Xylene	15.44	106	474514	38.7297	ug/L	90
74)	o-Xylene	16.09	106	227146	18.6645	ug/L	89
75)	Styrene	16.13	104	404955	19.4900	ug/L	92
76)	Bromoform	16.69	173	88754	17.9638	ug/L	98
77)	Isopropylbenzene	16.60	105	570590	19.1752	ug/L	98
79)	1,1,2,2-Tetrachloroethane	16.86	83	112612	17.2291	ug/L	98
81)	1,2,3-Trichloropropane	17.08	110	37787	18.9266	ug/L	92
82)	trans-1,4-Dichloro-2-Buten	17.15	53	27640	14.2720	ug/L	91
83)	n-Propylbenzene	17.19	91	671295	18.1202	ug/L	96
84)	Bromobenzene	17.31	156	182146	19.0508	ug/L	83
85)	1,3,5-Trimethylbenzene	17.42	105	494897	18.0332	ug/L	95
86)	2-Chlorotoluene	17.50	91	446220	18.3399	ug/L	92
87)	4-Chlorotoluene	17.56	91	411019	16.9116	ug/L	92
88)	a-Methylstyrene	17.90	118	318815	19.2312	ug/L	95
89)	tert-Butylbenzene	17.96	134	119364	18.7521	ug/L	98
90)	1,2,4-Trimethylbenzene	18.02	105	530339	18.4475	ug/L	94
91)	sec-Butylbenzene	18.28	105	599069	18.2569	ug/L	97
92)	p-Isopropyltoluene	18.48	119	550900	18.9417	ug/L	99
93)	1,3-Dichlorobenzene	18.67	146	346435	18.9850	ug/L	95
94)	1,4-Dichlorobenzene	18.83	146	359364	19.5960	ug/L	95
95)	n-Butylbenzene	19.09	91	446159	17.7502	ug/L	93
96)	1,2-Dichlorobenzene	19.41	146	331839	19.3726	ug/L	95
97)	1,2-Dibromo-3-Chloropropan	20.58	75	19822	17.7232	ug/L	78
98)	1,2,4-Trichlorobenzene	21.93	180	227370	18.2004	ug/L	98
99)	Hexachlorobutadiene	22.12	225	85273	18.3278	ug/L	100
100)	Naphthalene	22.35	128	414491	18.2465	ug/L	100
101)	1,2,3-Trichlorobenzene	22.73	180	212889	19.0502	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M142676.D 8260WTR.M Thu Oct 13 08:15:33 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142676.D Vial: 22
Acq On : 13 Oct 2016 1:42 Operator: TMB
Sample : WG587315-02 20ug/L LCS STD 8260 Inst : HPMS6
Misc : 1,1 STD78472 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 8:15 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14516.D Vial: 18
Acq On : 13 Oct 2016 20:57 Operator: FJB
Sample : WG587598-03 20ug/L LCS2 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:46:26 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	693096	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	535090	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	274597	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	202594	24.2998 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.20%		
43) 1,2-Dichloroethane-d4	10.18	65	217258	23.2107 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.84%		
57) Toluene-d8	12.43	98	701731	24.7470 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 99.00%		
78) p-Bromofluorobenzene	15.59	95	266756	24.2818 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.12%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.21	85	254540	21.6468 ug/L	95
3) Chloromethane	3.66	50	255041	19.7758 ug/L	95
4) Vinyl Chloride	3.90	62	248496	21.6080 ug/L	99
5) 1,3-Butadiene	3.94	54	160538	17.1487 ug/L	89
6) Bromomethane	4.79	94	106805	19.1668 ug/L	99
7) Chloroethane	4.94	64	143272	21.2653 ug/L	97
8) Trichlorofluoromethane	5.43	101	262341	19.5990 ug/L	100
9) Diethyl ether	5.95	59	813484	124.3317 ug/L	94
10) Isoprene	5.99	67	226257	18.5224 ug/L	99
11) Acrolein	6.17	56	94199	172.7946 ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	152023	21.1178 ug/L	96
13) Acetone	6.28	43	59486	22.1221 ug/L	97
14) 1,1-Dichloroethene	6.49	61	276531	19.3329 ug/L	94
15) Tert-Butyl Alcohol	6.60	59	154983	223.3039 ug/L	96
16) Dimethyl Sulfide	6.75	62	210534	21.4753 ug/L	93
17) Iodomethane	7.00	142	125234	13.4870 ug/L	95
18) Methyl acetate	7.01	43	166767	21.0301 ug/L	97
19) Methylene Chloride	7.26	84	162298	19.9586 ug/L	93
20) Carbon Disulfide	7.31	76	428537	18.0750 ug/L	100
21) Acrylonitrile	7.43	53	77430	21.4330 ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	426112	21.3125 ug/L	99
23) trans-1,2-Dichloroethene	7.70	96	161962	19.9814 ug/L	96
24) n-Hexane	7.77	57	262570	18.9428 ug/L	100
25) Diisopropyl ether	8.10	45	4300428	109.6980 ug/L	97
26) Vinyl Acetate	8.26	43	414550	19.7837 ug/L	98
27) 1,1-Dichloroethane	8.29	63	328448	19.7710 ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	3039576	104.5516 ug/L	99
29) 2-Butanone	8.83	43	93924	20.7885 ug/L	100
30) Propionitrile	8.93	54	134984	107.8296 ug/L	99
31) 2,2-Dichloropropane	9.04	77	218569	19.3063 ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	184170	20.6314 ug/L	97
33) Chloroform	9.31	83	289781	19.8806 ug/L	100
34) 1-Bromopropane	9.43	122	40315	26.3679 ug/L	97
35) Bromochloromethane	9.52	130	116084	20.1732 ug/L	92
36) Tetrahydrofuran	9.54	42	313038	102.5473 ug/L	95
38) 1,1,1-Trichloroethane	9.80	97	266757	20.7563 ug/L	95
39) Cyclohexane	9.83	56	376909	20.0062 ug/L	100
40) 1,1-Dichloropropene	10.00	75	211720	19.9001 ug/L	97
41) Carbon Tetrachloride	10.13	117	240032	19.9894 ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	2157295	109.5788 ug/L	95

(#) = qualifier out of range (m) = manual integration
11M14516.D 8260WT.M Fri Oct 14 09:46:29 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14516.D Vial: 18
Acq On : 13 Oct 2016 20:57 Operator: FJB
Sample : WG587598-03 20ug/L LCS2 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:46:26 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

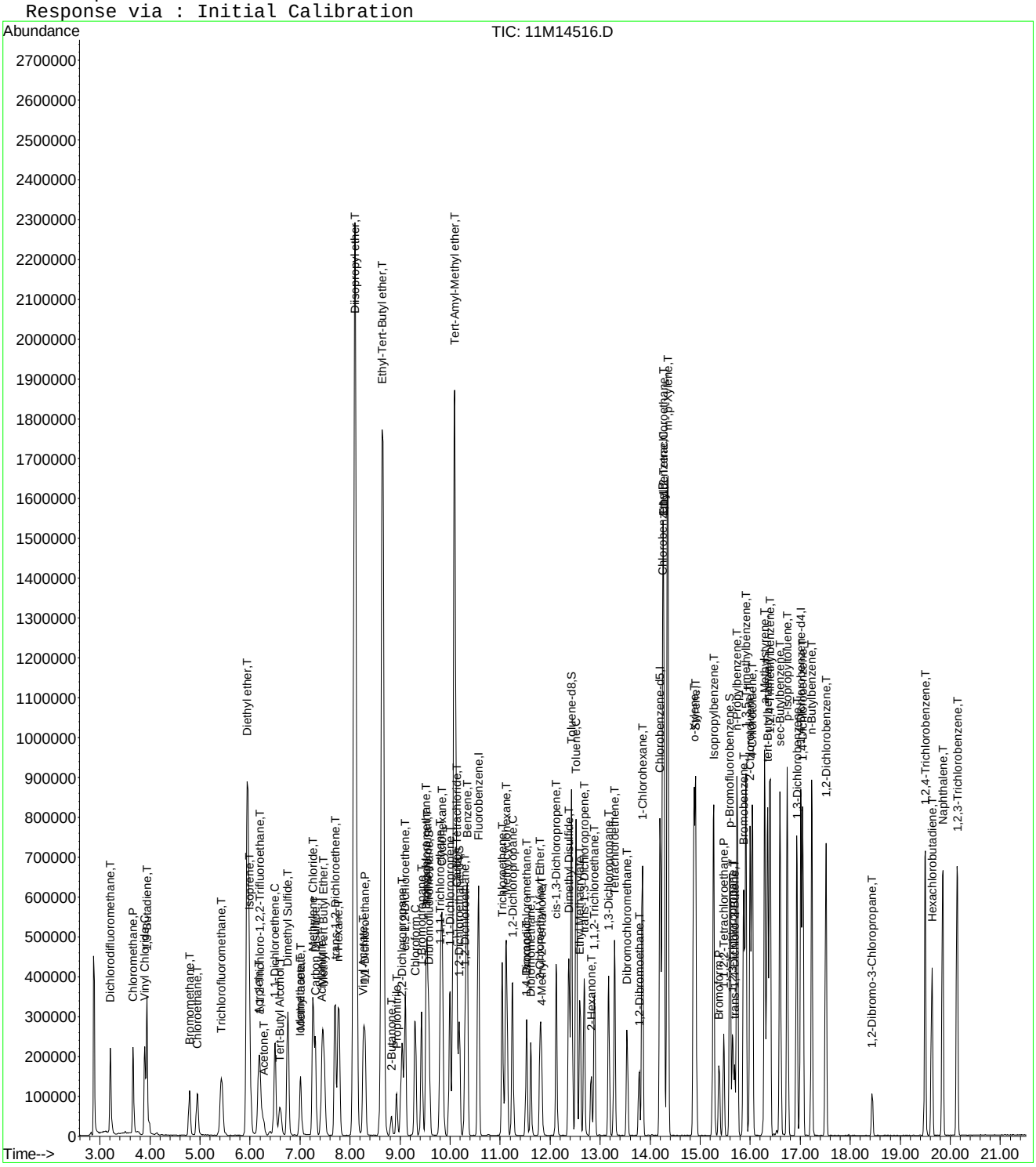
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	252400	20.1568	ug/L	98
45)	Benzene	10.34	78	643044	20.4614	ug/L	99
46)	Trichloroethene	11.04	130	180505	19.8583	ug/L	98
47)	Methylcyclohexane	11.13	83	256258	20.7966	ug/L	97
48)	1,2-Dichloropropane	11.25	63	187404	20.2303	ug/L	97
49)	1,4-Dioxane	11.52	88	12485	193.3448	ug/L	83
50)	Bromodichloromethane	11.53	83	210711	19.1320	ug/L	98
51)	Dibromomethane	11.61	93	98676	20.0906	ug/L	97
52)	2-Chloroethyl Vinyl Ether	11.80	63	111345	20.5207	ug/L	97
53)	4-Methyl-2-Pentanone	11.83	58	66933	20.0923	ug/L	99
54)	cis-1,3-Dichloropropene	12.12	75	263232	21.6239	ug/L	100
55)	Dimethyl Disulfide	12.38	79	138188	18.9144	ug/L	90
58)	Toluene	12.52	91	700309	20.7838	ug/L	99
59)	Ethyl Methacrylate	12.59	69	184737	21.4501	ug/L	92
60)	trans-1,3-Dichloropropene	12.68	75	221128	20.0442	ug/L	99
61)	1,1,2-Trichloroethane	12.88	97	133233	20.3236	ug/L	99
62)	2-Hexanone	12.82	43	138000	19.5294	ug/L	96
63)	1,3-Dichloropropane	13.17	76	229086	20.7881	ug/L	89
64)	Tetrachloroethene	13.29	164	147028	20.1035	ug/L	98
65)	Dibromochloromethane	13.53	129	173054	19.6953	ug/L	99
66)	1,2-Dibromoethane	13.78	107	137344	20.3519	ug/L	97
67)	1-Chlorohexane	13.85	91	229865	21.1399	ug/L	94
68)	Chlorobenzene	14.25	112	479190	20.0415	ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.27	131	171880	20.1552	ug/L	96
70)	Ethylbenzene	14.27	106	248692	20.3416	ug/L	99
71)	m-,p-Xylene	14.35	106	607051	42.1450	ug/L	98
72)	o-Xylene	14.88	106	299536	21.1402	ug/L	100
73)	Styrene	14.91	104	507077	21.0830	ug/L	98
74)	Bromoform	15.38	173	111626	19.5903	ug/L	100
75)	Isopropylbenzene	15.27	105	743914	20.4924	ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	155083	20.0263	ug/L	100
79)	1,2,3-Trichloropropane	15.65	110	50051	21.3125	ug/L	93
80)	trans-1,4-Dichloro-2-Buten	15.69	53	56640	17.9075	ug/L	90
81)	n-Propylbenzene	15.74	91	902206	22.0833	ug/L	100
82)	Bromobenzene	15.87	156	211302	20.1792	ug/L	96
83)	1,3,5-Trimethylbenzene	15.91	105	641750	21.9001	ug/L	100
84)	2-Chlorotoluene	16.00	91	552618	21.3757	ug/L	99
85)	4-Chlorotoluene	16.04	91	573065	21.7641	ug/L	100
86)	a-Methylstyrene	16.29	118	383985	22.2935	ug/L	99
87)	tert-Butylbenzene	16.35	134	135200	21.0895	ug/L	96
88)	1,2,4-Trimethylbenzene	16.40	105	664634	22.0477	ug/L	100
89)	sec-Butylbenzene	16.60	105	796429	21.4624	ug/L	100
90)	p-Isopropyltoluene	16.74	119	712188	22.0556	ug/L	100
91)	1,3-Dichlorobenzene	16.94	146	399696	20.7044	ug/L	98
92)	1,4-Dichlorobenzene	17.05	146	405761	20.5108	ug/L	99
93)	n-Butylbenzene	17.23	91	636225	21.0006	ug/L	99
94)	1,2-Dichlorobenzene	17.52	146	380419	20.6288	ug/L	98
95)	1,2-Dibromo-3-Chloropropan	18.44	75	29645	19.9162	ug/L	87
96)	1,2,4-Trichlorobenzene	19.50	180	291761	21.3332	ug/L	100
97)	Hexachlorobutadiene	19.64	225	108324	20.2372	ug/L	98
98)	Naphthalene	19.85	128	673260	23.6777	ug/L	99
99)	1,2,3-Trichlorobenzene	20.14	180	283618	21.4916	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M14516.D 8260WT.M Fri Oct 14 09:46:29 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14516.D Vial: 18
Acq On : 13 Oct 2016 20:57 Operator: FJB
Sample : WG587598-03 20ug/L LCS2 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:46 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142677.D Vial: 23
Acq On : 13 Oct 2016 2:14 Operator: TMB
Sample : WG587315-03 20ug/L LCS2 STD 8260 Inst : HPMS6
Misc : 1,1 STD78472 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 08:15:37 2016 Quant Results File: 8260WTR.RES

Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.75	96	642986	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	516481	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	310406	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	180296	27.1299 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 108.52%		
43) 1,2-Dichloroethane-d4	10.29	65	165389	24.8120 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 99.24%		
58) Toluene-d8	13.02	98	588135	25.3176 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.28%		
80) p-Bromofluorobenzene	17.00	95	233813	22.8168 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 91.28%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.95	85	261687	24.1750 ug/L	96
3) Chloromethane	3.35	50	212326	17.0182 ug/L	99
4) Vinyl Chloride	3.55	62	177690	23.2668 ug/L	99
5) 1,3-Butadiene	3.58	54	112913	25.1033 ug/L	98
6) Bromomethane	4.37	94	63478	14.2792 ug/L	99
7) Chloroethane	4.52	64	101561	21.0480 ug/L	98
8) Trichlorofluoromethane	4.99	101	266259	24.6732 ug/L	98
9) Diethyl ether	5.54	59	506993	95.2128 ug/L	97
10) Isoprene	5.55	67	180856	18.0273 ug/L	95
11) Acrolein	5.78	56	69304	94.1210 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	5.78	101	137629	21.1973 ug/L	98
13) Acetone	5.89	43	36785	23.6595 ug/L	97
14) 1,1-Dichloroethene	6.09	61	179042	16.7262 ug/L	91
15) Tert-Butyl Alcohol	6.24	59	80009	221.0012 ug/L	88
16) Dimethyl Sulfide	6.37	62	140039	19.9387 ug/L	98
17) Iodomethane	6.62	142	115012	15.8573 ug/L	98
18) Methyl acetate	6.67	43	90978	20.1467 ug/L	99
19) Methylene Chloride	6.92	84	126416	18.1795 ug/L	88
20) Carbon Disulfide	6.94	76	353786	17.4641 ug/L	100
21) Acrylonitrile	7.13	53	40883	20.2841 ug/L	98
22) Methyl Tert Butyl Ether	7.16	73	291161	18.6423 ug/L	96
23) trans-1,2-Dichloroethene	7.40	96	121481	17.8983 ug/L	86
24) n-Hexane	7.49	57	137874	15.5147 ug/L	96
25) Diisopropyl ether	7.88	45	2372014	93.8160 ug/L	96
26) Vinyl Acetate	8.07	43	133043	10.6993 ug/L	99
27) 1,1-Dichloroethane	8.08	63	221522	17.6506 ug/L	99
28) Ethyl-Tert-Butyl ether	8.51	59	1753365	87.8415 ug/L	96
29) 2-Butanone	8.72	43	48255	20.4105 ug/L	97
30) Propionitrile	8.84	54	64449	101.6564 ug/L	96
31) 2,2-Dichloropropane	8.93	77	135997	14.8349 ug/L	97
32) cis-1,2-Dichloroethene	9.01	96	135837	18.1092 ug/L	96
33) Chloroform	9.25	83	222977	18.4429 ug/L	99
34) 1-Bromopropane	9.39	122	30174	22.8182 ug/L	99
35) Bromochloromethane	9.50	130	90962	19.8087 ug/L	99
36) Tetrahydrofuran	9.53	42	151408	88.2281 ug/L	98
38) 1,1,1-Trichloroethane	9.83	97	199011	18.9914 ug/L	95
39) Cyclohexane	9.86	56	205565	17.9268 ug/L	90
40) 1,1-Dichloropropene	10.05	75	155519	17.3720 ug/L	95
41) Tert-Amyl-Methyl ether	10.20	73	1455403	94.8774 ug/L	94
42) Carbon Tetrachloride	10.21	117	190627	19.7537 ug/L	98

(#) = qualifier out of range (m) = manual integration
6M142677.D 8260WTR.M Thu Oct 13 08:15:41 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142677.D Vial: 23
Acq On : 13 Oct 2016 2:14 Operator: TMB
Sample : WG587315-03 20ug/L LCS2 STD 8260 Inst : HPMS6
Misc : 1,1 STD78472 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 08:15:37 2016 Quant Results File: 8260WTR.RES

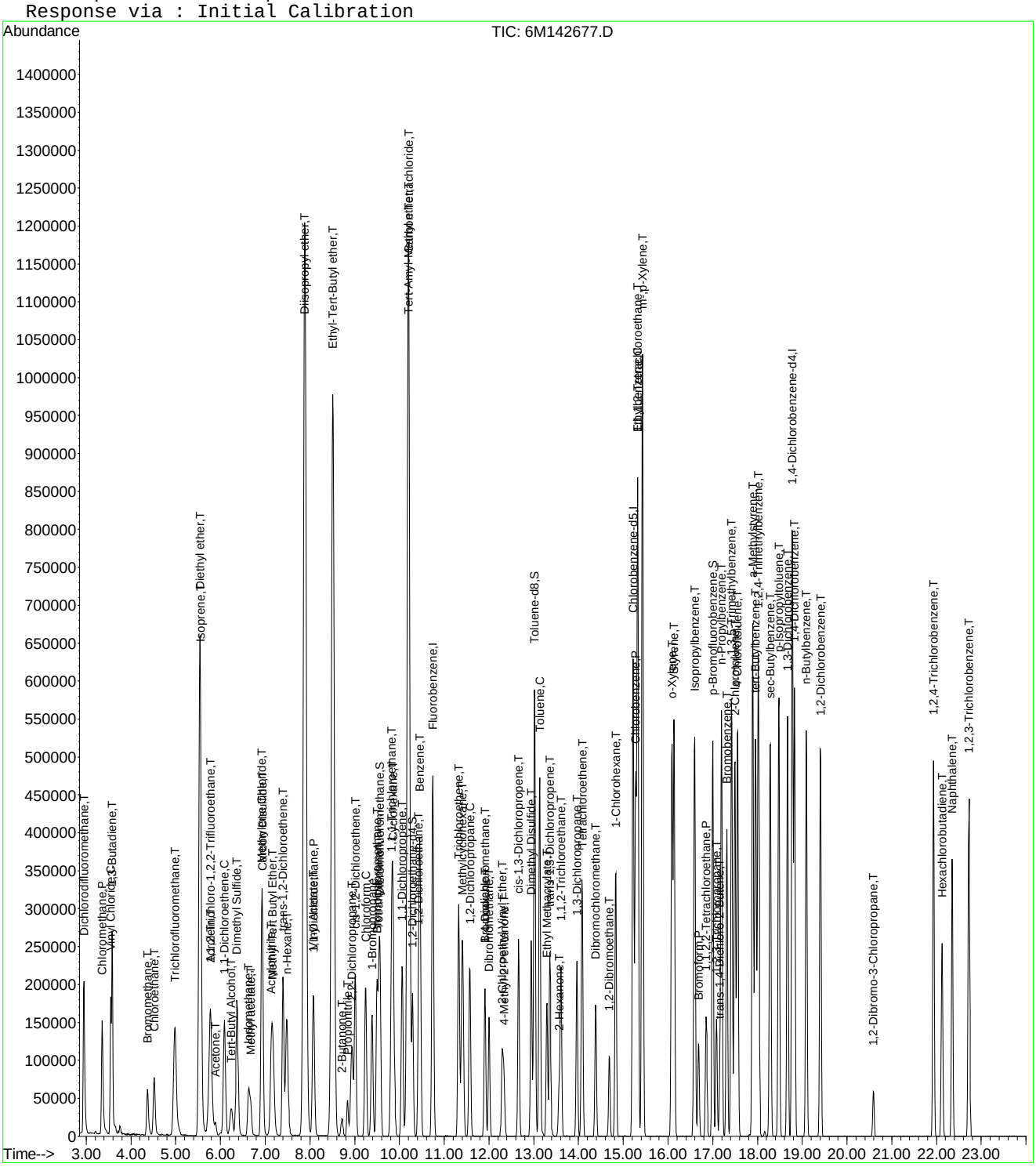
Quant Method : K:\ORGANICS\V...\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	158448	18.0064	ug/L	98
46)	Benzene	10.45	78	465581	17.9353	ug/L	95
47)	Trichloroethene	11.32	130	150378	19.7084	ug/L	85
48)	Methylcyclohexane	11.40	83	178416	17.7888	ug/L	91
49)	1,2-Dichloropropane	11.58	63	121542	17.9145	ug/L	97
50)	1,4-Dioxane	11.91	88	8824	219.3595	ug/L	96
51)	Bromodichloromethane	11.91	83	162533	18.1985	ug/L	100
52)	Dibromomethane	12.00	93	72817	19.3529	ug/L	98
53)	2-Chloroethyl Vinyl Ether	12.29	63	55754	17.6712	ug/L	100
54)	4-Methyl-2-Pentanone	12.33	58	33982	18.3362	ug/L	94
55)	cis-1,3-Dichloropropene	12.66	75	179504	17.9690	ug/L	98
56)	Dimethyl Disulfide	12.94	79	97957	16.0778	ug/L	94
59)	Toluene	13.14	91	502306	17.9557	ug/L	99
60)	Ethyl Methacrylate	13.30	69	126156	18.7250	ug/L	99
62)	trans-1,3-Dichloropropene	13.36	75	153280	16.6985	ug/L	92
63)	1,1,2-Trichloroethane	13.61	97	95681	18.3286	ug/L	99
64)	2-Hexanone	13.57	43	69787	18.2627	ug/L	94
65)	1,3-Dichloropropane	13.96	76	162832	18.6275	ug/L	97
66)	Tetrachloroethene	14.09	166	149813	19.0306	ug/L	97
67)	Dibromochloromethane	14.38	129	132931	18.6438	ug/L	99
68)	1,2-Dibromoethane	14.68	107	98981	18.0828	ug/L	99
69)	1-Chlorohexane	14.83	91	163150	18.4382	ug/L	92
70)	Chlorobenzene	15.27	112	363135	18.1763	ug/L	88
71)	1,1,1,2-Tetrachloroethane	15.32	131	140413	18.7821	ug/L	96
72)	Ethylbenzene	15.32	106	188189	17.5619	ug/L	92
73)	m-,p-Xylene	15.44	106	464672	36.5814	ug/L	90
74)	o-Xylene	16.09	106	223649	17.7254	ug/L	92
75)	Styrene	16.13	104	399789	18.5590	ug/L	92
76)	Bromoform	16.69	173	85400	16.7144	ug/L	97
77)	Isopropylbenzene	16.60	105	555059	17.9918	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.85	83	107529	16.2704	ug/L	100
81)	1,2,3-Trichloropropane	17.08	110	36997	18.3270	ug/L	93
82)	trans-1,4-Dichloro-2-Buten	17.15	53	27465	14.0256	ug/L	93
83)	n-Propylbenzene	17.19	91	647983	17.2985	ug/L	95
84)	Bromobenzene	17.31	156	178331	18.4466	ug/L	84
85)	1,3,5-Trimethylbenzene	17.42	105	486901	17.5467	ug/L	95
86)	2-Chlorotoluene	17.50	91	404417	16.4389	ug/L	89
87)	4-Chlorotoluene	17.55	91	438503	17.8440	ug/L	97
88)	a-Methylstyrene	17.90	118	315499	18.8218	ug/L	95
89)	tert-Butylbenzene	17.96	134	116391	18.0839	ug/L	98
90)	1,2,4-Trimethylbenzene	18.02	105	526260	18.1042	ug/L	95
91)	sec-Butylbenzene	18.28	105	587182	17.6978	ug/L	97
92)	p-Isopropyltoluene	18.48	119	537242	18.2689	ug/L	98
93)	1,3-Dichlorobenzene	18.67	146	342529	18.5644	ug/L	95
94)	1,4-Dichlorobenzene	18.83	146	354512	19.1188	ug/L	96
95)	n-Butylbenzene	19.09	91	436157	17.1614	ug/L	93
96)	1,2-Dichlorobenzene	19.41	146	326537	18.8533	ug/L	96
97)	1,2-Dibromo-3-Chloropropan	20.58	75	20233	17.8917	ug/L	83
98)	1,2,4-Trichlorobenzene	21.93	180	225165	17.8256	ug/L	99
99)	Hexachlorobutadiene	22.12	225	84333	17.9264	ug/L	99
100)	Naphthalene	22.35	128	414035	18.0259	ug/L	99
101)	1,2,3-Trichlorobenzene	22.73	180	207521	18.3656	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M142677.D 8260WTR.M Thu Oct 13 08:15:41 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\101216\6M142677.D Vial: 23
Acq On : 13 Oct 2016 2:14 Operator: TMB
Sample : WG587315-03 20ug/L LCS2 STD 8260 Inst : HPMS6
Misc : 1,1 STD78472 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 13 8:15 2016 Quant Results File: 8260WTR.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 09-26-16 - HPMS6
Last Update : Tue Sep 27 09:13:49 2016
Response via : Initial Calibration



2.1.2 RSK 175

2.1.2.1 Summary Data

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-01	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	35AWW08-100416	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG586463	**Analyst:**	JDS	**Run Date:**	10/05/2016 20:19
Collect Date:	10/04/2016 07:40	**Dilution:**	10	**File ID:**	16G50819
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	424000		100000	50000	25000
Methane	74-82-8	7350		50.0	20.0	10.0
ethene	74-85-1	20.0	U	50.0	20.0	10.0
ethane	74-84-0	20.0	U	50.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-03	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	03WW01-100416	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG586463	**Analyst:**	JDS	**Run Date:**	10/05/2016 20:31
Collect Date:	10/04/2016 08:20	**Dilution:**	10	**File ID:**	16G50820
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	657000		100000	50000	25000
Methane	74-82-8	5950		50.0	20.0	10.0
ethene	74-85-1	20.0	U	50.0	20.0	10.0
ethane	74-84-0	20.0	U	50.0	20.0	10.0

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	35AWW20-100416	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG586463	**Analyst:**	JDS	**Run Date:**	10/05/2016 19:57
Collect Date:	10/04/2016 09:35	**Dilution:**	1	**File ID:**	16G50817
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	216		5.00	2.00	1.00
ethene	74-85-1	2.64	J	5.00	2.00	1.00
ethane	74-84-0	2.00	U	5.00	2.00	1.00

J	Estimated value ; the analyte concentration was less than the LOQ.
J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	35AWW20-100416	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG586612	**Analyst:**	JDS	**Run Date:**	10/06/2016 18:09
Collect Date:	10/04/2016 09:35	**Dilution:**	10	**File ID:**	16G50837
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	735000		100000	50000	25000

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	LHSMW07-100416	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG586463	**Analyst:**	JDS	**Run Date:**	10/05/2016 20:08
Collect Date:	10/04/2016 10:40	**Dilution:**	1	**File ID:**	16G50818
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	115		5.00	2.00	1.00
ethene	74-85-1	2.00	U	5.00	2.00	1.00
ethane	74-84-0	2.00	U	5.00	2.00	1.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	HP16
Client ID:	LHSMW07-100416	**Prep Method:**	5021	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	RSK175	**Cal Date:**	03/25/2016 12:34
Workgroup #:	WG586612	**Analyst:**	JDS	**Run Date:**	10/06/2016 18:21
Collect Date:	10/04/2016 10:40	**Dilution:**	10	**File ID:**	16G50838
Sample Tag:	DL01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	921000		100000	50000	25000

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.1.2.2 QC Summary Data

RSK-175 - Example Calculation for Methane

1.0 Linear Calibration Models

Option A - Average RF Method

ICAL_x	ICAL_r		RF
1.67	19901		11917
6.67	69174		10371
16.7	176923		10594
66.7	685135		10272
133	1324853		9961
300	2845104		9484
		Average RF:	**10433**

Where:
ICAL_x = the ICAL concentration
ICAL_r = the ICAL response (area)
RF = calibration factor = ICAL_r / ICAL_x

Option B - Agilent Linear Regression Constant

ICAL_x	ICAL_r	[ICAL_r}^2	[ICAL-x][ICAL-r]
1.67	19901	396049801	33235
6.67	69174	4785042276	461391
16.7	176923	31301747929	2954614
66.7	685135	4.6941E+11	45698505
133	1324853	1.75524E+12	176205449
300	2845104	8.09462E+12	853531200
Summation:		**1.03557E+13**	**1078884393**

Agilent Linear Regression Constant : **9598.567853**
(1.03557E+13)/1078884393)

2.0 Calculate the concentration in extract, Cx

Where:	
y = area response of methane from quant report	**1157414**
a = average RF (or Agilent regression constant)	**10433.00**
Cx = y/a	**110.9377935**

3.0 Calculate the concentration in sample

Cs = Cx (MW/Tf) (HS/S) (DF)

Where:		
Cx = Concentration in extract	**110.9377935**	umol/mol
MW = molecular weight of analyte	**16.04**	ug/umol
TF = temperature factor = (22.4)(313/273)	**25.68**	L/mol
HS = headspace volume	**0.015**	L
S = sample volume remaining after headspace removal	**0.00547**	L
DF = dilution factor	**2**	
Cs = calculated sample concentration	**380.034301**	ug/L

RSK-175 - Example Calculation for Carbon Dioxide

ICAL Plot - Quadratic Regression (y = Ax^2 + Bx +C)

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

Step 1 - Calculate the concentration in extract, Cx

Data from quadratic regression plot:		
Value of A from plot:	**0.916**	
Value of B from plot:	**1540**	
Value of C from plot:	**0**	
Response for methane from quantitation report (y):	**8763828**	
Value of C - y	**-8763828**	
Solving for Cx using the quadratic formula:		
Root 1 - Computed Cx1:	**2364.716284**	umol/mol
Root 2 - Computed Cx2:	**-4045.938991**	

Step 2 - Calculate the concentration in sample

Cs = Cx (MW/Tf) (HS/S) (DF)

Where:

Cx = Concentration in extract :	**2364.716284**	umol/mol
MW = molecular weight of analyte:	**44.0**	ug/umol
TF = temperature factor = (22.4)(313/273):	**25.68**	L/mol
HS = initial headspace volume (extraction log):	**0.015**	L
S = final volume (extraction log):	**0.00547**	L
DF = dilution factor:	**10**	
Cs = calculated sample concentration:	**111106.798**	ug/L

Other Notes:

Temperature of headspace = 40 C = 313 K

Analyte	MW (g/mol)
Methane	16.04
Ethane	30.07
Ethene	28.05
Propane	44.1
Carbon Dioxide	44.0

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 032516
Analyst1: JDS Analyst2: NA
Method: RSK175 SOP: RSK01 Rev: 19
Method: 5021 SOP: RSK01 Rev: 19

Maintenance Log ID:

Internal Standard: NA Surrogate Standard: NA
CCV: STD75351 LCS: STD68250 MS/MSD: NA

Column 1 ID: RTQBOND Column 2 ID: RTQBOND
Workgroups: WG562401 WG562514

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G49625	RINSE	NA	1	1		03/25/16 11:11
16G49626	WG562401-01 0.67umol/moL STD RSK175	NA	1	1	STD67276	03/25/16 11:22
16G49627	WG562401-02 1.67umol/moL STD RSK175	NA	1	1	STD67276	03/25/16 11:34
16G49628	WG562401-03 33.3umol/moL STD RSK175	NA	1	1	STD67276	03/25/16 11:46
16G49629	WG562401-04 66.7umol/moL STD RSK175	NA	1	1	STD67276	03/25/16 11:58
16G49630	WG562401-05 133umol/moL STD RSK175	NA	1	1	STD75351	03/25/16 12:10
16G49631	WG562401-06 333umol/moL STD RSK175	NA	1	1	STD75351	03/25/16 12:22
16G49632	WG562401-07 533umol/moL STD RSK175	NA	1	1	STD75351	03/25/16 12:34
16G49633	RINSE	NA	1	1		03/25/16 12:46
16G49634	WG562401-08 133umol/moL ALT SRC STD	NA	1	1	STD68250	03/25/16 13:47
16G49635	WG562401-08 133umol/moL ALT SRC STD	NA	1	1	STD68250	03/25/16 18:26
16G49636	WG562514-01 BLANK STD RSK175	NA	1	1		03/25/16 18:38
16G49637	WG562514-02 67umol/moL LCS STD RSK1	NA	1	1	STD68250	03/25/16 18:50
16G49638	WG562514-03 67umol/moL LCS2 STD RSK	NA	1	1	STD68250	03/25/16 19:02
16G49639	L16031272-14 B A1 RSK175	<2	1	1		03/25/16 19:14
16G49640	L16031272-15 B A1 RSK175	<2	1	1		03/25/16 19:26
16G49641	L16031272-22 B A1 RSK175	<2	1	1		03/25/16 19:38
16G49642	L16031272-03 B D1 10X RSK175	<2	1	10		03/25/16 19:50
16G49643	L16031272-04 B D1 5X RSK175	<2	1	5		03/25/16 20:01
16G49644	L16031272-08 B D1 50X RSK175	<2	1	50		03/25/16 20:13
16G49645	L16031272-19 B D1 10X RSK175	<2	1	10		03/25/16 20:25
16G49646	WG562401-09 133umol/moL CCV STD RSK	NA	1	1	STD75351	03/25/16 20:37
16G49647	L16031363-04 A RSK175	<2	1	1		03/25/16 20:49
16G49648	L16031363-05 A RSK175	<2	1	1		03/25/16 21:01
16G49649	L16031363-11 A RSK175	<2	1	1		03/25/16 21:12
16G49650	L16031363-12 A RSK175	<2	1	1		03/25/16 21:24
16G49651	L16031363-17 A RSK175	<2	1	1		03/25/16 21:36
16G49652	L16031388-01 A RSK175	<2	1	1		03/25/16 21:48
16G49653	WG562401-10 133umol/moL CCV STD RSK	NA	1	1	STD75351	03/25/16 21:59

Comments

Seq.	Rerun	Dil.	Reason	Analytes
10	X			CO2

Approved: April 01, 2016

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 032516
Analyst1: JDS Analyst2: NA
Method: RSK175 SOP: RSK01 Rev: 19
Method: 5021 SOP: RSK01 Rev: 19

Maintenance Log ID:

Internal Standard: NA Surrogate Standard: NA
CCV: STD75351 LCS: STD68250 MS/MSD: NA

Column 1 ID: RTQBOND Column 2 ID: RTQBOND
Workgroups: WG562401 WG562514

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 16G49634				
	Alt. Src. failed low for CO2			
23	X	50	Over Calibration Range	m
File ID: 16G49647				
	L16031363-04			
24	X	20	Over Calibration Range	m
File ID: 16G49648				
	L16031363-05			
25	X	5	Over Calibration Range	m
File ID: 16G49649				
	L16031363-11			
26	X	5	Over Calibration Range	m
File ID: 16G49650				
	L16031363-12			
27	X	10	Over Calibration Range	m
File ID: 16G49651				
	L16031363-17			
28	X	5	Over Calibration Range	m, p
File ID: 16G49652				
	L16031388-01 took prop. hit with high failing prop result in CCV.			
33			Check Standard Failure	p
File ID: 16G49653				
	WG562401-10 failed high for prop.			

Approved: April 01, 2016

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 100516
Analyst1: JDS Analyst2: NA
Method: RSK175 SOP: RSK01 Rev: 19
Method: 5021 SOP: RSK01 Rev: 19

Maintenance Log ID:

Internal Standard: NA Surrogate Standard: NA
CCV: STD75351 LCS: STD68250 MS/MSD: NA

Column 1 ID: RTQBOND Column 2 ID: RTQBOND
Workgroups: WG586463

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G50804	WG586462-01 133umol/mol CCV RSK175	NA	1	1	STD75351	10/05/16 16:56
16G50805	WG586463-01 BLANK RSK175	NA	1	1		10/05/16 17:40
16G50806	WG586463-02 67umol/mol LCS RSK175	NA	1	1	STD68250	10/05/16 17:51
16G50807	WG586463-03 67umol/mol LCS2 RSK175	NA	1	1	STD68250	10/05/16 18:02
16G50808	L16091324-02 C D1 20X RSK175	NA	1	20		10/05/16 18:14
16G50809	L16091324-04 C D1 50X RSK175	NA	1	50		10/05/16 18:25
16G50810	L16091324-06 C D1 50X RSK175	NA	1	50		10/05/16 18:36
16G50811	L16091324-07 C D1 20X RSK175	NA	1	20		10/05/16 18:48
16G50812	L16100123-01 A RSK175	7	1	1		10/05/16 18:59
16G50813	L16100123-03 A RSK175	7	1	1		10/05/16 19:10
16G50814	L16100123-05 A RSK175	7	1	1		10/05/16 19:21
16G50815	WG586462-02 133umol/mol CCV RSK175	NA	1	1	STD75351	10/05/16 19:34
16G50816	L16100123-07 A RSK175	7	1	1		10/05/16 19:45
16G50817	L16100194-05 A RSK175	7	1	1		10/05/16 19:57
16G50818	L16100194-06 A RSK175	7	1	1		10/05/16 20:08
16G50819	L16100194-01 A 10X RSK175	7	1	10		10/05/16 20:19
16G50820	L16100194-03 A 10X RSK175	7	1	10		10/05/16 20:31
16G50821	WG586462-03 133umol/mol CCV RSK175	NA	1	1	STD75351	10/05/16 20:43

Comments

Seq.	Rerun	Dil.	Reason	Analytes
9	X	10	Over Calibration Range	CO2
File ID: 16G50812				
	L16100123-01			
10	X	10	Over Calibration Range	CO2
File ID: 16G50813				
	L16100123-03			
11	X	10	Over Calibration Range	CO2
File ID: 16G50814				
	L16100123-05			
13	X	10	Over Calibration Range	CO2
File ID: 16G50816				
	L16100123-07			
14	X	10	Over Calibration Range	CO2

Approved: October 11, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 100516
Analyst1: JDS Analyst2: NA
Method: RSK175 SOP: RSK01 Rev: 19
Method: 5021 SOP: RSK01 Rev: 19

Maintenance Log ID:

Internal Standard: NA Surrogate Standard: NA
CCV: STD75351 LCS: STD68250 MS/MSD: NA

Column 1 ID: RTQBOND Column 2 ID: RTQBOND
Workgroups: WG586463

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 16G50817				
	L16100194-05			
15	X	10	Over Calibration Range	CO2
File ID: 16G50818				
	L16100194-06			
16				
File ID: 16G50819				
	L16100194-01 ran at dilution due to dark/discolored matrix			
17				
File ID: 16G50820				
	L16100194-03 ran at dilution due to dark/discolored matrix			

Approved: October 11, 2016

Page: 2

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 100616
Analyst1: JDS Analyst2: NA
Method: RSK175 SOP: RSK01 Rev: 19
Method: 5021 SOP: RSK01 Rev: 19

Maintenance Log ID:

Internal Standard: NA Surrogate Standard: NA
CCV: STD75351 LCS: STD68250 MS/MSD: NA

Column 1 ID: RTQBOND Column 2 ID: RTQBOND
Workgroups: WG586612

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G50822	WG586611-01 133umol/mol CCV RSK175	NA	1	1	STD75351	10/06/16 14:52
16G50823	WG586612-01 BLANK RSK175	NA	1	1		10/06/16 15:17
16G50824	WG586612-02 67umol/mol LCS RSK175	NA	1	1	STD68250	10/06/16 15:29
16G50825	WG586612-03 67umol/mol LCS2 RSK175	NA	1	1	STD68250	10/06/16 15:40
16G50826	L16100002-01 .133umol/mol LOD RSK175	NA	1	1	STD67276	10/06/16 16:05
16G50827	L16100002-01 .33umol/mol LOD RSK175	NA	1	1	STD72872	10/06/16 16:16
16G50828	L16100004-01 .67umol/mol LOD RSK175	NA	1	1	STD69638	10/06/16 16:27
16G50829	L16100004-01 1.67umol/mol LOD RSK175	NA	1	1	STD72871	10/06/16 16:39
16G50830	L16100004-09 .67umol/mol LOD RSK175	NA	1	1	STD69638	10/06/16 16:50
16G50831	L16100004-09 1.67umol/mol LOD RSK175	NA	1	1	STD72871	10/06/16 17:01
16G50832	L16100123-01 B D1 10X RSK175	7	1	10		10/06/16 17:13
16G50833	WG586611-02 133umol/mol CCV RSK175	NA	1	1	STD75351	10/06/16 17:24
16G50834	L16100123-03 B D1 10X RSK175	5	1	10		10/06/16 17:35
16G50835	L16100123-05 B D1 10X RSK175	7	1	10		10/06/16 17:47
16G50836	L16100123-07 B D1 10X RSK175	7	1	10		10/06/16 17:58
16G50837	L16100194-05 B D1 10X RSK175	7	1	10		10/06/16 18:09
16G50838	L16100194-06 B D1 10X RSK175	7	1	10		10/06/16 18:21
16G50839	WG586611-03 133umol/mol CCV RSK175	NA	1	1	STD75351	10/06/16 18:32

Approved: October 18, 2016

Page: 1

Microbac Laboratories Inc.
UPLOAD BATCH EXTRACTION INFORMATION

Batch #: B220401

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG562401-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-03	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-04	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-05	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-06	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-07	15	mL	15	mL					5.47	mL	5.47	mL	40
WG562401-08	15	mL	15	mL					5.47	mL	5.47	mL	40

Microbac Laboratories Inc.
UPLOAD BATCH EXTRACTION INFORMATION

Batch #: B229337

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG586462-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG586462-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG586462-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16091324-07	15	mL	15	mL					5.47	mL	5.47	mL	40
L16100123-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG586463-03	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L16100194-06	15	mL	15	mL					5.47	mL	5.47	mL	40
L16100194-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG586463-02	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L16091324-06	15	mL	15	mL					5.47	mL	5.47	mL	40
L16100123-05	15	mL	15	mL					5.47	mL	5.47	mL	40
L16100123-07	15	mL	15	mL					5.47	mL	5.47	mL	40
L16100194-03	15	mL	15	mL					5.47	mL	5.47	mL	40
WG586463-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16100194-05	15	mL	15	mL					5.47	mL	5.47	mL	40
L16100123-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16091324-02	15	mL	15	mL					5.47	mL	5.47	mL	40
L16091324-04	15	mL	15	mL					5.47	mL	5.47	mL	40

Microbac Laboratories Inc.
UPLOAD BATCH EXTRACTION INFORMATION

Batch #: B229510

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG586611-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG586611-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG586611-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16100194-06	15	mL	15	mL					5.47	mL	5.47	mL	40
WG586612-03	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L16100002-01	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L16100004-01	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L16100194-05	15	mL	15	mL					5.47	mL	5.47	mL	40
L16100123-05	15	mL	15	mL					5.47	mL	5.47	mL	40
WG586612-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG586612-02	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L16100123-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16100123-07	15	mL	15	mL					5.47	mL	5.47	mL	40
L16100123-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16100004-09	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40

Microbac Laboratories Inc.

Data Checklist

Date: 25-MAR-2016
Analyst: JDS
Analyst: NA
Method: RSK175
Instrument: HP16
Curve Workgroup: NA
Runlog ID: 74110
Analytical Workgroups: WG562401 WG562514

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	NA
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	X
Surrogates	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	JDS
Secondary Reviewer	FJB
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 resonableness of the results	X

Primary Reviewer:
31-MAR-2016

Secondary Reviewer:
01-APR-2016

CHECKLIST1 - Modified 03/05/2008
Generated: APR-01-2016 11:20:23

Microbac Laboratories Inc.

Data Checklist

Date: 05-OCT-2016
Analyst: JDS
Analyst: NA
Method: RSK175
Instrument: HP16
Curve Workgroup: NA
Runlog ID: 77956
Analytical Workgroups: WG586463

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	NA
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	X
Surrogates	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	JDS
Secondary Reviewer	FJB
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 resonableness of the results	X

Primary Reviewer:
11-OCT-2016

Secondary Reviewer:
11-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-11-2016 14:03:04

Microbac Laboratories Inc.

Data Checklist

Date: 06-OCT-2016
Analyst: JDS
Analyst: NA
Method: RSK175
Instrument: HP16
Curve Workgroup: NA
Runlog ID: 78043
Analytical Workgroups: WG586612

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	NA
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	NA
MS/MSD/Duplicates	NA
Samples	X
Surrogates	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	JDS
Secondary Reviewer	FJB
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 resonableness of the results	X

Primary Reviewer:
14-OCT-2016

Secondary Reviewer:
18-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-18-2016 16:56:09

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: RSK175 AAB#: WG586463

Login Number: L16100194

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
35AWW08-100416	01	10/04/16					10/05/2016	1.5	7		10/05/16	1.5	7	
03WW01-100416	03	10/04/16					10/05/2016	1.5	7		10/05/16	1.5	7	
35AWW20-100416	05	10/04/16					10/05/2016	1.4	7		10/05/16	1.4	7	
LHSMW07-100416	06	10/04/16					10/05/2016	1.4	7		10/05/16	1.4	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4968650
Report generated 10/18/2016 17:00

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: RSK175 **AAB#:** WG586612

Login Number: L16100194

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
35AWW20-100416	05	10/04/16					10/06/2016	2.4	7		10/06/16	2.4	7	
LHSMW07-100416	06	10/04/16					10/06/2016	2.3	7		10/06/16	2.3	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4968650
Report generated 10/18/2016 17:00

METHOD BLANK SUMMARY

Login Number: L16100194
Blank File ID: 16G50805
Prep Date: 10/05/16 17:40
Analyzed Date: 10/05/16 17:40
Analyst: JDS

Work Group: WG586463
Blank Sample ID: WG586463-01
Instrument ID: HP16
Method: RSK175

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586463-02	16G50806	10/05/16 17:51	01
LCS2	WG586463-03	16G50807	10/05/16 18:02	01
35AWW20-100416	L16100194-05	16G50817	10/05/16 19:57	01
LHSMW07-100416	L16100194-06	16G50818	10/05/16 20:08	01
35AWW08-100416	L16100194-01	16G50819	10/05/16 20:19	DL01
03WW01-100416	L16100194-03	16G50820	10/05/16 20:31	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 4968651
Report generated 10/18/2016 17:00

METHOD BLANK SUMMARY

Login Number: L16100194
Blank File ID: 16G50823
Prep Date: 10/06/16 15:17
Analyzed Date: 10/06/16 15:17
Analyst: JDS

Work Group: WG586612
Blank Sample ID: WG586612-01
Instrument ID: HP16
Method: RSK175

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586612-02	16G50824	10/06/16 15:29	01
LCS2	WG586612-03	16G50825	10/06/16 15:40	01
35AWW20-100416	L16100194-05	16G50837	10/06/16 18:09	DL01
LHSMW07-100416	L16100194-06	16G50838	10/06/16 18:21	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 4968651
Report generated 10/18/2016 17:00

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16100194 Prep Date: 10/05/16 17:40 Sample ID: WG586463-01
Instrument ID: HP16 Run Date: 10/05/16 17:40 Prep Method: 5021
File ID: 16G50805 Analyst: JDS Method: RSK175
Workgroup (AAB#): WG586463 Matrix: Water Units: ug/L
Contract #: Cal ID: HP16-25-MAR-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Carbon Dioxide	2500	10000	2500	1	U
Methane	1.00	5.00	1.00	1	U
ethene	1.00	5.00	1.00	1	U
ethane	1.00	5.00	1.00	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4968652
18-OCT-2016 17:00

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16100194 Prep Date: 10/06/16 15:17 Sample ID: WG586612-01
Instrument ID: HP16 Run Date: 10/06/16 15:17 Prep Method: 5021
File ID: 16G50823 Analyst: JDS Method: RSK175
Workgroup (AAB#): WG586612 Matrix: Water Units: ug/L
Contract #: Cal ID: HP16-25-MAR-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Carbon Dioxide	2500	10000	2500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4968652
18-OCT-2016 17:00

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100194 Analyst: JDS Prep Method: 5021
Instrument ID: HP16 Matrix: Water Method: RSK175
Workgroup (AAB#): WG586612 Units: ug/L
QC Key: DOD4 Lot #: STD68250

Sample ID: WG586612-02 LCS File ID: 16G50824 Run Date: 10/06/2016 15:29
Sample ID: WG586612-03 LCS2 File ID: 16G50825 Run Date: 10/06/2016 15:40

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Carbon Dioxide	31300	24300	77.5	31300	30200	96.5	21.9	53.1- 130	40	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4968653
Report generated: 10/18/2016 17:00

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100194 Analyst: JDS Prep Method: 5021
Instrument ID: HP16 Matrix: Water Method: RSK175
Workgroup (AAB#): WG586463 Units: ug/L
QC Key: DOD4 Lot #: STD68250

Sample ID: WG586463-02 LCS File ID: 16G50806 Run Date: 10/05/2016 17:51
Sample ID: WG586463-03 LCS2 File ID: 16G50807 Run Date: 10/05/2016 18:02

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Methane	114	112	98.0	114	115	100	2.48	85 - 115	20	
ethene	200	183	91.7	200	190	95.4	3.93	85 - 115	20	
ethane	214	199	93.0	214	208	97.0	4.17	85 - 115	20	
Carbon Dioxide	31300	24500	78.1	31300	24700	79.0	1.13	53.1- 130	40	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4968653
Report generated: 10/18/2016 17:00

Calibration Table Report
Method: RSKEXT1.M
Title: RSK175 HP16 (SOP: OVL RSK01) 032516
Last Calibration: Fri Mar 25 13:38:01 2016
Curve: WG562401
Calibration Files

		0.67	1.67	33.3	66.7	133	333	533			
		16G49626.	16G49627.	16G49628.	16G49629.	16G49630.	16G49631.	16G49632.D			
	Compound								Avg	%RSD	Linear
T	methane		357678.3	191763.4	178440.8	176333.2	180289.8	181011.4	210919.0	34.2	1.00
T	ethene		326426.9	323789.7	303078.0	300924.8	311353.3	306803.0	312063.0	3.4	
T	acetylene		320308.2	339363.3	305153.5	300205.1	309436.5	299142.0	312268.0	4.9	
T	ethane	315183.9	335780.5	332335.5	309080.0	306732.7	318673.0	314718.5	318929.0	3.5	
T	propane	455610.0	490813.9	490102.0	464477.8	457676.8	478108.3	465536.1	471761.0	3.1	
T	n-butane	583900.4	644607.5	634321.2	604644.0	590464.7	622084.9	599806.6	611404.0	3.7	
	Signal #2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
T	carbon dioxide		4817.9	5324.5	5339.4	5356.8	5546.3	5286.4	5278.5	4.6	

Mon Mar 28 10:00:37 2016

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16100194 Run Date: 03/25/2016 Sample ID: WG562401-08
Instrument ID: HP16 Run Time: 18:26 Method: RSK175
File ID: 16G49635 Analyst: JDS QC Key: DOD4
ICal Workgroup: WG562401 Cal ID: HP16 - 25-MAR-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
carbon dioxide		62500	68700	ug/L	5800	9.90	15	
methane		228	235	ug/L	187000	3.20	15	
ethene		398	400	ug/L	314000	0.500	15	
ethane		427	434	ug/L	324000	1.70	15	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4968654
Report generated 10/18/2016 17:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/05/2016 Sample ID: WG586462-01

Instrument ID: HP16 Run Time: 16:56 Method: RSK175

File ID: 16G50804 Analyst: JDS QC Key: DOD4

Workgroup (AAB#): WG586463 Cal ID: HP16 - 25-MAR-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
carbon dioxide		62500	58600	ug/L	4940	6.32	15	
methane		228	220	ug/L	175000	3.54	15	
ethene		398	370	ug/L	290000	7.14	15	
ethane		427	395	ug/L	295000	7.48	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4968655

Report generated 10/18/2016 17:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/05/2016 Sample ID: WG586462-02

Instrument ID: HP16 Run Time: 19:34 Method: RSK175

File ID: 16G50815 Analyst: JDS QC Key: DOD4

Workgroup (AAB#): WG586463 Cal ID: HP16 - 25-MAR-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
carbon dioxide		62500	56000	ug/L	4730	10.4	15	
methane		228	219	ug/L	174000	3.97	15	
ethene		398	363	ug/L	285000	8.81	15	
ethane		427	390	ug/L	292000	8.58	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4968655

Report generated 10/18/2016 17:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/05/2016 Sample ID: WG586462-03

Instrument ID: HP16 Run Time: 20:43 Method: RSK175

File ID: 16G50821 Analyst: JDS QC Key: DOD4

Workgroup (AAB#): WG586463 Cal ID: HP16 - 25-MAR-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
carbon dioxide		62500	55500	ug/L	4690	11.2	15	
methane		228	223	ug/L	178000	2.04	15	
ethene		398	374	ug/L	293000	5.99	15	
ethane		427	404	ug/L	301000	5.48	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4968655

Report generated 10/18/2016 17:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/06/2016 Sample ID: WG586611-01

Instrument ID: HP16 Run Time: 14:52 Method: RSK175

File ID: 16G50822 Analyst: JDS QC Key: DOD4

Workgroup (AAB#): WG586612 Cal ID: HP16 - 25-MAR-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
carbon dioxide		62500	65200	ug/L	5510	4.32	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4968655

Report generated 10/18/2016 17:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/06/2016 Sample ID: WG586611-02

Instrument ID: HP16 Run Time: 17:24 Method: RSK175

File ID: 16G50833 Analyst: JDS QC Key: DOD4

Workgroup (AAB#): WG586612 Cal ID: HP16 - 25-MAR-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
carbon dioxide		62500	65300	ug/L	5520	4.51	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4968655

Report generated 10/18/2016 17:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/06/2016 Sample ID: WG586611-03

Instrument ID: HP16 Run Time: 18:32 Method: RSK175

File ID: 16G50839 Analyst: JDS QC Key: DOD4

Workgroup (AAB#): WG586612 Cal ID: HP16 - 25-MAR-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
carbon dioxide		62500	56300	ug/L	4750	9.99	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4968655

Report generated 10/18/2016 17:00

2.1.2.3 Sample Data

Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50819.D\FID1A.CH Vial: 16
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50819.D\TCD2B.CH
Acq On : 05 Oct 2016 20:19 Operator: JDS
Sample : L16100194-01 A 10X RSK175 Inst : HP16
Misc : 1,10 dark/discolored matrix Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 15:45:05 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

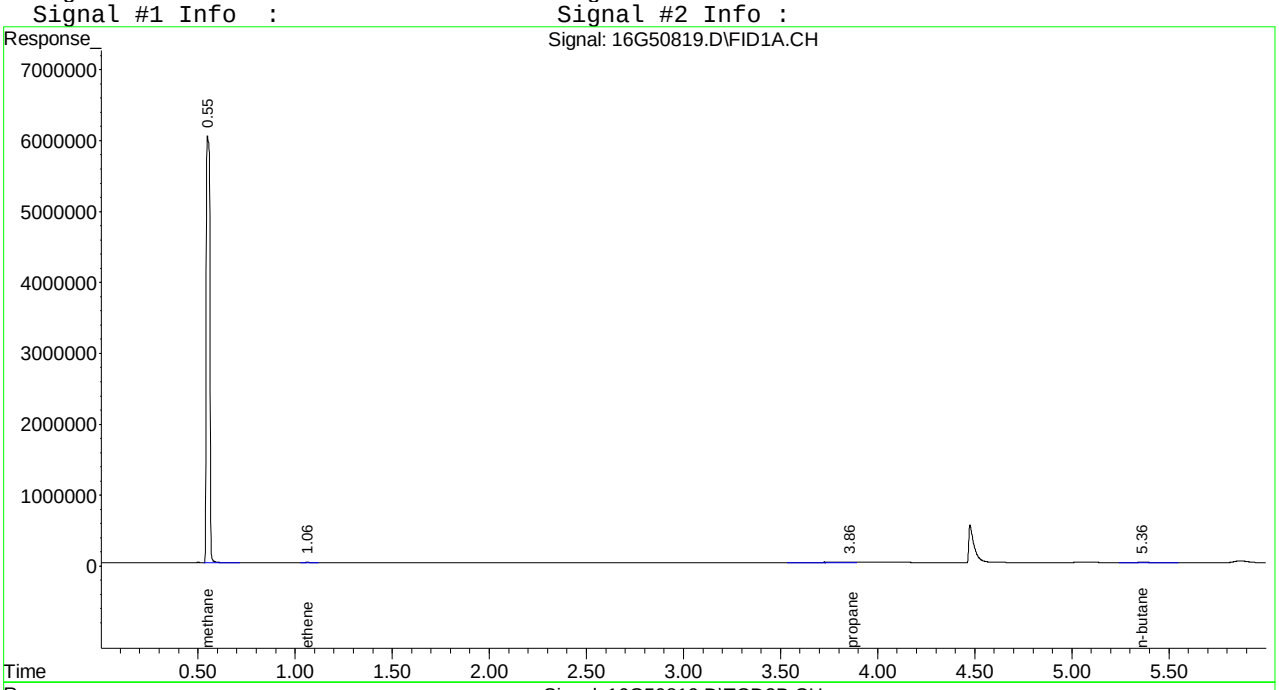
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	77194572	429.440	umol/
2) T	ethene	1.06	91759	0.294	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	0.00	0	N.D.	umol/
5) T	propane	3.87	758545	1.608	umol/
6) T	n-butane	5.36	289255	0.473	umol/
8) T	carbon dioxide	0.20	47667523	9030.463	umol/

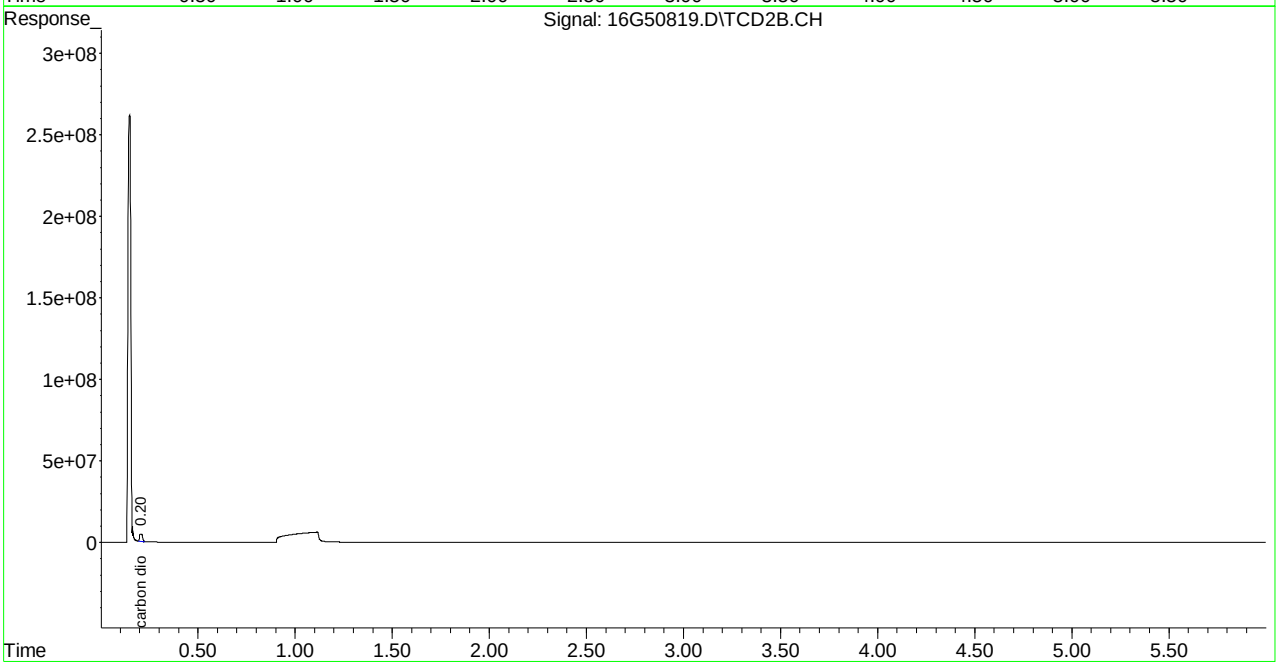
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50819.D RSKEXT1.M Mon Oct 10 15:45:06 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50819.D\FID1A.CH Vial: 16
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50819.D\TCD2B.CH
Acq On : 05 Oct 2016 20:19 Operator: JDS
Sample : L16100194-01 A 10X RSK175 Inst : HP16
Misc : 1,10 dark/discolored matrix Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 15:45 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50820.D\FID1A.CH Vial: 17
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50820.D\TCD2B.CH
Acq On : 05 Oct 2016 20:31 Operator: JDS
Sample : L16100194-03 A 10X RSK175 Inst : HP16
Misc : 1,10 dark/discolored matrix Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 15:45:06 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

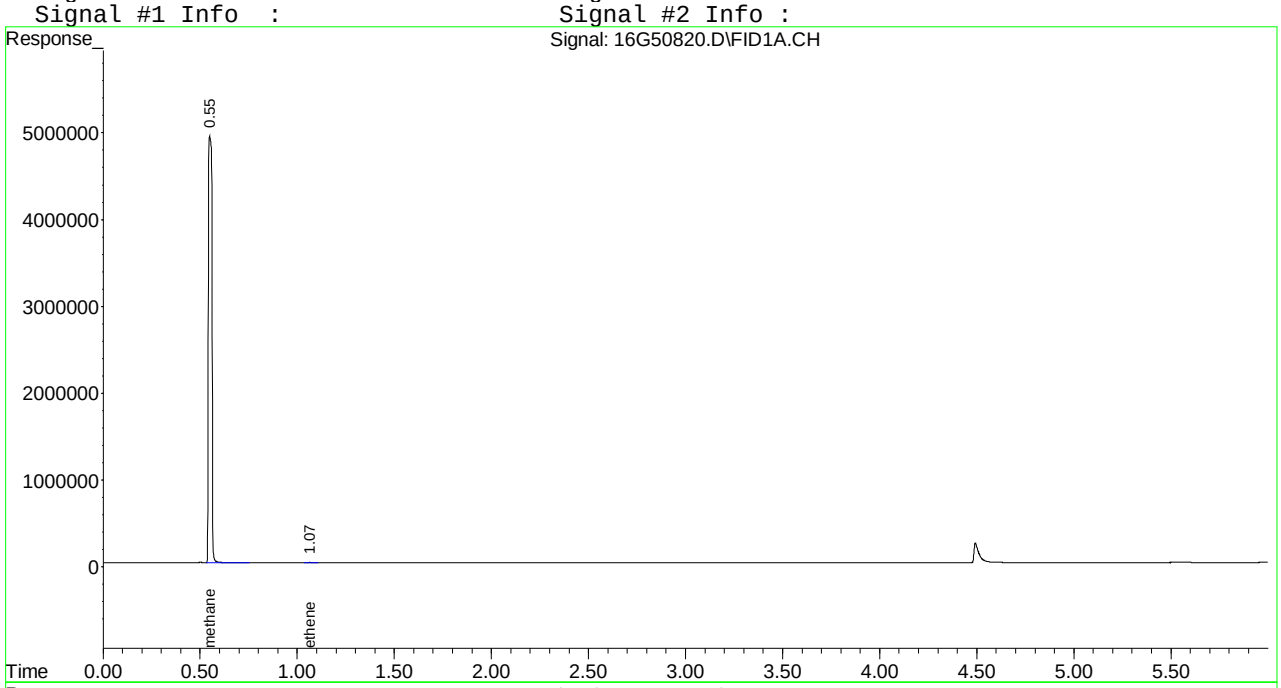
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	62515993	347.473	umol/
2) T	ethene	1.07	47502	0.152	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	0.00	0	N.D.	umol/
5) T	propane	0.00	0	N.D.	umol/
6) T	n-butane	0.00	0	N.D.	umol/
8) T	carbon dioxide	0.20	73788182	13978.940	umol/

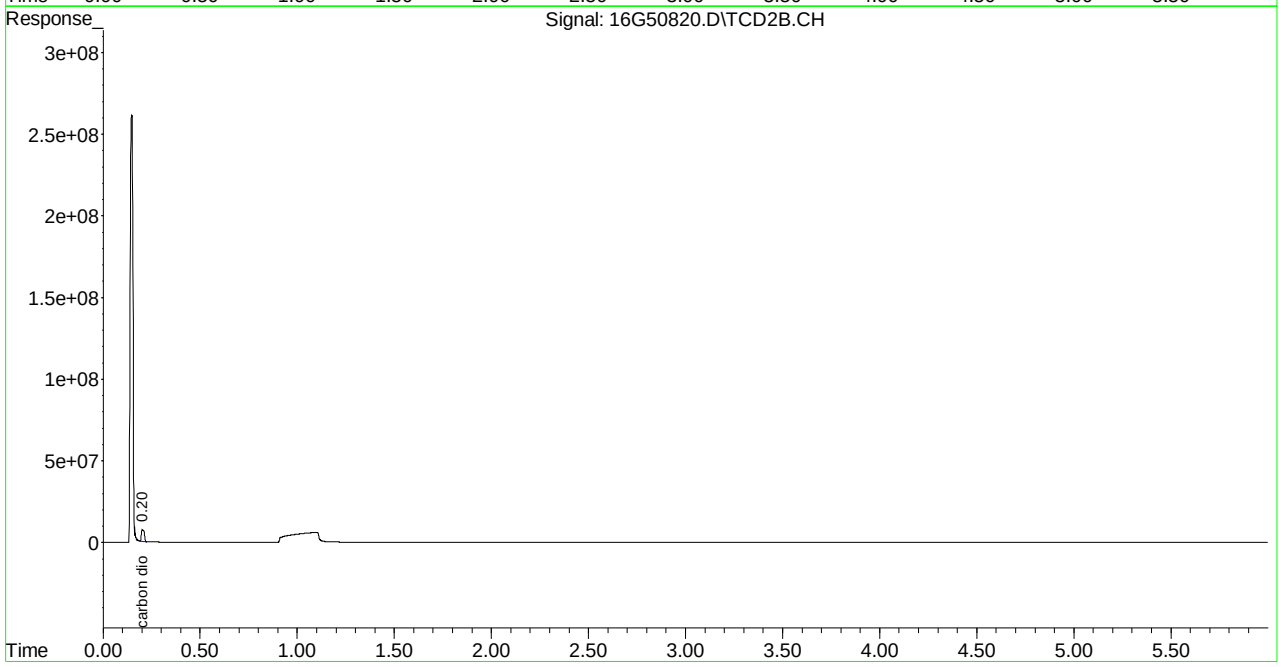
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50820.D RSKEXT1.M Mon Oct 10 15:45:06 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50820.D\FID1A.CH Vial: 17
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50820.D\TCD2B.CH
Acq On : 05 Oct 2016 20:31 Operator: JDS
Sample : L16100194-03 A 10X RSK175 Inst : HP16
Misc : 1,10 dark/discolored matrix Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 15:45 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50817.D\FID1A.CH Vial: 14
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50817.D\TCD2B.CH
Acq On : 05 Oct 2016 19:57 Operator: JDS
Sample : L16100194-05 A RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 15:45:02 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

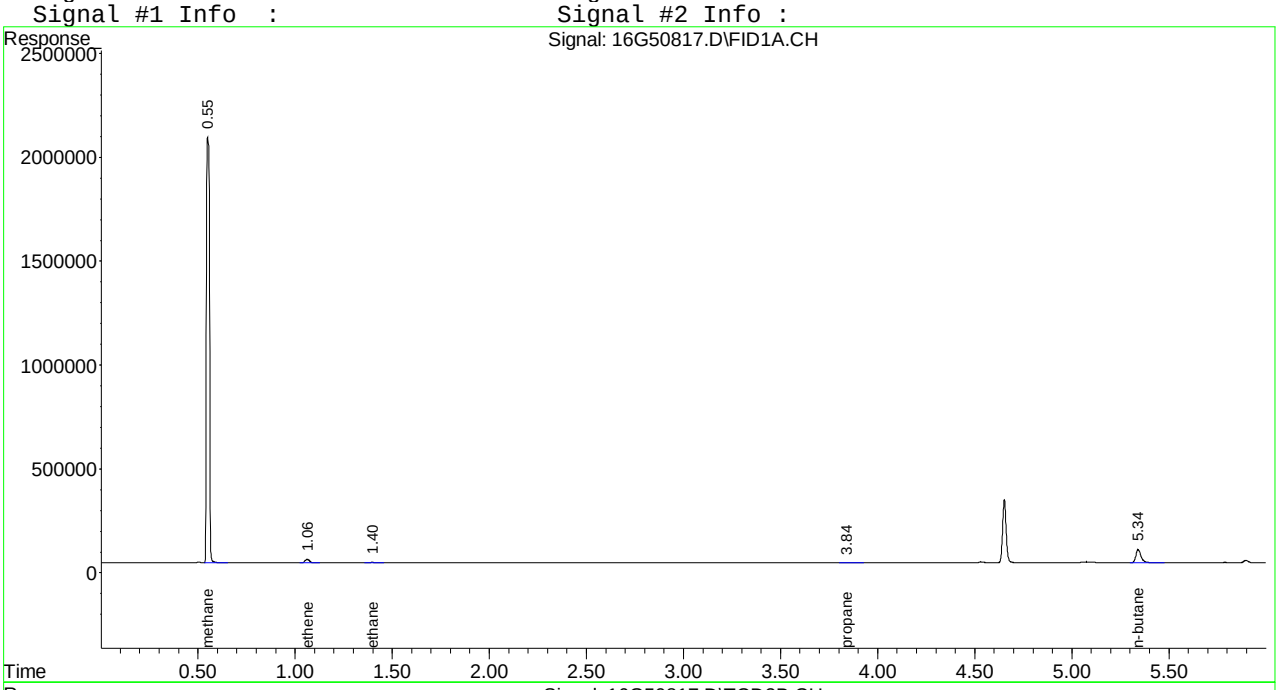
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	22847487	125.958	umol/
2) T	ethene	1.06	274476	0.880	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	1.40	51754	0.162	umol/
5) T	propane	3.84	21123	0.045	umol/
6) T	n-butane	5.34	1210650	1.980	umol/
8) T	carbon dioxide	0.19	1067726136	202277.377	umol/

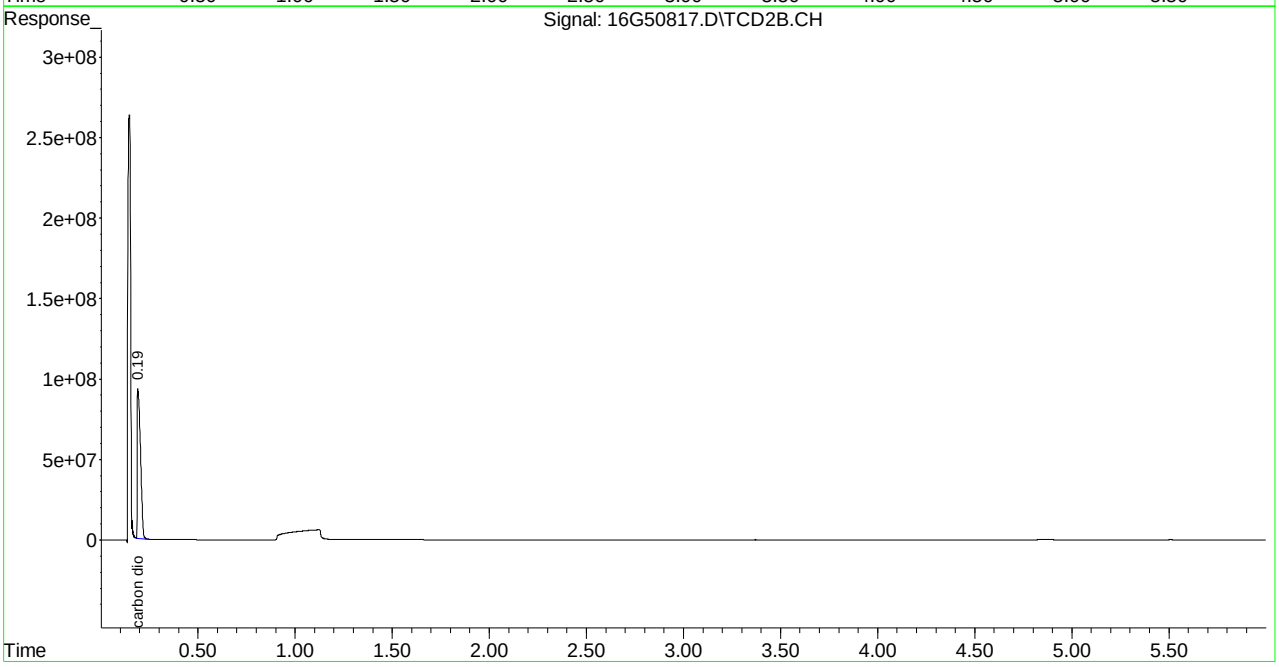
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50817.D RSKEXT1.M Mon Oct 10 15:45:03 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50817.D\FID1A.CH Vial: 14
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50817.D\TCD2B.CH
Acq On : 05 Oct 2016 19:57 Operator: JDS
Sample : L16100194-05 A RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 15:45 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\100616\16G50837.D\FID1A.CH Vial: 16
Signal #2 : C:\MSDCHEM\1\DATA\100616\16G50837.D\TCD2B.CH
Acq On : 06 Oct 2016 18:09 Operator: JDS
Sample : L16100194-05 B D1 10X RSK175 Inst : HP16
Misc : 1,10 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 13:13:11 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

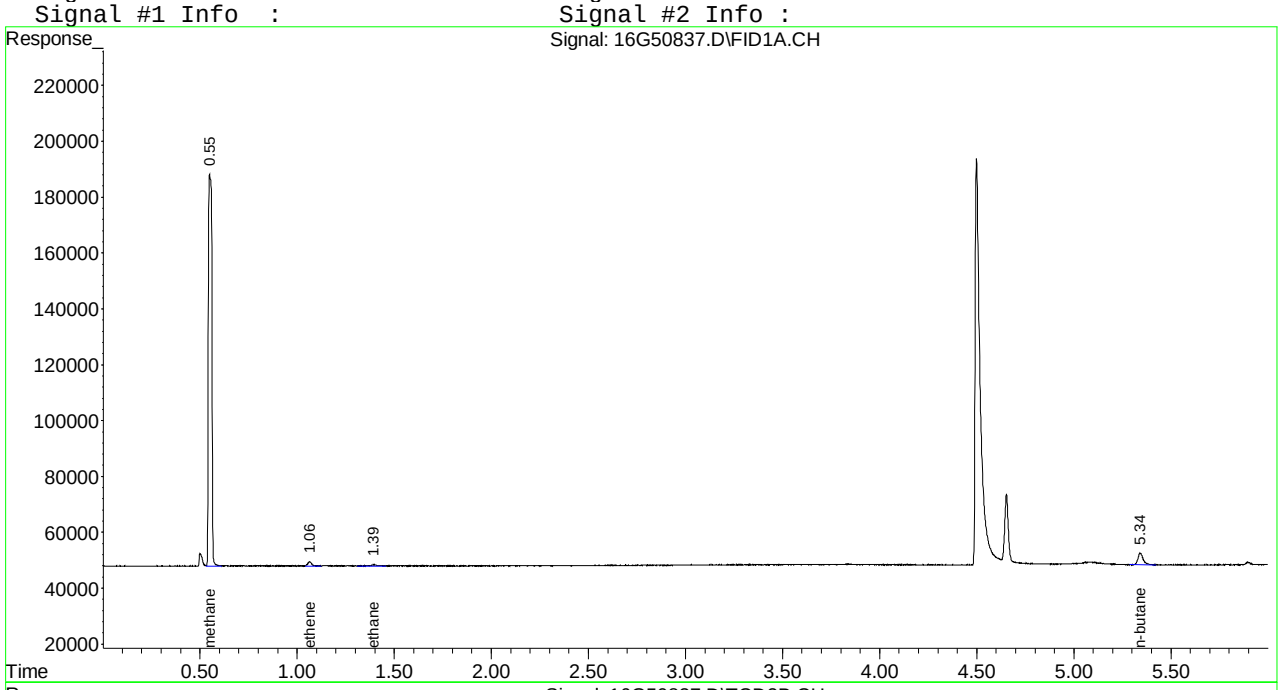
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	1754956	8.174 umol/
2) T	ethene	1.07	22619	0.072 umol/
3) T	acetylene	0.00	0	N.D. umol/
4) T	ethane	1.39	12030	0.038 umol/
5) T	propane	0.00	0	N.D. umol/
6) T	n-butane	5.34	78660	0.129 umol/
8) T	carbon dioxide	0.20	82593146	15647.013 umol/

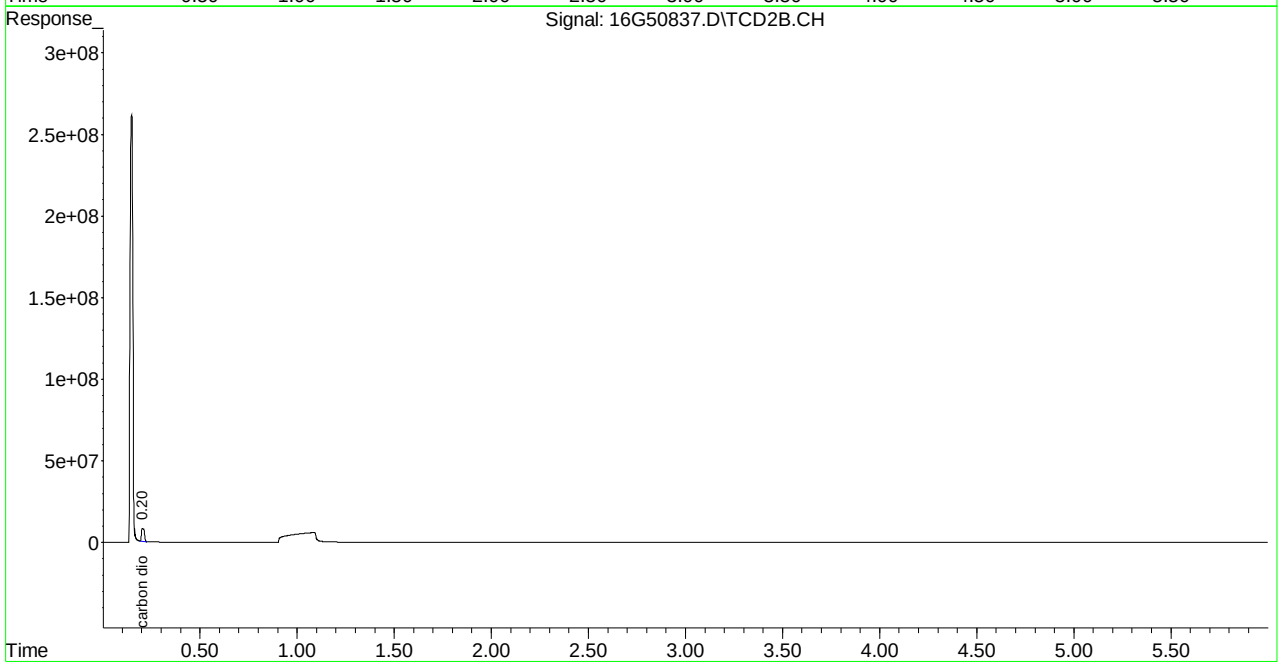
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50837.D RSKEXT1.M Tue Oct 11 13:13:12 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100616\16G50837.D\FID1A.CH Vial: 16
Signal #2 : C:\MSDCHEM\1\DATA\100616\16G50837.D\TCD2B.CH
Acq On : 06 Oct 2016 18:09 Operator: JDS
Sample : L16100194-05 B D1 10X RSK175 Inst : HP16
Misc : 1,10 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 13:13 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50818.D\FID1A.CH Vial: 15
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50818.D\TCD2B.CH
Acq On : 05 Oct 2016 20:08 Operator: JDS
Sample : L16100194-06 A RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 15:45:05 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

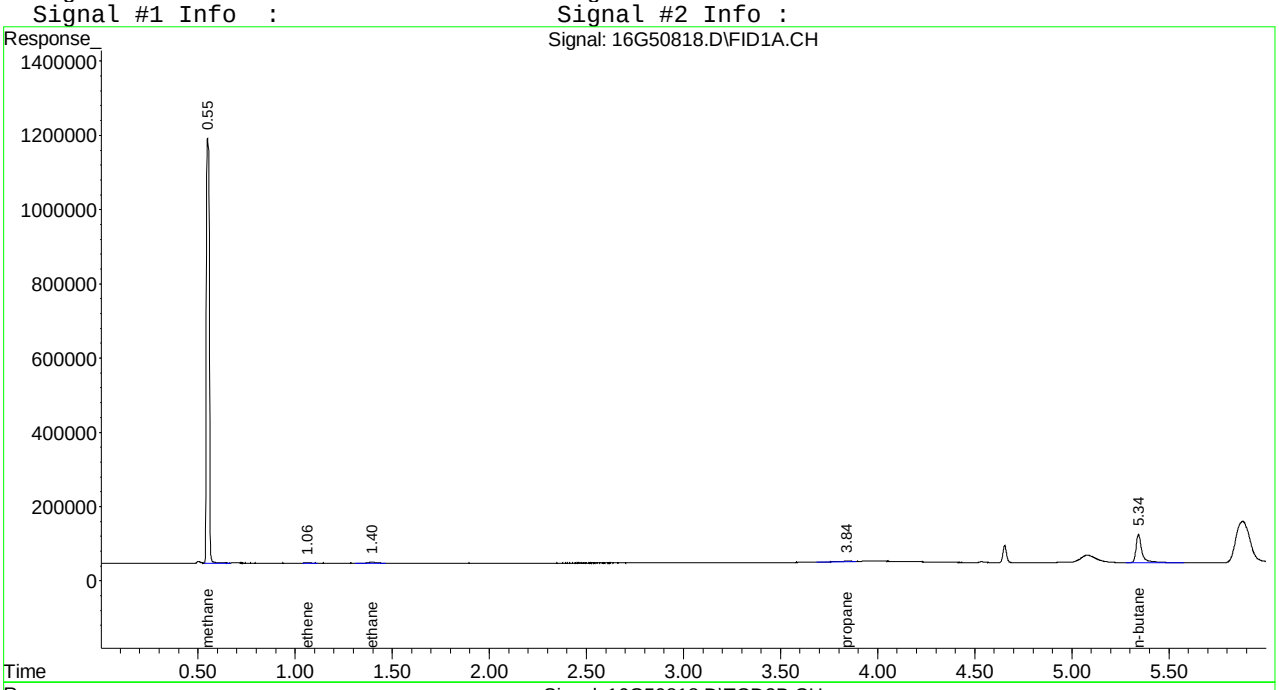
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	12325761	67.203	umol/
2) T	ethene	1.06	9501	0.030	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	1.40	56684	0.178	umol/
5) T	propane	3.84	98075	0.208	umol/
6) T	n-butane	5.34	1659163	2.714	umol/
8) T	carbon dioxide	0.19	1367925303	259149.170	umol/

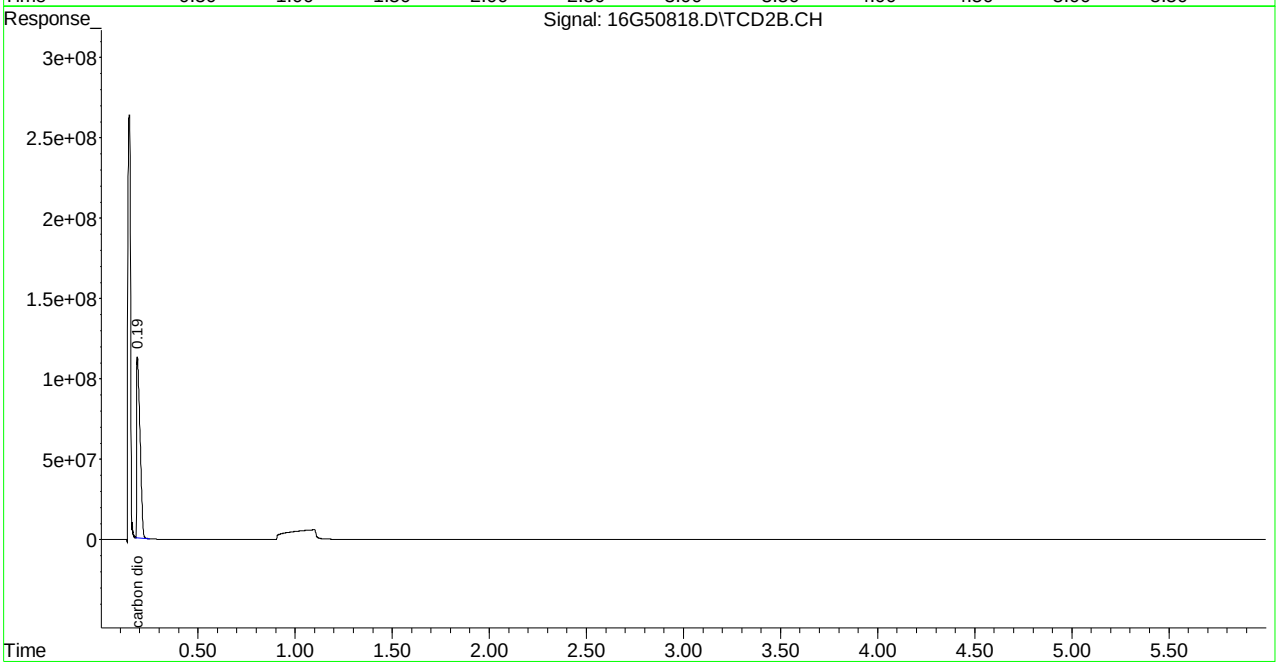
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50818.D RSKEXT1.M Mon Oct 10 15:45:05 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50818.D\FID1A.CH Vial: 15
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50818.D\TCD2B.CH
Acq On : 05 Oct 2016 20:08 Operator: JDS
Sample : L16100194-06 A RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 15:45 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\100616\16G50838.D\FID1A.CH Vial: 17
Signal #2 : C:\MSDCHEM\1\DATA\100616\16G50838.D\TCD2B.CH
Acq On : 06 Oct 2016 18:21 Operator: JDS
Sample : L16100194-06 B D1 10X RSK175 Inst : HP16
Misc : 1,10 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 13:13:14 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

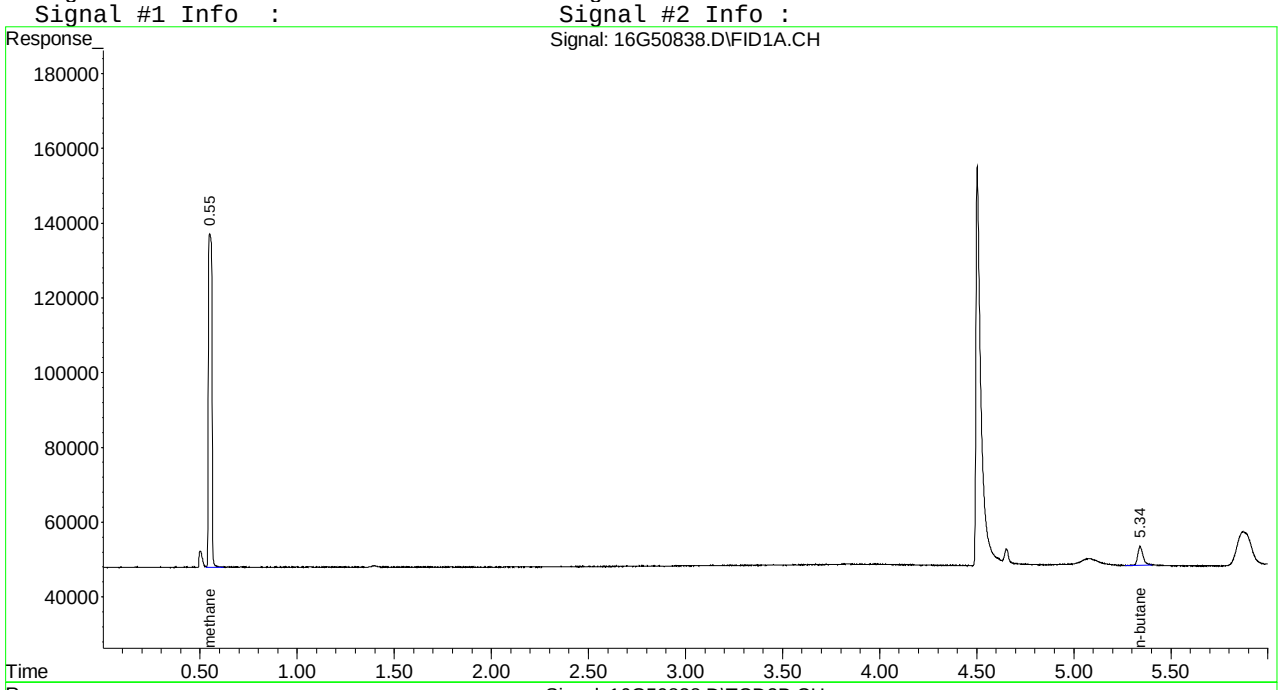
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	1123605	4.649	umol/
2) T	ethene	0.00	0	N.D.	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	0.00	0	N.D.	umol/
5) T	propane	0.00	0	N.D.	umol/
6) T	n-butane	5.34	93705	0.153	umol/
8) T	carbon dioxide	0.20	103418079	19592.232	umol/

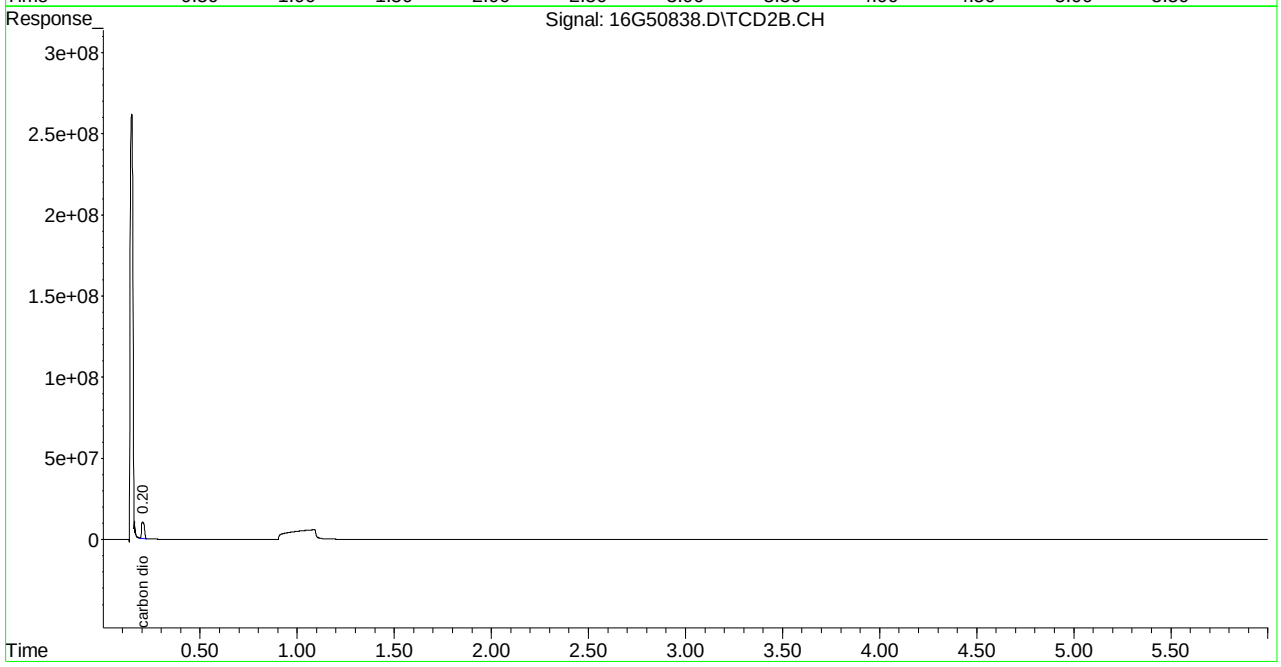
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50838.D RSKEXT1.M Tue Oct 11 14:42:45 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100616\16G50838.D\FID1A.CH Vial: 17
Signal #2 : C:\MSDCHEM\1\DATA\100616\16G50838.D\TCD2B.CH
Acq On : 06 Oct 2016 18:21 Operator: JDS
Sample : L16100194-06 B D1 10X RSK175 Inst : HP16
Misc : 1,10 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 13:13 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





2.1.2.4 Standards Data

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49626.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49626.D\TCD2B.CH
Acq On : 25 Mar 2016 11:22 Operator: JDS
Sample : WG562401-01 0.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:32:57 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:31:58 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

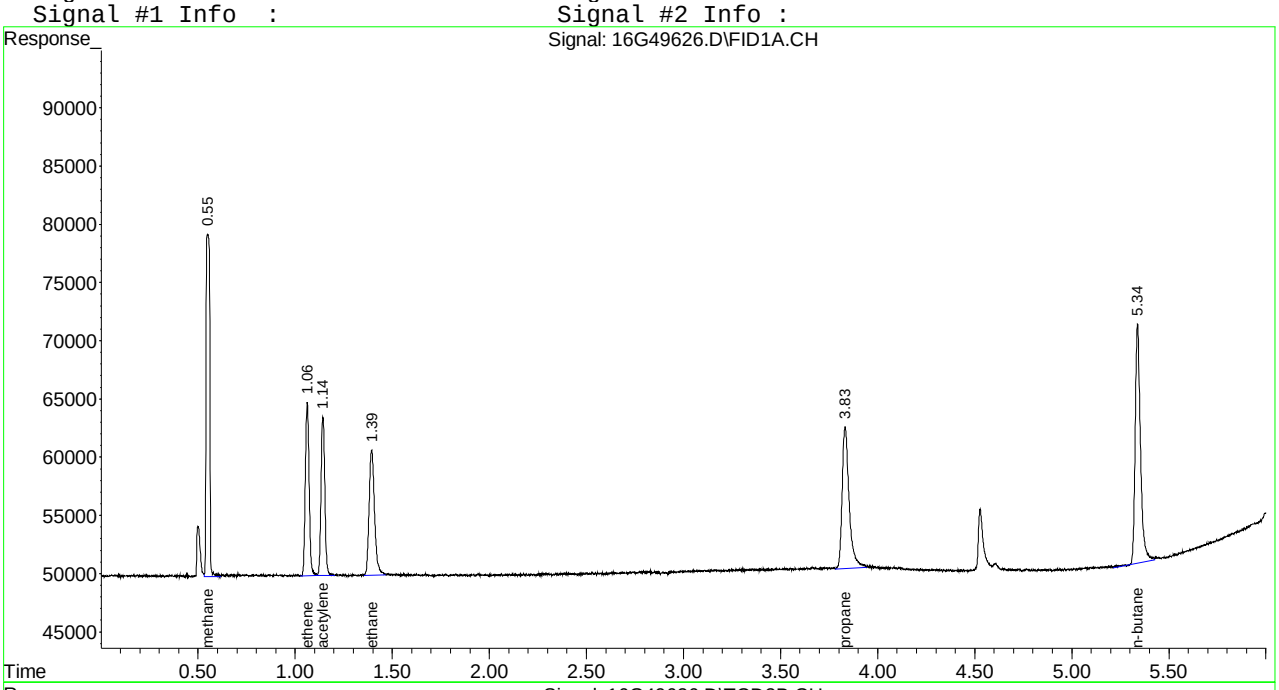
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	386491	0.533 umol/
2) T	ethene	1.06	205756	0.659 umol/
3) T	acetylene	1.14	186400	0.597 umol/
4) T	ethane	1.39	210228	0.659 umol/
5) T	propane	3.83	303892	0.644 umol/
6) T	n-butane	5.34	389462	0.637 umol/
8) T	carbon dioxide	0.00	0	N.D. umol/

(f)=RT Delta > 1/2 Window (m)=manual int.
16G49626.D RSKEXT1.M Fri Mar 25 13:33:07 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49626.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49626.D\TCD2B.CH
Acq On : 25 Mar 2016 11:22 Operator: JDS
Sample : WG562401-01 0.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:32 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:31:58 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49627.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49627.D\TCD2B.CH
Acq On : 25 Mar 2016 11:34 Operator: JDS
Sample : WG562401-02 1.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:38:12 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

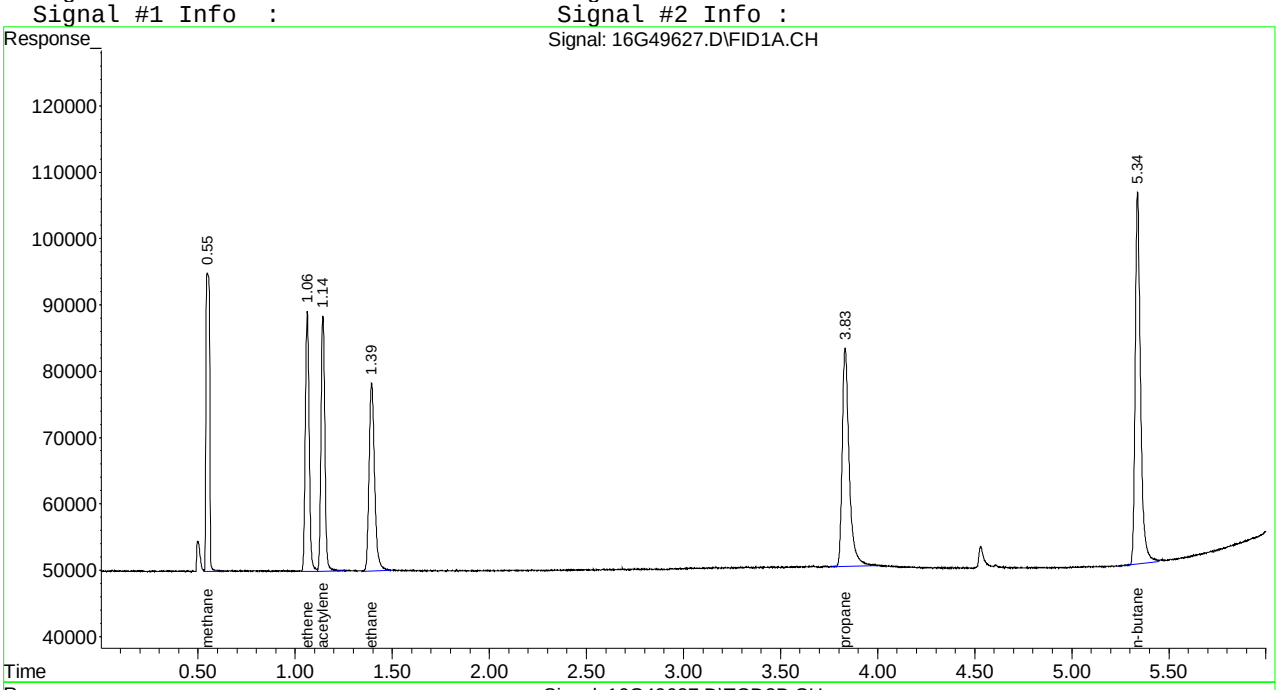
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	597323	1.710	umol/
2) T	ethene	1.06	545133	1.747	umol/
3) T	acetylene	1.14	534915	1.713	umol/
4) T	ethane	1.39	560754	1.758	umol/
5) T	propane	3.83	819659	1.737	umol/
6) T	n-butane	5.34	1076495	1.761	umol/
8) T	carbon dioxide	0.20	9635725	1825.458	umol/

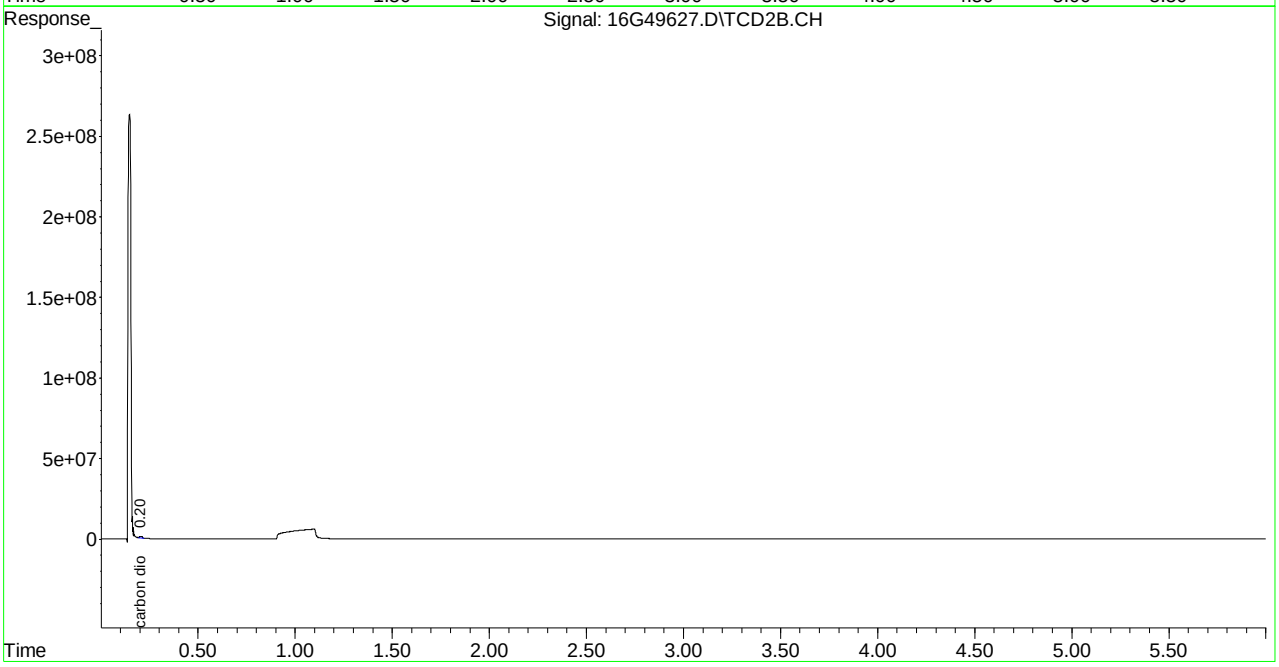
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49627.D RSKEXT1.M Fri Mar 25 13:38:12 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49627.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49627.D\TCD2B.CH
Acq On : 25 Mar 2016 11:34 Operator: JDS
Sample : WG562401-02 1.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:38 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49627.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49627.D\TCD2B.CH
Acq On : 25 Mar 2016 11:34 Operator: JDS
Sample : WG562401-02 1.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	1.670	1.710	-2.4	100	0.00
2	T	ethene	1.670	1.747	-4.6	100	0.00
3	T	acetylene	1.670	1.713	-2.6	100	0.00
4	T	ethane	1.670	1.758	-5.3	100	0.00
5	T	propane	1.670	1.737	-4.0	100	0.00
6	T	n-butane	1.670	1.761	-5.4	100	0.00
		Signal #2					
8	T	carbon dioxide	2000.000	1825.458	8.7	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49627.D RSKEXT1.M Fri Mar 25 13:38:22 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49627.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49627.D\TCD2B.CH
Acq On : 25 Mar 2016 11:34 Operator: JDS
Sample : WG562401-02 1.67umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49627.D RSKEXT1.M Fri Mar 25 13:38:22 2016 Page 2

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49628.D\FID1A.CH Vial: 4
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49628.D\TCD2B.CH
Acq On : 25 Mar 2016 11:46 Operator: JDS
Sample : WG562401-03 33.3umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33:25 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

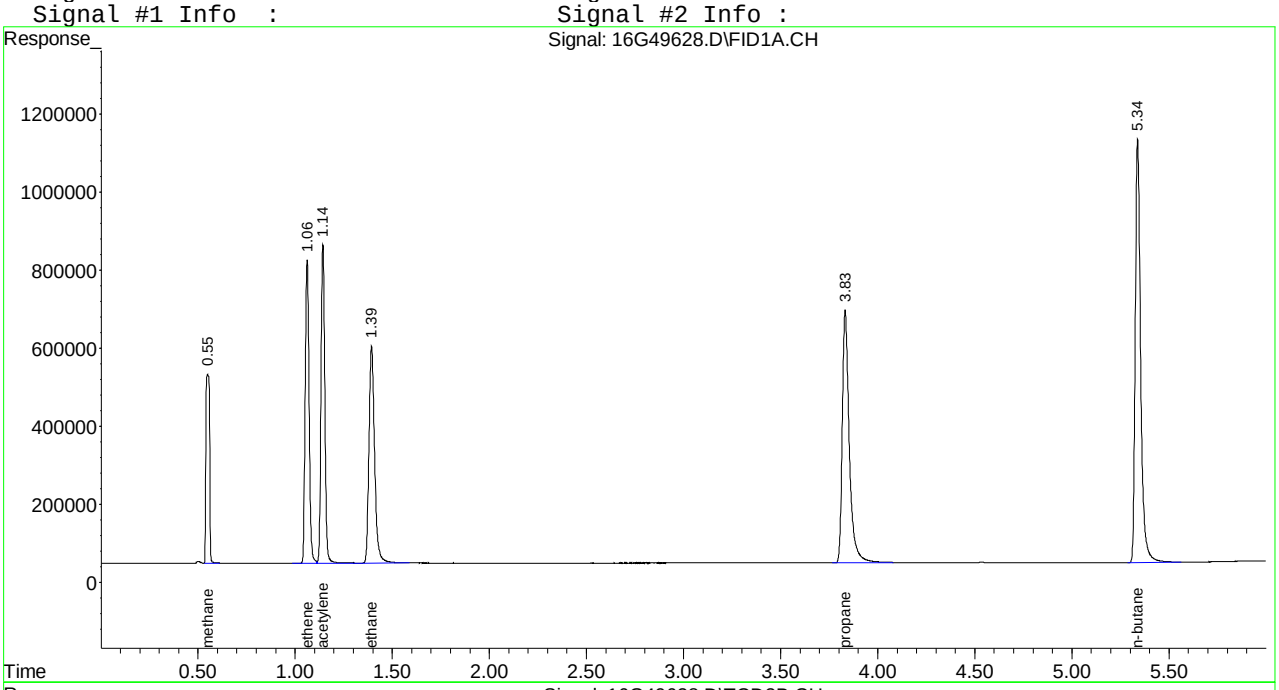
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	6385721	34.033 umol/
2) T	ethene	1.06	10782198	34.551 umol/
3) T	acetylene	1.14	11300799	36.189 umol/
4) T	ethane	1.39	11066771	34.700 umol/
5) T	propane	3.83	16320395	34.595 umol/
6) T	n-butane	5.34	21122896	34.548 umol/
8) T	carbon dioxide	0.20	17730539	3358.995 umol/

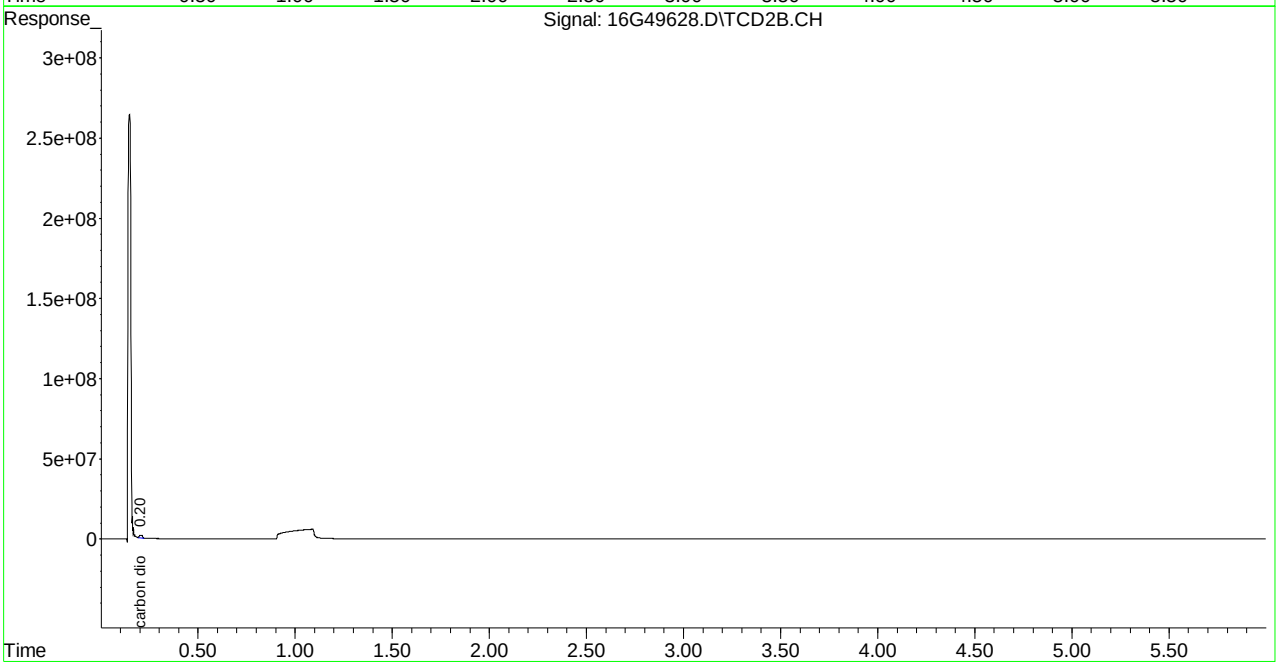
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49628.D RSKEXT1.M Fri Mar 25 13:33:26 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49628.D\FID1A.CH Vial: 4
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49628.D\TCD2B.CH
Acq On : 25 Mar 2016 11:46 Operator: JDS
Sample : WG562401-03 33.3umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49629.D\FID1A.CH Vial: 5
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49629.D\TCD2B.CH
Acq On : 25 Mar 2016 11:58 Operator: JDS
Sample : WG562401-04 66.7umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33:26 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

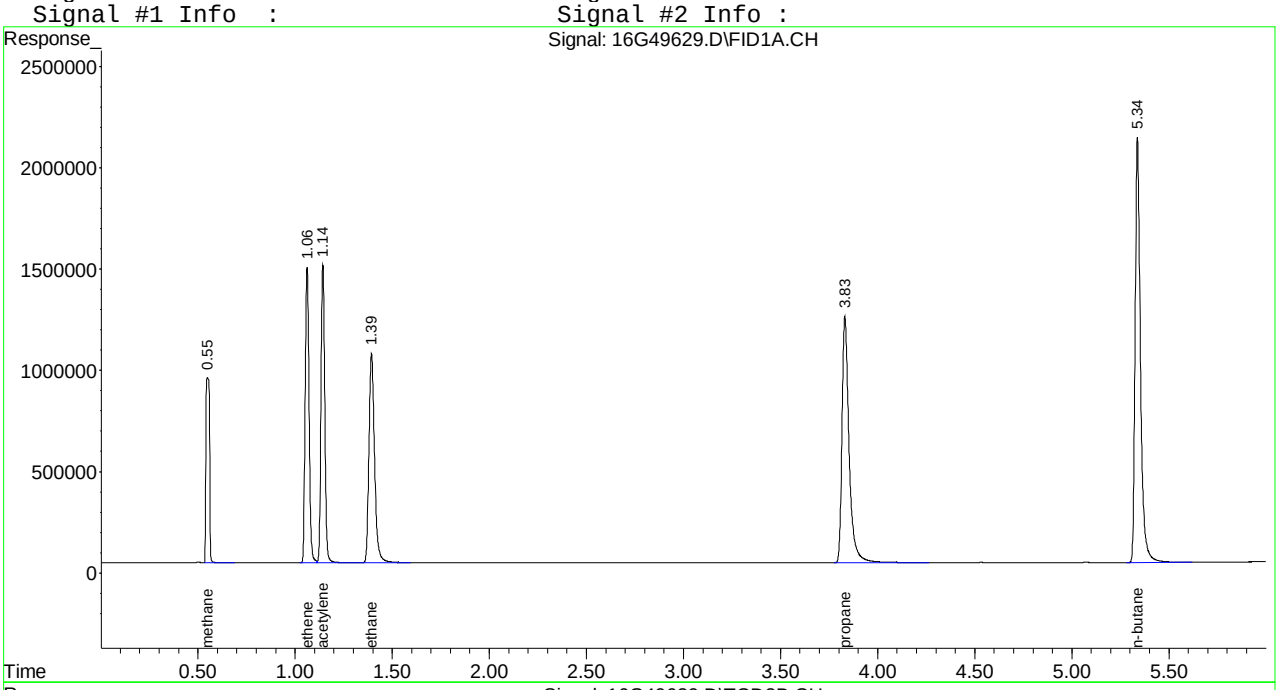
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	11901999	64.837 umol/
2) T	ethene	1.06	20215300	64.780 umol/
3) T	acetylene	1.14	20353735	65.180 umol/
4) T	ethane	1.39	20615639	64.640 umol/
5) T	propane	3.83	30980672	65.670 umol/
6) T	n-butane	5.34	40329758	65.963 umol/
8) T	carbon dioxide	0.20	35613763	6746.916 umol/

(f)=RT Delta > 1/2 Window (m)=manual int.
16G49629.D RSKEXT1.M Fri Mar 25 13:33:27 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49629.D\FID1A.CH Vial: 5
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49629.D\TCD2B.CH
Acq On : 25 Mar 2016 11:58 Operator: JDS
Sample : WG562401-04 66.7umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD67276 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49630.D\FID1A.CH Vial: 6
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49630.D\TCD2B.CH
Acq On : 25 Mar 2016 12:10 Operator: JDS
Sample : WG562401-05 133umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33:27 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

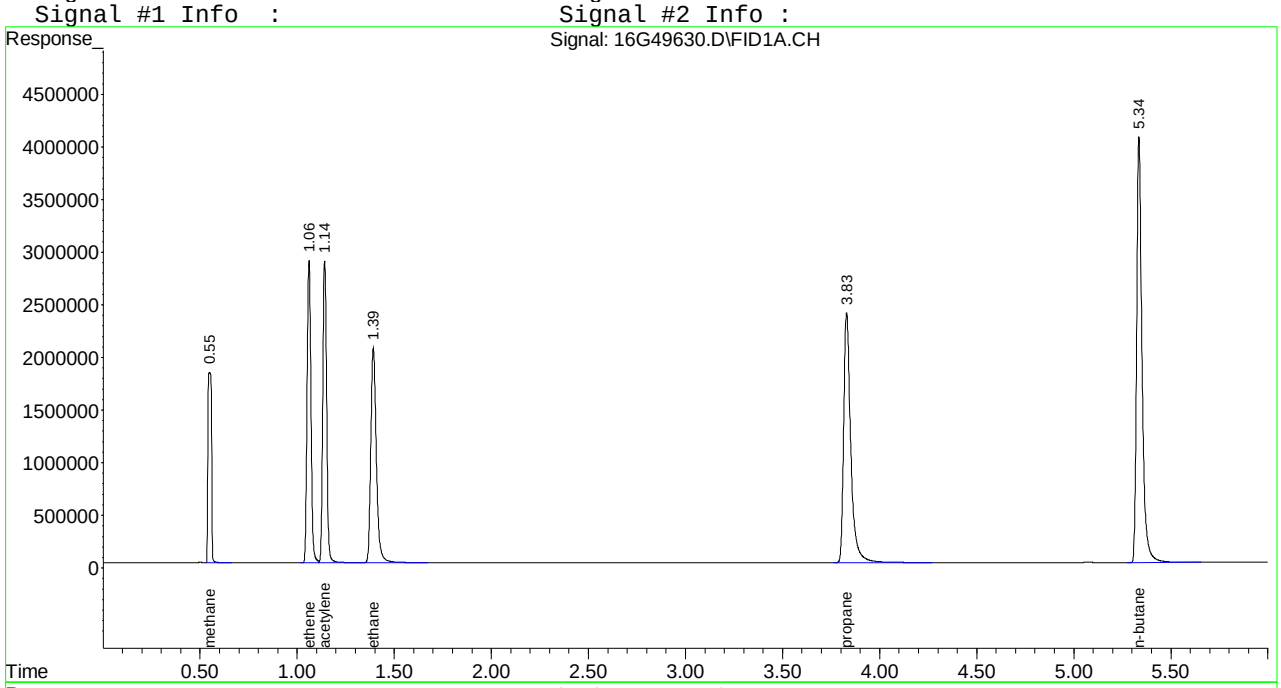
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	23452315	129.335 umol/
2) T	ethene	1.06	40022999	128.253 umol/
3) T	acetylene	1.14	39927283	127.862 umol/
4) T	ethane	1.39	40795450	127.914 umol/
5) T	propane	3.83	60871012	129.029 umol/
6) T	n-butane	5.34	78531804	128.445 umol/
8) T	carbon dioxide	0.20	71244989	13497.140 umol/

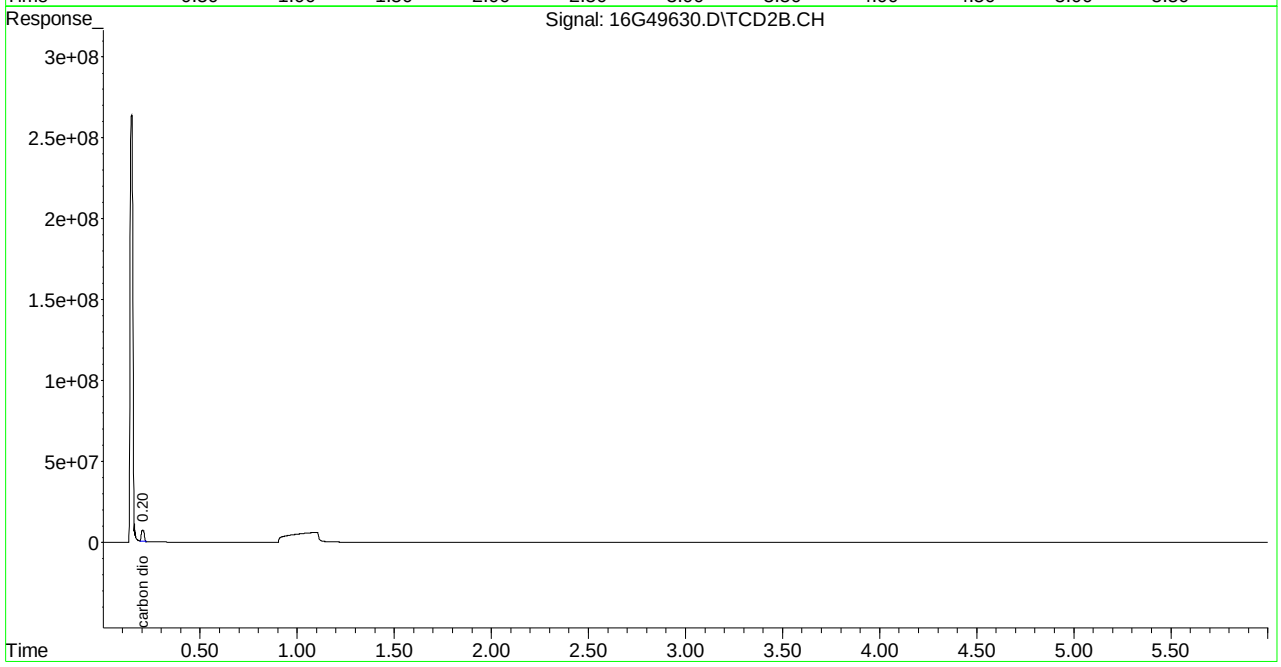
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49630.D RSKEXT1.M Fri Mar 25 13:33:27 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49630.D\FID1A.CH Vial: 6
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49630.D\TCD2B.CH
Acq On : 25 Mar 2016 12:10 Operator: JDS
Sample : WG562401-05 133umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49631.D\FID1A.CH Vial: 7
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49631.D\TCD2B.CH
Acq On : 25 Mar 2016 12:22 Operator: JDS
Sample : WG562401-06 333umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33:28 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

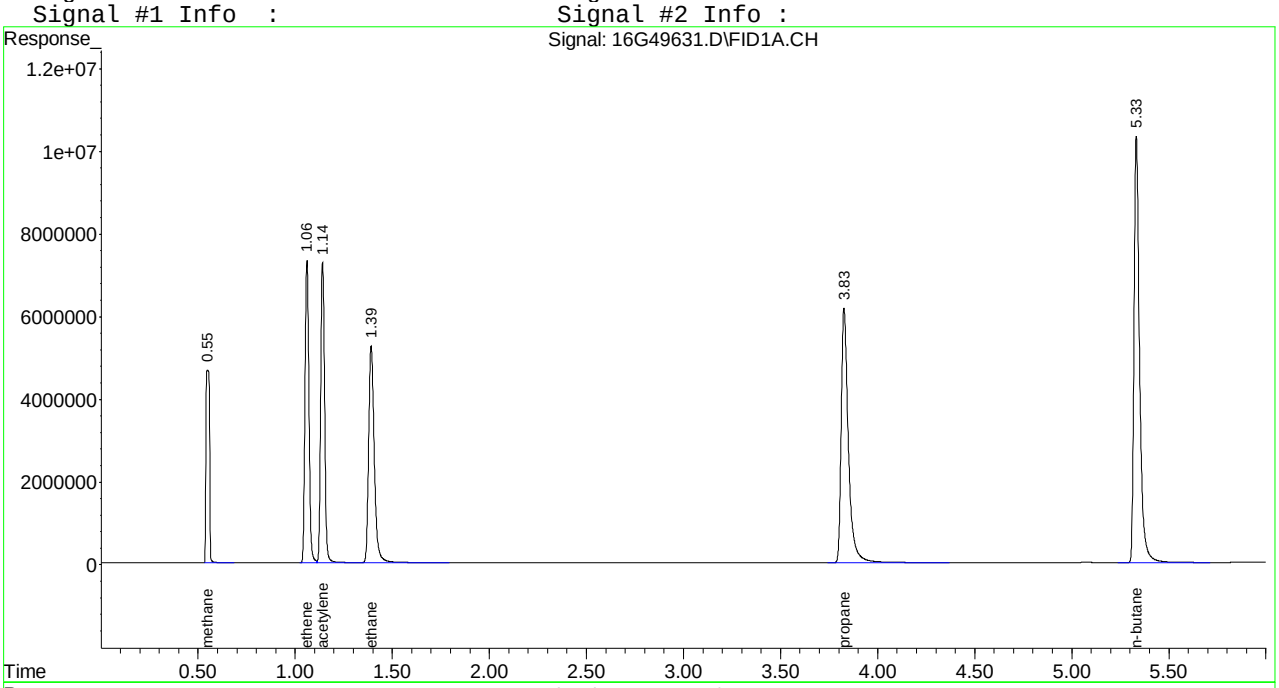
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	60036501	333.627 umol/
2) T	ethene	1.06	103680653	332.243 umol/
3) T	acetylene	1.14	103042347	329.980 umol/
4) T	ethane	1.39	106118124	332.733 umol/
5) T	propane	3.83	159210076	337.481 umol/
6) T	n-butane	5.33	207154261	338.817 umol/
8) T	carbon dioxide	0.20	184690679	34989.072 umol/

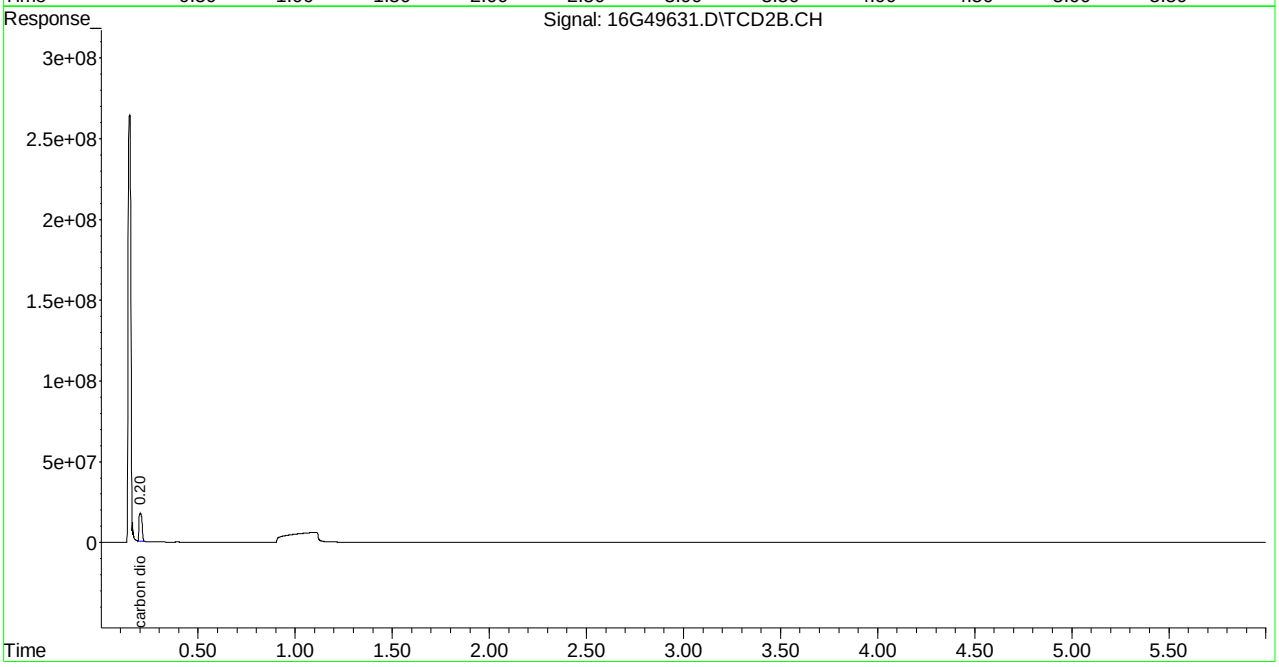
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49631.D RSKEXT1.M Fri Mar 25 13:33:28 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49631.D\FID1A.CH Vial: 7
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49631.D\TCD2B.CH
Acq On : 25 Mar 2016 12:22 Operator: JDS
Sample : WG562401-06 333umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49632.D\FID1A.CH Vial: 8
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49632.D\TCD2B.CH
Acq On : 25 Mar 2016 12:34 Operator: JDS
Sample : WG562401-07 533umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33:29 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

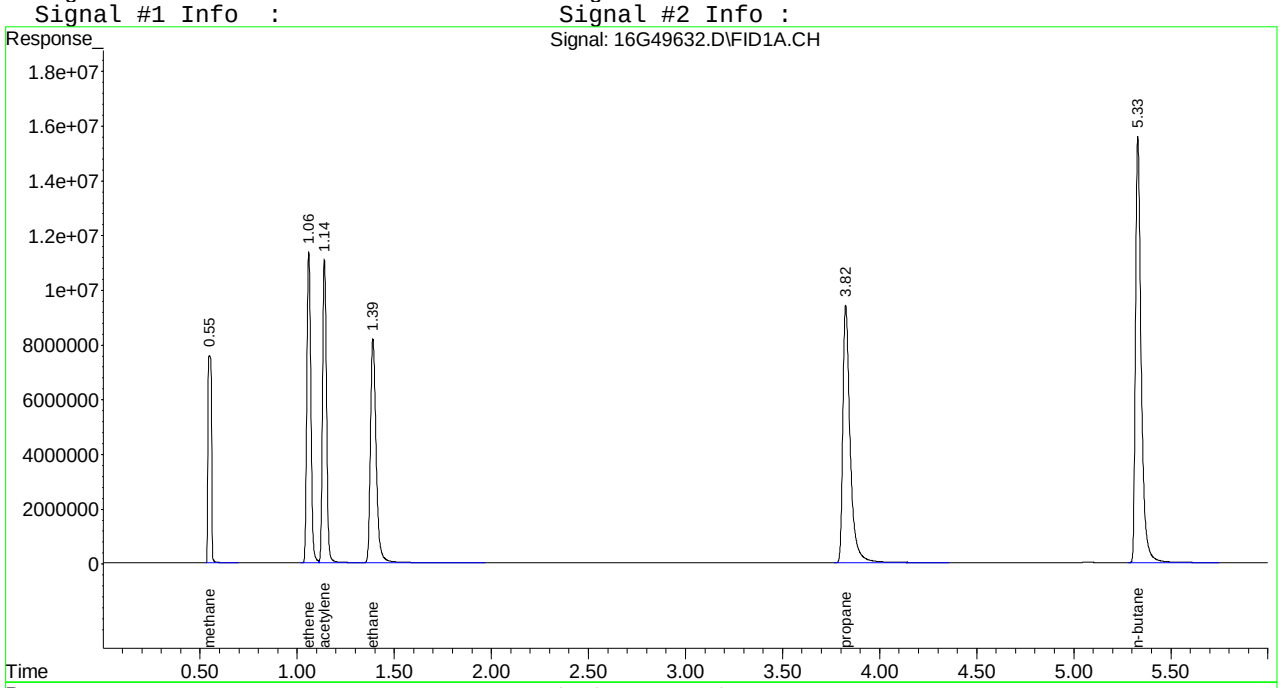
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	96479096	537.128 umol/
2) T	ethene	1.06	163526008	524.017 umol/
3) T	acetylene	1.14	159442689	510.596 umol/
4) T	ethane	1.39	167744947	525.963 umol/
5) T	propane	3.83	248130764	525.967 umol/
6) T	n-butane	5.33	319696896	522.890 umol/
8) T	carbon dioxide	0.20	281763639	53379.240 umol/

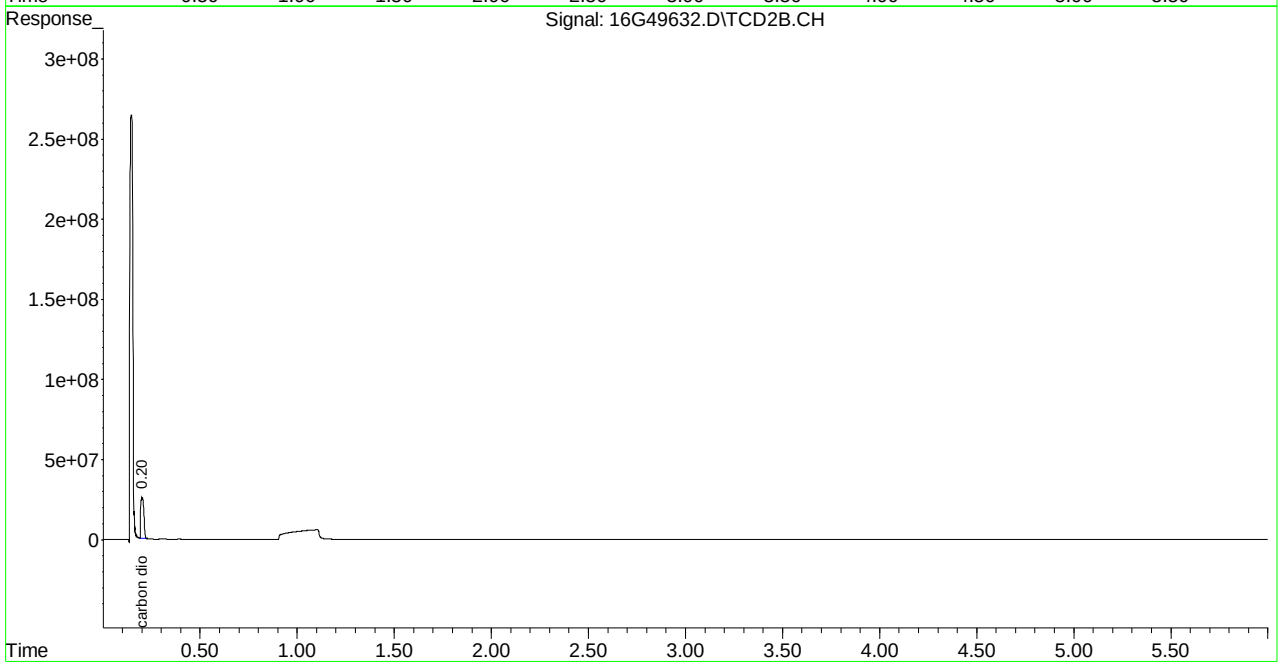
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49632.D RSKEXT1.M Fri Mar 25 13:33:29 2016 Page 1

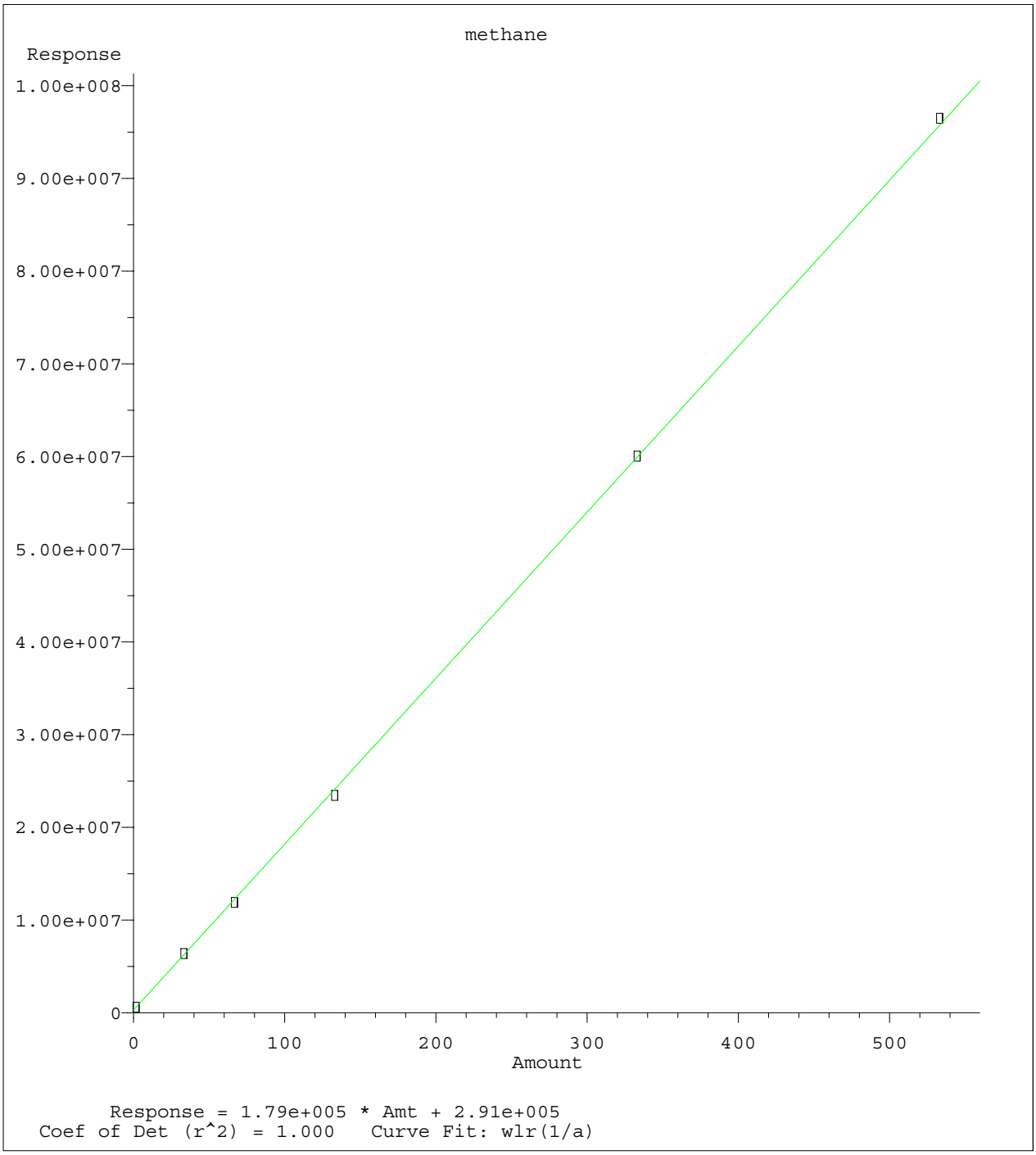
Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49632.D\FID1A.CH Vial: 8
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49632.D\TCD2B.CH
Acq On : 25 Mar 2016 12:34 Operator: JDS
Sample : WG562401-07 533umol/moL STD RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 13:33 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:32:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :







Method Name: C:\MSDCHEM\1\METHODS\RSKEXT1.M
Calibration Table Last Updated: Fri Mar 25 13:38:01 2016

Signal #1 : C:\MSDchem\1\DATA\032516\16G49635.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDchem\1\DATA\032516\16G49635.D\TCD2B.CH
Acq On : 25 Mar 2016 18:26 Operator: JDS
Sample : WG562401-08 133umol/moL ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 18:32:35 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

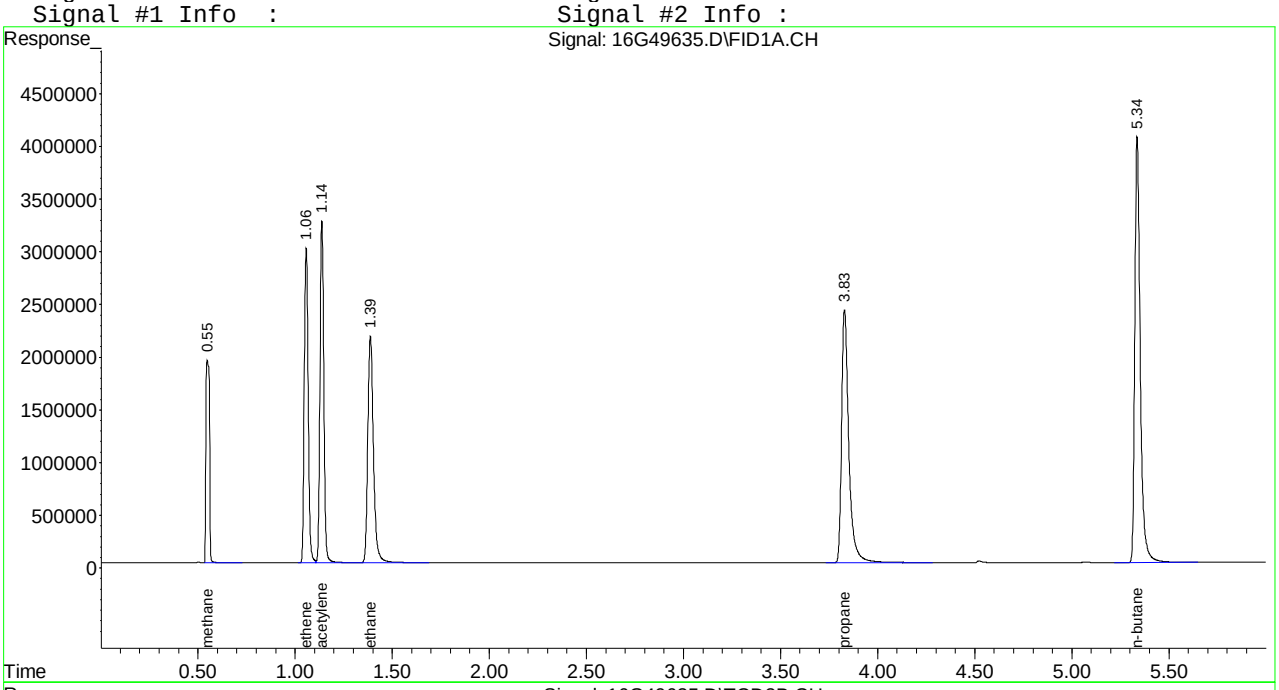
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	24881813	137.318 umol/
2) T	ethene	1.06	41706426	133.648 umol/
3) T	acetylene	1.14	45236671	144.865 umol/
4) T	ethane	1.39	43137584	135.258 umol/
5) T	propane	3.83	62226584	131.903 umol/
6) T	n-butane	5.34	79421956	129.901 umol/
8) T	carbon dioxide	0.20	77169864	14619.589 umol/

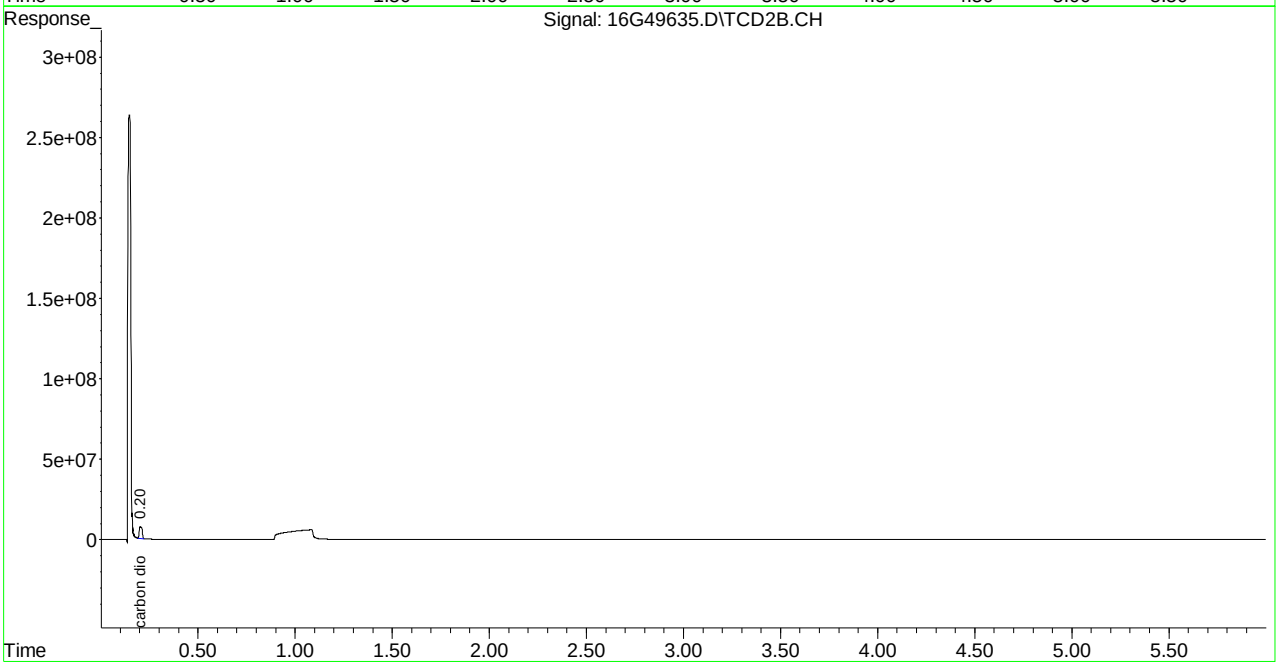
(f)=RT Delta > 1/2 Window (m)=manual int.
16G49635.D RSKEXT1.M Fri Mar 25 18:32:35 2016 Page 1

Signal #1 : C:\MSDchem\1\DATA\032516\16G49635.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDchem\1\DATA\032516\16G49635.D\TCD2B.CH
Acq On : 25 Mar 2016 18:26 Operator: JDS
Sample : WG562401-08 133umol/moL ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Mar 25 18:32 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49635.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49635.D\TCD2B.CH
Acq On : 25 Mar 2016 18:26 Operator: JDS
Sample : WG562401-08 133umol/moL ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	137.318	-3.2	106	0.00
2	T	ethene	133.000	133.648	-0.5	104	0.00
3	T	acetylene	133.000	144.865	-8.9	113	0.00
4	T	ethane	133.000	135.258	-1.7	106	0.00
5	T	propane	133.000	131.903	0.8	102	0.00
6	T	n-butane	133.000	129.901	2.3	101	0.00
		Signal #2					
8	T	carbon dioxide	13300.000	14619.589	-9.9	108	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49635.D RSKEXT1.M Mon Mar 28 09:35:32 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\032516\16G49635.D\FID1A.CH Vial: 11
Signal #2 : C:\MSDCHEM\1\DATA\032516\16G49635.D\TCD2B.CH
Acq On : 25 Mar 2016 18:26 Operator: JDS
Sample : WG562401-08 133umol/moL ALT SRC STD RSK1 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

Signal #2

Signal #1 : C:\MSDchem\1\DATA\100516\16G50804.D\FID1A.CH Vial: 1
Signal #2 : C:\MSDchem\1\DATA\100516\16G50804.D\TCD2B.CH
Acq On : 05 Oct 2016 16:56 Operator: JDS
Sample : WG586462-01 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 05 17:02:18 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

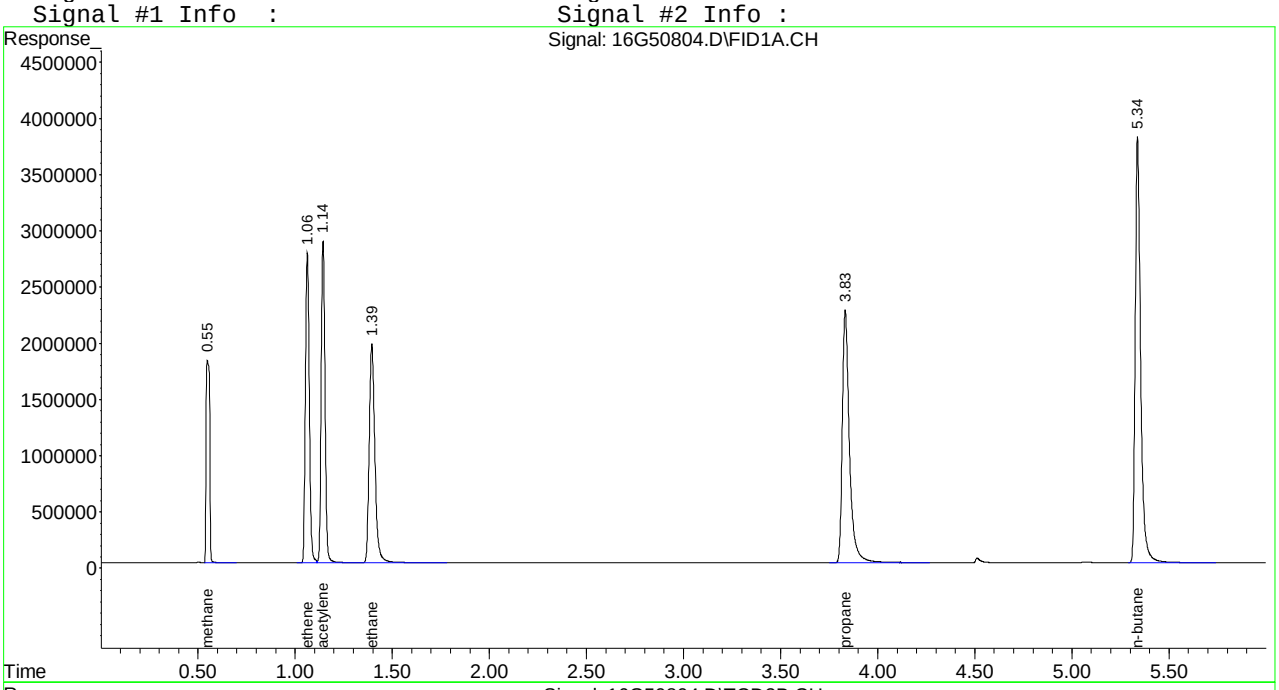
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	23265757	128.294 umol/
2) T	ethene	1.06	38540213	123.502 umol/
3) T	acetylene	1.14	39929019	127.868 umol/
4) T	ethane	1.39	39242836	123.046 umol/
5) T	propane	3.83	57421559	121.718 umol/
6) T	n-butane	5.34	73526920	120.259 umol/
8) T	carbon dioxide	0.20	65768186	12459.577 umol/

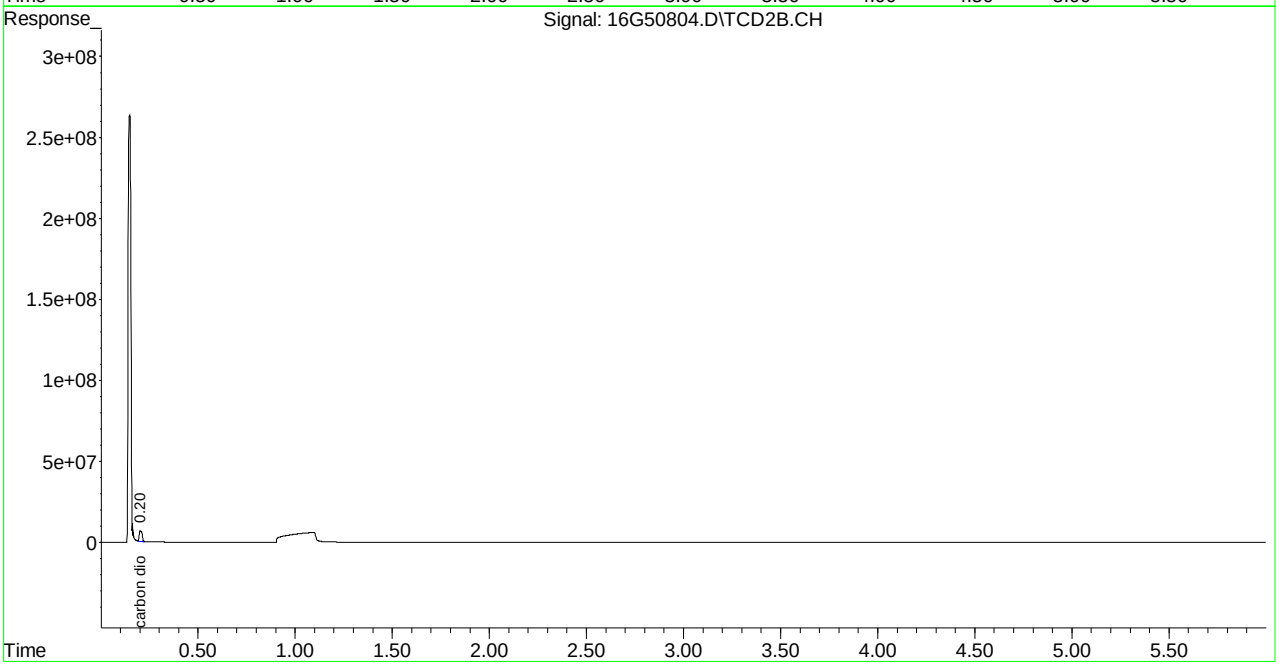
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50804.D RSKEXT1.M Wed Oct 05 17:02:18 2016 Page 1

Signal #1 : C:\MSDchem\1\DATA\100516\16G50804.D\FID1A.CH Vial: 1
Signal #2 : C:\MSDchem\1\DATA\100516\16G50804.D\TCD2B.CH
Acq On : 05 Oct 2016 16:56 Operator: JDS
Sample : WG586462-01 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 5 17:02 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50804.D\FID1A.CH Vial: 1
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50804.D\TCD2B.CH
Acq On : 05 Oct 2016 16:56 Operator: JDS
Sample : WG586462-01 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	128.294	3.5	99	0.00
2	T	ethene	133.000	123.502	7.1	96	0.00
3	T	acetylene	133.000	127.868	3.9	100	0.00
4	T	ethane	133.000	123.046	7.5	96	0.00
5	T	propane	133.000	121.718	8.5	94	0.00
6	T	n-butane	133.000	120.259	9.6	94	0.00
		Signal #2					
8	T	carbon dioxide	13300.000	12459.577	6.3	92	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G50804.D RSKEXT1.M Thu Oct 06 09:00:00 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50804.D\FID1A.CH Vial: 1
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50804.D\TCD2B.CH
Acq On : 05 Oct 2016 16:56 Operator: JDS
Sample : WG586462-01 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

Signal #2

Signal #1 : C:\MSDchem\1\DATA\100516\16G50815.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDchem\1\DATA\100516\16G50815.D\TCD2B.CH
Acq On : 05 Oct 2016 19:34 Operator: JDS
Sample : WG586462-02 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 05 19:40:12 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

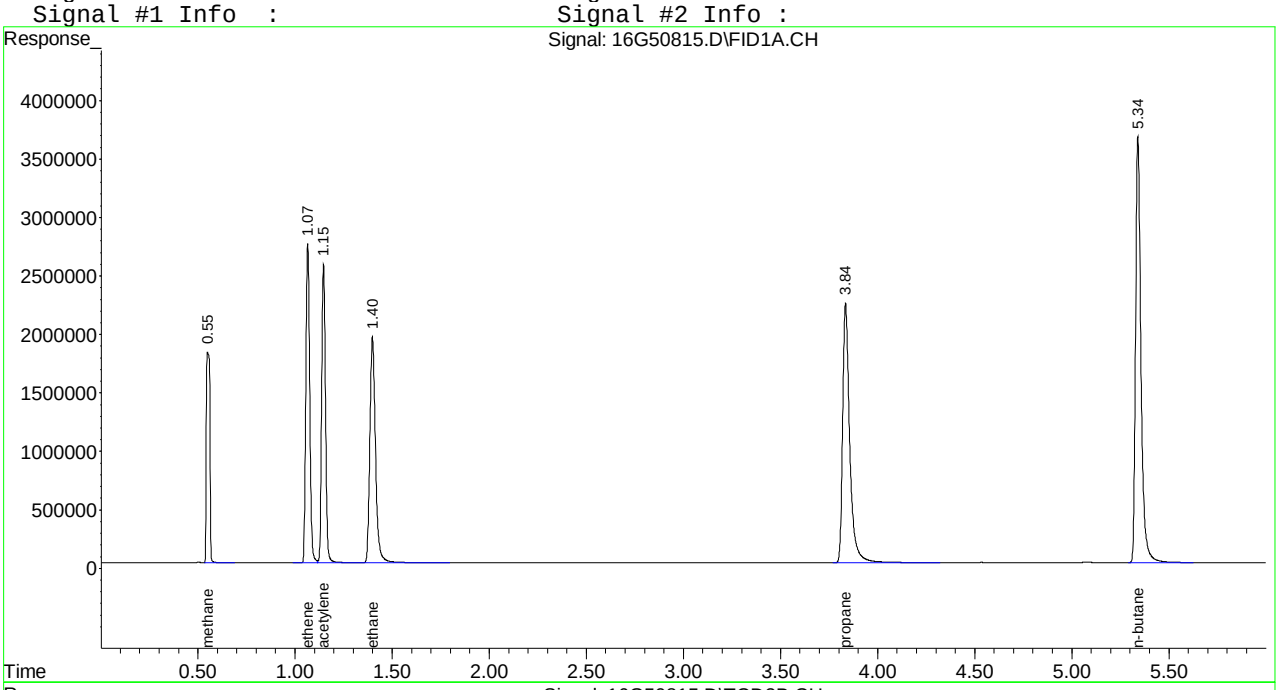
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	23163211	127.721 umol/
2) T	ethene	1.07	37846944	121.280 umol/
3) T	acetylene	1.15	35421516	113.433 umol/
4) T	ethane	1.40	38778986	121.591 umol/
5) T	propane	3.84	56352221	119.451 umol/
6) T	n-butane	5.34	70969223	116.076 umol/
8) T	carbon dioxide	0.20	62885219	11913.408 umol/

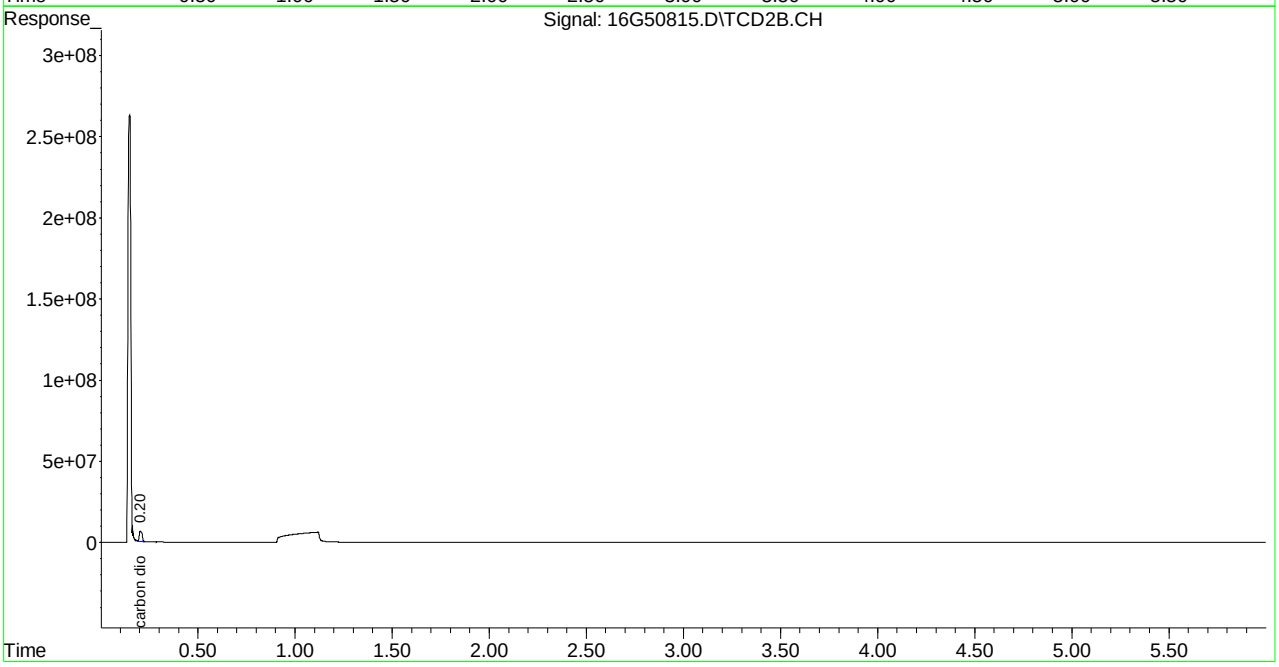
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50815.D RSKEXT1.M Wed Oct 05 19:40:12 2016 Page 1

Signal #1 : C:\MSDchem\1\DATA\100516\16G50815.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDchem\1\DATA\100516\16G50815.D\TCD2B.CH
Acq On : 05 Oct 2016 19:34 Operator: JDS
Sample : WG586462-02 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 5 19:40 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50815.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50815.D\TCD2B.CH
Acq On : 05 Oct 2016 19:34 Operator: JDS
Sample : WG586462-02 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	127.721	4.0	99	0.00
2	T	ethene	133.000	121.280	8.8	95	0.00
3	T	acetylene	133.000	113.433	14.7	89	0.00
4	T	ethane	133.000	121.591	8.6	95	0.00
5	T	propane	133.000	119.451	10.2	93	0.00
6	T	n-butane	133.000	116.076	12.7	90	0.00
		Signal #2					
8	T	carbon dioxide	13300.000	11913.408	10.4	88	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G50815.D RSKEXT1.M Thu Oct 06 09:00:06 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50815.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50815.D\TCD2B.CH
Acq On : 05 Oct 2016 19:34 Operator: JDS
Sample : WG586462-02 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G50815.D RSKEXT1.M Thu Oct 06 09:00:06 2016 Page 2

Signal #1 : C:\MSDchem\1\DATA\100516\16G50821.D\FID1A.CH Vial: 18
Signal #2 : C:\MSDchem\1\DATA\100516\16G50821.D\TCD2B.CH
Acq On : 05 Oct 2016 20:43 Operator: JDS
Sample : WG586462-03 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 05 20:49:05 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

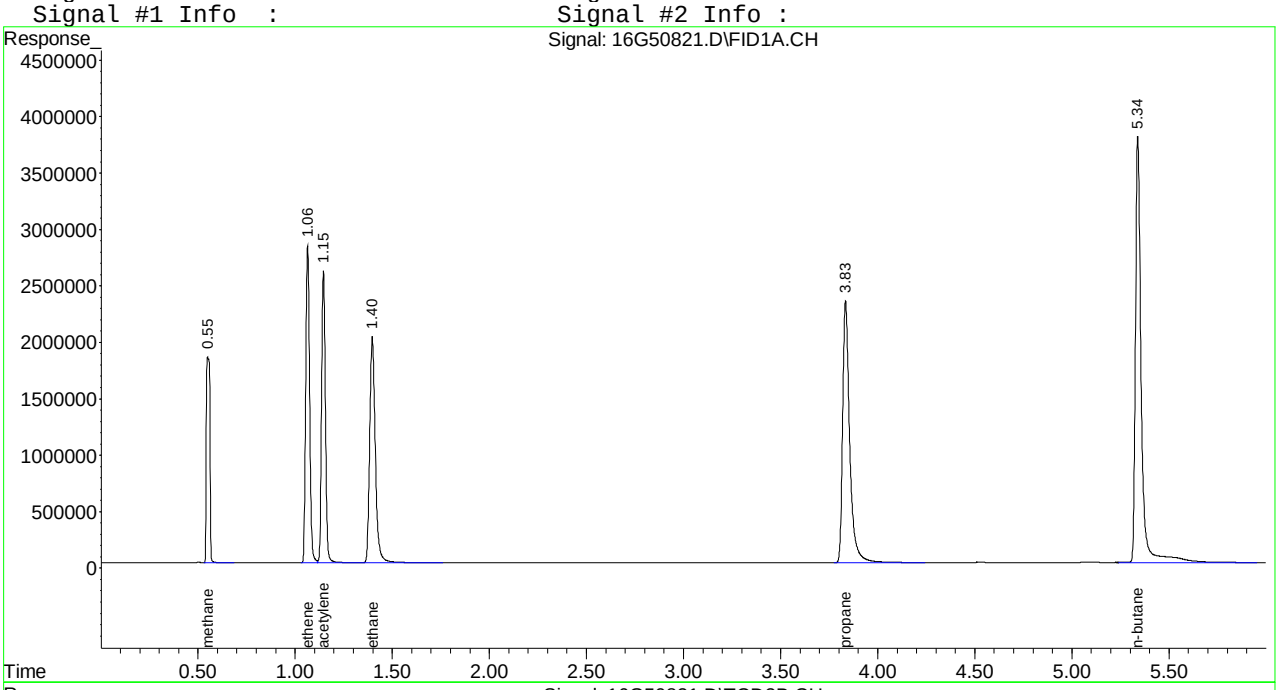
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	23622058	130.283 umol/
2) T	ethene	1.06	39018198	125.033 umol/
3) T	acetylene	1.15	35844730	114.788 umol/
4) T	ethane	1.40	40095214	125.718 umol/
5) T	propane	3.83	58828709	124.700 umol/
6) T	n-butane	5.34	79403210	129.870 umol/
8) T	carbon dioxide	0.20	62322023	11806.712 umol/

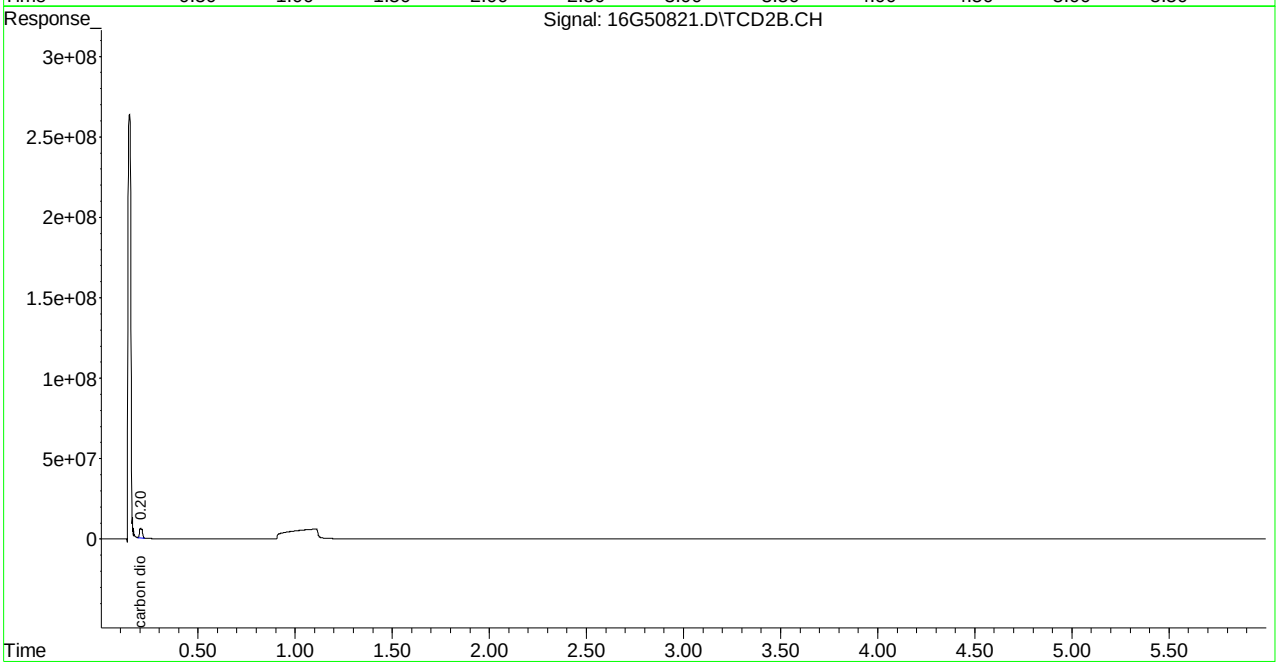
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50821.D RSKEXT1.M Wed Oct 05 20:49:05 2016 Page 1

Signal #1 : C:\MSDchem\1\DATA\100516\16G50821.D\FID1A.CH Vial: 18
Signal #2 : C:\MSDchem\1\DATA\100516\16G50821.D\TCD2B.CH
Acq On : 05 Oct 2016 20:43 Operator: JDS
Sample : WG586462-03 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 5 20:49 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50821.D\FID1A.CH Vial: 18
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50821.D\TCD2B.CH
Acq On : 05 Oct 2016 20:43 Operator: JDS
Sample : WG586462-03 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	130.283	2.0	101	0.00
2	T	ethene	133.000	125.033	6.0	97	0.00
3	T	acetylene	133.000	114.788	13.7	90	0.00
4	T	ethane	133.000	125.718	5.5	98	0.00
5	T	propane	133.000	124.700	6.2	97	0.00
6	T	n-butane	133.000	129.870	2.4	101	0.00
		Signal #2					
8	T	carbon dioxide	13300.000	11806.712	11.2	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G50821.D RSKEXT1.M Thu Oct 06 09:00:13 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50821.D\FID1A.CH Vial: 18
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50821.D\TCD2B.CH
Acq On : 05 Oct 2016 20:43 Operator: JDS
Sample : WG586462-03 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G50821.D RSKEXT1.M Thu Oct 06 09:00:13 2016 Page 2

Signal #1 : C:\MSDchem\1\DATA\100616\16G50822.D\FID1A.CH Vial: 1
Signal #2 : C:\MSDchem\1\DATA\100616\16G50822.D\TCD2B.CH
Acq On : 06 Oct 2016 14:52 Operator: JDS
Sample : WG586611-01 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 06 14:58:27 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

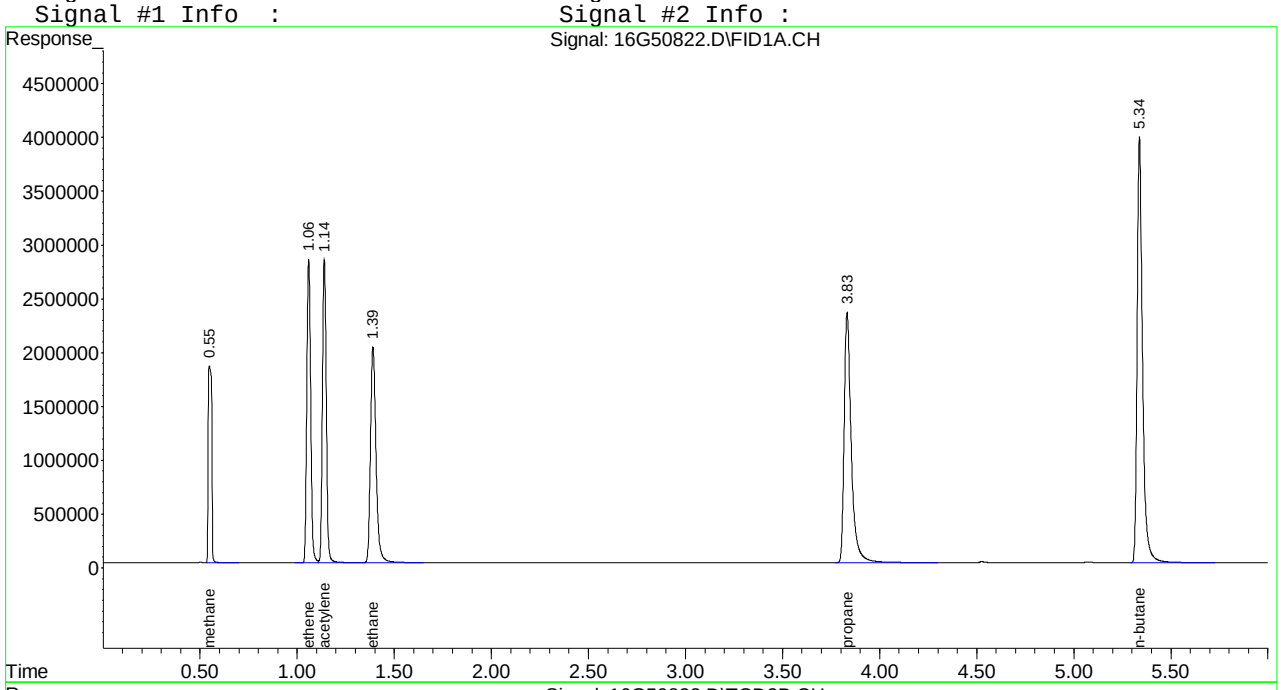
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	23463932	129.400 umol/
2) T	ethene	1.06	39361138	126.132 umol/
3) T	acetylene	1.14	39345153	125.998 umol/
4) T	ethane	1.39	40081488	125.675 umol/
5) T	propane	3.83	59437703	125.991 umol/
6) T	n-butane	5.34	76966020	125.884 umol/
8) T	carbon dioxide	0.20	73235494	13874.235 umol/

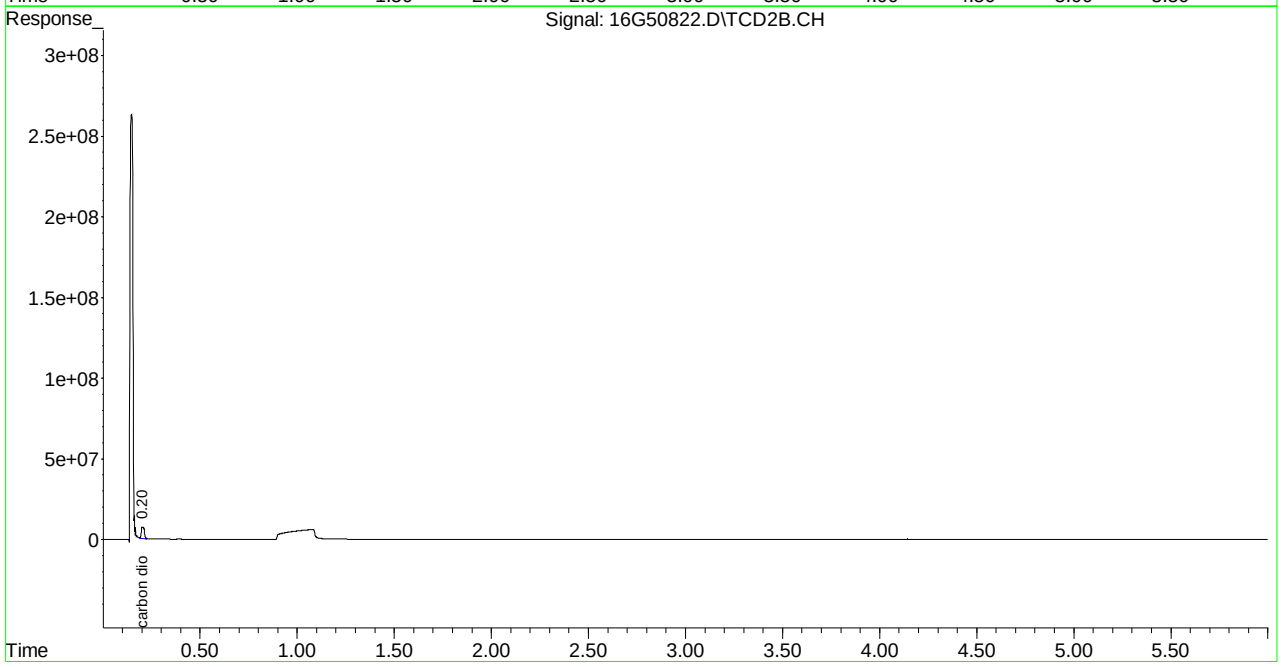
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50822.D RSKEXT1.M Thu Oct 06 14:58:27 2016 Page 1

Signal #1 : C:\MSDchem\1\DATA\100616\16G50822.D\FID1A.CH Vial: 1
Signal #2 : C:\MSDchem\1\DATA\100616\16G50822.D\TCD2B.CH
Acq On : 06 Oct 2016 14:52 Operator: JDS
Sample : WG586611-01 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 6 14:58 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\100616\16G50822.D\FID1A.CH Vial: 1
Signal #2 : C:\MSDCHEM\1\DATA\100616\16G50822.D\TCD2B.CH
Acq On : 06 Oct 2016 14:52 Operator: JDS
Sample : WG586611-01 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	129.400	2.7	100	0.00
2	T	ethene	133.000	126.132	5.2	98	0.00
3	T	acetylene	133.000	125.998	5.3	99	0.00
4	T	ethane	133.000	125.675	5.5	98	0.00
5	T	propane	133.000	125.991	5.3	98	0.00
6	T	n-butane	133.000	125.884	5.4	98	0.00
		Signal #2					
8	T	carbon dioxide	13300.000	13874.235	-4.3	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G50822.D RSKEXT1.M Fri Oct 07 08:46:05 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100616\16G50822.D\FID1A.CH Vial: 1
Signal #2 : C:\MSDCHEM\1\DATA\100616\16G50822.D\TCD2B.CH
Acq On : 06 Oct 2016 14:52 Operator: JDS
Sample : WG586611-01 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

Signal #2

Signal #1 : C:\MSDchem\1\DATA\100616\16G50833.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDchem\1\DATA\100616\16G50833.D\TCD2B.CH
Acq On : 06 Oct 2016 17:24 Operator: JDS
Sample : WG586611-02 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 06 17:30:45 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

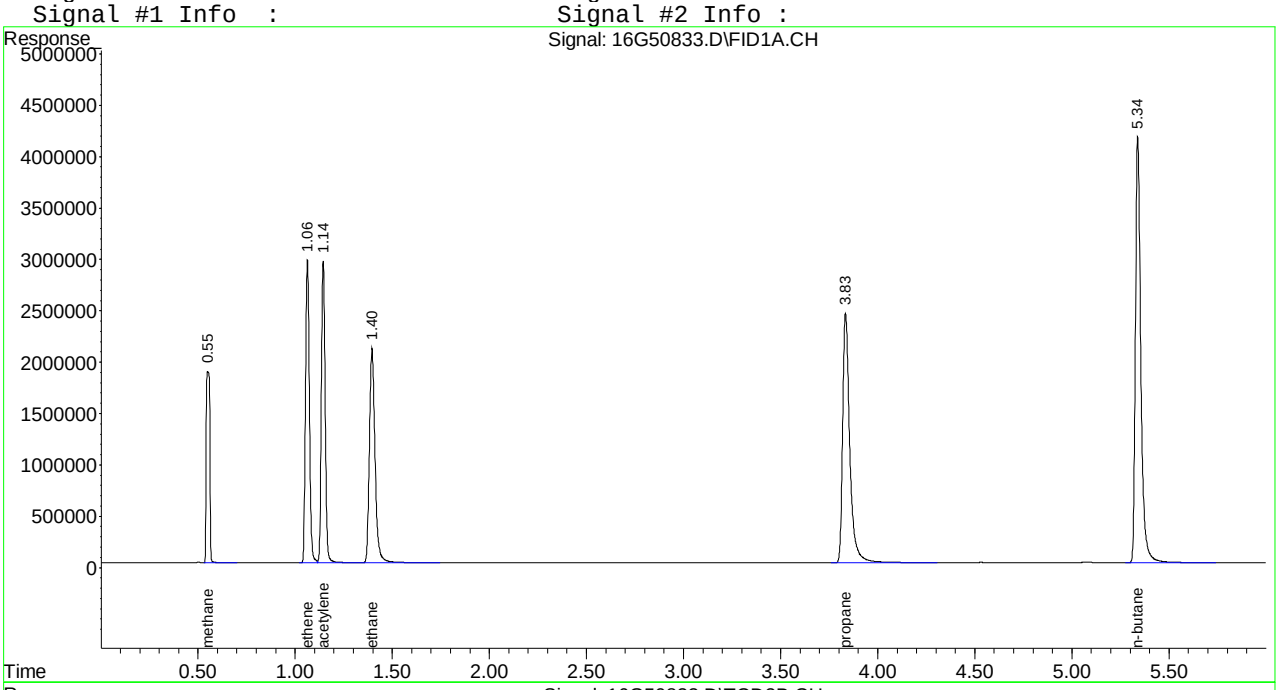
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	24081059	132.846 umol/
2) T	ethene	1.06	40871288	130.971 umol/
3) T	acetylene	1.14	40707704	130.361 umol/
4) T	ethane	1.40	41719342	130.811 umol/
5) T	propane	3.83	62216417	131.881 umol/
6) T	n-butane	5.34	80876507	132.280 umol/
8) T	carbon dioxide	0.21	73370717	13899.853 umol/

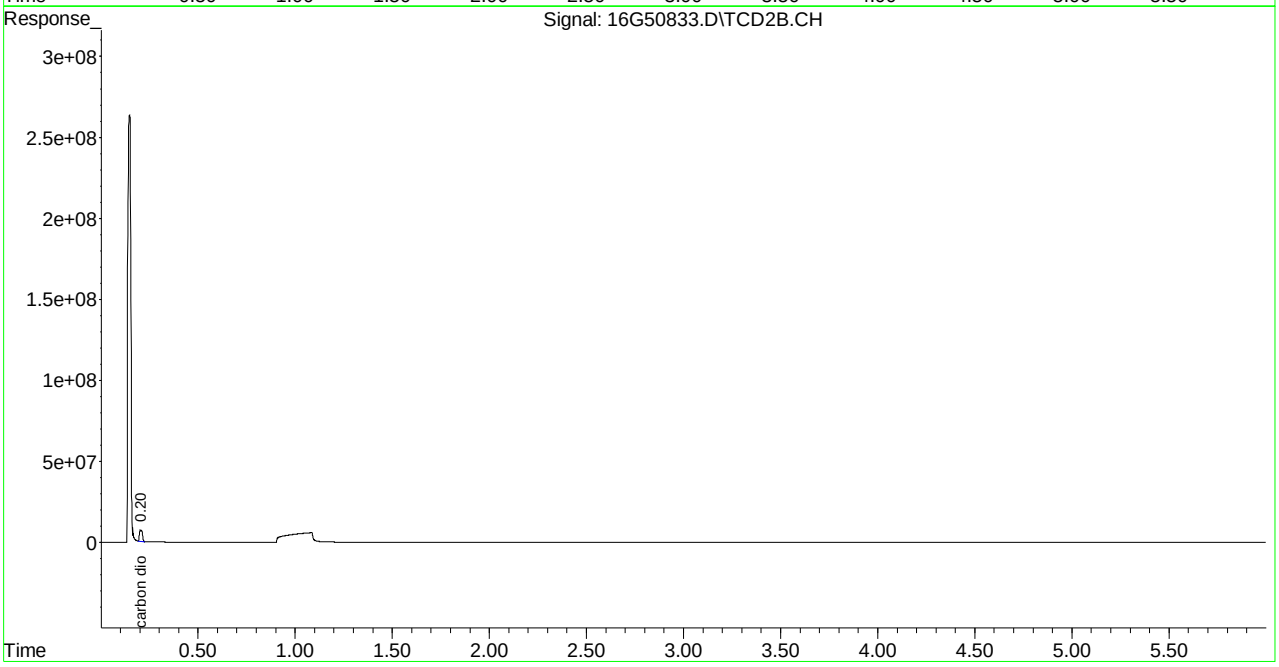
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50833.D RSKEXT1.M Thu Oct 06 17:30:45 2016 Page 1

Signal #1 : C:\MSDchem\1\DATA\100616\16G50833.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDchem\1\DATA\100616\16G50833.D\TCD2B.CH
Acq On : 06 Oct 2016 17:24 Operator: JDS
Sample : WG586611-02 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 6 17:30 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\100616\16G50833.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDCHEM\1\DATA\100616\16G50833.D\TCD2B.CH
Acq On : 06 Oct 2016 17:24 Operator: JDS
Sample : WG586611-02 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	132.846	0.1	103	0.00
2	T	ethene	133.000	130.971	1.5	102	0.00
3	T	acetylene	133.000	130.361	2.0	102	0.00
4	T	ethane	133.000	130.811	1.6	102	0.00
5	T	propane	133.000	131.881	0.8	102	0.00
6	T	n-butane	133.000	132.280	0.5	103	0.00
		Signal #2					
8	T	carbon dioxide	13300.000	13899.853	-4.5	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G50833.D RSKEXT1.M Fri Oct 07 08:46:14 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100616\16G50833.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDCHEM\1\DATA\100616\16G50833.D\TCD2B.CH
Acq On : 06 Oct 2016 17:24 Operator: JDS
Sample : WG586611-02 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G50833.D RSKEXT1.M Fri Oct 07 08:46:14 2016 Page 2

Signal #1 : C:\MSDchem\1\DATA\100616\16G50839.D\FID1A.CH Vial: 18
Signal #2 : C:\MSDchem\1\DATA\100616\16G50839.D\TCD2B.CH
Acq On : 06 Oct 2016 18:32 Operator: JDS
Sample : WG586611-03 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 06 18:38:26 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

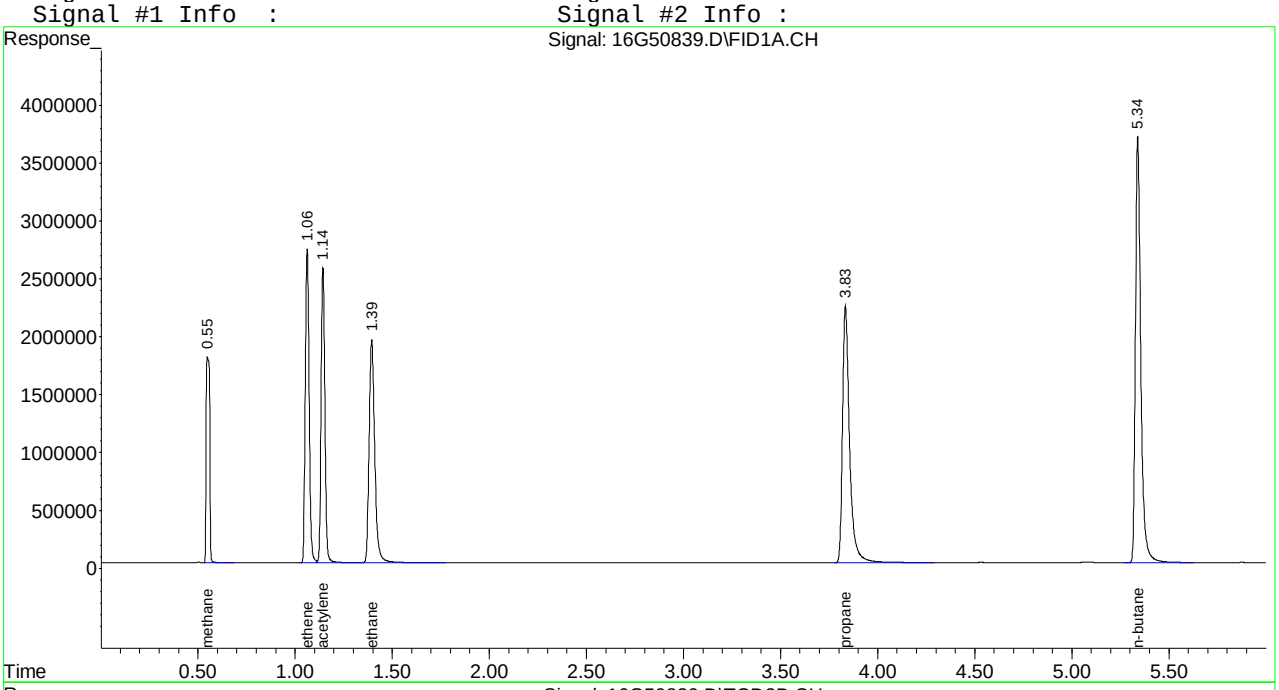
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	22748432	125.405 umol/
2) T	ethene	1.06	37481902	120.110 umol/
3) T	acetylene	1.14	35121755	112.473 umol/
4) T	ethane	1.39	38453047	120.569 umol/
5) T	propane	3.83	56373578	119.496 umol/
6) T	n-butane	5.34	71263883	116.558 umol/
8) T	carbon dioxide	0.20	63192609	11971.642 umol/

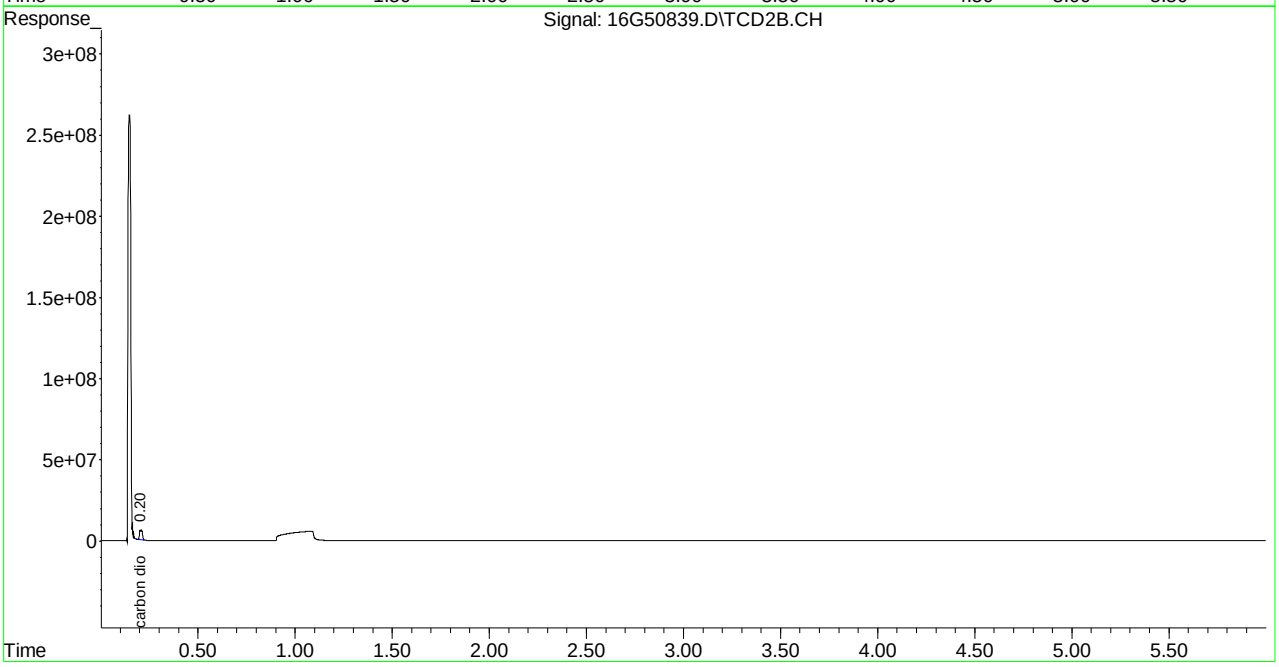
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50839.D RSKEXT1.M Thu Oct 06 18:38:26 2016 Page 1

Signal #1 : C:\MSDchem\1\DATA\100616\16G50839.D\FID1A.CH Vial: 18
Signal #2 : C:\MSDchem\1\DATA\100616\16G50839.D\TCD2B.CH
Acq On : 06 Oct 2016 18:32 Operator: JDS
Sample : WG586611-03 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 6 18:38 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\100616\16G50839.D\FID1A.CH Vial: 18
Signal #2 : C:\MSDCHEM\1\DATA\100616\16G50839.D\TCD2B.CH
Acq On : 06 Oct 2016 18:32 Operator: JDS
Sample : WG586611-03 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	T	methane	133.000	125.405	5.7	97	0.00
2	T	ethene	133.000	120.110	9.7	94	0.00
3	T	acetylene	133.000	112.473	15.4#	88	0.00
4	T	ethane	133.000	120.569	9.3	94	0.00
5	T	propane	133.000	119.496	10.2	93	0.00
6	T	n-butane	133.000	116.558	12.4	91	0.00
		Signal #2					
8	T	carbon dioxide	13300.000	11971.642	10.0	89	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G50839.D RSKEXT1.M Fri Oct 07 08:46:21 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100616\16G50839.D\FID1A.CH Vial: 18
Signal #2 : C:\MSDCHEM\1\DATA\100616\16G50839.D\TCD2B.CH
Acq On : 06 Oct 2016 18:32 Operator: JDS
Sample : WG586611-03 133umol/mol CCV RSK175 Inst : HP16
Misc : 1,1 STD75351 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G50839.D RSKEXT1.M Fri Oct 07 08:46:21 2016 Page 2

2.1.2.5 Raw QC Data

Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50805.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50805.D\TCD2B.CH
Acq On : 05 Oct 2016 17:40 Operator: JDS
Sample : WG586463-01 BLANK RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 05 17:46:22 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

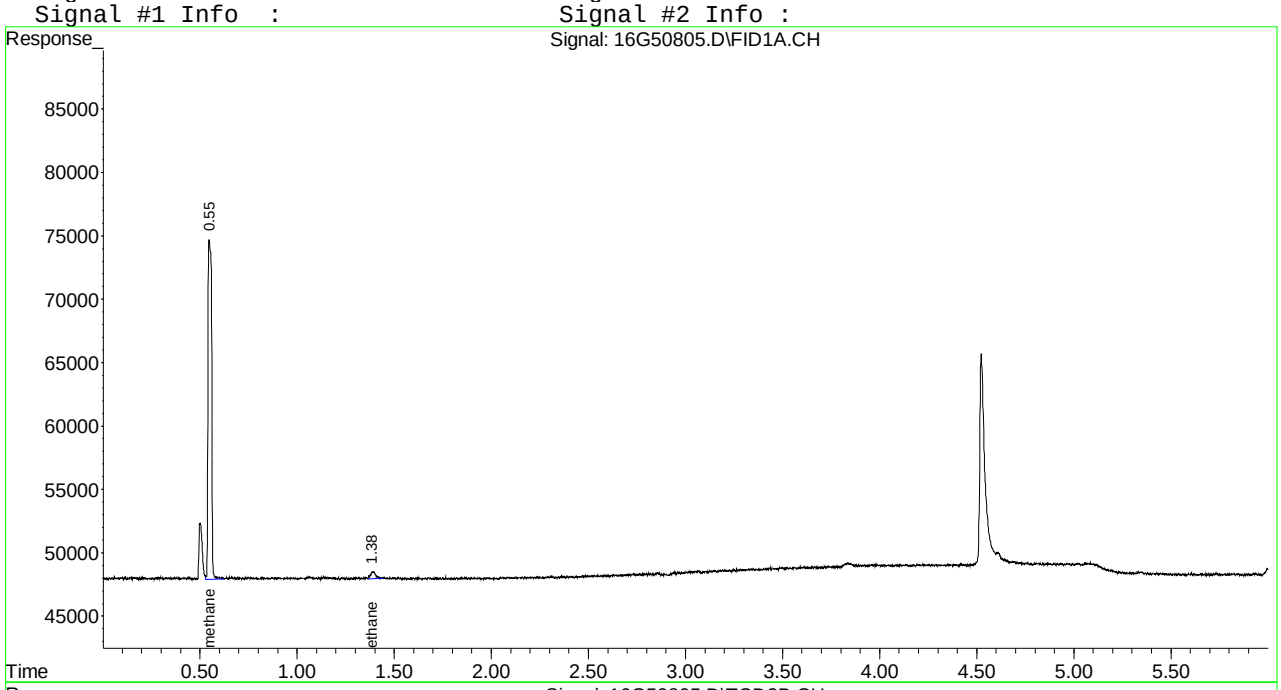
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	348247	0.319	umol/
2) T	ethene	0.00	0	N.D.	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	1.39	10608	0.033	umol/
5) T	propane	0.00	0	N.D.	umol/
6) T	n-butane	0.00	0	N.D.	umol/
8) T	carbon dioxide	0.00	0	N.D.	umol/

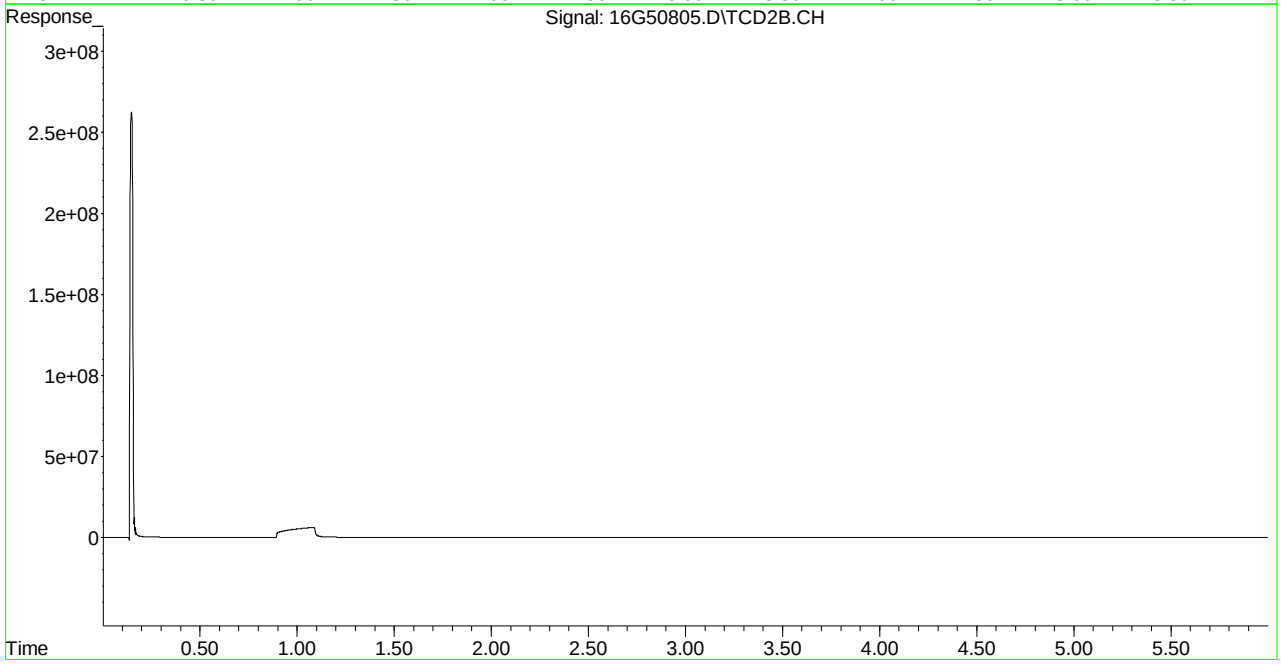
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50805.D RSKEXT1.M Thu Oct 06 08:57:22 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100516\16G50805.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\100516\16G50805.D\TCD2B.CH
Acq On : 05 Oct 2016 17:40 Operator: JDS
Sample : WG586463-01 BLANK RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 5 17:46 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDCHEM\1\DATA\100616\16G50823.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\100616\16G50823.D\TCD2B.CH
Acq On : 06 Oct 2016 15:17 Operator: JDS
Sample : WG586612-01 BLANK RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 06 15:23:45 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

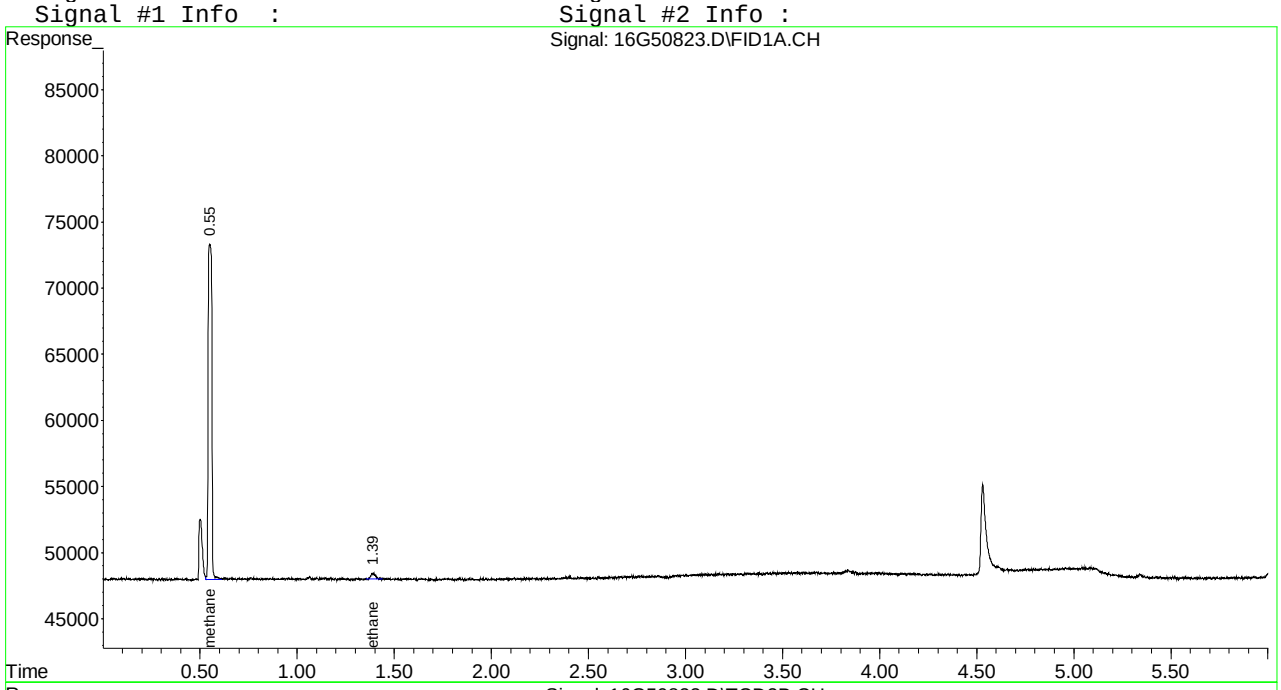
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1) T	methane	0.55	333141	0.235	umol/
2) T	ethene	0.00	0	N.D.	umol/
3) T	acetylene	0.00	0	N.D.	umol/
4) T	ethane	1.39	7210	0.023	umol/
5) T	propane	0.00	0	N.D.	umol/
6) T	n-butane	0.00	0	N.D.	umol/
8) T	carbon dioxide	0.00	0	N.D.	umol/

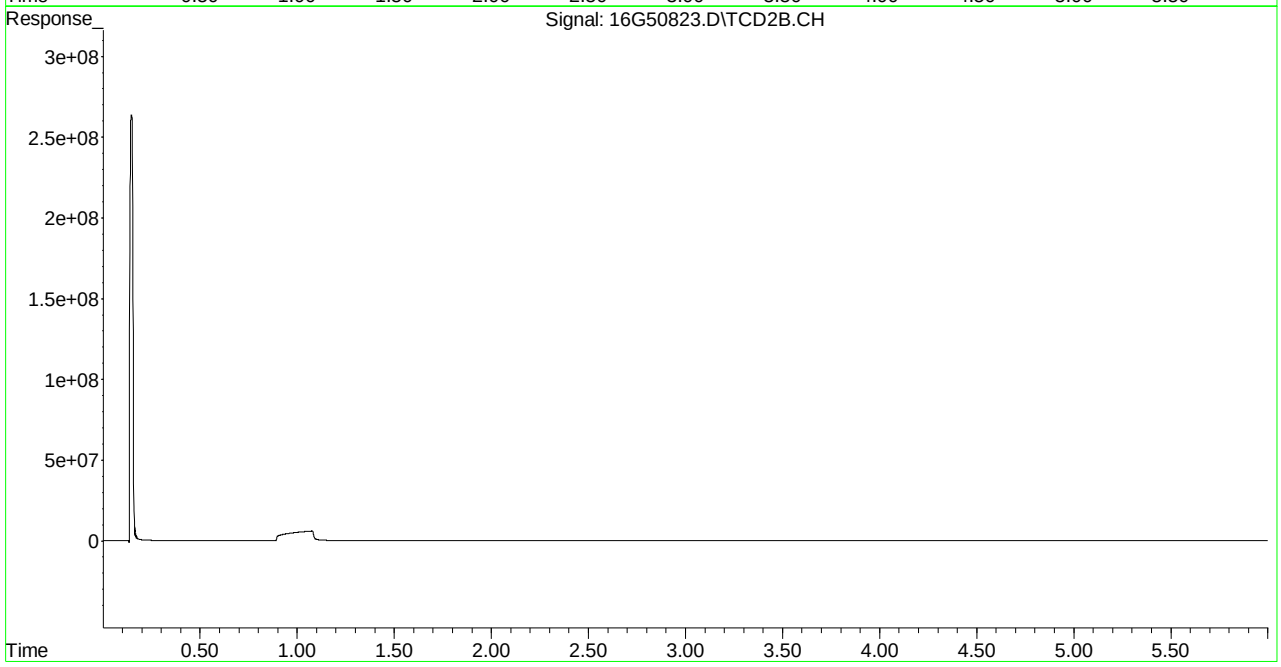
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50823.D RSKEXT1.M Thu Oct 06 15:47:31 2016 Page 1

Signal #1 : C:\MSDCHEM\1\DATA\100616\16G50823.D\FID1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\100616\16G50823.D\TCD2B.CH
Acq On : 06 Oct 2016 15:17 Operator: JDS
Sample : WG586612-01 BLANK RSK175 Inst : HP16
Misc : 1,1 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 6 15:23 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDchem\1\DATA\100516\16G50806.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDchem\1\DATA\100516\16G50806.D\TCD2B.CH
Acq On : 05 Oct 2016 17:51 Operator: JDS
Sample : WG586463-02 67umol/mol LCS RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 05 17:57:25 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

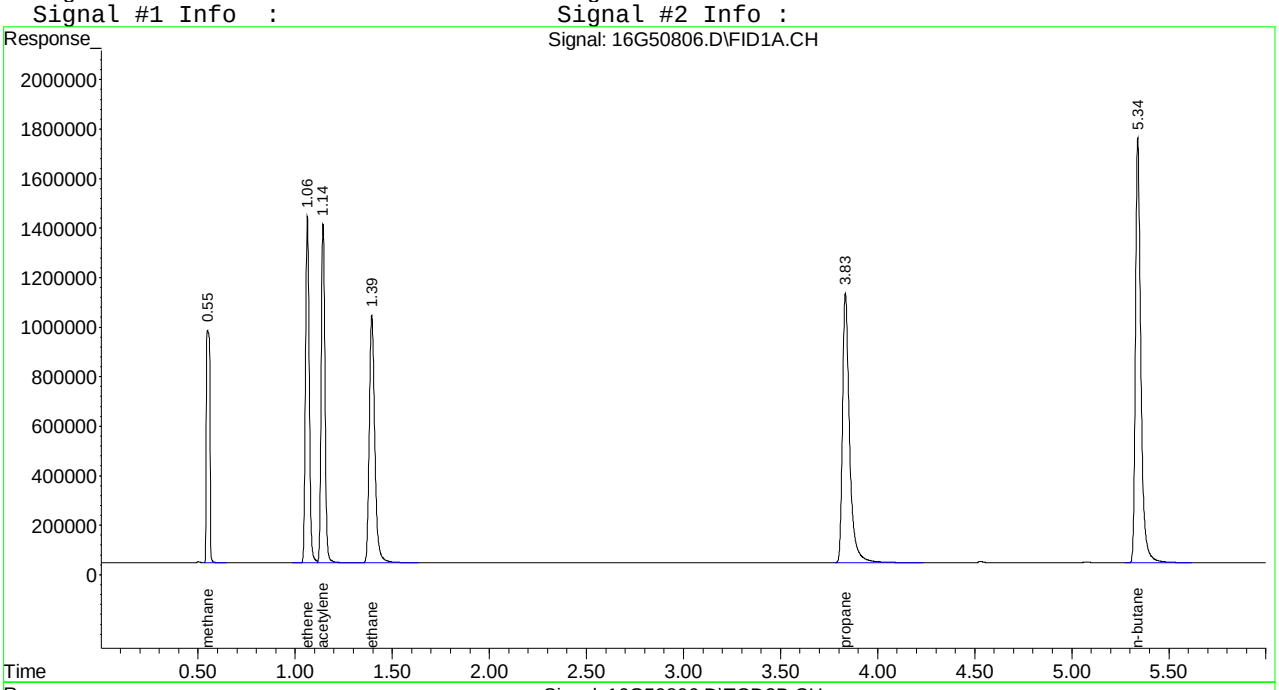
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	11987652	65.315 umol/
2) T	ethene	1.06	19071985	61.116 umol/
3) T	acetylene	1.14	18629238	59.658 umol/
4) T	ethane	1.39	19784328	62.034 umol/
5) T	propane	3.83	27646140	58.602 umol/
6) T	n-butane	5.34	33425477	54.670 umol/
8) T	carbon dioxide	0.21	27476834	5205.400 umol/

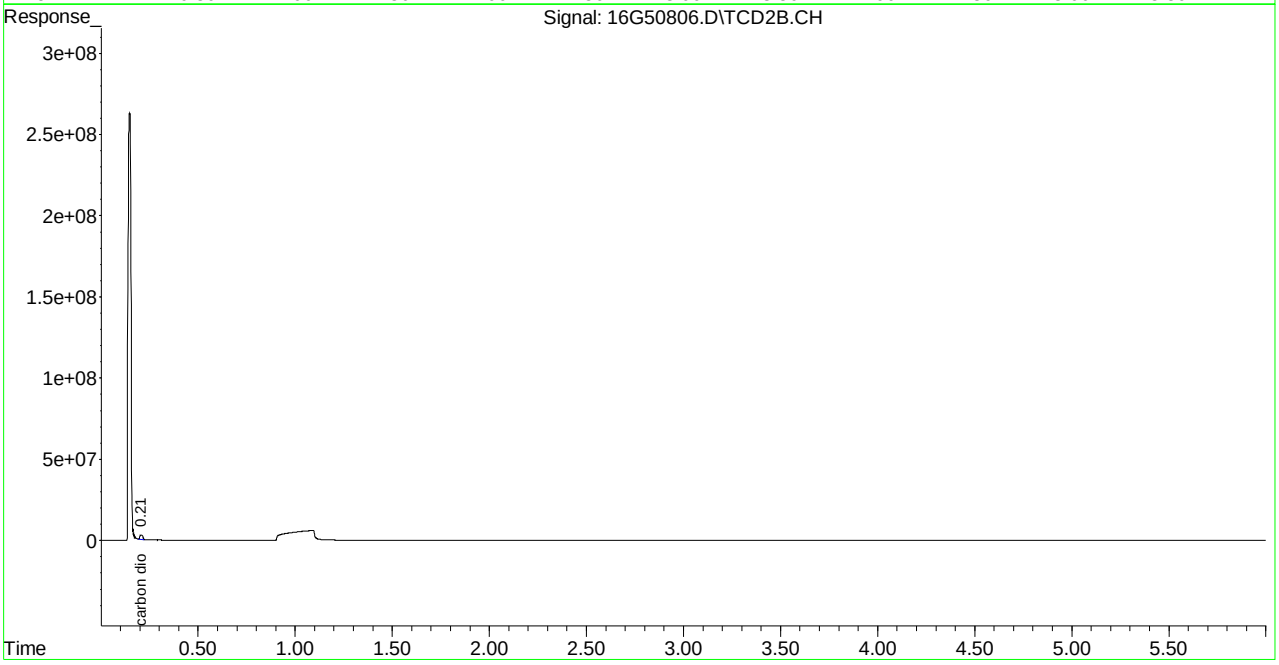
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50806.D RSKEXT1.M Wed Oct 05 17:57:25 2016 Page 1

Signal #1 : C:\MSDchem\1\DATA\100516\16G50806.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDchem\1\DATA\100516\16G50806.D\TCD2B.CH
Acq On : 05 Oct 2016 17:51 Operator: JDS
Sample : WG586463-02 67umol/mol LCS RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 5 17:57 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDchem\1\DATA\100616\16G50824.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDchem\1\DATA\100616\16G50824.D\TCD2B.CH
Acq On : 06 Oct 2016 15:29 Operator: JDS
Sample : WG586612-02 67umol/mol LCS RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 06 15:35:03 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

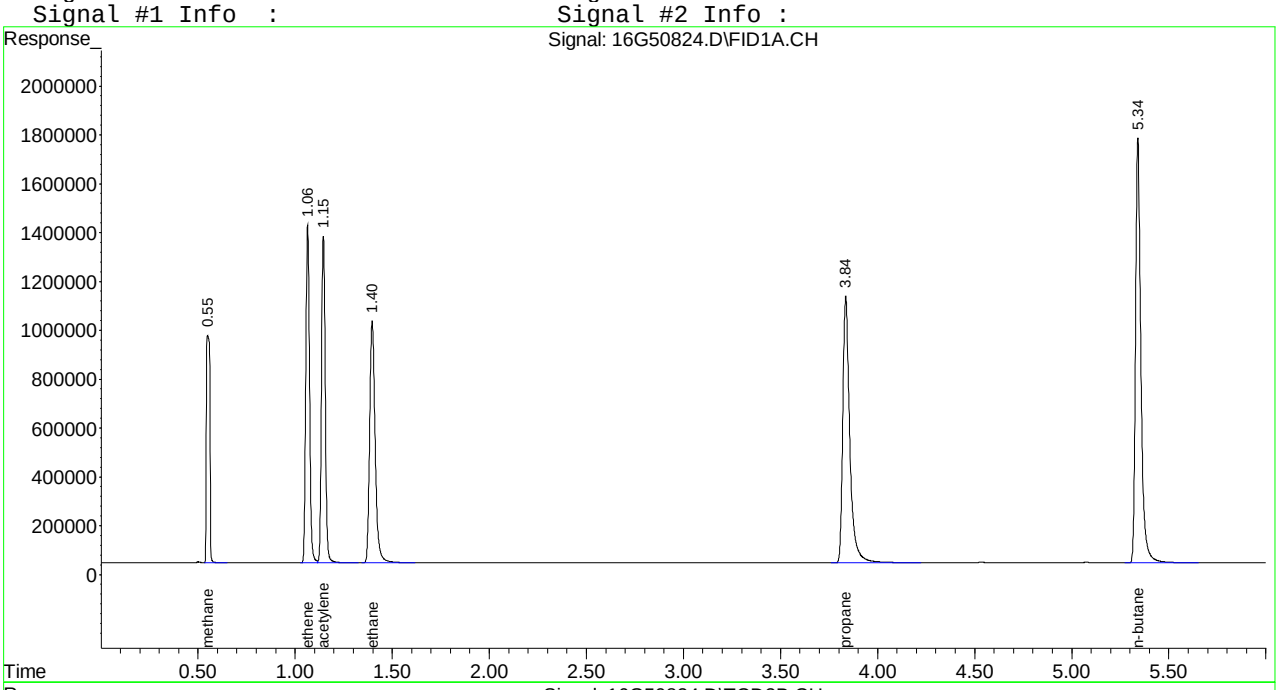
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	11834045	64.457 umol/
2) T	ethene	1.06	18878242	60.495 umol/
3) T	acetylene	1.15	18248363	58.438 umol/
4) T	ethane	1.40	19604479	61.470 umol/
5) T	propane	3.84	27567092	58.434 umol/
6) T	n-butane	5.34	33692266	55.106 umol/
8) T	carbon dioxide	0.20	27273812	5166.938 umol/

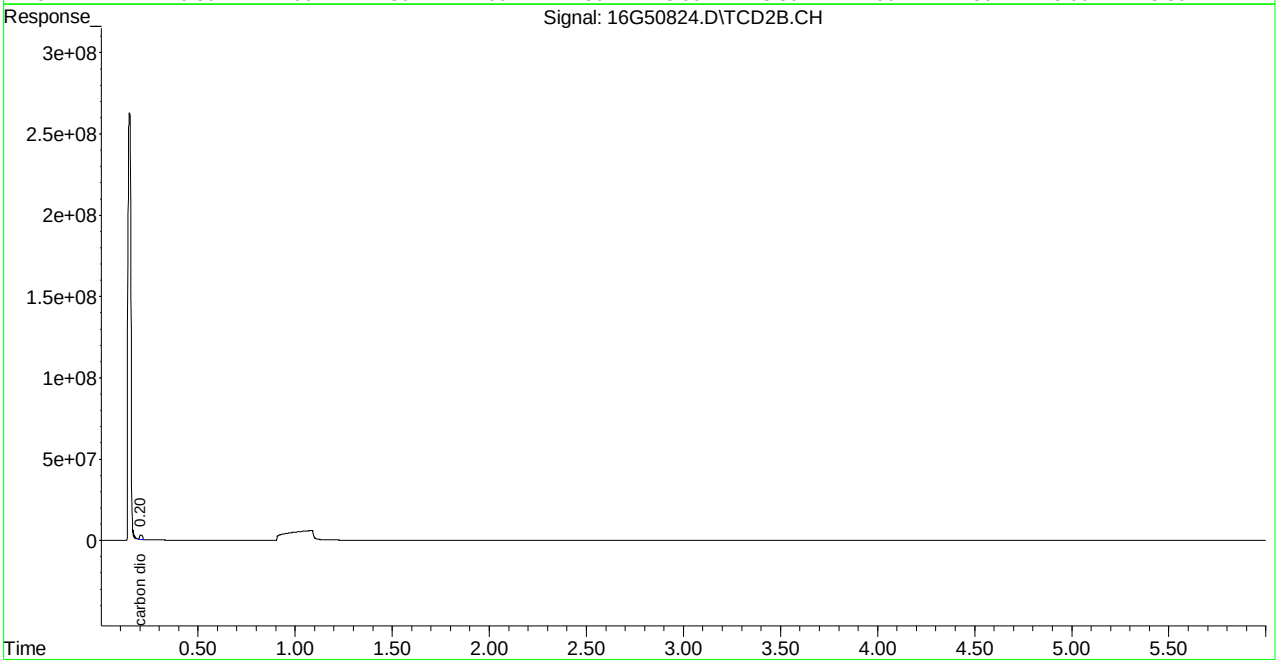
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50824.D RSKEXT1.M Thu Oct 06 15:35:03 2016 Page 1

Signal #1 : C:\MSDchem\1\DATA\100616\16G50824.D\FID1A.CH Vial: 3
Signal #2 : C:\MSDchem\1\DATA\100616\16G50824.D\TCD2B.CH
Acq On : 06 Oct 2016 15:29 Operator: JDS
Sample : WG586612-02 67umol/mol LCS RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 6 15:35 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Signal #1 : C:\MSDchem\1\DATA\100516\16G50807.D\FID1A.CH Vial: 4
Signal #2 : C:\MSDchem\1\DATA\100516\16G50807.D\TCD2B.CH
Acq On : 05 Oct 2016 18:02 Operator: JDS
Sample : WG586463-03 67umol/mol LCS2 RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 05 18:09:04 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

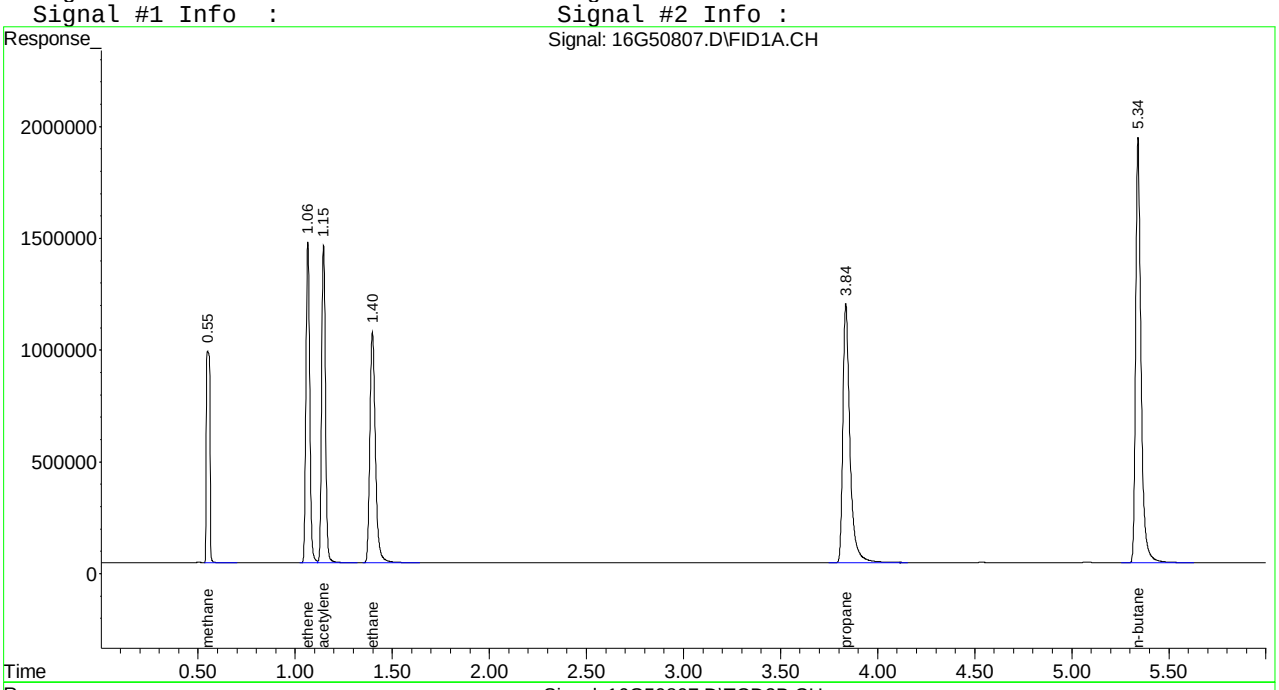
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	12282673	66.963 umol/
2) T	ethene	1.07	19836812	63.567 umol/
3) T	acetylene	1.15	19620509	62.832 umol/
4) T	ethane	1.40	20624380	64.668 umol/
5) T	propane	3.84	29430619	62.385 umol/
6) T	n-butane	5.34	36807478	60.202 umol/
8) T	carbon dioxide	0.20	27789282	5264.592 umol/

(f)=RT Delta > 1/2 Window (m)=manual int.
16G50807.D RSKEXT1.M Wed Oct 05 18:09:04 2016 Page 1

Signal #1 : C:\MSDchem\1\DATA\100516\16G50807.D\FID1A.CH Vial: 4
Signal #2 : C:\MSDchem\1\DATA\100516\16G50807.D\TCD2B.CH
Acq On : 05 Oct 2016 18:02 Operator: JDS
Sample : WG586463-03 67umol/mol LCS2 RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 5 18:09 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Signal #1 : C:\MSDchem\1\DATA\100616\16G50825.D\FID1A.CH Vial: 4
Signal #2 : C:\MSDchem\1\DATA\100616\16G50825.D\TCD2B.CH
Acq On : 06 Oct 2016 15:40 Operator: JDS
Sample : WG586612-03 67umol/mol LCS2 RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 06 15:46:11 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Initial Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

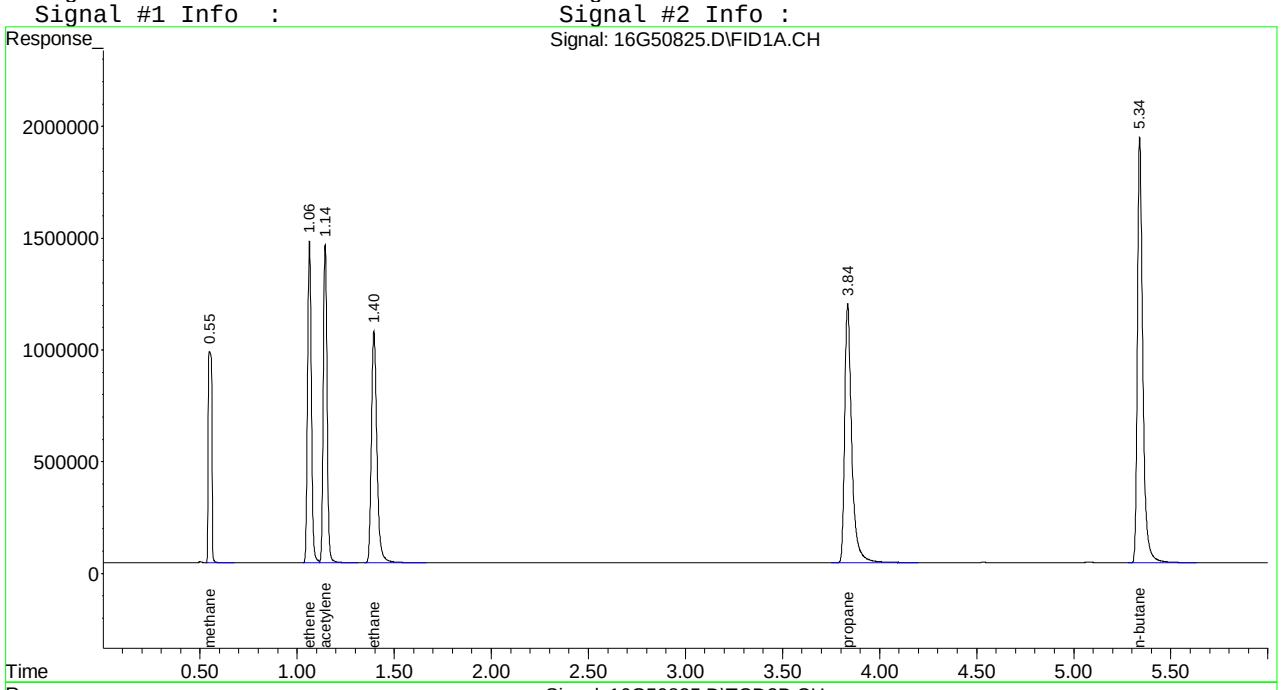
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) T	methane	0.55	12295392	67.034 umol/
2) T	ethene	1.06	19779607	63.383 umol/
3) T	acetylene	1.14	19513246	62.489 umol/
4) T	ethane	1.40	20582999	64.538 umol/
5) T	propane	3.84	29415018	62.352 umol/
6) T	n-butane	5.34	37123390	60.718 umol/
8) T	carbon dioxide	0.20	33973929	6436.255 umol/

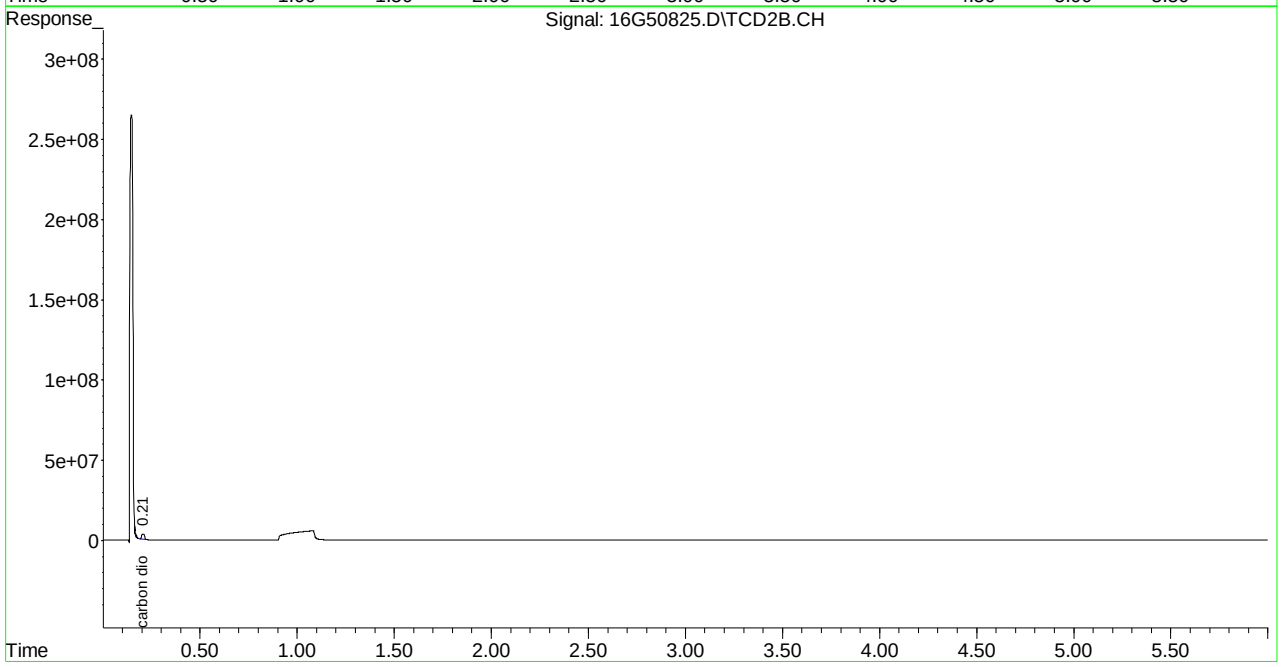
(f)=RT Delta > 1/2 Window (m)=manual int.
16G50825.D RSKEXT1.M Thu Oct 06 15:46:11 2016 Page 1

Signal #1 : C:\MSDchem\1\DATA\100616\16G50825.D\FID1A.CH Vial: 4
Signal #2 : C:\MSDchem\1\DATA\100616\16G50825.D\TCD2B.CH
Acq On : 06 Oct 2016 15:40 Operator: JDS
Sample : WG586612-03 67umol/mol LCS2 RSK175 Inst : HP16
Misc : 1,1 STD68250 Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 6 15:46 2016 Quant Results File: RSKEXT1.RES

Quant Method : C:\MSDCHEM\1\METHODS\RSKEXT1.M (Chemstation Integrator)
Title : RSK175 HP16 (SOP: OVL RSK01) 032516
Last Update : Fri Mar 25 13:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : RSKEXT1.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





2.2 Semivolatiles Data

2.2.1 Metabolic Acids HPLC Data (830-MBA)

2.2.1.1 Summary Data

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-12	**PrePrep Method:**	N/A	**Instrument:**	HPLC4
Client ID:	35AWW08-100416	**Prep Method:**	830-MBA	**Prep Date:**	10/14/2016 15:00
Matrix:	Water	**Analytical Method:**	830-MBA	**Cal Date:**	06/22/2016 20:08
Workgroup #:	WG587720	**Analyst:**	JWR	**Run Date:**	10/15/2016 07:36
Collect Date:	10/04/2016 07:40	**Dilution:**	1	**File ID:**	4L028485.F
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Pyruvic Acid	127-17-3	0.100	U	0.200	0.100	0.0500
Lactic Acid	50-21-5	1.00	U	2.00	1.00	0.500
Propionic Acid	79-09-4	17.6	J	20.0	10.0	5.00
Butyric Acid	107-92-6	1.00	U	2.00	1.00	0.500

J	Estimated value ; the analyte concentration was less than the LOQ.
J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-12	**PrePrep Method:**	N/A	**Instrument:**	HPLC4
Client ID:	35AWW08-100416	**Prep Method:**	830-MBA	**Prep Date:**	10/14/2016 15:00
Matrix:	Water	**Analytical Method:**	830-MBA	**Cal Date:**	06/22/2016 20:08
Workgroup #:	WG587720	**Analyst:**	JWR	**Run Date:**	10/15/2016 08:58
Collect Date:	10/04/2016 07:40	**Dilution:**	10	**File ID:**	4L028486.F
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetic Acid	64-19-7	156		20.0	10.0	5.00

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-14	**PrePrep Method:**	N/A	**Instrument:**	HPLC4
Client ID:	03WW01-100416	**Prep Method:**	830-MBA	**Prep Date:**	10/14/2016 15:00
Matrix:	Water	**Analytical Method:**	830-MBA	**Cal Date:**	06/22/2016 20:08
Workgroup #:	WG587720	**Analyst:**	JWR	**Run Date:**	10/15/2016 04:52
Collect Date:	10/04/2016 08:20	**Dilution:**	1	**File ID:**	4L028483.F
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Pyruvic Acid	127-17-3	0.100	U	0.200	0.100	0.0500
Lactic Acid	50-21-5	1.00	U	2.00	1.00	0.500
Acetic Acid	64-19-7	33.2		2.00	1.00	0.500
Propionic Acid	79-09-4	10.0	U	20.0	10.0	5.00
Butyric Acid	107-92-6	1.00	U	2.00	1.00	0.500

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.2.1.2 QC Summary Data

Example 830-MBA Calculations

1.0 Calculating the Calibration Factor (CF) from the initial calibration (ICAL) data:

$$CF = \frac{C_s}{A_s}$$

where:	Example:
A_s = Area of the compound being measured in the standard	10000
C_s = Concentration of the compound being measured (ng/mL)	100
	CF = 0.01

2.0 Calculating the concentration (C) of a compound in water using data from prep log and quantitation report:*

$$C = \frac{(A_x)(V_f)(D)(CF)(1000)}{V_i}$$

where:	Example:
A_x = Area of the compound being measured	10000
V_f = Final volume of sample extract (mL). (prep log)	1
D = Dilution factor for sample as a multiplier (10X = 10)	1
CF = Calibration factor from ICAL calculated above	0.01
V_i = Initial volume of sample (mL). (prep log)	1000
	C ($\mu g/l$) = 0.1

3.0 Calculating the concentration (C) of a compound in soil using data from prep log and quantitation report:*

$$C = \frac{(A_x)(V_f)(D)(CF)}{V_i}$$

where:	Example:
A_x = Area of the compound being measured	10000
V_f = Final volume of sample extract (mL). (prep log)	1
D = Dilution factor for sample as a multiplier (10X = 10)	1
CF = Calibration factor from ICAL calculated above	0.01
W_i = Initial weight of sample (g). (prep log)	30
	C ($\mu g/l$) = 3.333333

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

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPLC4 Dataset: 062216
Analyst1: JWR Analyst2: NA
Method: 830-MBA SOP: HPLC03 Rev: 9

Maintenance Log ID: Syringe Filter Lot#: 00198584
Eluent ID#: RGT37008
Column 1 ID: REZEX ROA Column 2 ID: NA
Workgroups: Analytical WG572899
Internal STD: NA Surrogate STD: NA Calibration STD STD74825 (06/22/2016)
CCV STD: STD74825 LCS STD: STD74828 MS/MSD STD: STD74828

Comments: System backpressure = 34bar
ICAL WG573731 : Alternate Source STD74828
Analytical Column : Rezex ROA-Organic Acid H+ (8%) (250x4.6mm)
Phenomenex S/N H16-146938
Metabolic Acids Resolved : Pyruvic, Lactic, Acetic, Propionic and Butyric

Samples L16060492-01 and L16060564(-01,-03,-05,-07) are brines. Due to an unknown component within their sample matrices, all "brine" samples were analyzed at a 100x dilution in order to prevent irreversible damage to the analytical column.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	4L027942.F	WG573731-01 STD	1	1	STD74825	06/22/16 13:19
2	4L027943.F	WG573731-02 STD	1	1	STD74825	06/22/16 14:40
3	4L027944.F	WG573731-03 STD-CCV	1	1	STD74825	06/22/16 16:02
4	4L027945.F	WG573731-04 STD	1	1	STD74825	06/22/16 17:24
5	4L027946.F	WG573731-05 STD	1	1	STD74825	06/22/16 18:46
6	4L027947.F	WG573731-06 STD	1	1	STD74825	06/22/16 20:08
7	4L027948.F	WG573731-07 SSCV	1	1	STD74828	06/22/16 21:30
8	4L027949.F	WG572899-01 BLK	1	1		06/22/16 22:52
9	4L027950.F	WG572899-02 LCS	1	1	STD74828	06/23/16 00:14
10	4L027951.F	L16060274-21	1	1		06/23/16 01:35
11	4L027952.F	L16060274-21 (5x)	1	5		06/23/16 02:57
12	4L027953.F	L16060274-22	1	1		06/23/16 04:19
13	4L027954.F	L16060274-22 (5x)	1	5		06/23/16 05:41
14	4L027955.F	L16060274-23	1	1		06/23/16 07:03
15	4L027956.F	L16060274-23 (5x)	1	5		06/23/16 08:25
16	4L027957.F	L16060274-24	1	1		06/23/16 09:47
17	4L027958.F	L16060274-24 (5x)	1	5		06/23/16 11:08
18	4L027959.F	WG573278-01 CCV	1	1	STD74825	06/23/16 12:30
19	4L027960.F	L16060274-25	1	1		06/23/16 13:52
20	4L027961.F	L16060274-26	1	1		06/23/16 15:14
21	4L027962.F	L16060596-01	1	1		06/23/16 16:36
22	4L027963.F	L16060596-12	1	1		06/23/16 17:58
23	4L027964.F	L16060596-13	1	1		06/23/16 19:20
24	4L027965.F	L16060655-01	1	1		06/23/16 20:42
25	4L027966.F	L16060655-02	1	1		06/23/16 22:04
26	4L027967.F	L16060655-03	1	1		06/23/16 23:25
27	4L027968.F	L16060814-01	1	1		06/24/16 00:47
28	4L027969.F	L16060814-02	1	1		06/24/16 02:09
29	4L027970.F	WG573278-02 CCV	1	1	STD74825	06/24/16 03:31

Page: 1 Approved: 28-JUN-16

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPLC4 Dataset: 062216
Analyst1: JWR Analyst2: NA
Method: 830-MBA SOP: HPLC03 Rev: 9

Maintenance Log ID: Syringe Filter Lot#: 00198584
Eluent ID#: RGT37008
Column 1 ID: REZEX ROA Column 2 ID: NA
Workgroups: Analytical WG572899
Internal STD: NA Surrogate STD: NA STD74825 (06/22/2016)
CCV STD: STD74825 LCS STD: STD74828 STD74828

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
30	4L027971.F	L16060814-03	1	1		06/24/16 04:53
31	4L027972.F	L16060492-01 (100x)	1	100		06/24/16 06:15
32	4L027973.F	L16060564-01 RS (100x)	1	100		06/24/16 07:37
33	4L027974.F	L16060564-03 (100x)	1	100		06/24/16 08:59
34	4L027975.F	L16060564-05 MS (100x)	1	100	STD74828	06/24/16 10:20
35	4L027976.F	L16060564-07 MSD (100x)	1	100	STD74828	06/24/16 11:42
36	4L027977.F	WG573278-03 CCV	1	1	STD74825	06/24/16 13:04

Comments

Seq.	Rerun	Dil.	Reason	Analytes
10	X	5	Over Calibration Range	acetic
	L16060274-21			
12	X	5	Over Calibration Range	acetic
	L16060274-22			
14	X	5	Over Calibration Range	acetic
	L16060274-23			
16	X	5	Over Calibration Range	acetic
	L16060274-24			
34				
	L16060564-05 MS (100x) : The MS %Rec for all analytes is zero. Due to the matrix of this sample (brine) and the dilution required to safely inject it across the HPLC's analytical column, the spiked amount added to this MS has been diluted below the method detection limit.			
35				
	L16060564-07 MSD (100x) : The MSD %Rec for all analytes is zero. Due to the matrix of this sample (brine) and the dilution required to safely inject it across the HPLC's analytical column, the spiked amount added to this MSD has been diluted below the method detection limit.			

Page: 2 Approved: 28-JUN-16

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPLC4 Dataset: 101416
Analyst1: JWR Analyst2: NA
Method: 830-MBA SOP: HPLC03 Rev: 9

Maintenance Log ID: Syringe Filter Lot#: 00218000
Eluent ID#: RGT38080
Column 1 ID: REZEX ROA Column 2 ID: NA
Workgroups: Analytical WG587720
Internal STD: NA Surrogate STD: NA Calibration STD STD74825 (06/22/2016)
CCV STD: STD74825 LCS STD: STD74828 MS/MSD STD: NA

Comments: System backpressure = 32bar

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	4L028473.F	WG587724-01 CCV	1	1	STD74825	10/14/16 15:36
2	4L028474.F	WG587720-01 BLK	1	1		10/14/16 16:36
3	4L028475.F	WG587720-02 LCS	1	1	STD74828	10/14/16 17:57
4	4L028476.F	WG587720-03 LCS2	1	1	STD74828	10/14/16 19:19
5	4L028477.F	L16100004-01 LOQ	1	1	STD76554	10/14/16 20:41
6	4L028478.F	L16100004-08 LOQ	1	1	STD76554	10/14/16 22:03
7	4L028479.F	L16100002-01 LOD	1	1	STD76554	10/14/16 23:25
8	4L028480.F	L16100123-11	1	1		10/15/16 00:47
9	4L028481.F	L16100123-13	1	1		10/15/16 02:09
10	4L028482.F	WG587724-02 CCV	1	1	STD74825	10/15/16 03:31
11	4L028483.F	L16100194-14	1	1		10/15/16 04:52
12	4L028484.F	L16100194-14 10x (NR)	1	10		10/15/16 06:14
13	4L028485.F	L16100194-12	1	1		10/15/16 07:36
14	4L028486.F	L16100194-12 10x	1	10		10/15/16 08:58
15	4L028487.F	L16100194-12 100x (NR)	1	100		10/15/16 10:20
16	4L028488.F	L16100194-12 1000x (NR)	1	1000		10/15/16 11:42
17	4L028489.F	WG587724-03 CCV	1	1	STD74825	10/15/16 13:04

Comments

Seq.	Rerun	Dil.	Reason	Analytes
12				
	L16100194-14 10x (NR) : Not needed or reported.			
13	X	10	Over Calibration Range	Acetic Acid
	L16100194-12			
15				
	L16100194-12 100x (NR) : The results from this sample dilution are not needed.			
16				
	L16100194-12 1000x (NR) : The results from this sample dilution are not needed.			

Page: 1 Approved: 17-OCT-16

Microbac Laboratories Inc.

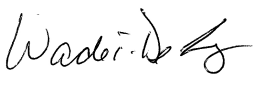
Data Checklist

Date: 22-JUN-2016
Analyst: JWR
Analyst: NA
Method: 830-MBA
Instrument: HPLC4
Curve Workgroup: WG573731
Runlog ID: 75956
Analytical Workgroups: L16060274(21-26), 0492, 0564, 0596, 0655, 0814

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	34 BAR
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	ND
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	DL@100X
%RPD	NA
Samples	X
TCL hits	X
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	X
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	
Check for completeness	X
Primary Reviewer	JWR
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	WTD

Primary Reviewer:
27-JUN-2016

Secondary Reviewer:
28-JUN-2016



CHECKLIST1 - Modified 03/05/2008
Generated: JUN-28-2016 11:59:02

Microbac Laboratories Inc.

Data Checklist

Date: 14-OCT-2016
Analyst: JWR
Analyst: NA
Method: 830-MBA
Instrument: HPLC4
Curve Workgroup: NA
Runlog ID: 78118
Analytical Workgroups: L16100002, L16100004, L16100123, L16100194

ANALYTICAL	
System Performance Check	X
DFTPP (MS)	NA
Endrin/DDT breakdown (8081/MS)	NA
Pentachlorophenol/benzidine tailing (MS)	NA
Eluent check (IC)/system pressure (HPLC)	32 BAR
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)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	NA
Blanks	X
TCL hits	ND
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
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	X
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	
Check for completeness	X
Primary Reviewer	JWR
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:
17-OCT-2016

Secondary Reviewer:
17-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-17-2016 15:53:42

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 830-MBA AAB#: WG587720

Login Number: L16100194

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
35AWW08-100416	12	10/04/16					10/14/2016	10.3	28		10/15/16	11	28	
35AWW08-100416	12	10/04/16					10/14/2016	10.3	28		10/15/16	11.1	28	
03WW01-100416	14	10/04/16					10/14/2016	10.3	28		10/15/16	10.9	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4979732
Report generated 10/17/2016 16:00

METHOD BLANK SUMMARY

Login Number: L16100194
Blank File ID: 4L028474.F
Prep Date: 10/14/16 15:00
Analyzed Date: 10/14/16 16:36
Analyst: JWR

Work Group: WG587720
Blank Sample ID: WG587720-01
Instrument ID: HPLC4
Method: 830-MBA

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG587720-02	4L028475.F	10/14/16 17:57	01
LCS2	WG587720-03	4L028476.F	10/14/16 19:19	01
03WW01-100416	L16100194-14	4L028483.F	10/15/16 04:52	01
35AWW08-100416	L16100194-12	4L028485.F	10/15/16 07:36	01
35AWW08-100416	L16100194-12	4L028486.F	10/15/16 08:58	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 4979733
Report generated 10/17/2016 16:00

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16100194 Prep Date: 10/14/16 15:00 Sample ID: WG587720-01
Instrument ID: HPLC4 Run Date: 10/14/16 16:36 Prep Method: 830-MBA
File ID: 4L028474.F Analyst: JWR Method: 830-MBA
Workgroup (AAB#): WG587720 Matrix: Water Units: mg/L
Contract #: Cal ID: HPLC4-22-JUN-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Pyruvic Acid	0.0500	0.200	0.0500	1	U
Lactic Acid	0.500	2.00	0.500	1	U
Acetic Acid	0.500	2.00	0.500	1	U
Propionic Acid	5.00	20.0	5.00	1	U
Butyric Acid	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4979734
17-OCT-2016 16:00

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100194 Analyst: JWR Prep Method: 830-MBA
Instrument ID: HPLC4 Matrix: Water Method: 830-MBA
Workgroup (AAB#): WG587720 Units: mg/L
QC Key: DOD4 Lot #: STD74828

Sample ID: WG587720-02 LCS File ID: 4L028475.F Run Date: 10/14/2016 17:57
Sample ID: WG587720-03 LCS2 File ID: 4L028476.F Run Date: 10/14/2016 19:19

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Pyruvic Acid	2.00	2.00	100	2.00	1.98	99.2	0.997	90 - 110	30	
Lactic Acid	20.0	20.1	100	20.0	20.1	100	0.0504	90 - 110	30	
Acetic Acid	20.0	19.9	99.6	20.0	19.9	99.4	0.240	90 - 110	30	
Propionic Acid	20.0	19.6	97.9	20.0	19.4	97.2	0.700	80 - 115	30	
Butyric Acid	20.0	19.8	99.2	20.0	19.7	98.7	0.484	90 - 110	30	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 4979735
Report generated: 10/17/2016 16:00

Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L16100194
Analytical Method: 830-MBA
ICAL Workgroup: WG573731

Instrument ID: HPLC4
Initial Calibration Date: 22-JUN-16 20:08
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Acetic Acid		0.08878	2.35	1.00000	
Butyric Acid		0.09831	7.19	1.00000	
Lactic Acid		0.07294	3.83	1.00000	
Propionic Acid		0.06437	42.2	1.00000	
Pyruvic Acid		0.006222	0.755	1.00000	

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

This method always uses linear calibration model (R)

INT_CAL - Modified 03/06/2008
PDF File ID: 4979814
Report generated 10/17/2016 16:00

Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L16100194
Analytical Method: 830-MBA
Instrument ID: HPLC4
Initial Calibration Date: 22-JUN-16 20:08
Column ID: F

Analyte	WG573731-01			WG573731-02			WG573731-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acetic Acid	100	1145.84753	0.08727	50.0	572.967407	0.08726	20.0	225.484558	0.08870
Butyric Acid	100	984.851563	0.1015	50.0	496.632324	0.1007	20.0	196.234146	0.1019
Lactic Acid	100	1401.77185	0.07134	50.0	704.694458	0.07095	20.0	279.492798	0.07156
Propionic Acid	100	1129.17480	0.08856	50.0	614.135986	0.08142	20.0	298.063751	0.06710
Pyruvic Acid	10.0	1618.64111	0.006178	5.00	811.448669	0.006162	2.00	319.983124	0.006250

INT_CAL - Modified 03/06/2008
PDF File ID: 4979814
Report generated 10/17/2016 16:00

Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L16100194
Analytical Method: 830-MBA
Instrument ID: HPLC4
Initial Calibration Date: 22-JUN-16 20:08
Column ID: F

Analyte	WG573731-04			WG573731-05			WG573731-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Acetic Acid	10.0	113.201271	0.08834	5.00	56.7593842	0.08809	1.00	10.7492218	0.09303
Butyric Acid	10.0	99.4759064	0.1005	5.00	50.1386337	0.09972	1.00	11.7016792	0.08546
Lactic Acid	10.0	135.031937	0.07406	5.00	70.1268311	0.07130	1.00	12.7445965	0.07846
Propionic Acid	10.0	197.190826	0.05071	5.00	146.799454	0.03406		117.224258	
Pyruvic Acid	1.00	159.047607	0.006287	0.500	80.4337311	0.006216	0.100	16.0237904	0.006241

INT_CAL - Modified 03/06/2008
PDF File ID: 4979814
Report generated 10/17/2016 16:00

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16100194 Run Date: 06/22/2016 Sample ID: WG573731-07
Instrument ID: HPLC4 Run Time: 21:30 Method: 830-MBA
File ID: 4L027948.F Analyst: JWR QC Key: DOD4
ICal Workgroup: WG573731 Cal ID: HPLC4 - 22-JUN-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Pyruvic Acid		2.00	1.98	mg/L	0.00628	1.20	20	
Lactic Acid		20.0	19.8	mg/L	0.0722	0.900	20	
Acetic Acid		20.0	19.7	mg/L	0.0890	1.50	20	
Propionic Acid		20.0	20.3	mg/L	0.0657	1.60	20	
Butyric Acid		20.0	19.6	mg/L	0.103	2.00	20	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4979815
Report generated 10/17/2016 16:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/14/2016 Sample ID: WG587724-01

Instrument ID: HPLC4 Run Time: 15:36 Method: 830-MBA

File ID: 4L028473.F Analyst: JWR QC Key: DOD4

Workgroup (AAB#): WG587720 Cal ID: HPLC4 - 22-JUN-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Pyruvic Acid		2.00	2.00	mg/L	0.00620	0.0551	20	
Lactic Acid		20.0	20.0	mg/L	0.0715	0.136	20	
Acetic Acid		20.0	19.9	mg/L	0.0881	0.422	20	
Propionic Acid		20.0	19.4	mg/L	0.0679	3.13	20	
Butyric Acid		20.0	19.8	mg/L	0.102	0.990	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4979736

Report generated 10/17/2016 16:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/15/2016 Sample ID: WG587724-02

Instrument ID: HPLC4 Run Time: 03:31 Method: 830-MBA

File ID: 4L028482.F Analyst: JWR QC Key: DOD4

Workgroup (AAB#): WG587720 Cal ID: HPLC4 - 22-JUN-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Pyruvic Acid		2.00	1.94	mg/L	0.00640	3.18	20	
Lactic Acid		20.0	20.1	mg/L	0.0712	0.577	20	
Acetic Acid		20.0	19.8	mg/L	0.0886	1.00	20	
Propionic Acid		20.0	19.1	mg/L	0.0686	4.62	20	
Butyric Acid		20.0	19.8	mg/L	0.102	0.938	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4979736

Report generated 10/17/2016 16:00

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/15/2016 Sample ID: WG587724-03

Instrument ID: HPLC4 Run Time: 13:04 Method: 830-MBA

File ID: 4L028489.F Analyst: JWR QC Key: DOD4

Workgroup (AAB#): WG587720 Cal ID: HPLC4 - 22-JUN-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Pyruvic Acid		2.00	2.01	mg/L	0.00617	0.424	20	
Lactic Acid		20.0	20.1	mg/L	0.0712	0.485	20	
Acetic Acid		20.0	19.9	mg/L	0.0884	0.704	20	
Propionic Acid		20.0	18.9	mg/L	0.0691	5.59	20	
Butyric Acid		20.0	19.8	mg/L	0.102	0.876	20	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4979736

Report generated 10/17/2016 16:00

2.2.1.3 Sample Data

1,1

```
========================================================================
Injection Date  : 10/15/2016 7:36:42 AM          Seq. Line :  13
Sample Name     : L16100194-12                    Location : Vial 12
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                         Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/17/2016 1:55:10 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
========================================================================
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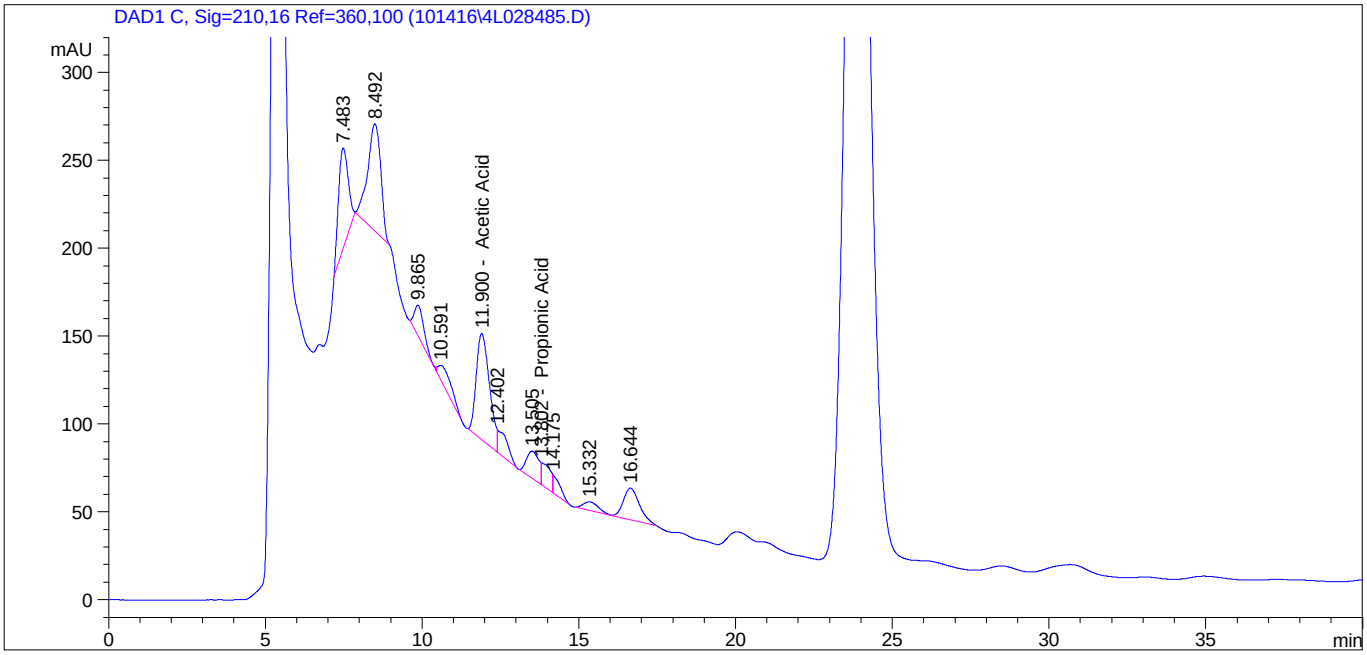


```
========================================================================
                      External Standard Report
========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|---------|----------|----------|--|------------------
  7.662            -          -          -         Pyruvic Acid
 10.178            -          -          -         Lactic Acid
 11.900 BF     1791.07104 8.72338e-2  156.24196    Acetic Acid
 13.802 VF      275.66272 6.37059e-2   17.56133    Propionic Acid
 17.155            -          -          -         Butyric Acid

Totals :                              173.80330

 Results obtained with enhanced integrator!
1 Warnings or Errors :

Warning : Calibrated compound(s) not found
```

```
==========================================================================
Injection Date  : 10/15/2016 7:36:42 AM          Seq. Line :  13
Sample Name     : L16100194-12                    Location : Vial 12
Acq. Operator   : JWR                                  Inj :   1
Acq. Instrument : HPLC4                         Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/17/2016 1:55:10 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  : 10/15/2016 8:58:31 AM          Seq. Line :  14
Sample Name     : L16100194-12 10x                Location : Vial 13
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                        Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/17/2016 2:12:35 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
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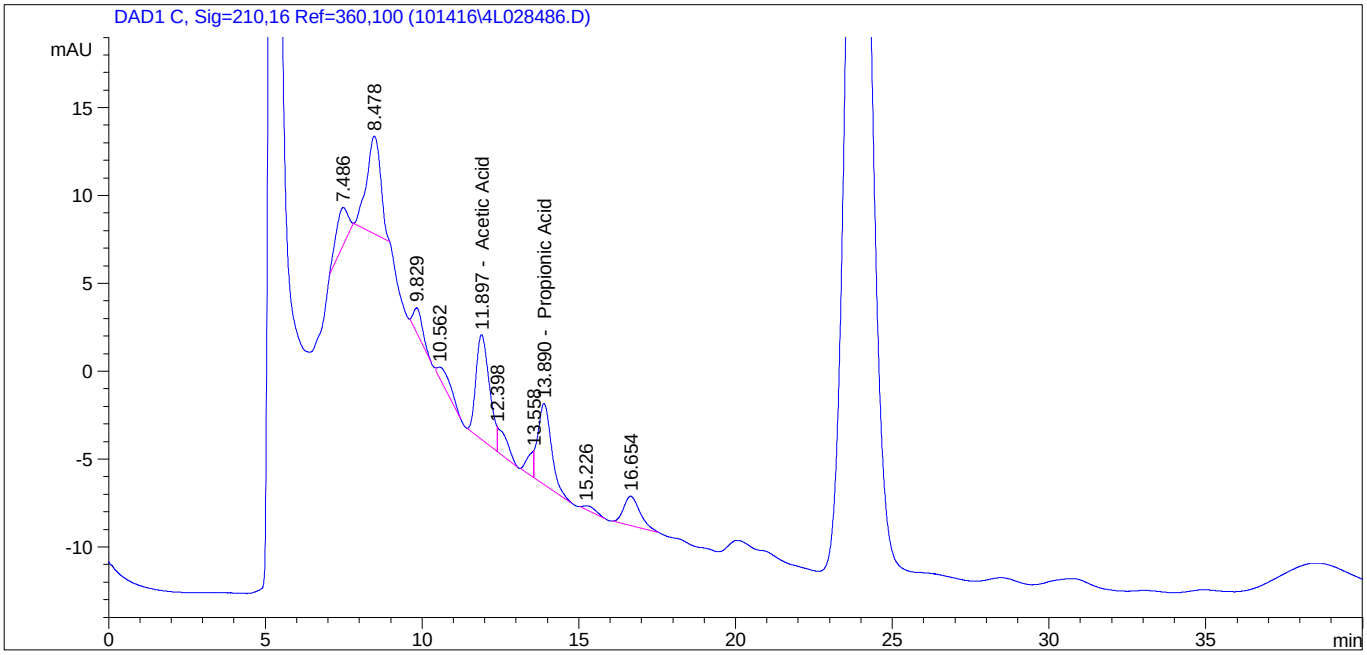


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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|---------|----------|----------|--|------------------
  7.662            -          -          -         Pyruvic Acid
 10.178            -          -          -         Lactic Acid
 11.897 BF      177.92679 8.78935e-2   15.63861    Acetic Acid
 13.890 VBA     137.85649 3.09109e-2    4.26127    Propionic Acid
 17.155            -          -          -         Butyric Acid

Totals :                                19.89988

 Results obtained with enhanced integrator!
1 Warnings or Errors :

Warning : Calibrated compound(s) not found
```

```
==========================================================================
Injection Date  : 10/15/2016 8:58:31 AM          Seq. Line :  14
Sample Name     : L16100194-12 10x                Location : Vial 13
Acq. Operator   : JWR                                  Inj :   1
Acq. Instrument : HPLC4                         Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/17/2016 2:12:35 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================

==========================================================================
                          *** End of Report ***
```

1,1

```
==========================================================================
Injection Date  : 10/15/2016 4:52:54 AM          Seq. Line :  11
Sample Name     : L16100194-14                    Location : Vial 10
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                        Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/17/2016 1:34:52 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
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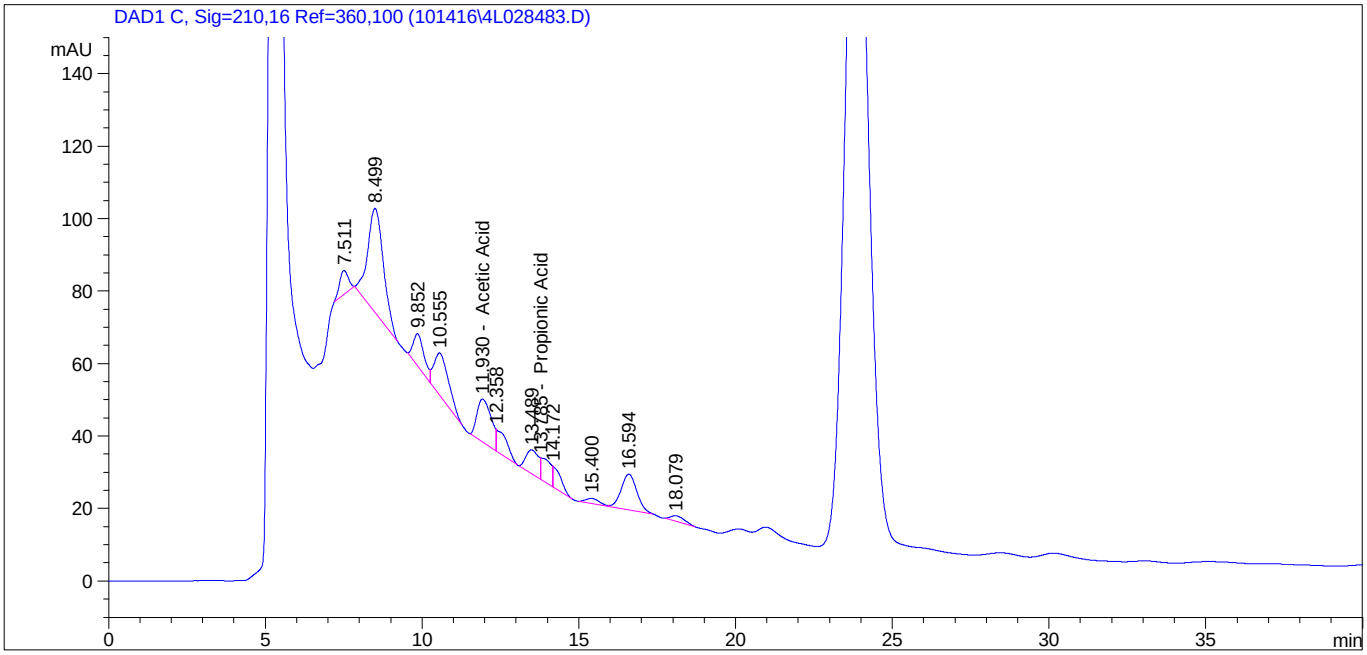


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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|---------|----------|----------|--|------------------
  7.662            -          -          -         Pyruvic Acid
 10.178            -          -          -         Lactic Acid
 11.930 BF      378.90958 8.75050e-2   33.15648    Acetic Acid
 13.785 VF      141.76216 3.27183e-2    4.63822    Propionic Acid
 17.155            -          -          -         Butyric Acid

Totals :                                37.79470

 Results obtained with enhanced integrator!
1 Warnings or Errors :

Warning : Calibrated compound(s) not found
```

1,1

==========

Injection Date : 10/15/2016 4:52:54 AM Seq. Line : 11
Sample Name : L16100194-14 Location : Vial 10
Acq. Operator : JWR Inj : 1
Acq. Instrument : HPLC4 Inj Volume : 80 µl
Acq. Method : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed : 10/17/2016 1:34:52 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016

==========

*** End of Report ***

2.2.1.4 Standards Data

00868192

```
==========================================================================
Injection Date  : 6/22/2016 1:19:08 PM          Seq. Line :   1
Sample Name     : WG573731-01 STD                Location : Vial 1
Acq. Operator   : JWR                               Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 2:12:10 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
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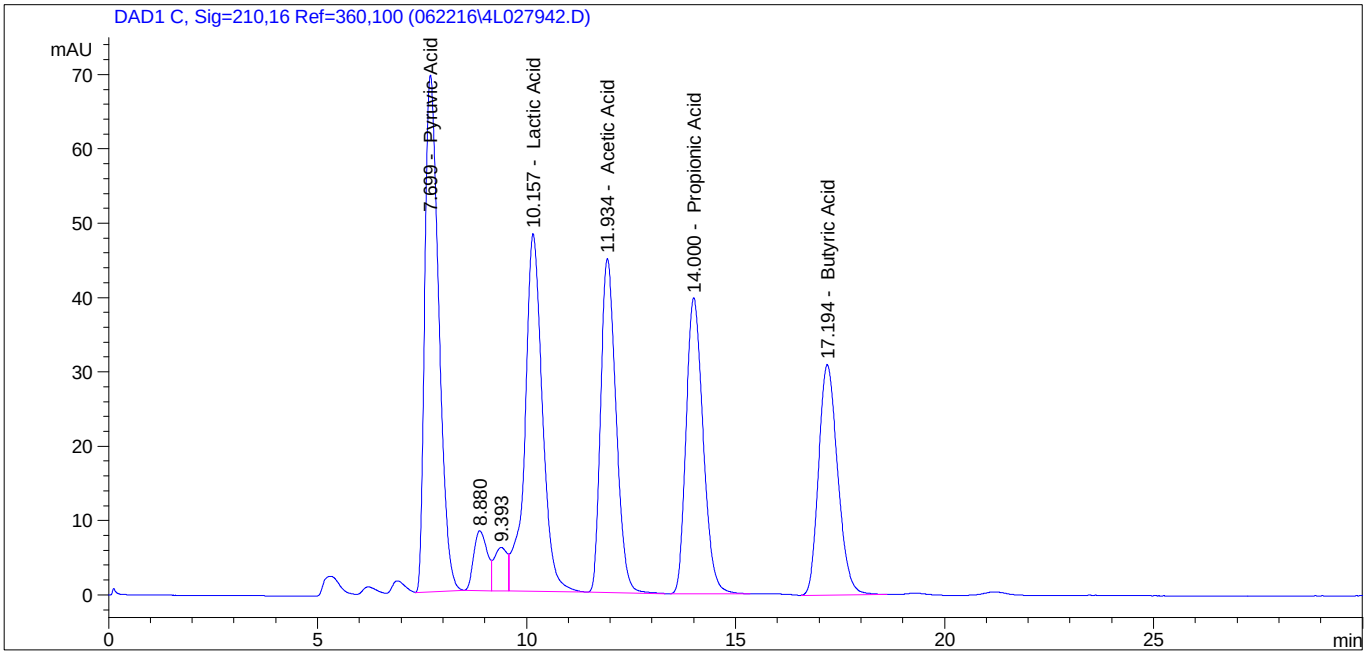


```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Thursday, June 23, 2016 2:11:52 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.699 BV     1618.64111 6.22622e-3   10.07801    Pyruvic Acid
 10.157 VV     1401.77185 7.16478e-2  100.43380    Lactic Acid
 11.934 VBA    1145.84753 8.66214e-2   99.25490    Acetic Acid
 14.000 BBA    1129.17480 8.91561e-2  100.67277    Propionic Acid
 17.194 BBA     984.85156 1.02624e-1  101.06964    Butyric Acid

Totals :                              411.50911

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

1,1 STD74825 (@Level-5)

```
======================================================================
Injection Date  : 6/22/2016 2:40:58 PM          Seq. Line :   2
Sample Name     : WG573731-02 STD                Location : Vial 2
Acq. Operator   : JWR                               Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 2:19:16 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
======================================================================
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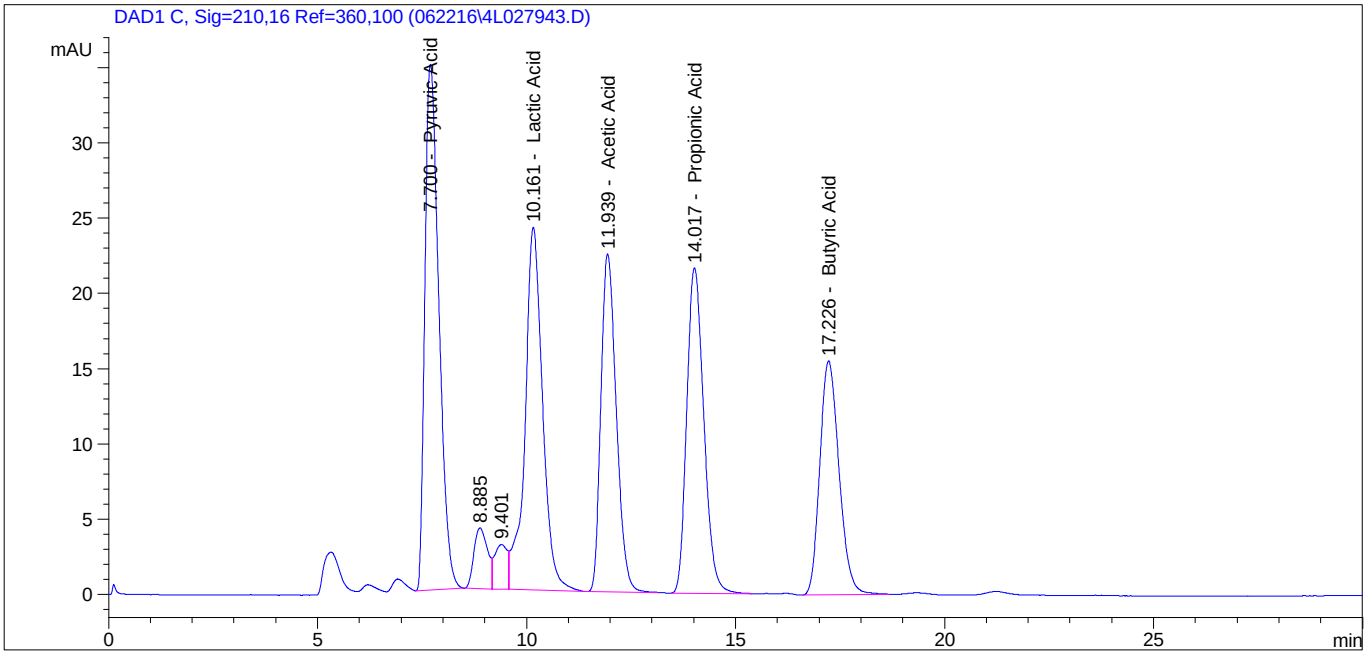


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======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Thursday, June 23, 2016 2:18:58 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.700 BV      811.44867 6.20251e-3    5.03301    Pyruvic Acid
 10.161 VV      704.69446 7.14476e-2   50.34875    Lactic Acid
 11.939 VBA     572.96741 8.69907e-2   49.84282    Acetic Acid
 14.017 BBA     614.13599 8.19238e-2   50.31238    Propionic Acid
 17.226 BBA     496.63232 1.01850e-1   50.58203    Butyric Acid

Totals :                              206.11899

 Results obtained with enhanced integrator!
======================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  : 6/22/2016 4:02:49 PM          Seq. Line :   3
Sample Name     : WG573731-03 STD                Location : Vial 3
Acq. Operator   : JWR                               Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 2:23:18 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
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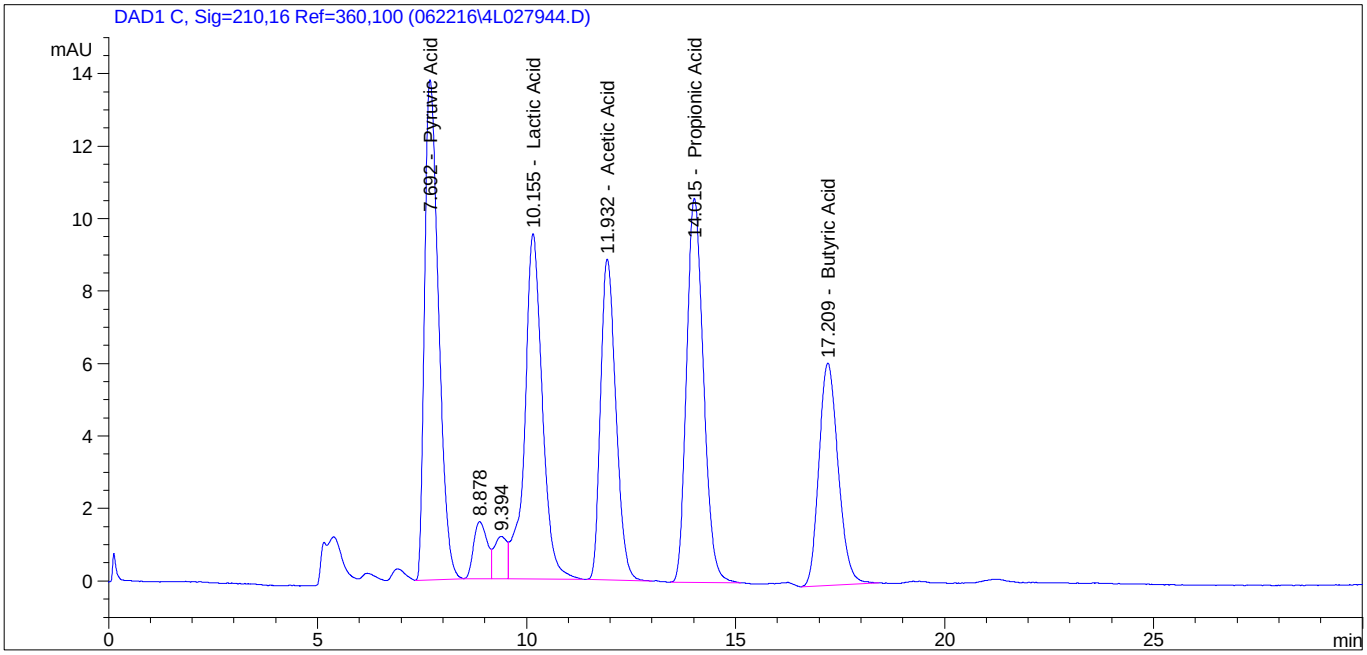


```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Thursday, June 23, 2016 2:23:07 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.692 BV      319.98312 6.23295e-3    1.99444    Pyruvic Acid
 10.155 VBA     279.49280 7.16471e-2   20.02484    Lactic Acid
 11.932 PBA     225.48456 8.71081e-2   19.64154    Acetic Acid
 14.015 BBA     298.06375 6.59924e-2   19.66994    Propionic Acid
 17.209 BBA     196.23415 1.01931e-1   20.00239    Butyric Acid

Totals :                               81.33315

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

1,1 STD74825 (@Level-3)

```
==========================================================================
Injection Date  : 6/22/2016 5:24:41 PM          Seq. Line :   4
Sample Name     : WG573731-04 STD                Location : Vial 4
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 2:29:24 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
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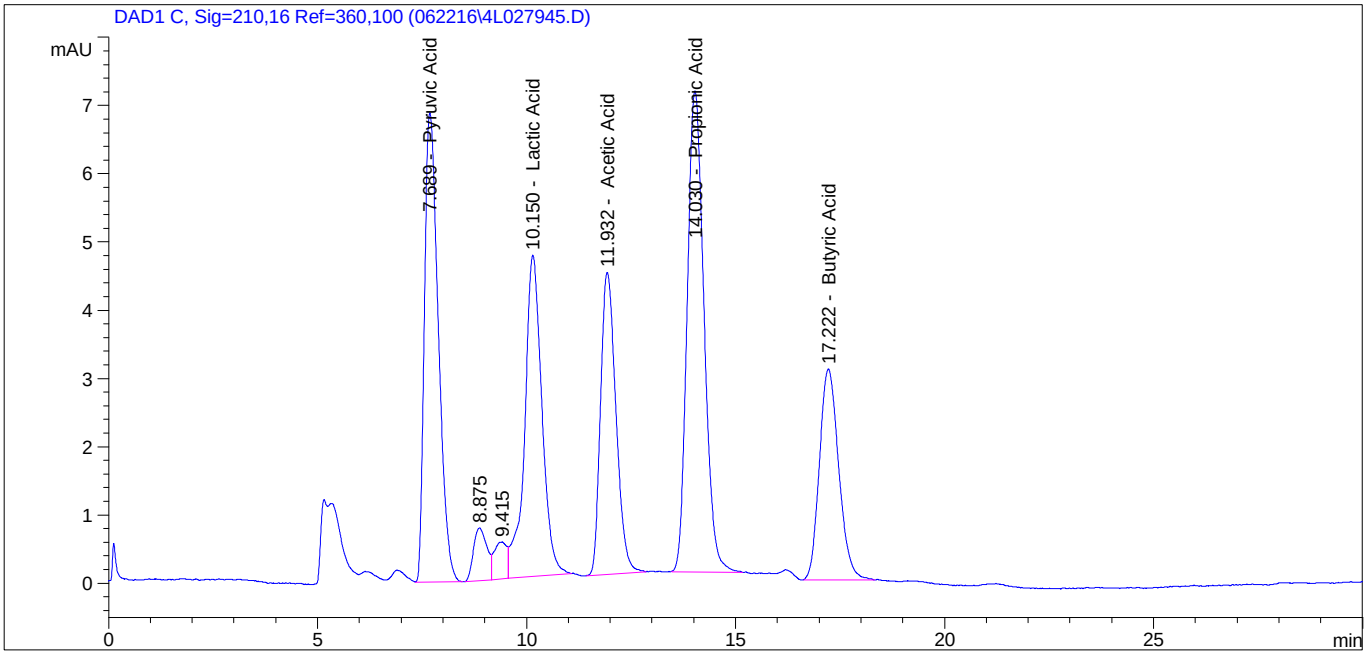
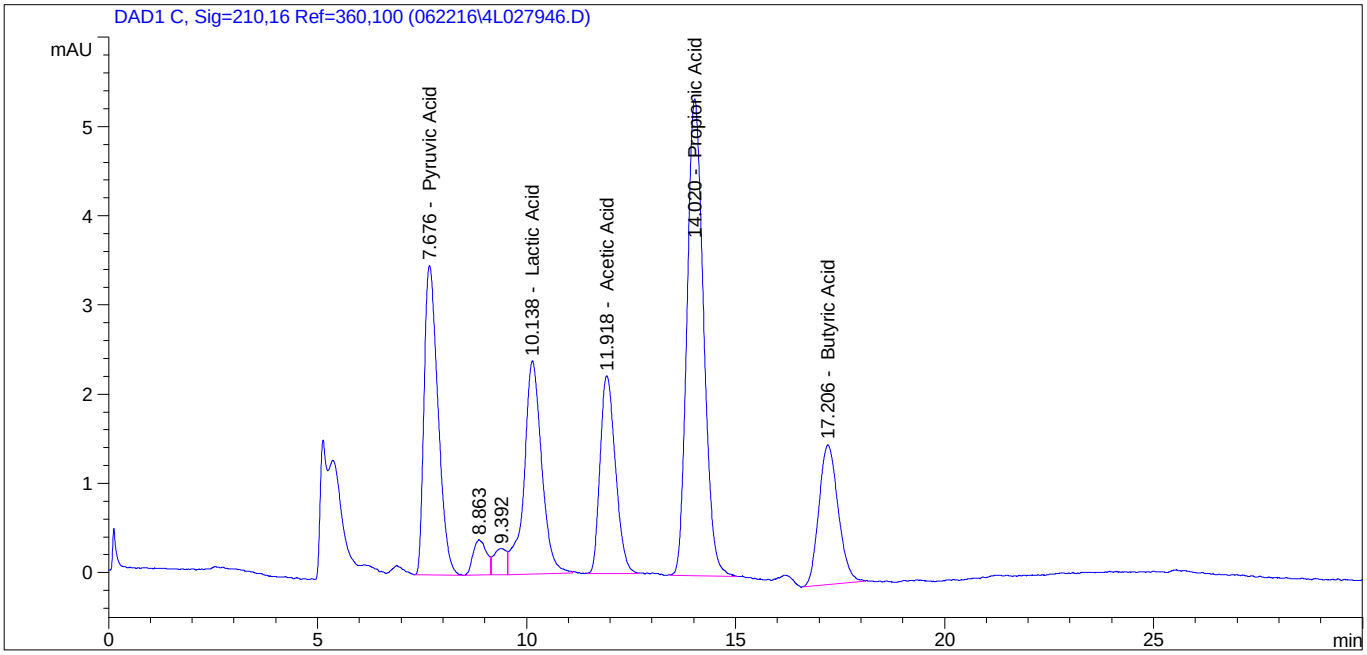



```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Thursday, June 23, 2016 2:29:09 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.689 BBA     159.04761 6.26598e-3 9.96589e-1    Pyruvic Acid
 10.150 VV      135.03194 7.23595e-2    9.77084    Lactic Acid
 11.932 BBA     113.20127 8.76942e-2    9.92709    Acetic Acid
 14.030 BBA     197.19083 5.02615e-2    9.91110    Propionic Acid
 17.222 BBA      99.47591 1.01237e-1   10.07062    Butyric Acid

Totals :                               40.67624

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

1,1 STD74825 (@Level-2)

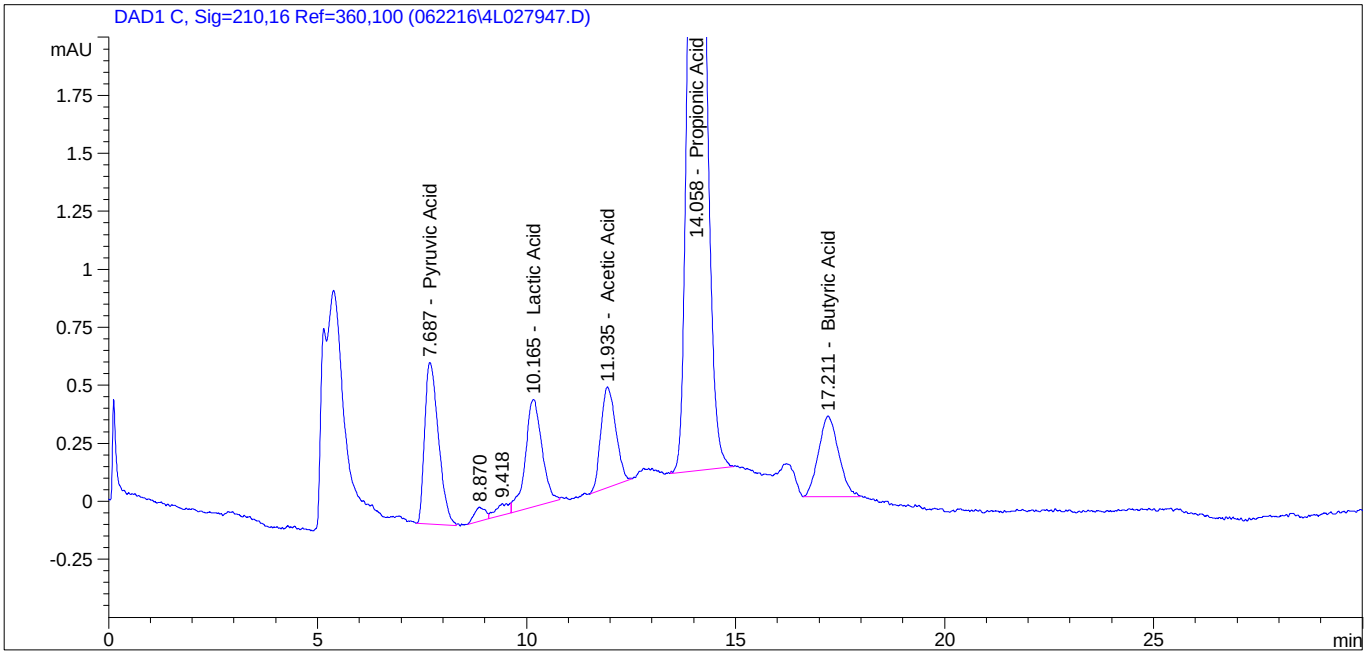
```
==========================================================================
Injection Date  : 6/22/2016 6:46:34 PM          Seq. Line :   5
Sample Name     : WG573731-05 STD                Location : Vial 5
Acq. Operator   : JWR                               Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 2:38:05 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Thursday, June 23, 2016 2:37:52 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.676 BV       80.43373 6.30559e-3 5.07182e-1    Pyruvic Acid
 10.138 VF       70.12683 7.27751e-2    5.10349    Lactic Acid
 11.918 BF       56.75938 8.91473e-2    5.05994    Acetic Acid
 14.020 BBA     146.79945 3.49074e-2    5.12438    Propionic Acid
 17.206 BBA      50.13863 9.97288e-2    5.00027    Butyric Acid

Totals :                                20.79526

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

1,1 STD74825 (@Level-1)

```
==========================================================================
Injection Date  : 6/22/2016 8:08:25 PM          Seq. Line :   6
Sample Name     : WG573731-06 STD                Location : Vial 6
Acq. Operator   : JWR                               Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 3:04:40 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Thursday, June 23, 2016 3:04:34 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.687 BF       16.02379 6.75739e-3 1.08279e-1    Pyruvic Acid
 10.165 VF       12.74460 7.97908e-2    1.01690    Lactic Acid
 11.935 BV       10.74922 9.92851e-2    1.06724    Acetic Acid
 14.058 BBA     117.22426 1.93646e-2    2.27000    Propionic Acid
 17.211 BF       11.70168 9.06927e-2    1.06126    Butyric Acid

Totals :                                5.52367

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Calibration Table

OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016

Calib. Data Modified : 6/23/2016 3:11:00 PM

Calculate : External Standard
Based on : Peak Area

Rel. Reference Window : 3.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 3.000 %
Abs. Non-ref. Window : 0.000 min
Do not use Multiplier & Dilution Factor with ISTDs
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: Yes, even for non-identified peaks

Curve Type : Linear
Origin : Ignored
Weight : Equal

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime [min]	Sig	Lvl	Amount [mg/L]	Area	Amt/Area	Ref	Grp	Name
7.687	1	1	1.00000e-1	16.02379	6.24072e-3			Pyruvic Acid
		2	5.00000e-1	80.43373	6.21630e-3			
		3	1.00000	159.04761	6.28743e-3			
		4	2.00000	319.98312	6.25033e-3			
		5	5.00000	811.44867	6.16182e-3			
		6	10.00000	1618.64111	6.17802e-3			
10.149	1	1	1.00000	12.74460	7.84646e-2			Lactic Acid
		2	5.00000	70.12683	7.12994e-2			
		3	10.00000	135.03194	7.40566e-2			
		4	20.00000	279.49280	7.15582e-2			
		5	50.00000	704.69446	7.09527e-2			
		6	100.00000	1401.77185	7.13383e-2			
11.929	1	1	1.00000	10.74922	9.30300e-2			Acetic Acid
		2	5.00000	56.75938	8.80912e-2			
		3	10.00000	113.20127	8.83382e-2			
		4	20.00000	225.48456	8.86979e-2			
		5	50.00000	572.96741	8.72650e-2			
		6	100.00000	1145.84753	8.72716e-2			
14.013	1	2	5.00000	146.79945	3.40601e-2			Propionic Acid
		3	10.00000	197.19083	5.07123e-2			
		4	20.00000	298.06375	6.70997e-2			
		5	50.00000	614.13599	8.14152e-2			
		6	100.00000	1129.17480	8.85602e-2			
17.205	1	1	1.00000	11.70168	8.54578e-2			Butyric Acid
		2	5.00000	50.13863	9.97235e-2			
		3	10.00000	99.47591	1.00527e-1			
		4	20.00000	196.23415	1.01919e-1			

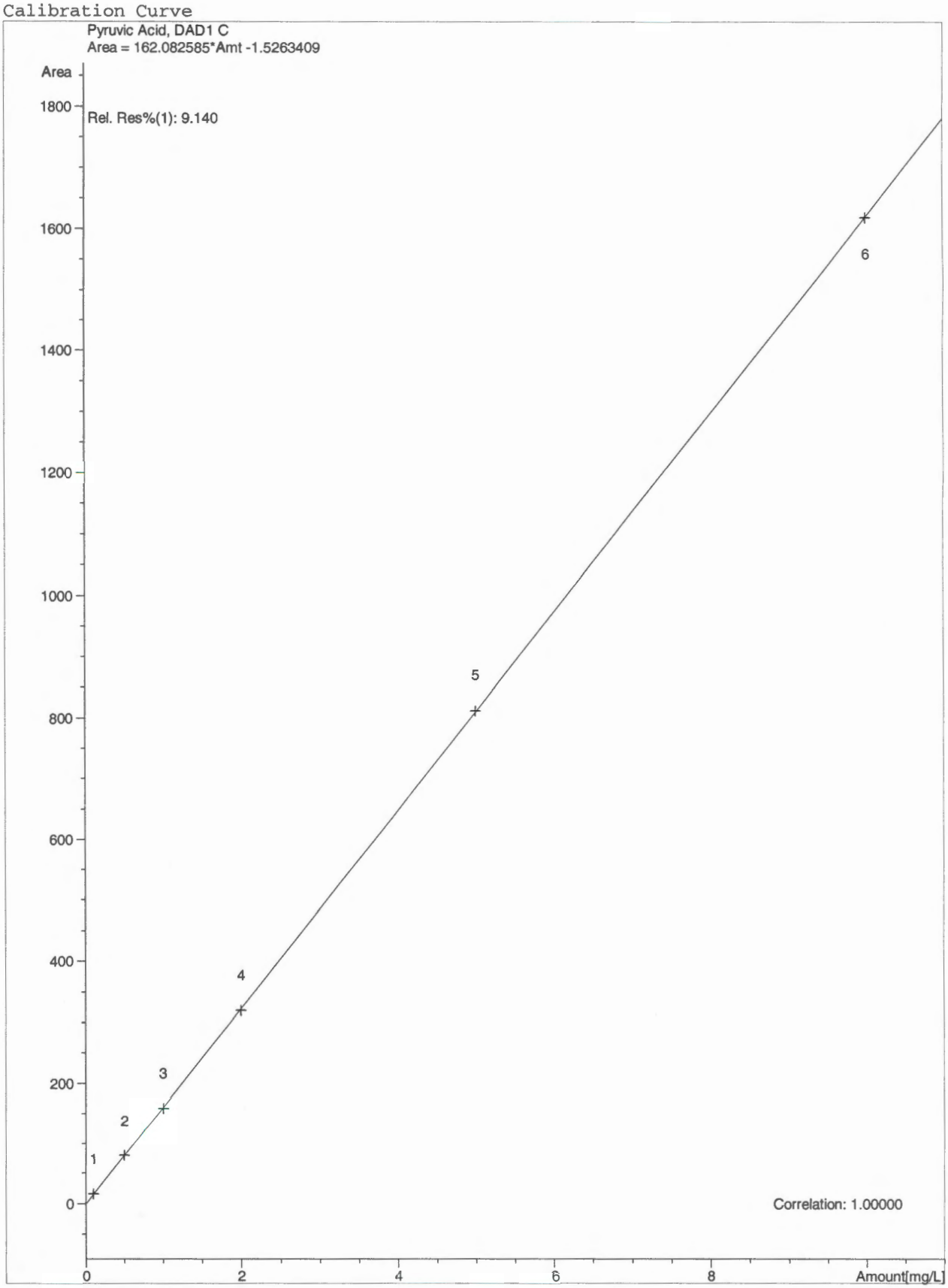
Method C:\HPCHEM\1\METHODS\830-MBDA.M

RetTime [min]	Sig	Lvl	Amount [mg/L]	Area	Amt/Area	Ref	Grp	Name
		5	50.00000	496.63232	1.00678e-1			
		6	100.00000	984.85156	1.01538e-1			

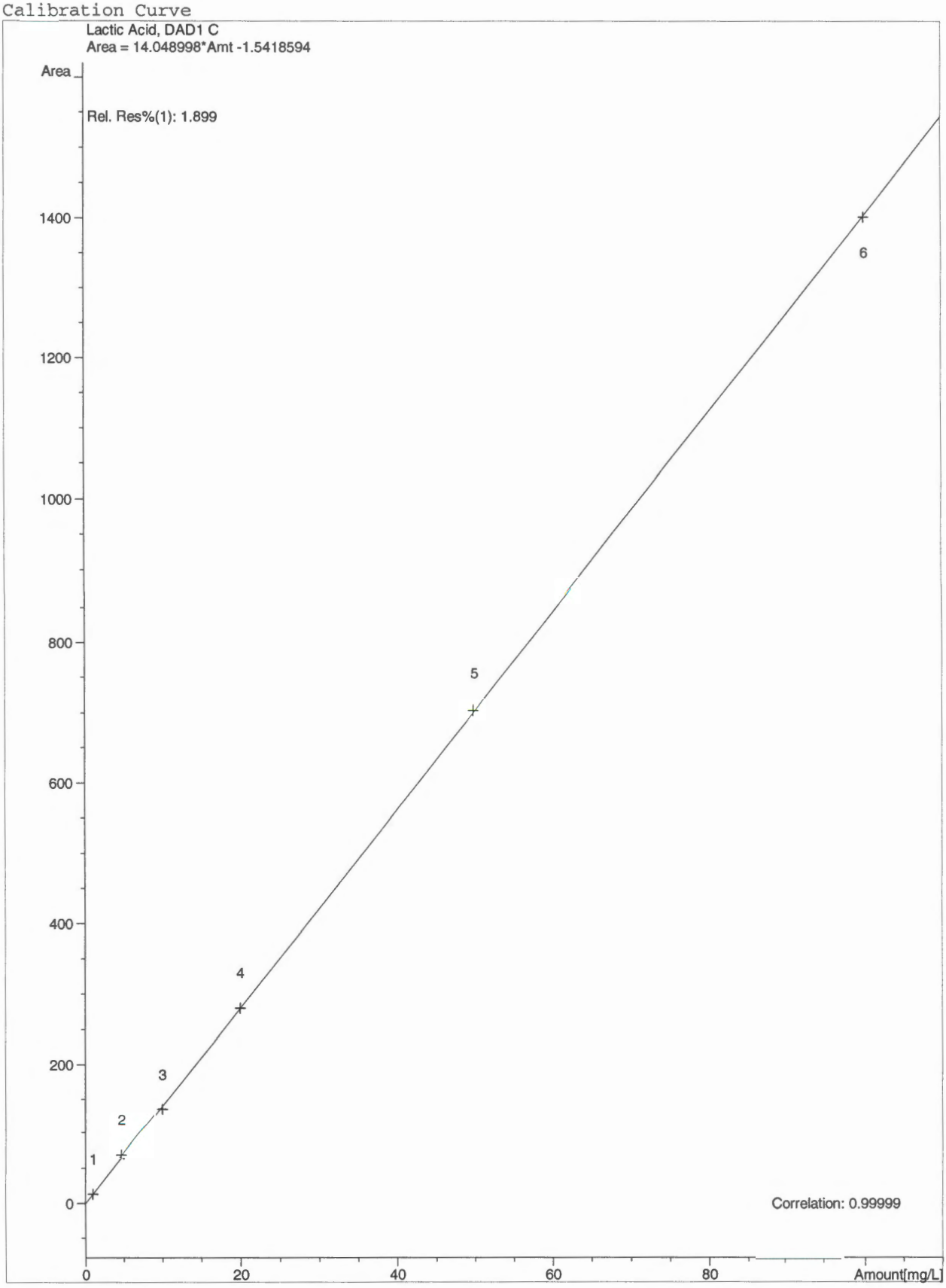
Peak Sum Table

No Entries in table

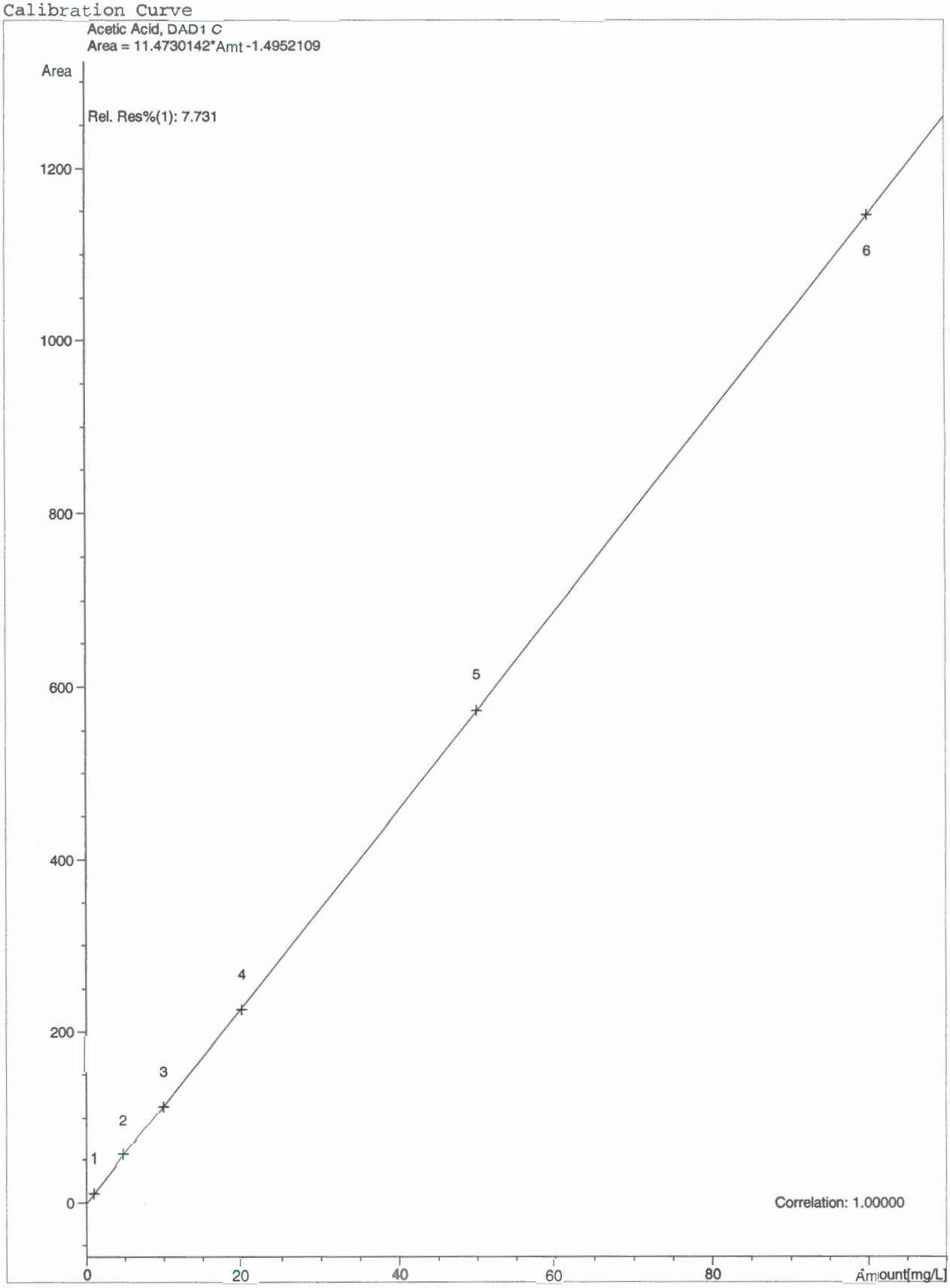
Calibration Curve



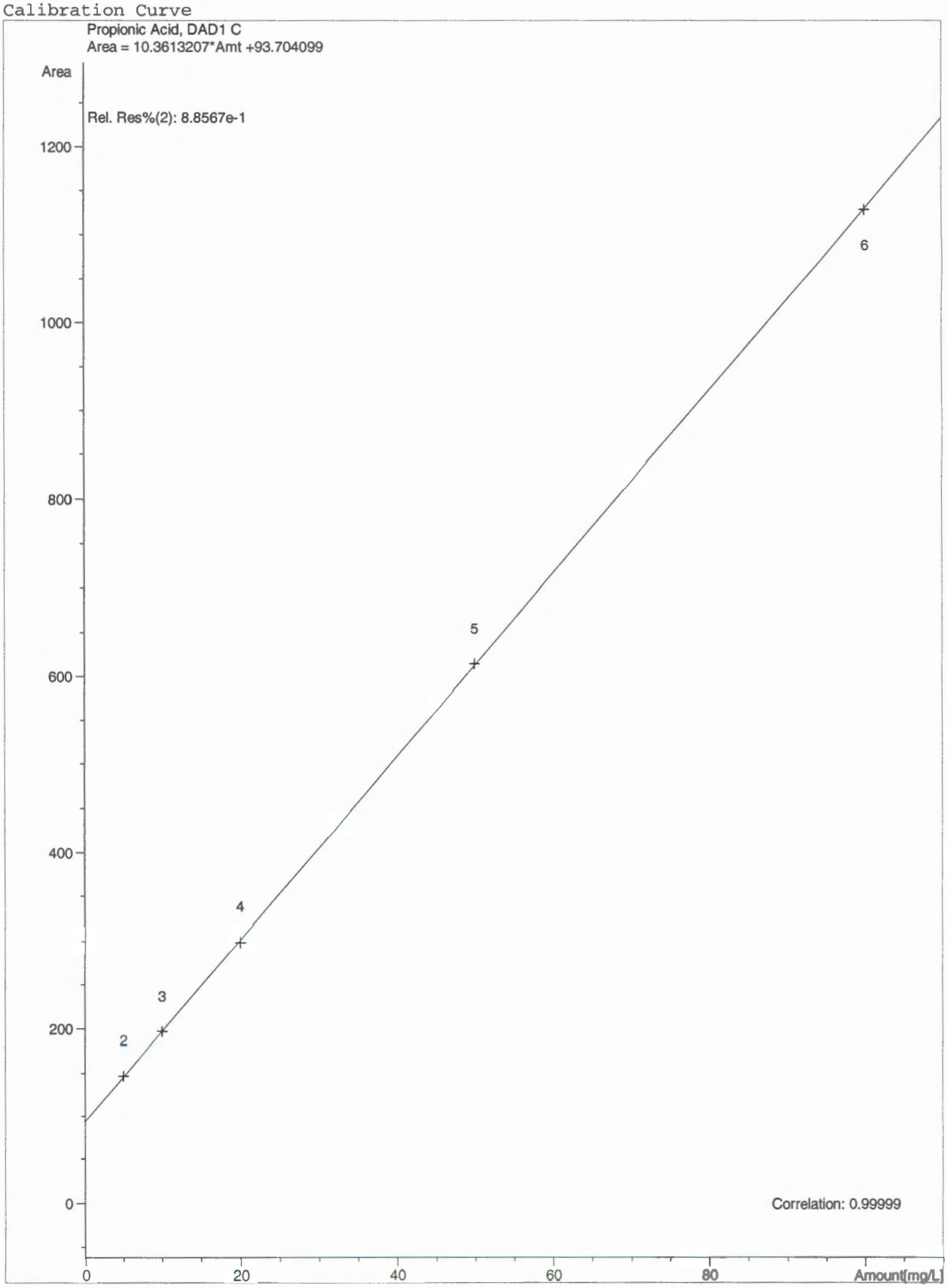
Calibration Curve



Calibration Curve



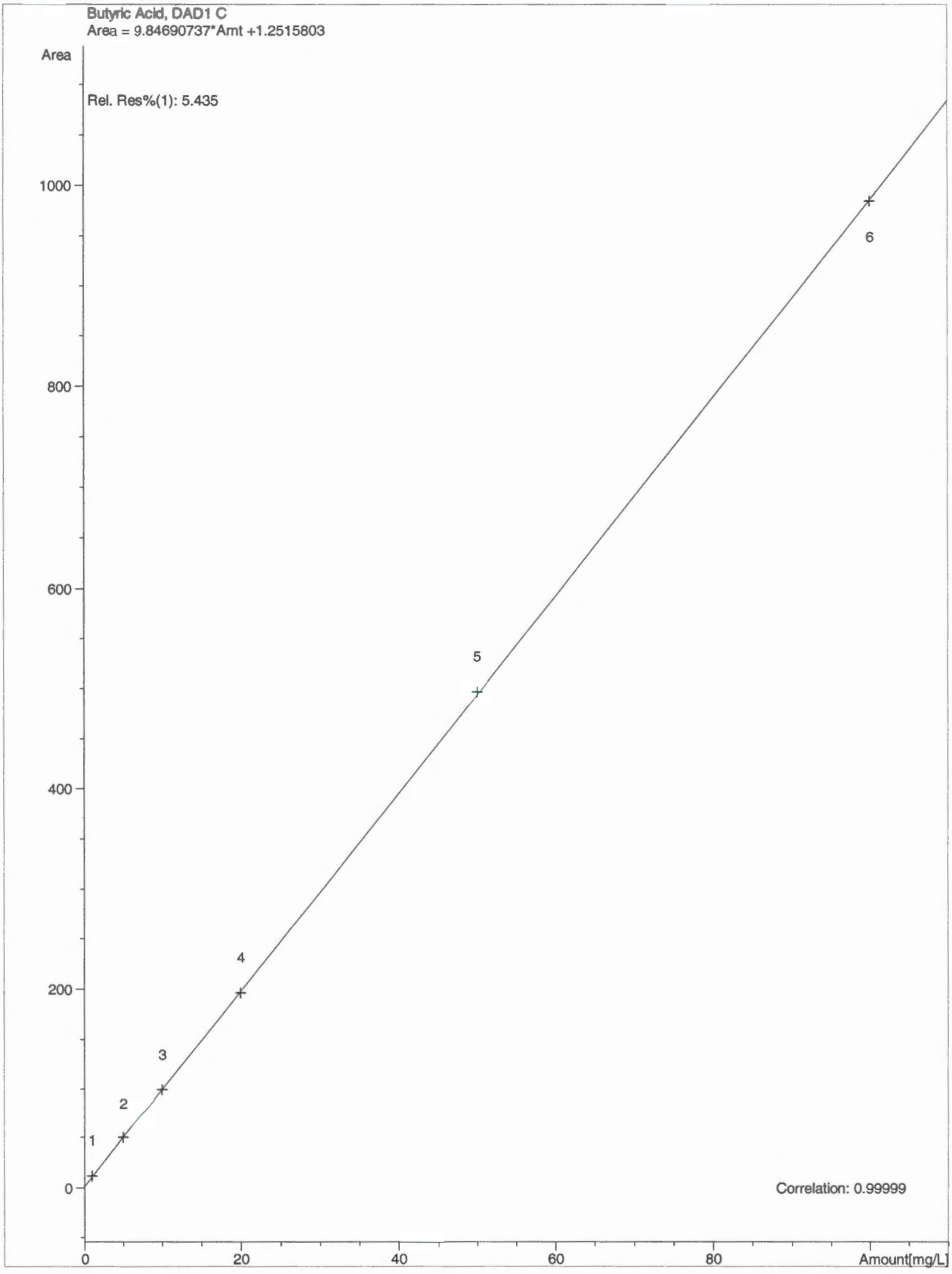
Calibration Curve



HPLC4 6/23/2016 3:17:30 PM JWR

Page 1 of 1

Calibration Curve



```
==========================================================================
Injection Date  : 6/22/2016 9:30:18 PM          Seq. Line :   7
Sample Name     : WG573731-07 SSCV               Location : Vial 7
Acq. Operator   : JWR                               Inj :   1
Acq. Instrument : HPLC4                       Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 6/21/2016 5:30:34 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 6/23/2016 3:14:11 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
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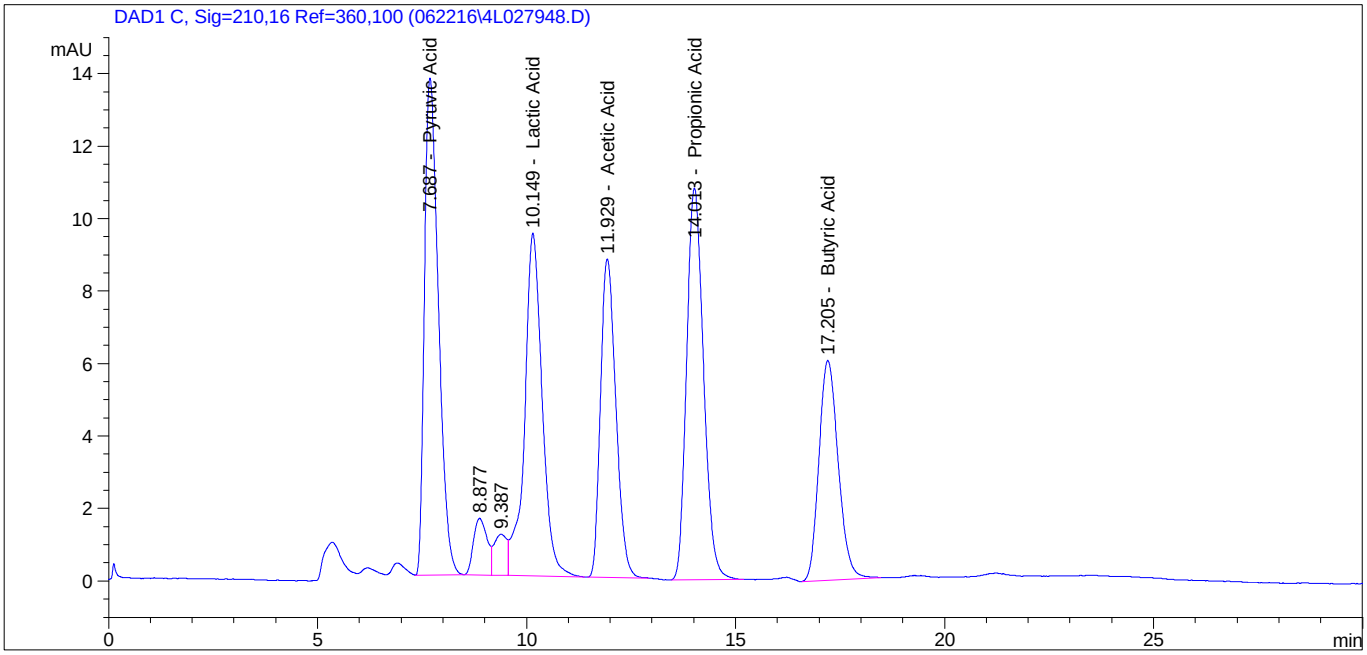


```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      6/23/2016 3:11:00 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.687 BV      318.71957 6.19924e-3    1.97582    Pyruvic Acid
 10.149 VBA     276.82471 7.15759e-2   19.81398    Lactic Acid
 11.929 BBA     224.61801 8.77413e-2   19.70827    Acetic Acid
 14.013 BBA     304.25815 6.67892e-2   20.32116    Propionic Acid
 17.205 BBA     194.24446 1.00900e-1   19.59934    Butyric Acid

Totals :                               81.41856

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Data File C:\HPCHEM\1\DATA\101416\4L028473.D Sample Name: WG587724-01 CCV
1,1 STD74825 (@Level-4)

```
======================================================================
Injection Date  : 10/14/2016 3:36:44 PM          Seq. Line :   1
Sample Name     : WG587724-01 CCV                 Location : Vial 1
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                        Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 11:14:04 AM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/14/2016 4:29:56 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
======================================================================
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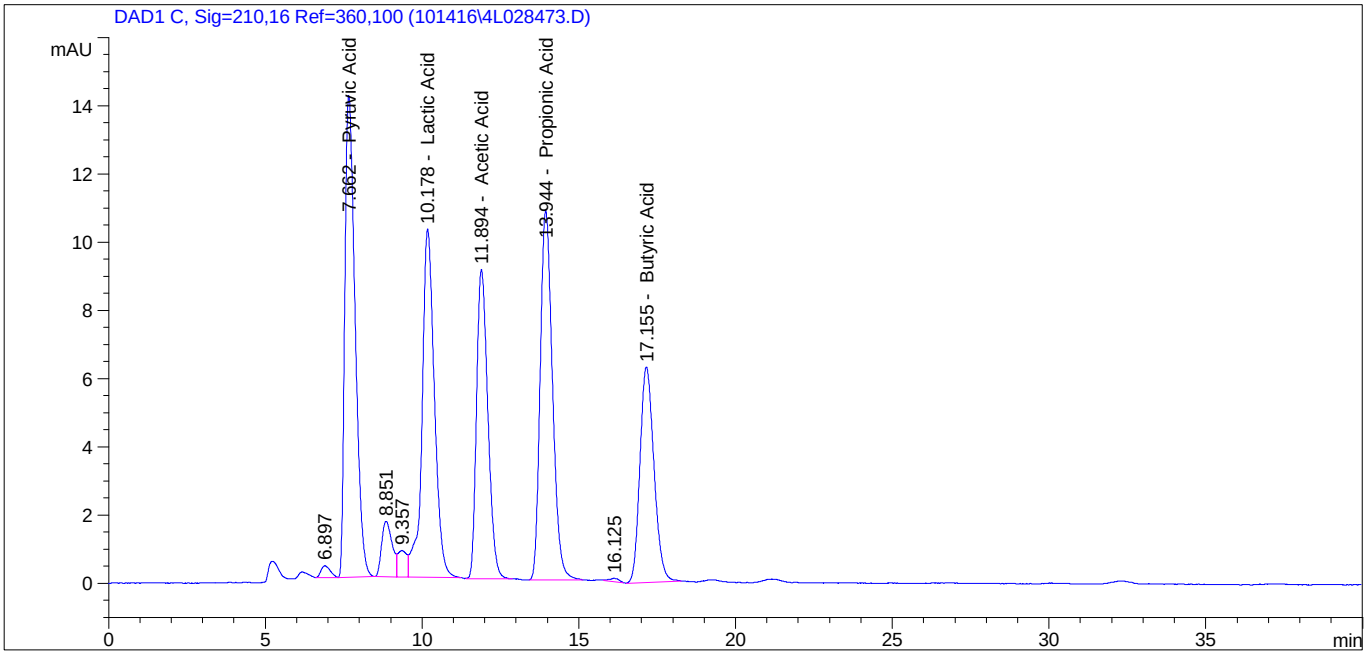


```
======================================================================
                    External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.662 VV      322.46021 6.19890e-3    1.99890    Pyruvic Acid
 10.178 VBA     279.82068 7.15717e-2   20.02723    Lactic Acid
 11.894 BBA     226.99648 8.77352e-2   19.91558    Acetic Acid
 13.944 BBA     294.45123 6.57992e-2   19.37467    Propionic Acid
 17.155 VBA     196.23947 1.00907e-1   19.80194    Butyric Acid

Totals :                               81.11831

 Results obtained with enhanced integrator!
======================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  : 10/15/2016 3:31:00 AM          Seq. Line :  10
Sample Name     : WG587724-02 CCV                 Location : Vial 1
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                        Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/15/2016 2:21:18 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
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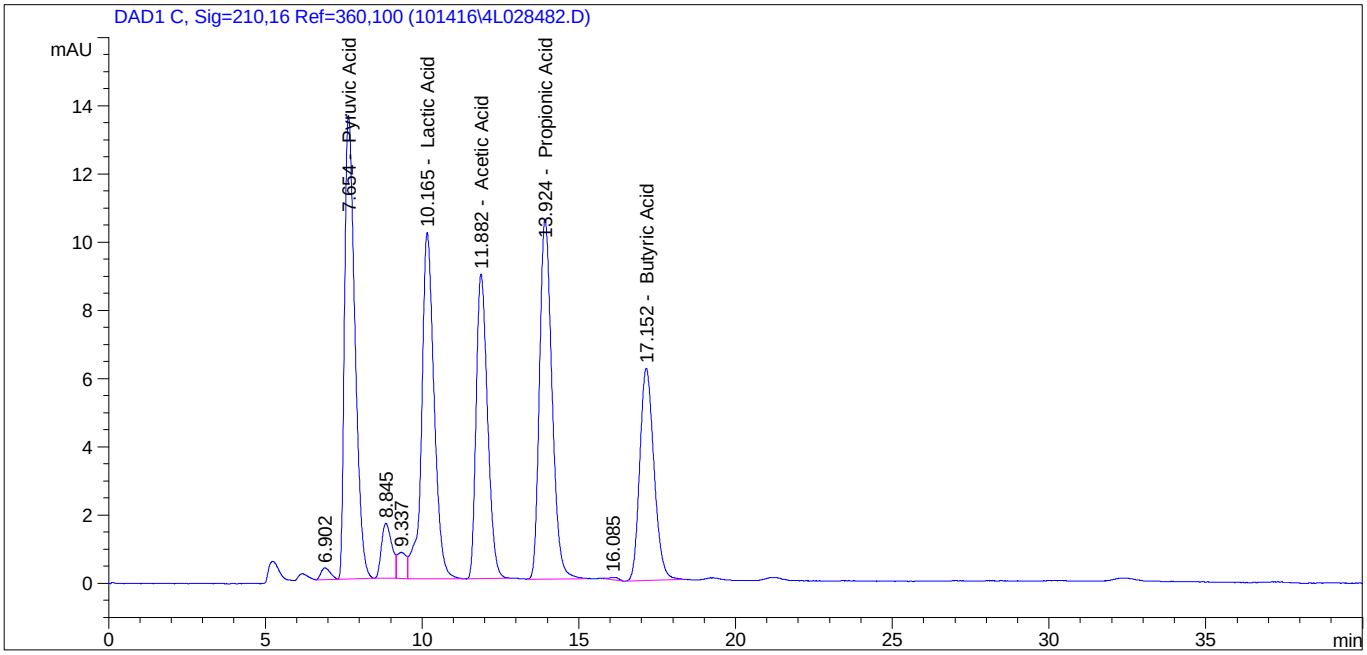


```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.654 VV      312.34561 6.19984e-3    1.93649    Pyruvic Acid
 10.165 VBA     281.05948 7.15699e-2   20.11541    Lactic Acid
 11.882 BF      225.66994 8.77386e-2   19.79995    Acetic Acid
 13.924 BF      291.35336 6.54727e-2   19.07568    Propionic Acid
 17.152 BBA     196.34312 1.00907e-1   19.81247    Butyric Acid

Totals :                               80.74001

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  : 10/15/2016 1:04:08 PM          Seq. Line :  17
Sample Name     : WG587724-03 CCV                 Location : Vial 1
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                        Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/15/2016 2:55:37 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
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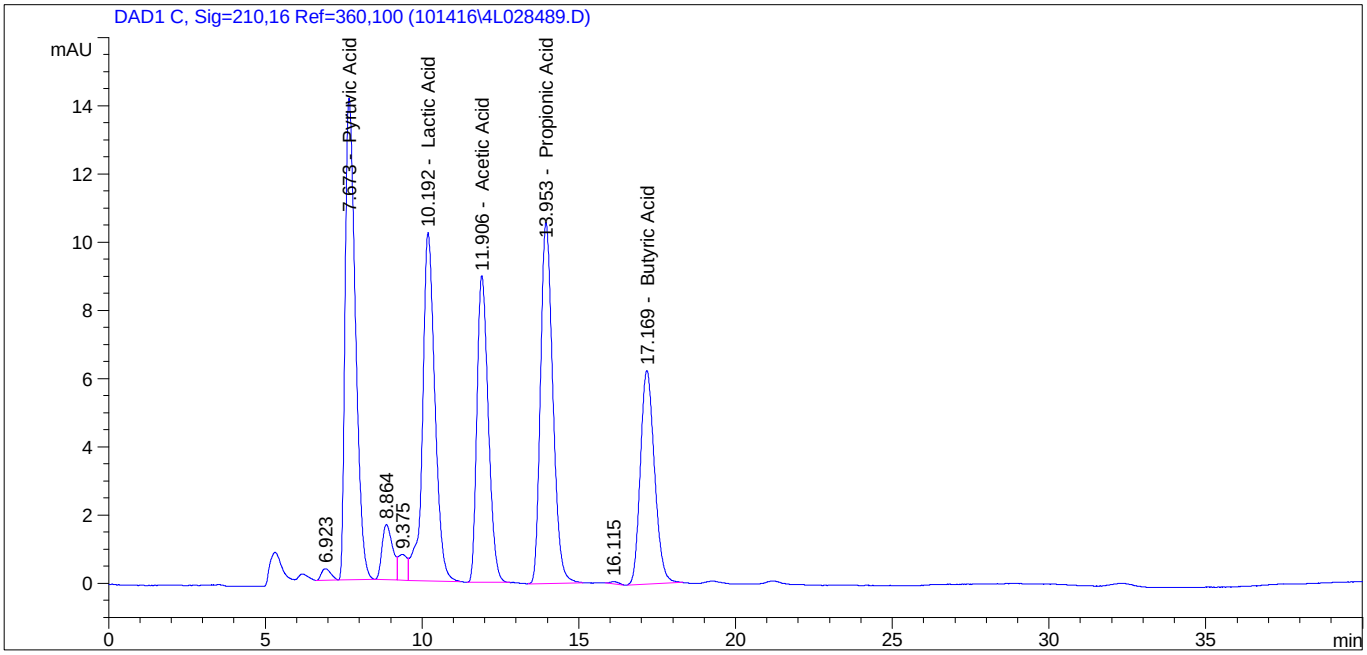



```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.673 VV      324.01340 6.19876e-3    2.00848    Pyruvic Acid
 10.192 VBA     280.80054 7.15703e-2   20.09698    Lactic Acid
 11.906 BF      226.34988 8.77368e-2   19.85922    Acetic Acid
 13.953 BF      289.34265 6.52570e-2   18.88162    Propionic Acid
 17.169 BBA     196.46368 1.00908e-1   19.82471    Butyric Acid

Totals :                               80.67101

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

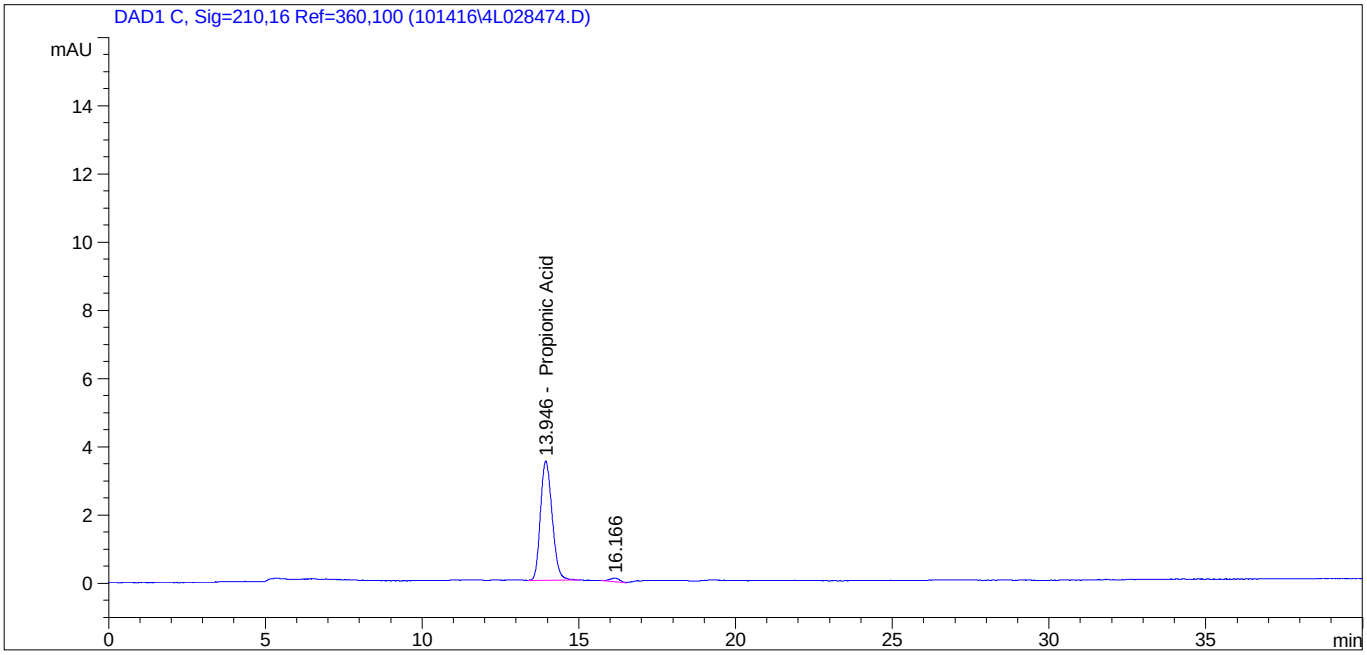
	RETENTION TIME WINDOWS			
Lab Name: Microbac Laboratories, Inc.				
Instrument ID:	HPLC4			
Column:	Rezex ROA (8%)			
	STANDARD #1	STANDARD #2	STANDARD #3	
Date Run	6/23/16	6/25/16	6/28/16	
File #	4L027950	4L027990	4L028035	
	WG572899-02	WG573577-02	WG573744-02	RT WIN
COMPOUND	RT	RT	RT	
Pyruvic Acid	7.673	7.677	7.681	0.012
Lactic Acid	10.134	10.155	10.175	0.062
Acetic Acid	11.91	11.919	11.918	0.015
Propionic Acid	13.993	13.998	13.978	0.031
Butyric Acid	17.178	17.197	17.19	0.029

HPLC4_830-MBA_2016-06-22.xls

2.2.1.5 QC Data

1,1 (0.1% H3PO4)

```
==========================================================================
Injection Date  : 10/14/2016 4:36:08 PM          Seq. Line :   2
Sample Name     : WG587720-01 BLK                 Location : Vial 2
Acq. Operator   : JWR                                 Inj :   1
Acq. Instrument : HPLC4                         Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/14/2016 6:09:10 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100
```

RetTime [min]	Type	Area [mAU*s]	Amt/Area	Amount [mg/L]	Grp	Name
7.662		-	-	-		Pyruvic Acid
10.178		-	-	-		Lactic Acid
11.894		-	-	-		Acetic Acid
13.946	BP	90.88940	0.00000	0.00000		Propionic Acid
17.155		-	-	-		Butyric Acid

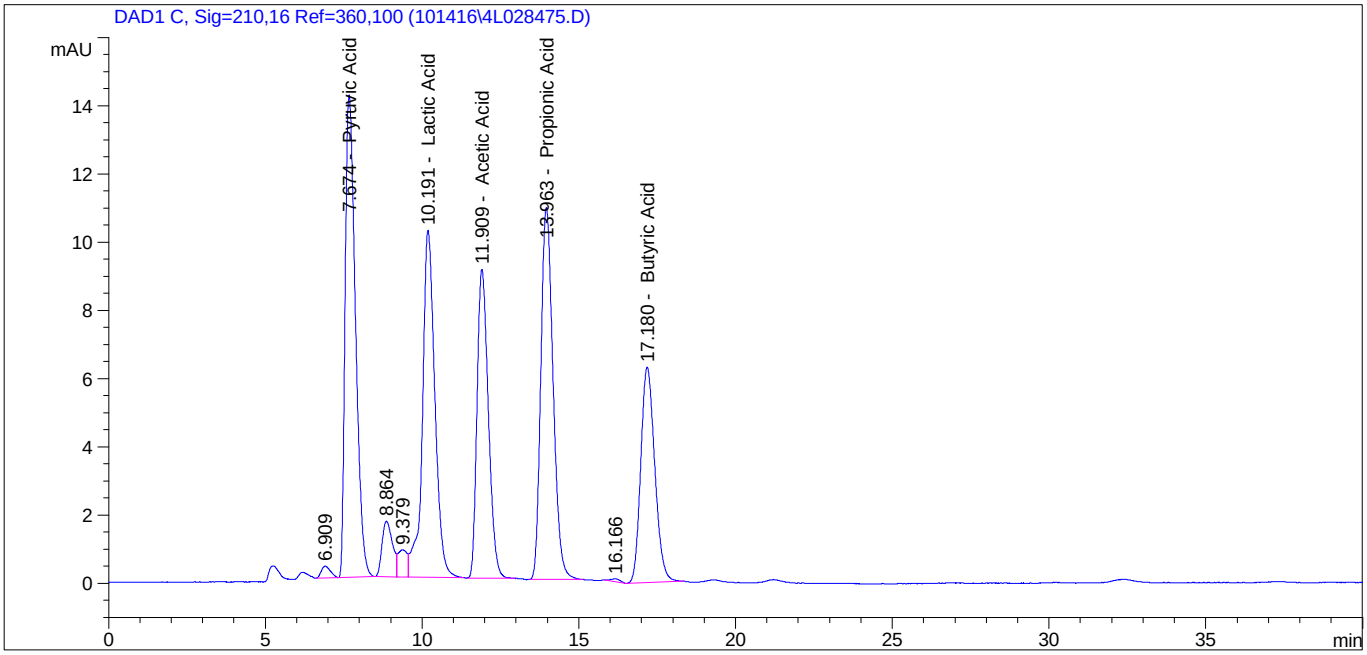
```
Totals :                                  0.00000

 Results obtained with enhanced integrator!
2 Warnings or Errors :

Warning : Calibrated compound(s) not found
Warning : Negative results set to zero (cal. curve intercept), (Propionic Acid)
```

00868212

```
=====================================================================
Injection Date  : 10/14/2016 4:36:08 PM          Seq. Line :   2
Sample Name     : WG587720-01 BLK                 Location : Vial 2
Acq. Operator   : JWR                                  Inj :   1
Acq. Instrument : HPLC4                         Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/14/2016 6:09:10 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
=====================================================================

=====================================================================
                         *** End of Report ***
```

1,1 STD74828 (@Level-4)

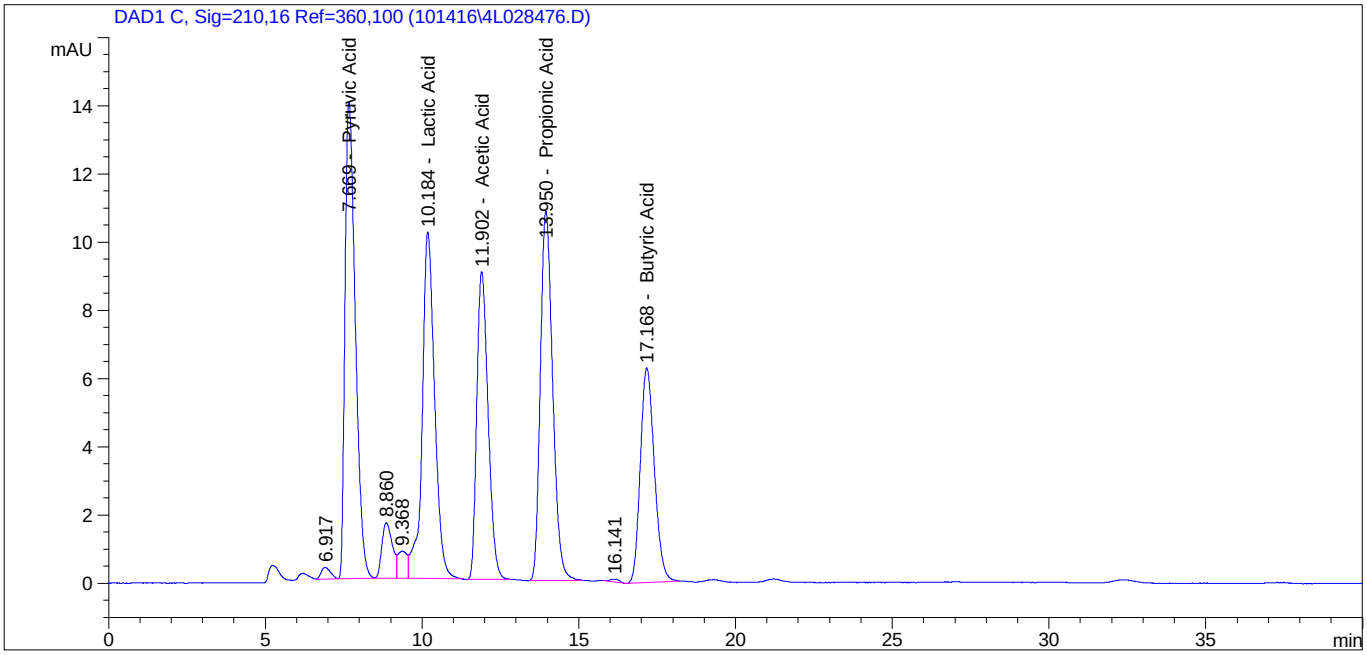
```
========================================================================
Injection Date  : 10/14/2016 5:57:57 PM          Seq. Line :   3
Sample Name     : WG587720-02 LCS                 Location : Vial 3
Acq. Operator   : JWR                                 Inj :   1
Acq. Instrument : HPLC4                        Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/15/2016 2:10:05 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
========================================================================
```




```
========================================================================
                      External Standard Report
========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.674 VV      323.11285 6.19884e-3    2.00292    Pyruvic Acid
 10.191 VBA     280.94583 7.15701e-2   20.10732    Lactic Acid
 11.909 BBA     227.10962 8.77349e-2   19.92544    Acetic Acid
 13.963 BBA     296.52420 6.60140e-2   19.57473    Propionic Acid
 17.180 VBA     196.61876 1.00908e-1   19.84046    Butyric Acid

Totals :                               81.45088

 Results obtained with enhanced integrator!
========================================================================
                          *** End of Report ***
```

1,1 STD74828 (@Level-4)

```
========================================================================
Injection Date  : 10/14/2016 7:19:49 PM          Seq. Line :   4
Sample Name     : WG587720-03 LCS2                Location : Vial 4
Acq. Operator   : JWR                                Inj :   1
Acq. Instrument : HPLC4                        Inj Volume : 80 µl
Acq. Method     : C:\HPCHEM\1\METHODS\830-MBA.M
Last changed    : 10/14/2016 4:32:03 PM by JWR
Analysis Method : C:\HPCHEM\1\METHODS\830-MBDA.M
Last changed    : 10/15/2016 2:11:27 PM by JWR
OVD-SOP#HPLC03: 830-MBA Calibration 06/22/2016
========================================================================
```




```
========================================================================
                      External Standard Report
========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/14/2016 4:27:39 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 C, Sig=210,16 Ref=360,100

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [mg/L]
-------|------|----------|----------|----------|--|------------------
  7.669 VV      319.89273 6.19913e-3    1.98306    Pyruvic Acid
 10.184 VBA     280.80362 7.15703e-2   20.09720    Lactic Acid
 11.902 BF      226.56099 8.77363e-2   19.87762    Acetic Acid
 13.950 BBA     295.10934 6.58677e-2   19.43818    Propionic Acid
 17.168 VBA     195.67484 1.00905e-1   19.74460    Butyric Acid

Totals :                               81.14066

 Results obtained with enhanced integrator!
========================================================================
                          *** End of Report ***
```

2.3 Metals Data

2.3.1 Metals I C P Data

2.3.1.1 Summary Data

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16100194-02	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	35AWW08F-100416	**Prep Method:**	3015	**Prep Date:**	10/11/2016 10:14
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	10/14/2016 12:45
Workgroup #:	WG587330	**Analyst:**	KKB	**Run Date:**	10/14/2016 15:08
Collect Date:	10/04/2016 07:40	**Dilution:**	10	**File ID:**	T4.101416.150856
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	33.3		1.00	1.00	0.500

Certificate of Analysis

Sample #:	L16100194-04	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	03WW01F-100416	**Prep Method:**	3015	**Prep Date:**	10/11/2016 10:14
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	10/14/2016 12:45
Workgroup #:	WG587330	**Analyst:**	KKB	**Run Date:**	10/14/2016 15:12
Collect Date:	10/04/2016 08:20	**Dilution:**	10	**File ID:**	T4.101416.151240
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	46.5		1.00	1.00	0.500

Certificate of Analysis

Sample #:	L16100194-05	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	35AWW20-100416	**Prep Method:**	3015	**Prep Date:**	10/11/2016 10:14
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	10/13/2016 12:49
Workgroup #:	WG587330	**Analyst:**	KKB	**Run Date:**	10/13/2016 15:16
Collect Date:	10/04/2016 09:35	**Dilution:**	1	**File ID:**	T4.101316.151601
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	0.458		0.100	0.100	0.0500

Certificate of Analysis

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L16100194-06	**PrePrep Method:**	N/A	**Instrument:**	ICP-THERMO4
Client ID:	LHSMW07-100416	**Prep Method:**	3015	**Prep Date:**	10/11/2016 10:14
Matrix:	Water	**Analytical Method:**	6010C	**Cal Date:**	10/13/2016 12:49
Workgroup #:	WG587330	**Analyst:**	KKB	**Run Date:**	10/13/2016 14:00
Collect Date:	10/04/2016 10:40	**Dilution:**	1	**File ID:**	T4.101316.140042
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Total	7439-89-6	1.34		0.100	0.100	0.0500

Microbac

Lab Report #: L16100194
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Generated at Oct 20, 2016 17:20

2.3.1.2 QC Summary Data

Example 6010 Calculations
Thermo Scientific IRIS Advantage

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 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

TCLP Non-Volatile

Analyst(s): BNB
Date: 10-10-16
Filter Lot #: 94826030
Microbac SOP: TCLP01 Rev #: 12

Analyst / Date		Analyst / Date	
BNB 10-10-16		BNB 10-11-16	
Time On	Temp On °C	Time Off	Temp Off °C
11:19	22.3	8:19	22.4

Agitator Speed 30 ± 2 rpm ☑

Jug #	Sample #	Tests	Method	Fluid #	Matrix *	% Solid	Pretest pH Initial	Pretest pH Final	Int. Wt. (g)	Fluid Vol. (mL)	Final extract pH
D	10-0311-01	Me	1311	F_2-385	S	100	11.78	7.68	25.09	501	6.60
D	10-0388-01	Me		F_1-190			8.72	1.89	25.10	502	7.42
D	10-0414-01	Me					10.76	3.48	25.29	505	10.95
16	10-0402-01	Me, SV					8.44	2.01	50.25	1005	6.46
17	10-0377-01	Me, SV					8.62	2.09	50.70	1014	7.47
29	10-0377-02	Me, SV					8.40	2.12	50.28	1005	7.30
D	10-0322-01	Me		F_2-385			13.00	12.45	25.15	503	12.93
D	10-0412-01	Me		F_1-190			11.24	4.06	25.20	504	9.75
D	10-0404-01	Me					9.73	2.18	25.29	505	5.88
D	10-0450-01	Me	1311	F_1-190	S	100	6.40	2.33	25.53	510	5.41
NA	FBLK-1	Me, SV	1311		NA	NA	NA	NA	100	100	4.97
NA	FBLK-2	Me		F_2-385							2.91
D	10-0471-01	Me	1311	F_1-190	S	100	7.74	2.12	25.39	507	7.50
NA	10-0474-01	Me (filter)		NA	W	<0.5	NA	NA	100	100	8.49

BNB 10-11-16

*Matrix Code: (S = solid, sand, soil or sludge) (P = paint) (O = organic) (W = water or aqueous waste)
D = Disposable plastic jug
TCLP Pretest weight will be 5.0 g (± 0.1) unless otherwise noted.
Temperature shall be maintained at 23° ± 2 for 18 ± 2 hours unless otherwise noted.

Comments: NA

Peer Review By:

Microbac Laboratories Inc.
Microwave Digestion Log

Workgroup:	WG587099	SOP:	ME407 Revison 19
Analyst:	ERP	Spike Solution:	STD78303
Spike Analyst:	ERP	Spike Witness:	VC
Run Date:	10/11/2016 10:14	HNO3 Lot #:	COA19196
Method:	3015	HCL Lot #:	COA19181
Balance:	BAL019	40 & 50 ML. DIGESTION TU	COA18987
Instrument:	MW-1	ICP FILTERS LOT#R6BA1587	RGT37256
Instrument Start:	10/11/2016 10:34		

	SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG587099-02	BLANK	1	40 mL	50 mL	204.84 g	204.827 g		
2	WG586884-01	FBLK1	17	5 mL	50 mL	205.677 g	205.664 g		
3	WG586884-02	FBLK2	17	5 mL	50 mL	205.265 g	205.251 g		
4	WG587099-03	LCS	1	40 mL	50 mL	213.101 g	213.099 g	5 mL	
5	L16100194-02	SAMP	1	40 mL	50 mL	203.725 g	203.697 g		10/14/16
6	L16100194-04	SAMP	1	40 mL	50 mL	204.225 g	204.147 g		10/14/16
7	L16100194-05	SAMP	1	40 mL	50 mL	205.381 g	205.367 g		10/14/16
8	L16100194-06	SAMP	1	40 mL	50 mL	203.067 g	203.054 g		10/14/16
9	WG587099-01	REF	17	5 mL	50 mL	204.219 g	204.193 g		
10	L16100311-01	SAMP	17	5 mL	50 mL	204.219 g	204.193 g		10/13/16
11	L16100319-02	SAMP	1	40 mL	50 mL	205.422 g	205.412 g		10/13/16
12	L16100322-01	SAMP	17	5 mL	50 mL	206.031 g	206.027 g		10/14/16
13	L16100377-01	SAMP	17	5 mL	50 mL	206.619 g	206.6 g		10/14/16
14	L16100377-02	SAMP	17	5 mL	50 mL	204.313 g	204.306 g		10/14/16
15	L16100388-01	SAMP	17	5 mL	50 mL	204.757 g	204.747 g		10/14/16
16	L16100402-01	SAMP	17	5 mL	50 mL	205.188 g	205.18 g		10/14/16
17	L16100404-01	SAMP	17	5 mL	50 mL	205.276 g	205.264 g		10/14/16
18	L16100412-01	SAMP	17	5 mL	50 mL	207.554 g	207.555 g		10/14/16
19	L16100414-01	SAMP	17	5 mL	50 mL	207.407 g	207.395 g		10/14/16
20	L16100423-01	SAMP	1	40 mL	50 mL	206.173 g	206.18 g		10/17/16
21	L16100450-01	SAMP	17	5 mL	50 mL	208.31 g	208.303 g		10/14/16
22	L16100471-01	SAMP	17	5 mL	50 mL	203.371 g	203.353 g		10/13/16
23	L16100474-01	SAMP	17	5 mL	50 mL	206.491 g	206.481 g		10/13/16
24	WG587099-04	MS	1	5 mL	50 mL	211.585 g	211.578 g	5 mL	
25	WG587099-05	MSD	1	5 mL	50 mL	212.161 g	212.138 g	5 mL	

L16100194-02	filtered digestate
L16100194-04	filtered digestate
L16100319-02	filtered digestate

Analyst: Erin Potter

Reviewer: Vicki Collins

MW_DIG - Modified 09/30/2009
PDF ID: 4969619
Report generated: 10/11/2016 11:18

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 101316T4.4
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD78116 ICV Std: STD78115 Post Spike: STD77492
ICSA: STD78233 ICSAB: STD78344 Int. Std: RGT37691
CCV: STD78214 LLCCV: COA18880 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 587330,587329,587461,587463,587464

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	T4.101316.123408	WG587523-01	Calibration Point		1		10/13/16 12:34
2	T4.101316.123755	WG587523-02	Calibration Point		1		10/13/16 12:37
3	T4.101316.124143	WG587523-03	Calibration Point		1		10/13/16 12:41
4	T4.101316.124532	WG587523-04	Calibration Point		1		10/13/16 12:45
5	T4.101316.124901	WG587523-05	Calibration Point		1		10/13/16 12:49
6	T4.101316.125229	WG587523-06	Initial Calibration Verification		1		10/13/16 12:52
7	T4.101316.125558	WG587523-07	Initial Calib Blank		1		10/13/16 12:55
8	T4.101316.125946	WG587523-08	Low Level Initial Calibration V		1		10/13/16 12:59
9	T4.101316.130330	WG587523-09	Low Level Initial Calibration V		1		10/13/16 13:03
10	T4.101316.130714	WG587523-10	Interference Check		1		10/13/16 13:07
11	T4.101316.131112	WG587523-11	Interference Check		1		10/13/16 13:11
12	T4.101316.131458	WG587523-12	CCV		1		10/13/16 13:14
13	T4.101316.131828	WG587523-13	CCB		1		10/13/16 13:18
14	T4.101316.134454	WG587099-02	Method/Prep Blank	40/50	1		10/13/16 13:44
15	T4.101316.134842	WG587099-03	Laboratory Control S	40/50	1		10/13/16 13:48
16	T4.101316.135216	WG586884-01	Fluid Blank 1		1		10/13/16 13:52
17	T4.101316.135655	WG586884-02	Fluid Blank 2		1		10/13/16 13:56
18	T4.101316.140042	L16100194-06	LHSMW07-100416	40/50	1		10/13/16 14:00
19	T4.101316.140444	WG587330-01	Post Digestion Spike		1	L16100194-06	10/13/16 14:04
20	T4.101316.140834	WG587330-02	Serial Dilution		5	L16100194-06	10/13/16 14:08
21	T4.101316.141219	WG587099-01	Reference Sample		1	L16100311-01	10/13/16 14:12
22	T4.101316.141602	WG587099-04	Matrix Spike	5/50	1	L16100311-01	10/13/16 14:16
23	T4.101316.141935	WG587099-05	Matrix Spike Duplica	5/50	1	L16100311-01	10/13/16 14:19
24	T4.101316.142309	WG587523-14	CCV		1		10/13/16 14:23
25	T4.101316.142637	WG587523-15	CCB		1		10/13/16 14:26
26	T4.101316.143027	L16100319-02	INS-WL01-100516	40/50	1		10/13/16 14:30
27	T4.101316.143407	L16100471-01	13837-SSP0558	5/50	1		10/13/16 14:34
28	T4.101316.143844	L16100474-01	TANK \#09	5/50	1		10/13/16 14:38
29	T4.101316.144231	L16100319-02	INS-WL01-100516	40/50	5		10/13/16 14:42
30	T4.101316.144611	WG587523-16	CCV		1		10/13/16 14:46
31	T4.101316.144940	WG587523-17	CCB		1		10/13/16 14:49
32	T4.101316.145329	WG587523-18	Interference Check		1		10/13/16 14:53
33	T4.101316.145721	WG587523-19	Interference Check		1		10/13/16 14:57
34	T4.101316.150107	WG587523-20	CCV		1		10/13/16 15:01

Page: 1 Approved: October 13, 2016

Kym H. Rhoden

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 101316T4.4
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD78116 ICV Std: STD78115 Post Spike: STD77492
ICSA: STD78233 ICSAB: STD78344 Int. Std: RGT37691
CCV: STD78214 LLCCV: COA18880 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 587330,587329,587461,587463,587464

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	T4.101316.150434	WG587523-21	CCB		1		10/13/16 15:04
36	T4.101316.150824	L16100194-02	35AWW08F-100416	40/50	1		10/13/16 15:08
37	T4.101316.151212	L16100194-04	03WW01F-100416	40/50	1		10/13/16 15:12
38	T4.101316.151601	L16100194-05	35AWW20-100416	40/50	1		10/13/16 15:16
39	T4.101316.152003	L16100322-01	SAPA 12 BAGS	5/50	1		10/13/16 15:20
40	T4.101316.152348	L16100377-01	S-20215	5/50	1		10/13/16 15:23
41	T4.101316.152733	L16100377-02	S-20206	5/50	1		10/13/16 15:27
42	T4.101316.153119	L16100388-01	INS-WS01-100616	5/50	1		10/13/16 15:31
43	T4.101316.153505	L16100402-01	HAYNES \#1	5/50	1		10/13/16 15:35
44	T4.101316.153849	L16100404-01	J6J0334-01	5/50	1		10/13/16 15:38
45	T4.101316.154236	WG587523-22	CCV		1		10/13/16 15:42
46	T4.101316.154604	WG587523-23	CCB		1		10/13/16 15:46
47	T4.101316.154953	L16100412-01	J6J0375-01	5/50	1		10/13/16 15:49
48	T4.101316.155338	L16100414-01	J6J0376-01	5/50	1		10/13/16 15:53
49	T4.101316.155725	L16100423-01	01-01-0149W1	40/50	1		10/13/16 15:57
50	T4.101316.160110	L16100450-01	H6J0347-01	5/50	1		10/13/16 16:01
51	T4.101316.160452	WG587523-24	CCV		1		10/13/16 16:04
52	T4.101316.160821	WG587523-25	CCB		1		10/13/16 16:08
53	T4.101316.161210	WG587523-26	Low Level Continuing Calibra		1		10/13/16 16:12
54	T4.101316.161556	WG587523-27	Low Level Continuing Calibra		1		10/13/16 16:15
55	T4.101316.161940	L16100336-01	6-10-24.11 S1	40/50	1		10/13/16 16:19
56	T4.101316.162325	L16100336-02	6-10-24.11 S3	40/50	1		10/13/16 16:23
57	T4.101316.162709	L16100336-03	6-10-24.11 S2	40/50	1		10/13/16 16:27
58	T4.101316.163053	WG586780-01	Reference Sample		1	L16100341-01	10/13/16 16:30
59	T4.101316.163437	WG586780-04	Matrix Spike	40/50	1	L16100341-01	10/13/16 16:34
60	T4.101316.163820	WG586780-05	Matrix Spike Duplica	40/50	1	L16100341-01	10/13/16 16:38
61	T4.101316.164206	WG587523-28	CCV		1		10/13/16 16:42
62	T4.101316.164533	WG587523-29	CCB		1		10/13/16 16:45
63	T4.101316.164921	WG587059-02	Method/Prep Blank	40/50	1		10/13/16 16:49
64	T4.101316.165307	WG587059-03	Laboratory Control S	40/50	1		10/13/16 16:53
65	T4.101316.165641	L16100337-01	6-8-25-W1	40/50	1		10/13/16 16:56
66	T4.101316.170025	L16100337-02	6-8-25-S1	40/50	1		10/13/16 17:00
67	T4.101316.170409	L16100339-01	6-10-24.08-S1	40/50	1		10/13/16 17:04
68	T4.101316.170754	L16100339-02	6-10-24.08-S2	40/50	1		10/13/16 17:07

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Kym H. Rhoden

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 101316T4.4
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD78116 ICV Std: STD78115 Post Spike: STD77492
ICSA: STD78233 ICSAB: STD78344 Int. Std: RGT37691
CCV: STD78214 LLCCV: COA18880 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 587330,587329,587461,587463,587464

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	T4.101316.171134	L16100340-01	6-10-27.10-P1	40/50	1		10/13/16 17:11
70	T4.101316.171517	L16100342-01	15-13-8 S3	40/50	1		10/13/16 17:15
71	T4.101316.171901	WG587461-01	Post Digestion Spike		1	L16100342-01	10/13/16 17:19
72	T4.101316.172234	WG587461-02	Serial Dilution		5	L16100342-01	10/13/16 17:22
73	T4.101316.172622	WG587523-30	CCV		1		10/13/16 17:26
74	T4.101316.172951	WG587523-31	CCB		1		10/13/16 17:29
75	T4.101316.173339	L16100342-02	15-13-8 S2	40/50	1		10/13/16 17:33
76	T4.101316.173725	L16100342-03	15-13-8 S1	40/50	1		10/13/16 17:37
77	T4.101316.174109	L16100342-04	15-13-13 S1	40/50	1		10/13/16 17:41
78	T4.101316.174454	L16100342-05	15-13-19 W2	40/50	1		10/13/16 17:44
79	T4.101316.174838	L16100342-06	15-13-19 W1	40/50	1		10/13/16 17:48
80	T4.101316.175223	L16100343-01	59-11-16.24W1	40/50	1		10/13/16 17:52
81	T4.101316.175607	L16100343-02	59-11-16.24S2	40/50	1		10/13/16 17:56
82	T4.101316.175952	L16100343-03	59-11-16.24S1	40/50	1		10/13/16 17:59
83	T4.101316.180336	L16100344-01	59-11-13.04W1	40/50	1		10/13/16 18:03
84	T4.101316.180718	L16100347-01	6-10-27.06-W1	40/50	1		10/13/16 18:07
85	T4.101316.181105	WG587523-32	CCV		1		10/13/16 18:11
86	T4.101316.181433	WG587523-33	CCB		1		10/13/16 18:14
87	T4.101316.181822	L16100347-02	6-10-27.06-P1	40/50	1		10/13/16 18:18
88	T4.101316.182206	L16100347-03	6-10-27.06-S1	40/50	1		10/13/16 18:22
89	T4.101316.182550	L16100347-04	6-10-27.06-P3	40/50	1		10/13/16 18:25
90	T4.101316.182935	WG587059-01	Reference Sample		1	L16100347-05	10/13/16 18:29
91	T4.101316.183320	WG587059-04	Matrix Spike	40/50	1	L16100347-05	10/13/16 18:33
92	T4.101316.183653	WG587059-05	Matrix Spike Duplica	40/50	1	L16100347-05	10/13/16 18:36
93	T4.101316.184027	WG587523-34	CCV		1		10/13/16 18:40
94	T4.101316.184356	WG587523-35	CCB		1		10/13/16 18:43
95	T4.101316.184743	WG587116-02	Method/Prep Blank	40/50	1		10/13/16 18:47
96	T4.101316.185131	WG587116-03	Laboratory Control S	40/50	1		10/13/16 18:51
97	T4.101316.185504	L16100345-01	59-8-6P1	40/50	1		10/13/16 18:55
98	T4.101316.185849	L16100345-02	59-8-6S2	40/50	1		10/13/16 18:58
99	T4.101316.190233	L16100345-03	59-8-6S3	40/50	1		10/13/16 19:02
100	T4.101316.190609	L16100345-04	59-8-6S4	40/50	1		10/13/16 19:06
101	T4.101316.190953	L16100345-05	59-8-6S5	40/50	1		10/13/16 19:09
102	T4.101316.191338	L16100345-06	59-8-6S1	40/50	1		10/13/16 19:13

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 101316T4.4
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD78116 ICV Std: STD78115 Post Spike: STD77492
ICSA: STD78233 ICSAB: STD78344 Int. Std: RGT37691
CCV: STD78214 LLCCV: COA18880 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 587330,587329,587461,587463,587464

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	T4.101316.191723	WG587463-01	Post Digestion Spike		1	L16100345-06	10/13/16 19:17
104	T4.101316.192056	WG587463-02	Serial Dilution		5	L16100345-06	10/13/16 19:20
105	T4.101316.192443	WG587523-36	CCV		1		10/13/16 19:24
106	T4.101316.192812	WG587523-37	CCB		1		10/13/16 19:28
107	T4.101316.193159	L16100346-01	6-10-27.06 S1	40/50	1		10/13/16 19:31
108	T4.101316.193544	L16100346-02	6-10-27.10 P1	40/50	1		10/13/16 19:35
109	T4.101316.193929	L16100346-03	6-10-27.06 P3	40/50	1		10/13/16 19:39
110	T4.101316.194313	L16100346-04	6-10-27.06 P2	40/50	1		10/13/16 19:43
111	T4.101316.194658	L16100346-05	6-10-27.06 P4	40/50	1		10/13/16 19:46
112	T4.101316.195043	L16100346-06	6-10-27.06 P1	40/50	1		10/13/16 19:50
113	T4.101316.195427	L16100426-01	6-8-22.01 W1	40/50	1		10/13/16 19:54
114	T4.101316.195812	L16100426-02	59-10-1.07 W1	40/50	1		10/13/16 19:58
115	T4.101316.200156	L16100426-03	59-11-10.13 W1	40/50	1		10/13/16 20:01
116	T4.101316.200542	L16100426-05	59-11-13.04 W1	40/50	1		10/13/16 20:05
117	T4.101316.200927	WG587523-38	CCV		1		10/13/16 20:09
118	T4.101316.201257	WG587523-39	CCB		1		10/13/16 20:12
119	T4.101316.201645	L16100426-06	6-10-27.03 W1	40/50	1		10/13/16 20:16
120	T4.101316.202030	L16100426-07	6-10-23 W1	40/50	1		10/13/16 20:20
121	T4.101316.202414	L16100426-08	6-10-24.10 W1	40/50	1		10/13/16 20:24
122	T4.101316.202759	WG587116-01	Reference Sample		1	L16100426-09	10/13/16 20:27
123	T4.101316.203143	WG587116-04	Matrix Spike	40/50	1	L16100426-09	10/13/16 20:31
124	T4.101316.203515	WG587116-05	Matrix Spike Duplica	40/50	1	L16100426-09	10/13/16 20:35
125	T4.101316.203848	WG587523-40	CCV		1		10/13/16 20:38
126	T4.101316.204217	WG587523-41	CCB		1		10/13/16 20:42
127	T4.101316.204604	WG587523-42	Low Level Continuing Calibra		1		10/13/16 20:46
128	T4.101316.204949	WG587523-43	Low Level Continuing Calibra		1		10/13/16 20:49
129	T4.101316.205333	WG587230-02	Method/Prep Blank	40/50	1		10/13/16 20:53
130	T4.101316.205720	WG587230-03	Laboratory Control S	40/50	1		10/13/16 20:57
131	T4.101316.210053	L16100358-01	17103-B01-WQ-W0006	40/50	1		10/13/16 21:00
132	T4.101316.210439	L16100363-01	PS-SW-108	40/50	1		10/13/16 21:04
133	T4.101316.210818	L16100363-02	PS-SW-108	40/50	1		10/13/16 21:08
134	T4.101316.211156	L16100408-01	35AWW13F-100616	40/50	1		10/13/16 21:11
135	T4.101316.211540	L16100408-02	35AWW13FDF-100616	40/50	1		10/13/16 21:15
136	T4.101316.211924	L16100408-03	35AWW13MSF-100616	40/50	1		10/13/16 21:19

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Kym H. Rhoden

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 101316T4.4
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD78116 ICV Std: STD78115 Post Spike: STD77492
ICSA: STD78233 ICSAB: STD78344 Int. Std: RGT37691
CCV: STD78214 LLCCV: COA18880 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 587330,587329,587461,587463,587464

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
137	T4.101316.212307	L16100408-04	35AWW13MSDF-100616	40/50	1		10/13/16 21:23
138	T4.101316.212651	L16100424-01	01-01-0145W1	40/50	1		10/13/16 21:26
139	T4.101316.213036	WG587523-44	CCV		1		10/13/16 21:30
140	T4.101316.213405	WG587523-45	CCB		1		10/13/16 21:34
141	T4.101316.213755	L16100427-01	0101-172-S1	40/50	1		10/13/16 21:37
142	T4.101316.214139	L16100428-01	0102-125D-W1	40/50	1		10/13/16 21:41
143	T4.101316.214524	L16100429-01	6-11-6.01-W1	40/50	1		10/13/16 21:45
144	T4.101316.214908	L16100429-02	6-11-6.01-W2	40/50	1		10/13/16 21:49
145	T4.101316.215252	L16100430-01	0101-151B-W1	40/50	1		10/13/16 21:52
146	T4.101316.215637	L16100431-01	0102-209W1	40/50	1		10/13/16 21:56
147	T4.101316.220021	L16100433-01	01-01-0152S2	40/50	1		10/13/16 22:00
148	T4.101316.220405	L16100433-02	01-01-0152S1	40/50	1		10/13/16 22:04
149	T4.101316.220750	L16100433-03	01-01-0152S3	40/50	1		10/13/16 22:07
150	T4.101316.221130	L16100435-01	01-01-0153S1	40/50	1		10/13/16 22:11
151	T4.101316.221518	WG587523-46	CCV		1		10/13/16 22:15
152	T4.101316.221846	WG587523-47	CCB		1		10/13/16 22:18
153	T4.101316.222236	L16100523-01	12608-F01-WQ-W0006	40/50	1		10/13/16 22:22
154	T4.101316.222623	WG587230-01	Reference Sample		1	L16100523-02	10/13/16 22:26
155	T4.101316.223010	WG587464-01	Post Digestion Spike		1	L16100523-02	10/13/16 22:30
156	T4.101316.223344	WG587464-02	Serial Dilution		5	L16100523-02	10/13/16 22:33
157	T4.101316.223731	WG587230-04	Matrix Spike	40/50	1	L16100523-02	10/13/16 22:37
158	T4.101316.224104	WG587230-05	Matrix Spike Duplica	40/50	1	L16100523-02	10/13/16 22:41
159	T4.101316.224438	WG587523-48	CCV		1		10/13/16 22:44
160	T4.101316.224806	WG587523-49	CCB		1		10/13/16 22:48
161	T4.101316.225156	WG587523-50	Low Level Continuing Calibra		1		10/13/16 22:51
162	T4.101316.225539	WG587523-51	Low Level Continuing Calibra		1		10/13/16 22:55

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Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 101416T4.1
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD78116 ICV Std: STD78115 Post Spike: STD77492
ICSA: STD78233 ICSAB: STD78344 Int. Std: RGT37691
CCV: STD78214 LLCCV: COA18880 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 587330

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	T4.101416.123044	WG587750-01	Calibration Point		1		10/14/16 12:30
2	T4.101416.123431	WG587750-02	Calibration Point		1		10/14/16 12:34
3	T4.101416.123818	WG587750-03	Calibration Point		1		10/14/16 12:38
4	T4.101416.124207	WG587750-04	Calibration Point		1		10/14/16 12:42
5	T4.101416.124535	WG587750-05	Calibration Point		1		10/14/16 12:45
6	T4.101416.124905	WG587750-06	Initial Calibration Verification		1		10/14/16 12:49
7	T4.101416.125732	WG587750-07	Initial Calib Blank		1		10/14/16 12:57
8	T4.101416.130120	WG587750-08	Low Level Initial Calibration V		1		10/14/16 13:01
9	T4.101416.130505	WG587750-09	Low Level Initial Calibration V		1		10/14/16 13:05
10	T4.101416.130846	WG587750-10	Interference Check		1		10/14/16 13:08
11	T4.101416.131238	WG587750-11	Interference Check		1		10/14/16 13:12
12	T4.101416.131623	WG587750-12	CCV		1		10/14/16 13:16
13	T4.101416.131952	WG587750-13	CCB		1		10/14/16 13:19
14	T4.101416.141715	WG587099-02	Method/Prep Blank	40/50	1		10/14/16 14:17
15	T4.101416.142102	WG587099-03	Laboratory Control S	40/50	1		10/14/16 14:21
16	T4.101416.142434	WG586884-01	Fluid Blank 1		1		10/14/16 14:24
17	T4.101416.142821	WG586884-02	Fluid Blank 2		1		10/14/16 14:28
18	T4.101416.143209	L16100311-01	H6J0329-01		1	WG587099-01	10/14/16 14:32
19	T4.101416.143552	WG587099-04	Matrix Spike	5/50	1	L16100311-01	10/14/16 14:35
20	T4.101416.143926	WG587099-05	Matrix Spike Duplica	5/50	1	L16100311-01	10/14/16 14:39
21	T4.101416.144259	L16100388-01	INS-WS01-100616	5/50	1		10/14/16 14:42
22	T4.101416.144645	WG587330-03	Post Digestion Spike		1	L16100388-01	10/14/16 14:46
23	T4.101416.145019	WG587330-04	Serial Dilution		5	L16100388-01	10/14/16 14:50
24	T4.101416.145406	WG587750-14	CCV		1		10/14/16 14:54
25	T4.101416.145734	WG587750-15	CCB		1		10/14/16 14:57
26	T4.101416.150124	L16100404-01	J6J0334-01	5/50	1		10/14/16 15:01
27	T4.101416.150510	L16100412-01	J6J0375-01	5/50	1		10/14/16 15:05
28	T4.101416.150856	L16100194-02	35AWW08F-100416	40/50	10		10/14/16 15:08
29	T4.101416.151240	L16100194-04	03WW01F-100416	40/50	10		10/14/16 15:12
30	T4.101416.151626	WG587750-16	CCV		1		10/14/16 15:16
31	T4.101416.151954	WG587750-17	CCB		1		10/14/16 15:19
32	T4.101416.152344	WG587750-18	Low Level Continuing Calibra		1		10/14/16 15:23
33	T4.101416.152729	WG587750-19	Low Level Continuing Calibra		1		10/14/16 15:27
34	T4.101416.153109	WG587750-20	Interference Check		1		10/14/16 15:31

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO4 Dataset: 101416T4.1
Analyst1: KKB Analyst2: N/A
Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
Maintenance Log ID:

Calibration Std: STD78116 ICV Std: STD78115 Post Spike: STD77492
ICSA: STD78233 ICSAB: STD78344 Int. Std: RGT37691
CCV: STD78214 LLCCV: COA18880 Tuning Sol :
Stannous : Hydroxylamine :

Workgroups: 587330

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	T4.101416.153501	WG587750-21	Interference Check		1		10/14/16 15:35
36	T4.101416.153846	WG587750-22	CCV		1		10/14/16 15:38
37	T4.101416.154215	WG587750-23	CCB		1		10/14/16 15:42

Page: 2 Approved: October 17, 2016

Microbac Laboratories Inc.

Data Checklist

Date: 13-OCT-2016
Analyst: KKB
Analyst: NA
Method: 6010B/6010C
Instrument: ICP-THERMO4
Curve Workgroup: 587523
Runlog ID: 78051
Analytical Workgroups: 587330,587329,587461,587463,587464

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	319
Level 4	471,194,358,408,523
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:
13-OCT-2016

Secondary Reviewer:
13-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-14-2016 13:54:26

Microbac Laboratories Inc.

Data Checklist

Date: 14-OCT-2016
Analyst: KKB
Analyst: NA
Method: 6010B/6010C
Instrument: ICP-THERMO4
Curve Workgroup: 587750
Runlog ID: 78093
Analytical Workgroups: 587330

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	388
Level 4	
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:
14-OCT-2016

Secondary Reviewer:
17-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-17-2016 07:59:37

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6010C AAB#: WG587330

Login Number: L16100194

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
35AWW08F-100416	02	10/04/16					10/11/2016	7.1	180		10/14/16	10.3	180	
03WW01F-100416	04	10/04/16					10/11/2016	7.1	180		10/14/16	10.3	180	
35AWW20-100416	05	10/04/16					10/11/2016	7	180		10/13/16	9.2	180	
LHSMW07-100416	06	10/04/16					10/11/2016	7	180		10/13/16	9.1	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4975919
Report generated 10/14/2016 16:53

METHOD BLANK SUMMARY

Login Number: L16100194
Work Group: WG587330
Blank File ID: T4.101316.134454
Blank Sample ID: WG587099-02
Prep Date: 10/11/16 10:14
Instrument ID: ICP-THERMO4
Analyzed Date: 10/13/16 13:44
Method: 6010C
Analyst: KKB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG587099-03	T4.101316.134842	10/13/16 13:48	01
LHSMW07-100416	L16100194-06	T4.101316.140042	10/13/16 14:00	01
35AWW20-100416	L16100194-05	T4.101316.151601	10/13/16 15:16	01
LCS	WG587099-03	T4.101416.142102	10/14/16 14:21	02
35AWW08F-100416	L16100194-02	T4.101416.150856	10/14/16 15:08	DL01
03WW01F-100416	L16100194-04	T4.101416.151240	10/14/16 15:12	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 4975920
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16100194 Prep Date: 10/11/16 10:14 Sample ID: WG587099-02
Instrument ID: ICP-THERMO4 Run Date: 10/13/16 13:44 Prep Method: 3015
File ID: T4.101316.134454 Analyst: KKB Method: 6010C
Workgroup (AAB#): WG587330 Matrix: Water Units: mg/L
Contract #: Cal ID: ICP-TH-13-OCT-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Iron, Total	0.0500	0.100	0.0500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4975921
14-OCT-2016 16:53

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16100194	**Run Date:** 10/13/2016	**Sample ID:** WG587099-03
Instrument ID: ICP-THERMO4	**Run Time:** 13:48	**Prep Method:** 3015
File ID: T4.101316.134842	**Analyst:** KKB	**Method:** 6010C
Workgroup (AAB#): WG587330	**Matrix:** Water	**Units:** mg/L
QC Key: DOD4	**Lot#:** STD78303	**Cal ID:** ICP-TH-13-OCT-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Iron, Total	2.50	2.40	96.1	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 4975922
Report generated: 10/14/2016 16:53

Microbac Laboratories Inc.

MATRIX SPIKE AND MATRIX SPIKE DUP (MS/MSD)

Loginnum:L16100194 Cal ID:ICP-THERMO4- Worknum:WG587330

Instrument ID:ICP-THERMO4 Contract #: Method:6010C

Parent ID:WG587099-01 File ID:T4.101316.141219 Dil:1 Matrix:WATER

Sample ID:WG587099-04 MS File ID:T4.101316.141602 Dil:1 Units:mg/L

Sample ID:WG587099-05 MSD File ID:T4.101316.141935 Dil:1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Iron, TCLP	ND	20.0	19.0	95.2	20.0	19.0	95.0	0.205	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: 4975923

Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
Serial Dilution Report

Login: L16100194 **Worknum:** WG587330
Instrument: ICP-THERMO4 **Method:** 6010C
Serial Dil: WG587330-02 **File ID:** T4.101316.140834 **Dil:** 5 **Units:** ug/L
Sample: L16100194-06 **File ID:** T4.101316.140042 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Iron	1070		1110		3.95	

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: 4975917
10/14/2016 16:53

Microbac Laboratories Inc.
POST SPIKE REPORT

Sample Login ID: L16100194 **Worknum:** WG587330
Instrument ID: ICP-THERMO4 **Method:** 6010C
Post Spike ID: WG587330-01 **File ID:** T4.101316.140444 **Dil:** 1 **Units:** ug/L
Sample ID: L16100194-06 **File ID:** T4.101316.140042 **Dil:** 1 **Matrix:** Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
IRON	2880		1070		2000	96.2	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: 4975918
Report generated: 10/14/2016 16:53

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L16100194**	Workgroup (AAB#):	**WG587330**
Analytical Method:	**6010C**	Instrument ID:	**ICP-THERMO4**
ICAL Worknum:	**WG587523**	Initial Calibration Date:	**13-OCT-2016 12:49**

	WG587523-01		WG587523-02		WG587523-03		WG587523-04		WG587523-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
IRON	0	0.0000300	.04	0.000390	.08	0.000530	4	0.0418	8	0.0840	.999821	

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: 4975926
Report generated: 14-OCT-2016 16:53

Microbac Laboratories Inc.
Initial Calibration Summary

Login:	**L16100194**	Workgroup (AAB#):	**WG587330**
Analytical Method:	**6010C**	Instrument ID:	**ICP-THERMO4**
ICAL Worknum:	**WG587750**	Initial Calibration Date:	**14-OCT-2016 12:45**

	WG587750-01		WG587750-02		WG587750-03		WG587750-04		WG587750-05			
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT	R	Q
IRON	0	0.0000600	.04	0.000220	.08	0.000700	4	0.0422	8	0.0843	.999634	

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: 4975926
Report generated: 14-OCT-2016 16:53

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L16100194 Run Date: 10/13/2016 Sample ID: WG587523-07
Instrument ID: ICP-THERMO4 Run Time: 12:55 Method: 6010C
File ID: T4.101316.125558 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG587330 Cal ID: ICP-THERI - 13-OCT-16
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
IRON	.04	.08	.04	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 4975928
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
INITIAL CALIBRATION BLANK (ICB)

Login Number: L16100194 Run Date: 10/14/2016 Sample ID: WG587750-07
Instrument ID: ICP-THERMO4 Run Time: 12:57 Method: 6010C
File ID: T4.101416.125732 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG587330 Cal ID: ICP-THERI - 14-OCT-16
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
IRON	.04	.08	.04	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL

ICB - Modified 07/14/2009
PDF File ID: 4975928
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16100194 | Run Date: 10/13/2016 | Sample ID: WG587523-13
Instrument ID: ICP-THERMO4 | Run Time: 13:18 | Method: 6010C
File ID: T4.101316.131828 | Analyst: KKB | Units: mg/L
Workgroup (AAB#): WG587330 | Cal ID: ICP-TH - 13-OCT-16
Matrix: WATER | QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.0800	0.0400	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: 4975931
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100194	Run Date:	10/13/2016	Sample ID:	WG587523-15
Instrument ID:	ICP-THERMO4	Run Time:	14:26	Method:	6010C
File ID:	T4.101316.142637	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG587330	Cal ID:	ICP-TH - 13-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.0800	0.0400	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: 4975931
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100194	Run Date:	10/13/2016	Sample ID:	WG587523-17
Instrument ID:	ICP-THERMO4	Run Time:	14:49	Method:	6010C
File ID:	T4.101316.144940	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG587330	Cal ID:	ICP-TH - 13-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.0800	0.0400	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: 4975931
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100194	Run Date:	10/13/2016	Sample ID:	WG587523-21
Instrument ID:	ICP-THERMO4	Run Time:	15:04	Method:	6010C
File ID:	T4.101316.150434	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG587330	Cal ID:	ICP-TH - 13-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.0800	0.0400	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: 4975931
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100194	Run Date:	10/13/2016	Sample ID:	WG587523-23
Instrument ID:	ICP-THERMO4	Run Time:	15:46	Method:	6010C
File ID:	T4.101316.154604	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG587330	Cal ID:	ICP-TH - 13-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.0800	0.0400	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: 4975931
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100194	Run Date:	10/14/2016	Sample ID:	WG587750-13
Instrument ID:	ICP-THERMO4	Run Time:	13:19	Method:	6010C
File ID:	T4.101416.131952	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG587330	Cal ID:	ICP-TH - 14-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.0800	0.0400	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: 4975931
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100194	Run Date:	10/14/2016	Sample ID:	WG587750-15
Instrument ID:	ICP-THERMO4	Run Time:	14:57	Method:	6010C
File ID:	T4.101416.145734	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG587330	Cal ID:	ICP-TH - 14-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.0800	0.0400	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: 4975931
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100194	Run Date:	10/14/2016	Sample ID:	WG587750-17
Instrument ID:	ICP-THERMO4	Run Time:	15:19	Method:	6010C
File ID:	T4.101416.151954	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG587330	Cal ID:	ICP-TH - 14-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.0800	0.0400	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: 4975931
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16100194	Run Date:	10/14/2016	Sample ID:	WG587750-23
Instrument ID:	ICP-THERMO4	Run Time:	15:42	Method:	6010C
File ID:	T4.101416.154215	Analyst:	KKB	Units:	mg/L
Workgroup (AAB#):	WG587330	Cal ID:	ICP-TH - 14-OCT-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Iron	0.0400	0.0800	0.0400	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: 4975931
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.

INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L16100194 Run Date: 10/13/2016 Sample ID: WG587523-06
Instrument ID: ICP-THERMO4 Run Time: 12:52 Method: 6010C
File ID: T4.101316.125229 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 13-OCT-16
QC Key: DOD4

Analyte		Expected	Found	%REC	LIMITS	Q
Iron		4	4.03	101	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 4975927
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
INITIAL CALIBRATION VERIFICATION (ICV)
(Alternate Source)

Login Number: L16100194 Run Date: 10/14/2016 Sample ID: WG587750-06
Instrument ID: ICP-THERMO4 Run Time: 12:49 Method: 6010C
File ID: T4.101416.124905 Analyst: KKB Units: mg/L
Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 14-OCT-16
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Iron	4	4.07	102	90 - 110	

* Exceeds LIMITS Limit

ICV - Modified 03/06/2008
PDF File ID: 4975927
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/13/2016 Sample ID: WG587523-12

Instrument ID: ICP-THERMO4 Run Time: 13:14 Method: 6010C

File ID: T4.101316.131458 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 13-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		4.00	3.93	mg/L	98.3	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4975930

Report generated 10/14/2016 16:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/13/2016 Sample ID: WG587523-14

Instrument ID: ICP-THERMO4 Run Time: 14:23 Method: 6010C

File ID: T4.101316.142309 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 13-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		4.00	3.90	mg/L	97.4	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4975930

Report generated 10/14/2016 16:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/13/2016 Sample ID: WG587523-16

Instrument ID: ICP-THERMO4 Run Time: 14:46 Method: 6010C

File ID: T4.101316.144611 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 13-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		4.00	3.91	mg/L	97.7	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4975930

Report generated 10/14/2016 16:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/13/2016 Sample ID: WG587523-20

Instrument ID: ICP-THERMO4 Run Time: 15:01 Method: 6010C

File ID: T4.101316.150107 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 13-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		4.00	3.91	mg/L	97.7	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4975930

Report generated 10/14/2016 16:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/13/2016 Sample ID: WG587523-22

Instrument ID: ICP-THERMO4 Run Time: 15:42 Method: 6010C

File ID: T4.101316.154236 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 13-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		4.00	3.85	mg/L	96.3	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4975930

Report generated 10/14/2016 16:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/14/2016 Sample ID: WG587750-12

Instrument ID: ICP-THERMO4 Run Time: 13:16 Method: 6010C

File ID: T4.101416.131623 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 14-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		4.00	3.97	mg/L	99.3	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4975930

Report generated 10/14/2016 16:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/14/2016 Sample ID: WG587750-14

Instrument ID: ICP-THERMO4 Run Time: 14:54 Method: 6010C

File ID: T4.101416.145406 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 14-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		4.00	3.85	mg/L	96.4	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4975930

Report generated 10/14/2016 16:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/14/2016 Sample ID: WG587750-16

Instrument ID: ICP-THERMO4 Run Time: 15:16 Method: 6010C

File ID: T4.101416.151626 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 14-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		4.00	3.83	mg/L	95.8	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4975930

Report generated 10/14/2016 16:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16100194 Run Date: 10/14/2016 Sample ID: WG587750-22

Instrument ID: ICP-THERMO4 Run Time: 15:38 Method: 6010C

File ID: T4.101416.153846 Analyst: KKB QC Key: DOD4

Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 14-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		4.00	3.84	mg/L	96.0	90 - 110		

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008

PDF File ID: 4975930

Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L16100194 Run Date: 10/13/2016 Sample ID: WG587523-08
Instrument ID: ICP-THERMO4 Run Time: 12:59 Method: 6010C
File ID: T4.101316.125946 Analyst: KKB QC Key: DOD4
Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 13-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		0.0800	0.0853	mg/L	107	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 4975932
Report generated 10/17/2016 08:18

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L16100194 Run Date: 10/13/2016 Sample ID: WG587523-26
Instrument ID: ICP-THERMO4 Run Time: 16:12 Method: 6010C
File ID: T4.101316.161210 Analyst: KKB QC Key: DOD4
Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 13-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		0.0800	0.0799	mg/L	99.9	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 4975932
Report generated 10/17/2016 08:18

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L16100194 Run Date: 10/14/2016 Sample ID: WG587750-08
Instrument ID: ICP-THERMO4 Run Time: 13:01 Method: 6010C
File ID: T4.101416.130120 Analyst: KKB QC Key: DOD4
Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 14-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		0.0800	0.104	mg/L	130	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 4975932
Report generated 10/17/2016 08:18

Microbac Laboratories Inc.
LOW LEVEL CALIBRATION VERIFICATION

Login Number: L16100194 Run Date: 10/14/2016 Sample ID: WG587750-18
Instrument ID: ICP-THERMO4 Run Time: 15:23 Method: 6010C
File ID: T4.101416.152344 Analyst: KKB QC Key: DOD4
Workgroup (AAB#): WG587330 Cal ID: ICP-TH - 14-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	%REC	LIMITS		Q
Iron		0.0800	0.0953	mg/L	119	70 - 130		

* Exceeds LIMITS Criteria

LLCCV - Modified 1/7/2010
PDF File ID: 4975932
Report generated 10/17/2016 08:18

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L16100194 **Workgroup (AAB#):** WG587330
Instrument ID: ICP-THERMO4 **Method:** 6010C
Sol. A : WG587523-10 **File ID:** T4.101316.130714 **Units:** mg/L
Sol. AB : WG587523-11 **File ID:** T4.101316.131112 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Iron	100	98.0	98.0	100	96.8	96.8	

NS = Not spiked
*** = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.**
 # = Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).
+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.

ICS - Modified 03/06/2008
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Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L16100194 **Workgroup (AAB#):** WG587330
Instrument ID: ICP-THERMO4 **Method:** 6010C
Sol. A : WG587523-18 **File ID:** T4.101316.145329 **Units:** mg/L
Sol. AB : WG587523-19 **File ID:** T4.101316.145721 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Iron	100	96.3	96.3	100	97.1	97.1	

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: 4975929
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L16100194 **Workgroup (AAB#):** WG587330
Instrument ID: ICP-THERMO4 **Method:** 6010C
Sol. A : WG587750-10 **File ID:** T4.101416.130846 **Units:** mg/L
Sol. AB : WG587750-11 **File ID:** T4.101416.131238 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Iron	100	99.7	99.7	100	101	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: 4975929
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
INTERFERENCE CHECK SAMPLES

Login number: L16100194 **Workgroup (AAB#):** WG587330
Instrument ID: ICP-THERMO4 **Method:** 6010C
Sol. A : WG587750-20 **File ID:** T4.101416.153109 **Units:** mg/L
Sol. AB : WG587750-21 **File ID:** T4.101416.153501 **Matrix:** Water

	Sol. A			Sol. AB			
ANALYTE	True	Found	%Recovery	True	Found	%Recovery	Q
Iron	100	96.0	96.0	100	96.3	96.3	

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: 4975929
Report generated 10/14/2016 16:53

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100194 **Date:** 07/25/2016
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	0.00000900	0	0	0
ARSENIC	189.00	0	0	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0.00000100	0	0	0
BORON	249.60	0	0	0	0	0
CADMIUM	228.80	0	0	0.00200	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	-0.000130	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	-0.000130	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0	-0.0000490	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	0.0000180	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	0.0000180	0	0	0
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
PDF File ID: 4975925
Report generated: 10/14/2016 16:53

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100194 **Date:** 07/25/2016
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	0.0138
ARSENIC	189.00	0	0	0	0	-0.00190
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	-0.00210	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
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	-0.0000920
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0	0	-0.000500	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	0.00300	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	-0.00138
ZINC	206.20	0	0	0	0	-0.000800
ZIRCONIUM	339.10	0	0	0	0	0

CORR_FACTORS - Modified 03/05/2008
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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100194 **Date:** 07/25/2016
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	0.0000120	0	0	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	0	0	0	0
BORON	249.60	0	-0.000619	0	0	0
CADMIUM	228.80	0	0.00000400	0	0	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0	0.00000500	0	0	0
COBALT	228.60	0	0	0	0	0
COPPER	224.70	0	0.000830	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	0.00000300
MOLYBDENUM	202.00	0	0	0	0	0
NICKEL	231.60	0	0.0000470	0	0	0
PHOSPHORUS	214.90	-0.323	-0.000530	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	0.0000300	0	0	0
ZINC	206.20	0	0	0	0	0
ZIRCONIUM	339.10	0	-0.0000100	0	0	0

CORR_FACTORS - Modified 03/05/2008
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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100194 **Date:** 07/25/2016
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	0.000670	0	0	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	-0.000128	0
CALCIUM	422.60	0	0	0	0	0
CHROMIUM	267.70	0.000330	0	0	0	0
COBALT	228.60	0	-0.000983	0	0.000175	0
COPPER	224.70	0	0.00200	0	-0.0120	0
IRON	261.10	0	0	0	0	0
LEAD	220.30	0	-0.00280	0	0.000110	0
LITHIUM	670.70	0	0	0	0	0
MAGNESIUM	279.10	-0.00190	-0.0130	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	0.00710	0	0	0
POTASSIUM	766.40	0	0	0	0	0
SELENIUM	196.10	0.000800	0.000156	0	0	0
SILICON	212.40	0	0.0187	0	0	0
SILVER	328.10	0	-0.0000440	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	-0.000153	0	0	0
VANADIUM	292.40	-0.000110	-0.00778	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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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100194 **Date:** 07/25/2016
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	-0.00840
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	0.00300	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
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Report generated: 10/14/2016 16:53

Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100194 **Date:** 07/25/2016
Insturment ID: ICP-THERMO4 **Method:** 6010C

Analyte	Wave Length	SR	TI	TL	V	ZN
ALUMINUM	308.20	0	0	0	0.00300	0
ANTIMONY	206.80	0	-0.00400	0	-0.00138	0
ARSENIC	189.00	0	0	0	0.000107	0
BARIUM	455.40	0	0	0	0	0
BERYLLIUM	313.10	0	-0.000770	0	0.000800	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	0.00158	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	-0.00620	0	-0.00617	0
SODIUM	589.50	0	0	0	0	0
STRONTIUM	407.70	0	0	0	0	0
THALLIUM	190.80	0	-0.000700	0	0.000660	0
TIN	189.90	0	-0.00260	0	0	0
TITANIUM	337.20	0	0	0	0	0
VANADIUM	292.40	0	0.000600	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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Microbac Laboratories Inc.
INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Login Number: L16100194 **Date:** 07/25/2016
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: 4975925
Report generated: 10/14/2016 16:53

Microbac Laboratories Inc.
LINEAR RANGE (QUARTERLY)

Login Number: L16100194 **Date:** 06/25/0016
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	27.0
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	9.0
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

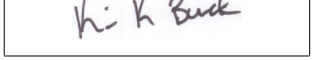
Comments:
All analytes passed acceptance criteria at the specified concentration.

LINEAR_RANGE - Modified 03/06/2008
PDF File ID: 4975924
Report generated: 10/14/2016 16:53

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}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000175	0.047385	0.000000	1.000000
Al 308.215 {109}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.001672	0.009609	0.000000	1.000000
As 189.042 {478}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000003	0.025496	0.000000	1.000000
B 249.678 {135}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.000233	0.016695	0.000000	1.000000
Ba 455.403 { 74}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.008542	1.223994	0.000000	1.000000
Be 313.107 {108}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.000033	0.714085	0.000000	1.000000
Ca 422.673 { 80}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000164	0.028953	0.000000	1.000000
Cd 228.802 {447}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.000516	0.400805	0.000000	1.000000
Co 228.616 {447}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000020	0.311041	0.000000	1.000000
Cr 267.716 {126}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000045	0.043842	0.000000	1.000000
Cu 224.700 {450}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000449	0.098187	0.000000	1.000000
Fe 261.187 {129}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.000027	0.010469	0.000000	1.000000
K 766.490 { 44}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.007518	0.017973	0.000000	1.000000
Li 670.784 { 50}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.004549	0.357073	0.000000	1.000000
Mg 279.079 {121}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000171	0.002922	0.000000	1.000000
Mn 257.610 {131}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.000538	0.121164	0.000000	1.000000
Mo 202.030 {467}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.000072	0.126956	0.000000	1.000000
Na 589.592 { 57}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.002272	0.051010	0.000000	1.000000
Ni 231.604 {446}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000821	0.085771	0.000000	1.000000
P 214.914 {457}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000044	0.011303	0.000000	1.000000
Pb 220.353 {453}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000580	0.056097	0.000000	1.000000
Sb 206.833 {463}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.000304	0.024916	0.000000	1.000000
Se 196.090 {472}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000284	0.013426	0.000000	1.000000
Si 212.412 {459}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.000335	0.027502	0.000000	1.000000
Sn 189.989 {477}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.000080	0.074451	0.000000	1.000000
Sr 407.771 { 83}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.002392	2.255905	0.000000	1.000000
Ti 337.280 {100}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.001156	0.077779	0.000000	1.000000
Tl 190.856 {477}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000139	0.020218	0.000000	1.000000
V 292.402 {115}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.000031	0.055716	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}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	0.000391	0.444585	0.000000	1.000000
Zr 339.198 { 99}	10/13/2016 12:52:25	10/13/2016 12:52:25	Linear	1/Conc	-0.004321	0.000429	0.000000	1.000000

Approved: October 14, 2016



	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}	0.999860	0.000002	0.001613	0.005376	OK.	1.000000	0.000000	1	0
	Al 308.215 {109}	0.999798	0.000012	0.005480	0.018267	OK.	1.000000	0.000000	1	0
	As 189.042 {478}	0.998996	0.000004	0.002982	0.009941	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	0.999930	0.000001	0.002271	0.007569	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	0.999949	0.000079	0.000669	0.002231	OK.	1.000000	0.000000	1	0
	Be 313.107 {108}	0.999950	0.000002	0.000065	0.000218	OK.	1.000000	0.000000	1	0
	Ca 422.673 { 80}	0.999939	0.000020	0.022117	0.073724	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	0.999658	0.000004	0.000296	0.000987	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	0.999741	0.000009	0.000443	0.001478	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	0.999946	0.000001	0.001022	0.003407	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	0.999995	0.000001	0.001582	0.005273	OK.	1.000000	0.000000	1	0
	Fe 261.187 {129}	0.999821	0.000005	0.017449	0.058163	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	0.999975	0.000041	0.088015	0.293384	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	0.998861	0.000167	0.004638	0.015459	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	0.999798	0.000006	0.068845	0.229482	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	0.999597	0.000011	0.001944	0.006479	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	0.999937	0.000009	0.000548	0.001828	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	0.999919	0.000206	0.030424	0.101413	OK.	1.000000	0.000000	1	0
	Ni 231.604 {446}	0.999919	0.000003	0.001484	0.004947	OK.	1.000000	0.000000	1	0
	P 214.914 {457}	0.999946	0.000007	0.007596	0.025318	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	0.999310	0.000007	0.003624	0.012081	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	0.999904	0.000003	0.004910	0.016368	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	0.997352	0.000004	0.007388	0.024627	OK.	1.000000	0.000000	1	0
	Si 212.412 {459}	0.999943	0.000009	0.002941	0.009803	OK.	1.000000	0.000000	1	0
	Sn 189.989 {477}	0.999914	0.000006	0.000852	0.002840	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	0.999931	0.000168	0.000293	0.000978	OK.	1.000000	0.000000	1	0
	Ti 337.280 {100}	0.999928	0.000006	0.004843	0.016144	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	0.999889	0.000001	0.003954	0.013180	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	0.999956	0.000003	0.000864	0.002882	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}	0.999769	0.000061	0.000190	0.000633	OK.	1.000000	0.000000	1	0
	Zr 339.198 { 99}	0.230211	0.000012	1.424032	4.746774	OK.	1.000000	0.000000	1	0

Approved: October 14, 2016

Kim K Buck

Sample Name: S0 Acquired: 10/13/2016 12:34:08 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

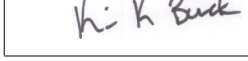
Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00018**	**.00167**	**-.00000**	**.00023**	**.00854**	**.00003**	**-.00016**
Stddev	.00007	.00006	.00005	.00003	.00012	.00003	.00007
%RSD	40.780	3.7859	1456.7	11.422	1.4089	96.257	42.086
#1	-.00010	.00165	-.00004	.00026	.00841	.00006	-.00019
#2	-.00024	.00162	-.00001	.00021	.00856	.00000	-.00009
#3	-.00019	.00174	.00005	.00023	.00865	.00004	-.00022

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	**.00052**	**-.00002**	**-.00004**	**-.00045**	**.00003**	**.00752**	**-.00455**
Stddev	.00019	.00004	.00001	.00006	.00004	.00123	.00158
%RSD	37.611	222.82	28.770	12.291	148.98	16.423	34.730
#1	.00061	.00003	-.00003	-.00040	.00002	.00883	-.00638
#2	.00029	-.00003	-.00006	-.00043	.00007	.00734	-.00372
#3	.00064	-.00006	-.00004	-.00051	-.00001	.00638	-.00356

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	**-.00017**	**.00054**	**.00007**	**-.00228**	**-.00082**	**-.00004**	**-.00058**
Stddev	.00021	.00021	.00004	.00147	.00014	.00003	.00012
%RSD	122.35	39.679	58.796	64.390	16.809	66.031	20.008
#1	-.00018	.00071	.00011	-.00081	-.00071	-.00001	-.00062
#2	.00004	.00060	.00003	-.00228	-.00098	-.00007	-.00045
#3	-.00038	.00030	.00008	-.00374	-.00077	-.00005	-.00067

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00030**	**-.00028**	**.00033**	**.00008**	**.00239**	**-.00116**	**-.00014**
Stddev	.00005	.00014	.00002	.00002	.00018	.00007	.00006
%RSD	16.984	48.647	5.0727	24.342	7.4199	5.7588	40.369
#1	.00033	-.00021	.00034	.00006	.00253	-.00111	-.00020
#2	.00025	-.00044	.00032	.00009	.00219	-.00123	-.00013
#3	.00034	-.00020	.00035	.00009	.00245	-.00112	-.00009

Approved: October 14, 2016



Sample Name: S0 Acquired: 10/13/2016 12:34:08 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00003**	**.00039**	**-.00432**
Stddev	.00005	.00007	.00046
%RSD	164.99	18.133	10.741
#1	.00002	.00047	-.00461
#2	-.00008	.00037	-.00379
#3	-.00003	.00033	-.00456

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**10116.**	**113910.**	**11149.**
Stddev	32.	459.	81.
%RSD	.31627	.40313	.72374
#1	10085.	114370.	11088.
#2	10113.	113460.	11241.
#3	10149.	113890.	11118.

Approved: October 14, 2016

Sample Name: S1 Acquired: 10/13/2016 12:37:55 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

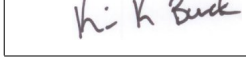
Elem	Ag3280	Al3082	Ba4554	Be3131	Ca4226	Cd2288	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00002**	**.00248**	**.01796**	**.00029**	**.00242**	**.00076**	**.00060**
Stddev	.00006	.00004	.00045	.00003	.00022	.00007	.00001
%RSD	332.58	1.5152	2.4932	11.118	8.9686	8.9981	1.1666
#1	-.00005	.00250	.01848	.00031	.00236	.00072	.00061
#2	.00005	.00251	.01768	.00025	.00267	.00084	.00060
#3	.00006	.00244	.01773	.00031	.00224	.00072	.00060

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	**.00014**	**-.00005**	**.00039**	**.01464**	**.00111**	**.00115**	**.01933**
Stddev	.00002	.00002	.00008	.00067	.00020	.00005	.00075
%RSD	15.494	40.510	19.532	4.5935	18.085	4.1069	3.8915
#1	.00017	-.00007	.00030	.01529	.00133	.00120	.01931
#2	.00012	-.00003	.00044	.01395	.00093	.00115	.01859
#3	.00015	-.00006	.00042	.01467	.00109	.00111	.02010

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	**-.00042**	**.00079**	**-.00035**	**.00049**	**.00147**	**.00069**	**.02124**
Stddev	.00002	.00001	.00019	.00005	.00009	.00003	.00038
%RSD	4.3837	.91644	54.063	10.527	5.9827	3.7289	1.7917
#1	-.00044	.00079	-.00026	.00054	.00154	.00070	.02125
#2	-.00040	.00079	-.00021	.00044	.00149	.00066	.02162
#3	-.00043	.00080	-.00056	.00051	.00137	.00071	.02086

Elem	Ti3372	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00058**	**.00039**	**.00520**	**-.00440**
Stddev	.00008	.00002	.00002	.00014
%RSD	14.482	6.1285	.34212	3.2225
#1	-.00063	.00042	.00518	-.00449
#2	-.00048	.00040	.00521	-.00447
#3	-.00062	.00037	.00520	-.00424

Approved: October 14, 2016



Sample Name: S1 Acquired: 10/13/2016 12:37:55 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**10315.**	**116450.**	**11401.**
Stddev	22.	694.	114.
%RSD	.21694	.59621	.99996
#1	10341.	115670.	11456.
#2	10298.	117020.	11477.
#3	10308.	116650.	11270.

Approved: October 14, 2016

Kristi K Buck

Sample Name: S2 Acquired: 10/13/2016 12:41:43 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00016**	**.00363**	**.00026**	**.00038**	**.03070**	**.00062**	**.00505**
Stddev	.00007	.00002	.00001	.00004	.00088	.00001	.00015
%RSD	43.621	.52025	3.2693	11.836	2.8787	2.1021	3.0672
#1	.00013	.00363	.00026	.00033	.03162	.00061	.00516
#2	.00025	.00361	.00026	.00042	.02985	.00063	.00487
#3	.00012	.00365	.00025	.00039	.03063	.00062	.00511

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	**.00084**	**.00123**	**.00035**	**.00037**	**.00053**	**.02328**	**.00490**
Stddev	.00010	.00007	.00001	.00010	.00012	.00163	.00102
%RSD	12.315	5.4271	1.9637	27.786	23.330	7.0106	20.730
#1	.00089	.00125	.00035	.00025	.00065	.02160	.00412
#2	.00072	.00115	.00036	.00045	.00041	.02340	.00605
#3	.00092	.00128	.00034	.00040	.00052	.02486	.00453

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**	**.00186**	**.00239**	**.04539**	**-.00004**	**.00192**	**.00010**
Stddev	.00013	.00019	.00009	.00087	.00005	.00005	.00006
%RSD	29.755	10.062	3.5852	1.9061	123.44	2.7553	54.632
#1	.00053	.00192	.00247	.04470	-.00007	.00186	.00016
#2	.00046	.00200	.00230	.04511	-.00008	.00197	.00005
#3	.00028	.00165	.00240	.04636	.00002	.00193	.00009

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00084**	**-.00011**	**.00286**	**.00148**	**.04411**	**.00024**	**.00002**
Stddev	.00003	.00009	.00004	.00001	.00050	.00025	.00002
%RSD	3.9600	80.354	1.2943	.34841	1.1283	101.74	68.234
#1	.00086	-.00003	.00284	.00148	.04417	-.00003	.00001
#2	.00085	-.00021	.00284	.00148	.04358	.00046	.00004
#3	.00080	-.00010	.00290	.00147	.04457	.00030	.00002

Approved: October 14, 2016
Kristi K Buck

Sample Name: S2 Acquired: 10/13/2016 12:41:43 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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**	**.00860**	**-.00469**
Stddev	.00004	.00005	.00023
%RSD	4.7744	.57742	4.9097
#1	.00089	.00858	-.00493
#2	.00094	.00865	-.00447
#3	.00098	.00855	-.00469

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**10109.**	**113870.**	**11107.**
Stddev	17.	598.	103.
%RSD	.17196	.52477	.93145
#1	10103.	114430.	11202.
#2	10096.	113240.	11123.
#3	10129.	113930.	10996.

Approved: October 14, 2016

Ki K Buck

Sample Name: S3 Acquired: 10/13/2016 12:45:32 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.01864**	**.09918**	**.00997**	**.00843**	**1.2271**	**.03603**	**.28863**
Stddev	.00010	.00045	.00008	.00003	.0020	.00020	.00059
%RSD	.56207	.45387	.84190	.34788	.16106	.55844	.20493
#1	.01854	.09879	.00989	.00840	1.2293	.03582	.28797
#2	.01875	.09907	.01006	.00844	1.2255	.03606	.28882
#3	.01865	.09967	.00996	.00846	1.2266	.03622	.28911

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	**.02239**	**.06207**	**.02178**	**.04882**	**.04183**	**.90672**	**.35186**
Stddev	.00009	.00024	.00003	.00006	.00010	.00359	.00078
%RSD	.38480	.37966	.15932	.11644	.24741	.39595	.22177
#1	.02249	.06216	.02180	.04889	.04195	.90863	.35271
#2	.02238	.06180	.02174	.04877	.04176	.90258	.35119
#3	.02232	.06225	.02181	.04882	.04178	.90896	.35167

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	**.02884**	**.06062**	**.12638**	**2.5506**	**.04208**	**.11207**	**.02767**
Stddev	.00016	.00066	.00009	.0044	.00007	.00012	.00028
%RSD	.56646	1.0838	.06851	.17411	.16958	.10296	.99842
#1	.02902	.06003	.12648	2.5553	.04208	.11199	.02785
#2	.02870	.06133	.12632	2.5502	.04216	.11201	.02735
#3	.02880	.06051	.12634	2.5464	.04202	.11220	.02781

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.02969**	**.00502**	**.13791**	**.07423**	**2.2508**	**.07575**	**.00929**
Stddev	.00015	.00007	.00030	.00008	.0008	.00035	.00011
%RSD	.50904	1.3679	.21404	.10500	.03542	.45837	1.2044
#1	.02958	.00504	.13765	.07431	2.2516	.07579	.00916
#2	.02964	.00494	.13786	.07422	2.2508	.07538	.00937
#3	.02987	.00507	.13823	.07416	2.2500	.07607	.00934

Approved: October 14, 2016
Kristi K Buck

Sample Name: S3 Acquired: 10/13/2016 12:45:32 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.05503**	**.44258**	**-.00372**
Stddev	.00005	.00038	.00020
%RSD	.09662	.08502	5.3858
#1	.05509	.44301	-.00368
#2	.05499	.44242	-.00394
#3	.05501	.44231	-.00354

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**10138.**	**112220.**	**11480.**
Stddev	57.	451.	73.
%RSD	.56507	.40164	.64001
#1	10072.	112060.	11483.
#2	10163.	112730.	11551.
#3	10178.	111870.	11405.

Approved: October 14, 2016

Kristi K Buck

Sample Name: S4 Acquired: 10/13/2016 12:49:01 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.03760**	**.19454**	**.02033**	**.01700**	**2.4597**	**.07328**	**.57878**
Stddev	.00003	.00044	.00007	.00003	.0041	.00018	.00085
%RSD	.09002	.22487	.35639	.18499	.16573	.24850	.14625
#1	.03756	.19503	.02032	.01703	2.4583	.07347	.57828
#2	.03760	.19439	.02040	.01700	2.4643	.07327	.57975
#3	.03763	.19420	.02026	.01697	2.4566	.07310	.57829

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	**.04428**	**.12383**	**.04388**	**.09841**	**.08399**	**1.8029**	**.70653**
Stddev	.00004	.00025	.00002	.00010	.00017	.0062	.00191
%RSD	.08309	.19980	.03479	.09759	.20472	.34559	.26994
#1	.04425	.12362	.04389	.09844	.08388	1.7957	.70444
#2	.04428	.12377	.04390	.09849	.08391	1.8067	.70817
#3	.04432	.12410	.04387	.09831	.08419	1.8064	.70698

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	**.05810**	**.12178**	**.25423**	**5.0883**	**.08479**	**.22776**	**.05562**
Stddev	.00018	.00054	.00051	.0020	.00025	.00038	.00025
%RSD	.31083	.44374	.20204	.03906	.29583	.16603	.44596
#1	.05797	.12232	.25405	5.0862	.08504	.22738	.05536
#2	.05831	.12180	.25481	5.0884	.08477	.22814	.05585
#3	.05802	.12124	.25384	5.0902	.08454	.22776	.05564

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.05899**	**.01047**	**.27649**	**.14863**	**4.5156**	**.15494**	**.01820**
Stddev	.00022	.00015	.00047	.00016	.0072	.00048	.00009
%RSD	.38035	1.4527	.16818	.10805	.15833	.31287	.47659
#1	.05917	.01032	.27595	.14847	4.5159	.15496	.01819
#2	.05874	.01062	.27675	.14879	4.5226	.15541	.01829
#3	.05905	.01046	.27676	.14863	4.5083	.15445	.01812

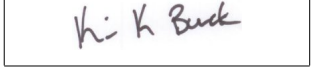
Approved: October 14, 2016
Kristi K Buck

Sample Name: S4 Acquired: 10/13/2016 12:49:01 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.11160**	**.88883**	**-.00317**
Stddev	.00016	.00140	.00036
%RSD	.14074	.15734	11.470
#1	.11149	.88722	-.00328
#2	.11178	.88960	-.00347
#3	.11154	.88968	-.00277

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**9986.5**	**109770.**	**11363.**
Stddev	12.6	152.	188.
%RSD	.12659	.13863	1.6574
#1	9998.3	109630.	11514.
#2	9988.0	109930.	11424.
#3	9973.2	109740.	11152.

Approved: October 14, 2016



Sample Name: ICV Acquired: 10/13/2016 12:52:29 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.40564**	**10.045**	**.41520**	**.51239**	**1.0064**	**.05067**	**10.220**
Stddev	.00282	.022	.00144	.00101	.0027	.00014	.034
%RSD	.69430	.21891	.34800	.19695	.26494	.27094	.33094
#1	.40537	10.034	.41498	.51159	1.0064	.05072	10.241
#2	.40297	10.031	.41674	.51205	1.0091	.05052	10.238
#3	.40858	10.070	.41388	.51352	1.0038	.05078	10.181
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	**.05135**	**.20313**	**.49927**	**.50701**	**4.0338**	**50.828**	**1.0128**
Stddev	.00011	.00037	.00127	.00028	.0163	.171	.0042
%RSD	.20736	.17999	.25405	.05562	.40448	.33734	.41116
#1	.05144	.20324	.50058	.50728	4.0517	50.992	1.0170
#2	.05137	.20344	.49919	.50672	4.0299	50.842	1.0087
#3	.05123	.20273	.49804	.50702	4.0198	50.650	1.0127
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	**10.045**	**.50352**	**.95386**	**50.871**	**.50468**	**10.042**	**.50742**
Stddev	.094	.00190	.00186	.126	.00014	.008	.00163
%RSD	.94043	.37709	.19481	.24791	.02731	.07780	.32181
#1	10.101	.50377	.95172	50.920	.50455	10.050	.50886
#2	10.099	.50528	.95501	50.966	.50483	10.034	.50776
#3	9.9364	.50150	.95485	50.728	.50467	10.043	.50565
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

Kristi K Buck

Sample Name: ICV Acquired: 10/13/2016 12:52:29 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**1.2254**	**.40617**	**4.9978**	**1.0395**	**1.0083**	**1.0060**	**.50986**
Stddev	.0032	.00369	.0074	.0014	.0012	.0056	.00430
%RSD	.25866	.90817	.14822	.13564	.12222	.55473	.84337
#1	1.2252	.40541	5.0004	1.0408	1.0087	1.0035	.50540
#2	1.2223	.41017	5.0036	1.0380	1.0093	1.0124	.51020
#3	1.2286	.40291	4.9894	1.0396	1.0070	1.0021	.51398
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	**.99577**	**1.0078**	F **.74522**
Stddev	.00299	.0016	.13544
%RSD	.30060	.16132	18.174
#1	.99815	1.0077	.81551
#2	.99676	1.0063	.83107
#3	.99241	1.0096	.58909
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	**10142.**	**112630.**	**11342.**
Stddev	26.	118.	149.
%RSD	.25325	.10449	1.3150
#1	10114.	112510.	11173.
#2	10164.	112740.	11454.
#3	10149.	112650.	11400.

Approved: October 14, 2016

Kristi K Buck

Sample Name: ICB Acquired: 10/13/2016 12:55:58 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00167**	**-.00389**	**.00139**	**.00096**	**-.00015**	**.00004**	**-.00241**
Stddev	.00111	.00858	.00083	.00149	.00022	.00002	.02008
%RSD	66.361	220.40	59.462	154.88	147.15	46.277	832.74
#1	-.00090	-.00603	.00232	.00102	-.00020	.00005	.02075
#2	-.00117	-.01120	.00112	-.00056	.00009	.00005	-.01505
#3	-.00294	.00555	.00074	.00243	-.00033	.00002	-.01293
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**	**-.00002**	**-.00029**	**-.00107**	**-.00249**	**.07902**	**.01039**
Stddev	.00013	.00036	.00085	.00087	.01759	.05797	.00201
%RSD	33.824	2308.2	288.04	80.951	706.11	73.366	19.345
#1	-.00023	.00027	.00068	-.00169	.00269	.08609	.00811
#2	-.00044	-.00042	-.00084	-.00008	.01192	.01783	.01114
#3	-.00045	.00010	-.00073	-.00144	-.02209	.13313	.01192
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	**-.03472**	**.00034**	**.00034**	**-.00331**	**-.00018**	F **-.01185**	**.00035**
Stddev	.05919	.00069	.00008	.02932	.00156	.00308	.00147
%RSD	170.45	201.61	24.771	884.92	858.45	25.967	422.17
#1	-.04503	.00107	.00033	-.02036	-.00015	-.01373	-.00071
#2	.02894	.00027	.00043	-.02013	-.00175	-.01352	-.00028
#3	-.08808	-.00031	.00026	.03055	.00136	-.00830	.00203
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						.01000	
Low Limit						-.01000	

Approved: October 14, 2016

Ki K Buck

Sample Name: ICB Acquired: 10/13/2016 12:55:58 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00110**	**.00410**	**.00023**	**.00003**	**.00002**	**-.00210**	**-.00243**
Stddev	.00265	.00368	.00088	.00058	.00031	.00146	.00212
%RSD	241.66	89.735	386.47	1665.6	1300.1	69.540	87.497
#1	-.00029	.00802	-.00053	.00009	-.00016	-.00287	-.00123
#2	-.00057	.00354	.00120	-.00057	.00038	-.00042	-.00488
#3	.00415	.00073	.00001	.00058	-.00015	-.00303	-.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	**-.00051**	**-.00010**	F **-.59086**
Stddev	.00030	.00019	.48895
%RSD	57.965	200.14	82.752
#1	-.00046	-.00022	-.95456
#2	-.00084	.00013	-.03503
#3	-.00025	-.00019	-.78299
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	**10091.**	**112760.**	**11015.**
Stddev	31.	718.	115.
%RSD	.30412	.63667	1.0435
#1	10082.	112260.	10941.
#2	10125.	112430.	11148.
#3	10065.	113580.	10958.

Approved: October 14, 2016

Ki K Buck

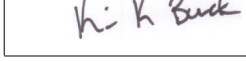
Sample Name: LLICV Acquired: 10/13/2016 12:59:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00751**	**.18253**	**.01076**	**.07749**	**.00903**	**.00156**	**.49791**
Stddev	.00221	.00008	.00169	.00115	.00095	.00005	.01973
%RSD	29.383	.04499	15.707	1.4877	10.510	3.1434	3.9624
#1	.00726	.18263	.01157	.07755	.00852	.00160	.51873
#2	.00983	.18248	.01189	.07860	.00843	.00157	.49551
#3	.00544	.18250	.00882	.07630	.01012	.00150	.47949
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	**.00066**	**.00415**	**.00471**	**.00285**	**.08530**	**.85268**	**.09312**
Stddev	.00027	.00043	.00092	.00107	.01030	.12045	.00149
%RSD	40.099	10.261	19.478	37.517	12.071	14.126	1.6004
#1	.00050	.00399	.00549	.00177	.08344	.77075	.09187
#2	.00052	.00463	.00370	.00391	.09640	.99097	.09271
#3	.00097	.00382	.00494	.00287	.07606	.79631	.09477
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	**.37247**	**.00970**	**.00787**	**.42394**	**.01746**	**.78950**	**.00969**
Stddev	.03045	.00067	.00081	.01351	.00130	.00838	.00156
%RSD	8.1759	6.9402	10.262	3.1878	7.4528	1.0612	16.135
#1	.37636	.00938	.00854	.41521	.01729	.79072	.00970
#2	.34026	.00925	.00810	.41710	.01625	.78058	.01124
#3	.40079	.01047	.00697	.43951	.01884	.79720	.00812
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016



Sample Name: LLICV Acquired: 10/13/2016 12:59:46 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.08616**	**.02002**	**.80201**	**.41427**	**.04179**	**.02220**	**.16468**
Stddev	.00356	.00529	.00057	.00115	.00019	.00347	.00390
%RSD	4.1334	26.419	.07153	.27741	.45478	15.648	2.3695
#1	.08878	.02264	.80190	.41297	.04196	.01870	.16913
#2	.08760	.01393	.80149	.41469	.04158	.02565	.16183
#3	.08211	.02349	.80263	.41516	.04183	.02224	.16308
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	**.00824**	**.02042**	F **187.76**
Stddev	.00064	.00005	1.42
%RSD	7.7245	.22725	.75539
#1	.00755	.02047	189.39
#2	.00881	.02038	186.85
#3	.00837	.02042	187.03
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	**10211.**	**113270.**	**11073.**
Stddev	34.	420.	113.
%RSD	.33212	.37122	1.0183
#1	10181.	113130.	11082.
#2	10204.	113740.	11180.
#3	10248.	112930.	10956.

Approved: October 14, 2016

Kristi K Buck

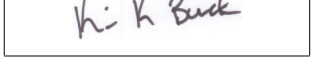
Sample Name: LLICV Acquired: 10/13/2016 13:03:30 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.01023**	**.22794**	**.01199**	**.09701**	**.01057**	**.00195**	**.59165**
Stddev	.00059	.00561	.00247	.00189	.00017	.00005	.01751
%RSD	5.7517	2.4615	20.554	1.9527	1.5962	2.7583	2.9592
#1	.00966	.22539	.01397	.09915	.01063	.00200	.61156
#2	.01019	.23437	.00923	.09554	.01038	.00197	.58476
#3	.01084	.22406	.01278	.09635	.01071	.00189	.57864
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	**.00104**	**.00546**	**.00541**	**.00474**	**.09585**	**1.0489**	**.11310**
Stddev	.00021	.00031	.00022	.00166	.01926	.0235	.00354
%RSD	20.314	5.6194	4.0550	34.980	20.093	2.2400	3.1282
#1	.00081	.00580	.00565	.00535	.11807	1.0218	.11120
#2	.00122	.00519	.00536	.00601	.08546	1.0634	.11092
#3	.00110	.00540	.00522	.00287	.08401	1.0616	.11719
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	**.46546**	**.01375**	**.00961**	**.54039**	**.02137**	**.99075**	**.01079**
Stddev	.01386	.00136	.00033	.01882	.00093	.00288	.00347
%RSD	2.9783	9.8708	3.4211	3.4818	4.3465	.29046	32.216
#1	.47689	.01526	.00923	.54089	.02031	.99397	.00720
#2	.46945	.01336	.00983	.52132	.02177	.98987	.01102
#3	.45004	.01263	.00976	.55894	.02203	.98842	.01414
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016



Sample Name: LLICV Acquired: 10/13/2016 13:03:30 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.10749**	**.01920**	**.99433**	**.51647**	**.05172**	**.02867**	**.20839**
Stddev	.00275	.00277	.00424	.00214	.00005	.00209	.00328
%RSD	2.5579	14.431	.42659	.41432	.10617	7.2777	1.5728
#1	.10958	.02061	.99843	.51843	.05174	.02654	.21069
#2	.10437	.01601	.98996	.51419	.05175	.03071	.20984
#3	.10851	.02099	.99462	.51679	.05165	.02876	.20464
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	**.01011**	**.02266**	F **229.99**
Stddev	.00046	.00012	1.37
%RSD	4.5113	.52789	.59618
#1	.00991	.02255	229.52
#2	.01063	.02263	228.91
#3	.00978	.02279	231.53
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	**10184.**	**114530.**	**11363.**
Stddev	30.	526.	16.
%RSD	.29916	.45907	.13697
#1	10158.	114650.	11375.
#2	10218.	113960.	11369.
#3	10178.	114990.	11346.

Approved: October 14, 2016

Ki K Buck

Sample Name: ICSA Acquired: 10/13/2016 13:07:14 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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 **-.00525**	**245.20**	**.00514**	**-.00109**	**-.00011**	**-.00001**	**221.05**
Stddev	.00135	4.20	.00215	.00249	.00063	.00003	.40
%RSD	25.663	1.7138	41.941	228.11	599.51	391.83	.18223
#1	-.00679	245.35	.00491	.00178	-.00019	-.00002	220.85
#2	-.00434	249.32	.00310	-.00254	-.00069	-.00003	221.52
#3	-.00460	240.92	.00739	-.00251	.00057	.00003	220.80
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	**.00004**	**-.00090**	**-.00113**	**.00305**	**97.975**	**.06032**	**.01280**
Stddev	.00016	.00041	.00091	.00092	.157	.07230	.00250
%RSD	357.82	45.895	80.471	30.107	.16066	119.86	19.513
#1	-.00005	-.00054	-.00098	.00279	97.795	-.00012	.01019
#2	.00023	-.00081	-.00031	.00407	98.043	.14042	.01304
#3	-.00004	-.00135	-.00211	.00229	98.087	.04067	.01517
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	**247.10**	**.00107**	**-.00063**	**.04168**	**-.00208**	**.02914**	**-.00326**
Stddev	.43	.00142	.00062	.04051	.00122	.00496	.00553
%RSD	.17267	133.22	98.765	97.203	58.993	17.024	169.88
#1	246.66	-.00014	-.00054	.05491	-.00335	.02475	-.00512
#2	247.13	.00264	-.00129	-.00380	-.00091	.02815	-.00761
#3	247.51	.00071	-.00005	.07391	-.00197	.03452	.00297
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016
Kristi K Buck

Sample Name: ICSA Acquired: 10/13/2016 13:07:14 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00273**	**-.00133**	**.22611**	**.00003**	**.00095**	**-.00875**	**.00470**
Stddev	.00327	.00509	.00288	.00068	.00012	.00102	.00395
%RSD	119.81	384.27	1.2728	2228.7	13.128	11.706	84.079
#1	-.00123	-.00659	.22543	.00008	.00081	-.00935	.00926
#2	-.00649	-.00097	.22927	.00069	.00103	-.00933	.00223
#3	-.00048	.00358	.22363	-.00067	.00101	-.00757	.00261
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	**-.00447**	**-.00650**	F **-22.920**
Stddev	.00057	.00024	2.407
%RSD	12.763	3.6760	10.501
#1	-.00404	-.00646	-25.487
#2	-.00425	-.00676	-20.715
#3	-.00512	-.00629	-22.557
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	**9685.7**	**106250.**	**11479.**
Stddev	32.7	495.	58.
%RSD	.33717	.46599	.50341
#1	9648.0	105940.	11428.
#2	9703.8	105990.	11468.
#3	9705.3	106820.	11542.

Approved: October 14, 2016

Kristi K Buck

Sample Name: ICSAB Acquired: 10/13/2016 13:11:12 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	.50957	248.11	.25277	-.01801	.24621	.25668	221.64
Stddev	.00365	4.45	.00289	.00163	.00172	.00179	1.61
%RSD	.71638	1.7946	1.1449	9.0540	.69674	.69597	.72525
#1	.51137	247.44	.25338	-.01984	.24448	.25716	220.27
#2	.50537	244.03	.24961	-.01672	.24624	.25470	221.23
#3	.51197	252.86	.25530	-.01746	.24791	.25818	223.41
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	.46644	.23598	.24344	.24866	96.799	5.2142	.01229
Stddev	.00182	.00145	.00117	.00059	.621	.1179	.00421
%RSD	.38914	.61333	.48172	.23705	.64145	2.2619	34.221
#1	.46718	.23721	.24295	.24922	96.319	5.1636	.01038
#2	.46437	.23438	.24258	.24872	96.579	5.1301	.01711
#3	.46777	.23634	.24477	.24804	97.500	5.3491	.00938
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	244.34	.24522	-.00003	5.2154	.47225	-.01258	.47110
Stddev	1.30	.00039	.00036	.0271	.00197	.00551	.00333
%RSD	.53005	.15977	1132.1	.51897	.41810	43.789	.70629
#1	242.92	.24510	-.00035	5.1847	.47365	-.00699	.47469
#2	244.63	.24565	.00036	5.2255	.46999	-.01801	.47050
#3	245.46	.24489	-.00011	5.2359	.47311	-.01275	.46811
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016
Ki K Buck

Sample Name: ICSAB Acquired: 10/13/2016 13:11:12 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.48816**	**.23382**	**.00914**	**.00084**	**.00143**	**-.01019**	**.44309**
Stddev	.00641	.00753	.00019	.00023	.00037	.00568	.00323
%RSD	1.3126	3.2204	2.1253	27.185	25.781	55.681	.72816
#1	.48749	.24207	.00933	.00073	.00122	-.00364	.44188
#2	.48212	.22731	.00895	.00110	.00185	-.01352	.44065
#3	.49488	.23208	.00914	.00068	.00121	-.01342	.44675
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	**.24443**	**.47078**	F **-24.709**
Stddev	.00167	.00044	.833
%RSD	.68376	.09323	3.3723
#1	.24437	.47114	-24.163
#2	.24279	.47029	-25.668
#3	.24613	.47090	-24.295
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	**9358.7**	**102130.**	**11020.**
Stddev	41.5	760.	187.
%RSD	.44393	.74398	1.6934
#1	9397.1	102110.	11201.
#2	9364.3	102900.	11030.
#3	9314.6	101390.	10828.

Approved: October 14, 2016

Ki K Buck

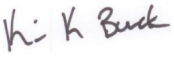
Sample Name: CCV Acquired: 10/13/2016 13:14:58 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.39332**	**9.9677**	**.39148**	**.48877**	**.98529**	**.04909**	**9.8561**
Stddev	.00089	.0257	.00217	.00214	.00256	.00002	.0214
%RSD	.22616	.25816	.55350	.43865	.26029	.03173	.21709
#1	.39265	9.9616	.39105	.48630	.98675	.04908	9.8601
#2	.39433	9.9960	.38955	.49010	.98233	.04911	9.8330
#3	.39297	9.9456	.39383	.48991	.98679	.04908	9.8752
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	**.04908**	**.19670**	**.49070**	**.49353**	**3.9322**	**49.695**	**.99097**
Stddev	.00009	.00032	.00094	.00181	.0089	.115	.00965
%RSD	.18083	.16113	.19055	.36605	.22619	.23092	.97430
#1	.04898	.19695	.49077	.49486	3.9222	49.690	.99581
#2	.04913	.19682	.48973	.49148	3.9391	49.582	.97985
#3	.04913	.19635	.49159	.49426	3.9354	49.812	.99725
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	**9.8844**	**.48906**	**.97890**	**49.706**	**.49440**	**9.7608**	**.49305**
Stddev	.1163	.00338	.00034	.218	.00217	.0102	.00336
%RSD	1.1769	.69174	.03441	.43920	.43991	.10447	.68061
#1	9.9405	.48747	.97873	49.811	.49195	9.7522	.48998
#2	9.7507	.48677	.97929	49.455	.49610	9.7720	.49663
#3	9.9620	.49294	.97868	49.853	.49514	9.7581	.49255
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016



Sample Name: CCV Acquired: 10/13/2016 13:14:58 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**1.1783**	**.39261**	**4.9764**	**.97968**	**.98585**	**.97440**	**.50139**
Stddev	.0035	.00447	.0065	.00064	.00149	.00992	.00372
%RSD	.29336	1.1394	.13092	.06505	.15128	1.0176	.74255
#1	1.1797	.38945	4.9706	.97980	.98612	.96789	.50441
#2	1.1808	.39773	4.9835	.98024	.98424	.96950	.49723
#3	1.1744	.39066	4.9750	.97899	.98718	.98581	.50254
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	**.98425**	**.98547**	F **.20784**
Stddev	.00299	.00065	.55953
%RSD	.30413	.06573	269.21
#1	.98092	.98621	-.24909
#2	.98513	.98501	.83189
#3	.98671	.98519	.04073
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	**9978.4**	**110430.**	**11133.**
Stddev	13.1	234.	244.
%RSD	.13138	.21159	2.1939
#1	9978.7	110550.	10908.
#2	9991.3	110570.	11393.
#3	9965.1	110160.	11098.

Approved: October 14, 2016

Ki K Buck

Sample Name: CCB Acquired: 10/13/2016 13:18:28 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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**	**.00681**	**.00231**	**.00171**	**.00050**	**.00002**	**-.00697**
Stddev	.00038	.01449	.00173	.00205	.00049	.00001	.01629
%RSD	109.70	212.56	74.944	119.94	97.730	57.671	233.74
#1	-.00017	-.00066	.00076	.00373	.00030	.00004	.00839
#2	-.00009	-.00241	.00417	-.00037	.00014	.00001	-.02405
#3	-.00079	.02351	.00200	.00177	.00106	.00002	-.00525
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**	**.00005**	**.00090**	**-.00273**	**.00856**	**.02969**	**.00296**
Stddev	.00026	.00027	.00017	.00164	.00957	.10979	.00008
%RSD	460.66	547.01	18.971	60.059	111.76	369.74	2.6779
#1	.00017	.00032	.00079	-.00395	.00296	.01325	.00294
#2	.00001	-.00022	.00081	-.00337	.00311	-.07095	.00305
#3	-.00035	.00005	.00109	-.00087	.01961	.14678	.00290
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	**-.03171**	**-.00013**	**.00004**	**-.01446**	**.00084**	**-.00497**	**.00029**
Stddev	.04226	.00179	.00014	.03915	.00109	.00724	.00334
%RSD	133.26	1380.9	360.48	270.74	128.95	145.68	1170.2
#1	-.00899	-.00133	-.00008	.01123	.00189	-.00804	.00386
#2	-.08047	.00193	.00020	-.05952	.00092	.00330	-.00276
#3	-.00567	-.00100	.00001	.00491	-.00028	-.01016	-.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

Kristi K Buck

Sample Name: CCB Acquired: 10/13/2016 13:18:28 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00055**	**-.00150**	**-.00037**	**-.00008**	**-.00020**	**-.00132**	**-.00332**
Stddev	.00172	.00586	.00207	.00140	.00023	.00481	.00327
%RSD	309.38	390.73	554.43	1701.1	117.06	365.16	98.337
#1	.00136	-.00344	-.00039	-.00156	-.00035	-.00608	.00028
#2	.00172	.00508	-.00244	.00123	.00007	-.00142	-.00414
#3	-.00142	-.00614	.00171	.00009	-.00031	.00355	-.00610
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	**-.00056**	**-.00013**	F **-1.1180**
Stddev	.00038	.00005	1.7570
%RSD	67.280	40.384	157.15
#1	-.00020	-.00007	-2.9066
#2	-.00095	-.00017	-1.0531
#3	-.00052	-.00015	.60559
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	**9966.3**	**111050.**	**10849.**
Stddev	42.1	788.	151.
%RSD	.42222	.70923	1.3873
#1	9918.3	110480.	10676.
#2	9997.0	110720.	10953.
#3	9983.6	111950.	10917.

Approved: October 14, 2016

Ki K Buck

Sample Name: PBW 6P Acquired: 10/13/2016 13:44:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG587099-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00104**	**-.00709**	**-.00033**	**-.00046**	**-.00008**	**-.00004**	**-.00913**
Stddev	.00122	.00223	.00134	.00149	.00002	.00001	.00393
%RSD	117.75	31.421	412.97	321.05	32.837	34.697	43.069
#1	-.00117	-.00879	-.00127	-.00034	-.00005	-.00003	-.00552
#2	-.00218	-.00457	-.00091	-.00201	-.00010	-.00006	-.00855
#3	.00024	-.00792	.00121	.00096	-.00007	-.00003	-.01331
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00008**	**.00012**	**.00103**	**-.00042**	**.00306**	**-.10695**	**.00579**
Stddev	.00009	.00001	.00087	.00140	.01083	.12697	.00197
%RSD	112.86	5.9354	84.494	333.95	353.59	118.72	34.013
#1	.00018	.00012	.00025	-.00197	.01354	.02330	.00721
#2	.00007	.00012	.00086	-.00005	-.00809	-.23037	.00663
#3	-.00000	.00013	.00196	.00076	.00374	-.11379	.00354
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	**-.00753**	**.00027**	**.00016**	**-.01070**	**.00205**	**-.00956**	**.00168**
Stddev	.04074	.00276	.00081	.01961	.00072	.00405	.00167
%RSD	541.33	1010.9	497.11	183.28	35.352	42.389	99.433
#1	-.04665	-.00046	.00077	.00548	.00146	-.00488	.00250
#2	.03466	-.00205	-.00076	-.03251	.00286	-.01197	.00279
#3	-.01058	.00333	.00048	-.00507	.00182	-.01182	-.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016
Kristi K Buck

Sample Name: PBW 6P Acquired: 10/13/2016 13:44:54 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG587099-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00452**	**.00450**	**.00220**	**.00042**	**-.00027**	**-.00152**	**-.00284**
Stddev	.00094	.00180	.00173	.00074	.00001	.00068	.00307
%RSD	20.845	39.866	78.579	176.79	3.6911	44.884	107.87
#1	-.00452	.00268	.00095	-.00024	-.00026	-.00084	-.00570
#2	-.00546	.00627	.00148	.00028	-.00027	-.00151	.00040
#3	-.00357	.00457	.00418	.00121	-.00028	-.00221	-.00322
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.00052**	**.00062**	F **-.08270**
Stddev	.00057	.00015	1.6476
%RSD	110.53	24.768	1992.3
#1	.00079	.00052	-.93231
#2	-.00014	.00080	-1.1320
#3	.00089	.00055	1.8162
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	**10468.**	**117490.**	**11414.**
Stddev	35.	300.	253.
%RSD	.33226	.25516	2.2145
#1	10428.	117300.	11130.
#2	10493.	117340.	11613.
#3	10483.	117840.	11500.

Approved: October 14, 2016

Ki K Buck

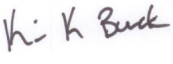
Sample Name: LCSW 6P Acquired: 10/13/2016 13:48:42 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG587099-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19257**	**5.0215**	**.19112**	**.89942**	**.48339**	**.02332**	**4.8288**	**.02396**
Stddev	.00104	.0217	.00158	.00182	.00115	.00013	.0356	.00041
%RSD	.53879	.43258	.82758	.20278	.23842	.54823	.73728	1.7112
#1	.19298	5.0153	.19094	.90121	.48447	.02343	4.8670	.02359
#2	.19139	5.0036	.18964	.89756	.48353	.02318	4.8227	.02389
#3	.19334	5.0457	.19279	.89948	.48218	.02334	4.7966	.02440
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	**.09729**	**.23871**	**.24136**	**1.9213**	**24.175**	**.49364**	**4.8788**	**.24276**
Stddev	.00025	.00052	.00089	.0239	.118	.00498	.0728	.00046
%RSD	.25345	.21665	.36885	1.2468	.48886	1.0089	1.4920	.18834
#1	.09757	.23812	.24129	1.8989	24.222	.49725	4.9619	.24261
#2	.09712	.23911	.24229	1.9185	24.262	.49570	4.8264	.24328
#3	.09718	.23890	.24051	1.9466	24.040	.48796	4.8480	.24241
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	**.48297**	**24.523**	**.24330**	**4.6115**	**.24592**	**.57120**	**.18996**	**2.3927**
Stddev	.00058	.137	.00088	.0155	.00169	.00520	.00143	.0104
%RSD	.12046	.55844	.36085	.33621	.68904	.91081	.75282	.43275
#1	.48246	24.673	.24302	4.5960	.24411	.57544	.18955	2.3824
#2	.48285	24.490	.24260	4.6271	.24747	.56539	.18879	2.4031
#3	.48360	24.405	.24429	4.6113	.24617	.57277	.19156	2.3928
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016



Sample Name: LCSW 6P Acquired: 10/13/2016 13:48:42 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG587099-03

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.48210**	**.48407**	**.48015**	**.24569**	**.47592**	**.47692**	**8.5280**
Stddev	.00209	.00130	.00271	.00118	.00174	.00107	2.0709
%RSD	.43433	.26762	.56401	.47929	.36477	.22346	24.283
#1	.48045	.48464	.47703	.24647	.47580	.47575	7.9705
#2	.48446	.48498	.48183	.24434	.47425	.47715	10.821
#3	.48139	.48259	.48160	.24627	.47771	.47785	6.7930
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	**10341.**	**114240.**	**11490.**
Stddev	21.	334.	96.
%RSD	.20199	.29277	.83631
#1	10362.	114610.	11427.
#2	10321.	114130.	11600.
#3	10340.	113970.	11442.

Approved: October 14, 2016

Kristi K Buck

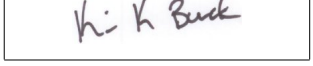
Sample Name: FBLK1 Acquired: 10/13/2016 13:52:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586884-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00010**	**.00093**	**-.00001**	**-.00043**	**-.00012**	**-.00003**	**.00180**
Stddev	.00110	.00680	.00438	.00083	.00080	.00002	.01258
%RSD	1134.8	734.44	56401.	193.96	687.07	69.143	700.17
#1	-.00099	-.00020	-.00498	-.00073	.00070	-.00003	.01618
#2	.00120	.00822	.00167	-.00107	-.00089	-.00001	-.00366
#3	.00008	-.00524	.00329	.00051	-.00016	-.00005	-.00713
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**	**.00059**	**.00091**	**-.00110**	**-.00679**	**.01267**	**.00585**
Stddev	.00017	.00036	.00065	.00109	.01627	.05536	.00304
%RSD	79.609	61.330	71.310	98.822	239.61	436.85	51.947
#1	-.00005	.00085	.00044	.00004	-.00876	.07587	.00568
#2	-.00019	.00073	.00165	-.00122	-.02199	-.02724	.00898
#3	-.00038	.00018	.00064	-.00213	.01038	-.01061	.00290
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	**.01930**	**.00204**	**.00061**	**82.907**	**.00126**	**-.00661**	**.00182**
Stddev	.06714	.00129	.00012	.216	.00102	.00229	.00357
%RSD	347.91	63.212	20.170	.26004	80.871	34.701	195.74
#1	.06433	.00344	.00051	82.896	.00234	-.00603	.00415
#2	-.05787	.00182	.00074	82.697	.00113	-.00913	-.00229
#3	.05143	.00088	.00057	83.128	.00031	-.00465	.00361
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016



Sample Name: FBLK1 Acquired: 10/13/2016 13:52:16 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586884-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00169**	**.00905**	**.00322**	**.00026**	**-.00014**	**.00258**	**.00128**
Stddev	.00111	.00822	.00018	.00068	.00025	.00518	.00197
%RSD	65.364	90.812	5.6363	261.09	181.38	200.63	154.25
#1	-.00145	.00129	.00319	-.00038	-.00034	.00805	.00002
#2	-.00073	.01766	.00305	.00098	-.00020	-.00225	.00026
#3	-.00290	.00820	.00341	.00018	.00014	.00195	.00356
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	**.00026**	**.00312**	F **-.04328**
Stddev	.00018	.00011	1.5280
%RSD	70.027	3.6152	3530.8
#1	.00009	.00324	-.55148
#2	.00024	.00312	1.6741
#3	.00044	.00301	-1.2524
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	**10276.**	**114550.**	**11660.**
Stddev	32.	358.	155.
%RSD	.31005	.31222	1.3280
#1	10257.	114160.	11520.
#2	10313.	114650.	11827.
#3	10258.	114850.	11633.

Approved: October 14, 2016
Ki K Buck

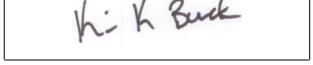
Sample Name: FBLK2 Acquired: 10/13/2016 13:56:55 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586884-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00116**	**-.00620**	**.00125**	**-.00165**	**.00003**	**-.00001**	**.01669**	**-.00012**
Stddev	.00057	.00614	.00077	.00141	.00013	.00005	.00700	.00030
%RSD	48.542	98.947	61.892	85.341	464.26	841.09	41.940	247.74
#1	-.00051	-.00425	.00068	-.00079	-.00008	-.00006	.01548	-.00029
#2	-.00154	-.01308	.00093	-.00088	-.00000	.00004	.01037	-.00030
#3	-.00144	-.00128	.00213	-.00327	.00017	.00000	.02421	.00023
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**	**.00033**	**.00018**	**.00515**	**-.04803**	**.00335**	**-.06331**	**-.00123**
Stddev	.00012	.00044	.00049	.00990	.02929	.00387	.04499	.00251
%RSD	154.62	133.86	273.83	192.39	60.989	115.66	71.062	203.57
#1	.00020	-.00014	.00035	-.00063	-.02270	.00704	-.11358	-.00192
#2	.00008	.00074	.00056	.01658	-.04128	-.00068	-.04951	.00155
#3	-.00004	.00039	-.00037	-.00051	-.08010	.00369	-.02683	-.00333
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	**.00026**	**.01931**	**.00187**	**-.00816**	**-.00126**	**.00014**	**.00994**	**.00051**
Stddev	.00016	.03540	.00041	.00385	.00340	.00264	.00869	.00114
%RSD	63.926	183.29	21.729	47.200	270.97	1873.4	87.354	221.96
#1	.00021	-.02148	.00224	-.00754	.00267	-.00290	.00157	-.00073
#2	.00012	.04188	.00144	-.00465	-.00318	.00180	.00934	.00151
#3	.00044	.03755	.00192	-.01228	-.00327	.00152	.01891	.00076
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

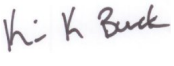


Sample Name: FBLK2 Acquired: 10/13/2016 13:56:55 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG586884-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00019**	**-.00012**	**.00285**	**-.00522**	**.00066**	**.00237**	**.13268**
Stddev	.00040	.00023	.00293	.00224	.00035	.00017	.78246
%RSD	209.90	181.26	102.93	42.943	53.056	7.0255	589.75
#1	.00015	-.00039	.00442	-.00331	.00093	.00256	-.19163
#2	.00062	.00001	-.00053	-.00466	.00080	.00231	1.0251
#3	-.00019	-.00000	.00466	-.00769	.00026	.00225	-.43549
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	**10512.**	**119200.**	**11718.**
Stddev	41.	366.	158.
%RSD	.38595	.30696	1.3450
#1	10546.	118790.	11567.
#2	10524.	119500.	11882.
#3	10467.	119320.	11707.

Approved: October 14, 2016



Sample Name: L1610019406 Acquired: 10/13/2016 14:00:42 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00083**	**.06171**	**.00402**	**.12778**	**.01108**	**.00007**	F **406.22**
Stddev	.00108	.00407	.00138	.00082	.00045	.00003	.60
%RSD	130.51	6.6023	34.341	.63787	4.0284	47.754	.14805
#1	.00025	.06517	.00360	.12782	.01155	.00011	405.76
#2	-.00192	.05722	.00556	.12857	.01104	.00004	406.90
#3	-.00082	.06274	.00290	.12694	.01066	.00007	406.01
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	**.00421**	**.00120**	**.04893**	**.00536**	**1.0681**	**4.4617**	**.30516**
Stddev	.00030	.00045	.00123	.00098	.0023	.0757	.00264
%RSD	7.1750	37.096	2.5135	18.204	.21331	1.6978	.86669
#1	.00390	.00072	.04758	.00469	1.0707	4.3750	.30529
#2	.00451	.00160	.04923	.00648	1.0674	4.4950	.30246
#3	.00422	.00129	.04999	.00490	1.0663	4.5152	.30774
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	**368.39**	**.10463**	**.00204**	F **773.25**	**.01939**	**.00714**	**.00107**
Stddev	.71	.00019	.00003	11.96	.00074	.00228	.00511
%RSD	.19405	.18172	1.4598	1.5461	3.8220	31.903	478.85
#1	368.76	.10466	.00201	763.88	.01900	.00965	-.00068
#2	368.84	.10480	.00206	786.71	.01893	.00656	-.00294
#3	367.56	.10442	.00205	769.14	.02025	.00520	.00682
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 14, 2016

Sample Name: L1610019406 Acquired: 10/13/2016 14:00:42 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00286**	**.00240**	**9.8587**	**.00039**	F **15.861**	F **-.05413**	**-.00323**
Stddev	.00461	.00533	.0424	.00107	.301	.00225	.00122
%RSD	161.43	221.96	.43017	276.36	1.8999	4.1508	37.783
#1	-.00242	-.00043	9.8878	.00155	16.143	-.05481	-.00184
#2	-.00488	-.00091	9.8783	.00016	15.543	-.05596	-.00412
#3	-.00611	.00855	9.8101	-.00055	15.896	-.05162	-.00372
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	**.00387**	**.00444**	**30.485**
Stddev	.00036	.00005	.918
%RSD	9.3806	1.0750	3.0114
#1	.00376	.00442	31.262
#2	.00428	.00449	30.723
#3	.00358	.00440	29.472
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	**8879.0**	**98434.**	**11287.**
Stddev	16.1	160.	180.
%RSD	.18090	.16273	1.5946
#1	8861.1	98250.	11183.
#2	8884.1	98515.	11184.
#3	8892.0	98538.	11495.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610019406PS Acquired: 10/13/2016 14:04:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG587330-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.20570**	**4.4532**	**.20746**	**1.0683**	**.49997**	**.02474**	F **382.90**
Stddev	.00064	.0159	.00359	.0035	.00244	.00009	1.33
%RSD	.31103	.35794	1.7327	.32440	.48744	.36881	.34768
#1	.20508	4.4492	.21154	1.0664	.50194	.02485	382.24
#2	.20636	4.4708	.20606	1.0723	.50073	.02468	384.43
#3	.20567	4.4397	.20478	1.0661	.49725	.02470	382.03
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	**.02849**	**.09395**	**.28415**	**.23911**	**2.8845**	**29.967**	**.76563**
Stddev	.00033	.00026	.00205	.00257	.0145	.203	.00138
%RSD	1.1540	.27516	.72186	1.0754	.50141	.67910	.18080
#1	.02870	.09398	.28650	.24030	2.8896	30.195	.76597
#2	.02867	.09420	.28273	.23616	2.8682	29.901	.76682
#3	.02812	.09369	.28322	.24087	2.8957	29.804	.76411
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	**337.30**	**.33229**	**.48643**	F **720.54**	**.24679**	**5.0811**	**.22614**
Stddev	1.03	.00361	.00265	12.52	.00060	.0164	.00017
%RSD	.30515	1.0854	.54487	1.7371	.24369	.32354	.07403
#1	337.35	.33358	.48809	706.13	.24611	5.0898	.22599
#2	338.31	.33508	.48783	728.74	.24703	5.0915	.22632
#3	336.25	.32822	.48337	726.74	.24724	5.0622	.22612
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 14, 2016

Ki K Buck

Sample Name: L1610019406PS Acquired: 10/13/2016 14:04:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG587330-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.59203**	**.19391**	**11.347**	**.46225**	F **14.826**	**.43855**	**.21206**
Stddev	.00583	.00851	.016	.00159	.227	.00484	.00442
%RSD	.98398	4.3884	.13917	.34335	1.5311	1.1036	2.0853
#1	.58554	.20294	11.358	.46395	14.817	.43878	.20696
#2	.59374	.19272	11.354	.46201	14.604	.44327	.21437
#3	.59681	.18605	11.329	.46080	15.057	.43360	.21485
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit					9.0000		
Low Limit					-.01000		

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.49750**	**.47497**	**28.858**
Stddev	.00046	.00138	.488
%RSD	.09201	.28976	1.6907
#1	.49791	.47588	28.955
#2	.49700	.47565	28.329
#3	.49758	.47339	29.290
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	**8979.8**	**98994.**	**11294.**
Stddev	15.1	267.	66.
%RSD	.16823	.26981	.58786
#1	8962.3	98695.	11352.
#2	8989.0	99076.	11222.
#3	8988.0	99210.	11307.

Approved: October 14, 2016

Kim K Buck

Sample Name: L1610019406SDL Acquired: 10/13/2016 14:08:34 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG587330-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00078**	**.02149**	**.00340**	**.02722**	**.00236**	**.00003**	**109.78**	**.00059**
Stddev	.00064	.00463	.00105	.00134	.00065	.00004	.15	.00020
%RSD	82.342	21.551	30.890	4.9303	27.551	143.01	.13810	33.353
#1	-.00116	.01810	.00413	.02699	.00265	.00006	109.71	.00037
#2	-.00004	.01960	.00388	.02866	.00280	.00002	109.95	.00063
#3	-.00114	.02677	.00220	.02600	.00161	-.00001	109.68	.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	**.00060**	**.01044**	**.00046**	**.22206**	**.86532**	**.06711**	**76.383**	**.02245**
Stddev	.00007	.00079	.00066	.00222	.04793	.00086	.304	.00143
%RSD	12.068	7.5357	142.61	.99970	5.5393	1.2754	.39748	6.3910
#1	.00065	.01111	-.00027	.22116	.87845	.06782	76.038	.02088
#2	.00052	.00958	.00065	.22459	.90532	.06736	76.611	.02276
#3	.00062	.01064	.00100	.22043	.81219	.06616	76.500	.02370
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	**.00047**	**193.76**	**.00445**	**.00532**	**.00331**	**.00070**	**.00419**	**1.9598**
Stddev	.00023	.46	.00090	.00872	.00033	.00433	.00668	.0042
%RSD	47.929	.23625	20.190	163.75	9.9915	616.25	159.47	.21230
#1	.00033	193.28	.00517	-.00322	.00350	.00428	.00081	1.9646
#2	.00035	194.19	.00344	.01420	.00351	.00194	.01188	1.9574
#3	.00073	193.82	.00475	.00499	.00293	-.00411	-.00013	1.9574
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610019406SDL Acquired: 10/13/2016 14:08:34 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment: WG587330-02

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00028	3.2656	-.01824	.00150	.00034	.00151	5.5668
Stddev	.00010	.0076	.00426	.00148	.00027	.00027	.6955
%RSD	36.574	.23381	23.350	98.652	79.189	17.854	12.494
#1	.00016	3.2583	-.01385	.00227	.00057	.00165	6.3522
#2	.00035	3.2735	-.02236	.00243	.00005	.00120	5.3189
#3	.00032	3.2651	-.01852	-.00021	.00039	.00168	5.0291
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	9611.6	107760.	11546.
Stddev	58.8	724.	126.
%RSD	.61218	.67223	1.0915
#1	9604.8	108580.	11495.
#2	9556.5	107490.	11690.
#3	9673.6	107210.	11454.

Approved: October 14, 2016

Kristi K Burck

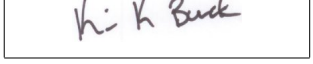
Sample Name: L1610031101 Acquired: 10/13/2016 14:12:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG587099-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00041**	**.02770**	**.02040**	**.25049**	**.00446**	**-.00007**	**16.326**	**.00022**
Stddev	.00149	.00548	.00180	.00508	.00030	.00002	.026	.00003
%RSD	365.02	19.780	8.8105	2.0273	6.7116	23.404	.16003	15.270
#1	-.00072	.02140	.01881	.24562	.00435	-.00008	16.341	.00025
#2	-.00172	.03036	.02004	.25576	.00480	-.00005	16.296	.00019
#3	.00122	.03134	.02235	.25010	.00423	-.00008	16.342	.00023
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	**.00031**	**.00136**	**-.00091**	**.00223**	**124.42**	**.01713**	**16.872**	**.00951**
Stddev	.00026	.00141	.00133	.01882	.28	.00193	.042	.00011
%RSD	84.044	103.66	146.33	843.58	.22762	11.273	.25173	1.1617
#1	.00044	.00054	-.00139	-.01397	124.38	.01894	16.881	.00956
#2	.00001	.00300	.00059	-.00221	124.16	.01509	16.825	.00959
#3	.00047	.00056	-.00192	.02288	124.73	.01737	16.909	.00938
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	**.00959**	**135.55**	**-.00005**	**30.985**	**.00508**	**.00881**	**.00524**	**12.286**
Stddev	.00027	.46	.00095	.053	.00429	.00166	.00474	.014
%RSD	2.8351	.33688	1960.1	.17039	84.519	18.895	90.580	.11682
#1	.00975	135.76	.00025	31.045	.00821	.00732	.01040	12.303
#2	.00927	135.03	.00072	30.946	.00684	.01061	.00107	12.281
#3	.00974	135.87	-.00111	30.964	.00019	.00850	.00425	12.276
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016



Sample Name: L1610031101 Acquired: 10/13/2016 14:12:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG587099-01

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00008**	**.02097**	**-.00214**	**-.00002**	**.00460**	**.00601**	**.28420**
Stddev	.00084	.00032	.00207	.00205	.00055	.00015	.11694
%RSD	1025.4	1.5308	96.785	8793.2	12.069	2.4854	41.146
#1	-.00059	.02061	-.00404	-.00169	.00416	.00591	.18340
#2	.00102	.02123	.00006	-.00064	.00522	.00594	.41240
#3	-.00019	.02108	-.00243	.00226	.00441	.00618	.25680
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	**10083.**	**109840.**	**11748.**
Stddev	19.	1151.	108.
%RSD	.18500	1.0480	.91685
#1	10062.	109910.	11699.
#2	10094.	108650.	11872.
#3	10094.	110950.	11674.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610031101MS Acquired: 10/13/2016 14:16:02 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG587099-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19015**	**4.5842**	**.21542**	**1.1651**	**.47975**	**.02414**	**21.038**	**.02379**
Stddev	.00136	.0078	.00067	.0039	.00303	.00003	.093	.00027
%RSD	.71590	.16921	.31333	.33110	.63220	.12554	.44265	1.1256
#1	.18979	4.5752	.21505	1.1608	.48271	.02417	21.141	.02410
#2	.19166	4.5882	.21502	1.1684	.47987	.02415	21.013	.02367
#3	.18901	4.5891	.21620	1.1660	.47665	.02411	20.960	.02361
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	**.09420**	**.23708**	**.23477**	**1.9036**	**146.64**	**.48456**	**21.633**	**.24367**
Stddev	.00047	.00077	.00211	.0060	.57	.00343	.042	.00008
%RSD	.49724	.32316	.89817	.31736	.39124	.70880	.19484	.03362
#1	.09367	.23666	.23406	1.8981	147.29	.48258	21.642	.24358
#2	.09457	.23661	.23310	1.9026	146.42	.48853	21.669	.24373
#3	.09436	.23796	.23714	1.9100	146.21	.48258	21.586	.24370
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	**.48345**	**157.85**	**.23755**	**35.325**	**.23619**	**.56930**	**.18736**	**14.476**
Stddev	.00119	.57	.00090	.066	.00275	.00489	.00431	.049
%RSD	.24708	.36299	.37692	.18795	1.1646	.85853	2.3004	.34087
#1	.48266	158.51	.23731	35.299	.23313	.56365	.19185	14.442
#2	.48287	157.59	.23681	35.275	.23701	.57204	.18695	14.453
#3	.48483	157.45	.23854	35.400	.23844	.57219	.18326	14.532
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610031101MS Acquired: 10/13/2016 14:16:02 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG587099-04

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.46620**	**.49773**	**.47853**	**.22518**	**.48396**	**.48121**	**6.7216**
Stddev	.00181	.00264	.00121	.00179	.00202	.00025	1.2286
%RSD	.38908	.53035	.25264	.79650	.41705	.05279	18.278
#1	.46431	.50073	.47916	.22720	.48468	.48095	6.2503
#2	.46638	.49666	.47929	.22456	.48167	.48122	8.1160
#3	.46792	.49579	.47714	.22378	.48551	.48146	5.7984
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	**10129.**	**111120.**	**11665.**
Stddev	13.	311.	40.
%RSD	.13104	.28031	.34106
#1	10114.	111200.	11664.
#2	10141.	110780.	11705.
#3	10131.	111380.	11626.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610031101MSD Acquired: 10/13/2016 14:19:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG587099-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.19220**	**4.6316**	**.21690**	**1.1812**	**.48100**	**.02442**	**21.196**	**.02411**
Stddev	.00053	.0254	.00228	.0041	.00133	.00011	.064	.00026
%RSD	.27757	.54772	1.0502	.35016	.27548	.43368	.30094	1.0593
#1	.19274	4.6600	.21665	1.1859	.47955	.02451	21.126	.02382
#2	.19167	4.6113	.21475	1.1791	.48130	.02430	21.213	.02429
#3	.19219	4.6233	.21929	1.1784	.48215	.02444	21.250	.02423
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	**.09491**	**.24183**	**.23799**	**1.8997**	**147.17**	**.48820**	**21.793**	**.24615**
Stddev	.00010	.00160	.00060	.0204	.18	.00300	.139	.00124
%RSD	.10738	.66103	.25245	1.0757	.12198	.61378	.63624	.50505
#1	.09498	.24002	.23866	1.8780	146.98	.48534	21.636	.24473
#2	.09479	.24245	.23782	1.9024	147.19	.49131	21.842	.24703
#3	.09495	.24303	.23750	1.9186	147.34	.48796	21.900	.24669
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	**.48851**	**158.85**	**.23836**	**35.725**	**.23540**	**.57802**	**.18712**	**14.648**
Stddev	.00113	.45	.00078	.027	.00244	.00610	.00352	.016
%RSD	.23065	.28548	.32812	.07464	1.0353	1.0558	1.8824	.10818
#1	.48817	158.38	.23809	35.695	.23373	.57384	.18413	14.651
#2	.48977	158.90	.23924	35.744	.23820	.57518	.19100	14.631
#3	.48760	159.29	.23775	35.737	.23427	.58502	.18623	14.662
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

Sample Name: L1610031101MSD Acquired: 10/13/2016 14:19:35 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment: WG587099-05

Elem	Sn1899	Sr4077	Ti3372	Tl1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.47305	.50024	.48684	.22577	.49070	.48770	7.3729
Stddev	.00068	.00123	.00217	.00221	.00101	.00044	1.7643
%RSD	.14425	.24629	.44546	.97923	.20576	.09121	23.929
#1	.47261	.49973	.48628	.22438	.49170	.48810	8.0349
#2	.47271	.50165	.48501	.22832	.49070	.48777	5.3733
#3	.47384	.49935	.48924	.22461	.48968	.48722	8.7104
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	10071.	110660.	11645.
Stddev	18.	418.	165.
%RSD	.17768	.37752	1.4131
#1	10050.	110270.	11665.
#2	10082.	111100.	11798.
#3	10079.	110610.	11471.

Approved: October 14, 2016

Kristi K Buck

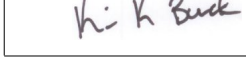
Sample Name: CCV Acquired: 10/13/2016 14:23:09 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.39185**	**10.019**	**.38718**	**.49194**	**.97474**	**.04862**	**9.8229**
Stddev	.00240	.062	.00593	.00374	.00129	.00013	.0305
%RSD	.61226	.61630	1.5321	.76024	.13227	.26174	.31070
#1	.38922	9.9485	.39401	.48763	.97384	.04857	9.8206
#2	.39392	10.064	.38329	.49429	.97416	.04876	9.7936
#3	.39241	10.044	.38424	.49390	.97622	.04852	9.8545
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	**.04926**	**.19632**	**.48973**	**.49130**	**3.8968**	**48.667**	**.97344**
Stddev	.00010	.00023	.00131	.00070	.0364	.174	.00143
%RSD	.20513	.11666	.26820	.14146	.93463	.35680	.14728
#1	.04922	.19629	.48825	.49054	3.9302	48.868	.97239
#2	.04919	.19610	.49020	.49145	3.8580	48.570	.97508
#3	.04938	.19656	.49075	.49190	3.9023	48.564	.97286
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	**9.9462**	**.48668**	**.97395**	**48.908**	**.49088**	**9.7280**	**.49433**
Stddev	.0450	.00237	.00189	.099	.00204	.0058	.00180
%RSD	.45281	.48739	.19376	.20257	.41573	.05987	.36353
#1	9.9299	.48403	.97238	48.838	.48996	9.7338	.49500
#2	9.9116	.48742	.97342	48.865	.48947	9.7221	.49229
#3	9.9971	.48860	.97604	49.021	.49322	9.7281	.49569
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016



Sample Name: CCV Acquired: 10/13/2016 14:23:09 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**1.1688**	**.38106**	**4.9443**	**.97858**	**.97791**	**.97938**	**.49739**
Stddev	.0010	.00548	.0079	.00082	.00144	.00143	.00457
%RSD	.08698	1.4370	.16043	.08413	.14738	.14612	.91864
#1	1.1698	.37568	4.9423	.97767	.97673	.97849	.50078
#2	1.1678	.38086	4.9376	.97883	.97749	.97861	.49220
#3	1.1686	.38663	4.9531	.97925	.97952	.98103	.49920
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	**.97408**	**.98108**	F **.63009**
Stddev	.00066	.00035	.60003
%RSD	.06805	.03586	95.228
#1	.97354	.98126	.23970
#2	.97388	.98130	1.3210
#3	.97482	.98067	.32959
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	**9845.8**	**108390.**	**11126.**
Stddev	41.7	289.	91.
%RSD	.42334	.26663	.81751
#1	9823.1	108300.	11093.
#2	9820.4	108150.	11229.
#3	9893.9	108710.	11056.

Approved: October 14, 2016

Kristi K Buck

Sample Name: CCB Acquired: 10/13/2016 14:26:37 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00196**	**-.00344**	**.00198**	**.00337**	**.00013**	**.00002**	**-.01978**
Stddev	.00150	.00570	.00387	.00145	.00079	.00004	.00562
%RSD	76.474	165.78	195.74	42.919	600.47	195.52	28.415
#1	-.00213	-.00960	-.00162	.00262	.00102	.00005	-.02537
#2	-.00336	-.00234	.00607	.00244	-.00010	-.00002	-.01413
#3	-.00038	.00163	.00149	.00503	-.00052	.00002	-.01985
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**	**.00026**	**.00041**	**-.00084**	**-.01679**	**.13890**	**.00734**
Stddev	.00016	.00042	.00058	.00051	.01798	.00960	.00313
%RSD	248.81	159.88	140.92	60.433	107.04	6.9082	42.635
#1	.00012	.00004	.00075	-.00027	-.01031	.12804	.01022
#2	-.00019	-.00000	-.00026	-.00101	-.00296	.14245	.00778
#3	-.00012	.00074	.00074	-.00125	-.03711	.14622	.00401
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	**.00438**	**.00130**	**.00023**	**.06511**	**-.00005**	**.00339**	**.00108**
Stddev	.04867	.00149	.00025	.01205	.00101	.00349	.00185
%RSD	1112.2	115.01	108.32	18.500	1835.9	103.21	171.16
#1	.05939	.00119	.00034	.07255	.00109	.00721	.00322
#2	-.01318	-.00014	.00040	.05121	-.00079	.00036	-.00006
#3	-.03308	.00283	-.00006	.07156	-.00047	.00259	.00009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

Kristi K Buck

Sample Name: CCB Acquired: 10/13/2016 14:26:37 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00040**	**-.00351**	**-.00122**	**.00029**	**-.00003**	**-.00052**	**-.00202**
Stddev	.00309	.00623	.00329	.00077	.00014	.00416	.00289
%RSD	775.71	177.74	269.38	261.69	442.19	792.40	143.51
#1	.00035	.00276	-.00408	-.00058	.00013	-.00421	-.00526
#2	.00351	-.00970	-.00194	.00088	-.00009	-.00134	-.00110
#3	-.00266	-.00358	.00237	.00058	-.00013	.00398	.00031
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	**.00093**	**-.00015**	F **.32614**
Stddev	.00032	.00027	.70875
%RSD	34.367	177.31	217.31
#1	.00102	-.00007	-.43747
#2	.00058	-.00046	.96290
#3	.00121	.00006	.45299
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	**10065.**	**112630.**	**11436.**
Stddev	88.	715.	176.
%RSD	.87182	.63517	1.5394
#1	9985.7	113240.	11357.
#2	10051.	111840.	11637.
#3	10159.	112800.	11312.

Approved: October 14, 2016

Ki K Buck

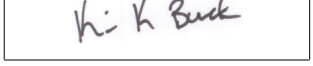
Sample Name: L1610031902 Acquired: 10/13/2016 14:30:27 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.02138**	**181.24**	**.16197**	**.06057**	**1.6489**	**.01990**	**148.70**
Stddev	.00155	1.88	.00369	.00246	.0053	.00009	.74
%RSD	7.2306	1.0349	2.2773	4.0578	.32180	.47672	.49945
#1	-.02248	183.39	.16510	.06226	1.6547	.01995	149.54
#2	-.02205	180.01	.16290	.05775	1.6479	.01996	148.14
#3	-.01961	180.30	.15790	.06169	1.6443	.01979	148.41
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00312**	**.15909**	**.32759**	**.31687**	**391.61**	**30.166**	**.20014**
Stddev	.00007	.00070	.00109	.00073	1.74	.034	.00138
%RSD	2.3152	.44111	.33128	.23000	.44520	.11236	.68812
#1	.00320	.15953	.32873	.31612	393.34	30.204	.20087
#2	.00310	.15946	.32747	.31757	391.64	30.154	.19855
#3	.00306	.15829	.32657	.31693	389.86	30.140	.20099
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	**64.449**	**8.4243**	**.01888**	**52.920**	**.25479**	**5.2369**	**.39881**
Stddev	.181	.0217	.00043	.215	.00085	.0123	.00052
%RSD	.28072	.25731	2.2953	.40566	.33318	.23562	.13029
#1	64.652	8.4478	.01934	53.168	.25386	5.2351	.39936
#2	64.306	8.4050	.01884	52.799	.25553	5.2500	.39875
#3	64.389	8.4202	.01847	52.792	.25498	5.2255	.39833
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016



Sample Name: L1610031902 Acquired: 10/13/2016 14:30:27 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00244**	**.00464**	F **172.06**	**.01831**	**1.4723**	**.61563**	**.00634**
Stddev	.00193	.00606	.84	.00038	.0062	.00567	.00387
%RSD	79.146	130.69	.48935	2.0645	.42383	.92168	61.103
#1	-.00030	-.00194	172.71	.01789	1.4791	.60954	.00881
#2	-.00296	.00586	172.36	.01862	1.4709	.61659	.00187
#3	-.00406	.01000	171.11	.01841	1.4669	.62076	.00833
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			36.000				
Low Limit			-1.0000				

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.33568**	**1.3404**	**3.9442**
Stddev	.00231	.0014	1.3704
%RSD	.68687	.10327	34.745
#1	.33796	1.3418	5.1505
#2	.33573	1.3404	4.2280
#3	.33335	1.3391	2.4541
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	**10725.**	**118680.**	**12733.**
Stddev	56.	1618.	165.
%RSD	.52216	1.3636	1.2941
#1	10787.	116830.	12550.
#2	10707.	119810.	12870.
#3	10679.	119400.	12777.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610047101 Acquired: 10/13/2016 14:34:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00008**	**.01709**	**.00147**	**.03293**	**.07587**	**-.00004**	**32.917**	**.00325**
Stddev	.00013	.00335	.00031	.00190	.00048	.00004	.059	.00032
%RSD	161.51	19.586	20.973	5.7581	.63656	87.785	.17976	9.7513
#1	-.00006	.01993	.00124	.03251	.07624	-.00001	32.902	.00325
#2	.00011	.01340	.00135	.03501	.07605	-.00003	32.982	.00294
#3	.00020	.01794	.00182	.03129	.07532	-.00009	32.866	.00358
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	**-.00019**	**.00072**	**-.00023**	**.01030**	**.43185**	**.00463**	**1.1402**	**.01930**
Stddev	.00041	.00056	.00111	.00427	.08343	.00322	.0254	.00073
%RSD	213.82	76.817	473.06	41.464	19.319	69.542	2.2289	3.7662
#1	.00023	.00064	.00045	.00689	.42805	.00453	1.1166	.01847
#2	-.00059	.00132	-.00151	.01510	.35038	.00790	1.1369	.01978
#3	-.00022	.00022	.00036	.00893	.51711	.00146	1.1671	.01967
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	**.00089**	**74.211**	**.00140**	**-.00097**	**.00266**	**-.00038**	**.00252**	**.30482**
Stddev	.00028	.009	.00068	.00303	.00165	.00148	.00271	.00087
%RSD	31.151	.01206	48.930	313.37	61.986	386.18	107.56	.28449
#1	.00100	74.202	.00110	.00190	.00273	-.00080	.00460	.30582
#2	.00058	74.220	.00091	-.00066	.00097	-.00161	.00352	.30431
#3	.00110	74.212	.00218	-.00414	.00426	.00126	-.00055	.30433
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610047101 Acquired: 10/13/2016 14:34:07 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00027**	**.10615**	**-.00321**	**-.00292**	**.00007**	**.20435**	**1.0308**
Stddev	.00061	.00016	.00247	.00601	.00034	.00050	1.1463
%RSD	226.40	.14608	76.791	205.96	498.14	.24245	111.20
#1	-.00001	.10603	-.00595	-.00275	-.00014	.20485	.35616
#2	-.00015	.10611	-.00255	.00300	.00046	.20434	2.3543
#3	.00097	.10633	-.00115	-.00901	-.00012	.20386	.38197
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	**10387.**	**116560.**	**12099.**
Stddev	39.	436.	59.
%RSD	.37444	.37441	.48678
#1	10357.	116070.	12116.
#2	10374.	116910.	12147.
#3	10431.	116710.	12033.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610047401 Acquired: 10/13/2016 14:38:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00003**	**.01451**	**.00130**	**.17258**	**.00299**	**-.00007**	**5.3015**	**.00008**
Stddev	.00196	.00410	.00133	.00184	.00068	.00003	.0035	.00019
%RSD	7417.9	28.249	101.78	1.0639	22.857	43.077	.06579	228.37
#1	.00021	.01333	-.00021	.17066	.00247	-.00007	5.3017	-.00013
#2	-.00202	.01113	.00224	.17432	.00273	-.00011	5.2979	.00014
#3	.00189	.01907	.00189	.17275	.00376	-.00005	5.3049	.00023
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**	**.00131**	**.00077**	**.01461**	**.52372**	**.00678**	**4.6210**	**.00235**
Stddev	.00023	.00026	.00199	.01851	.07550	.00278	.0549	.00155
%RSD	57.824	20.078	259.11	126.69	14.416	41.018	1.1876	66.150
#1	.00063	.00151	-.00012	.02775	.43654	.00781	4.6079	.00401
#2	.00016	.00101	.00305	.02263	.56731	.00891	4.5739	.00094
#3	.00043	.00142	-.00062	-.00656	.56731	.00363	4.6813	.00209
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	**.00147**	**13.865**	**.00155**	**-.00128**	**.00268**	**-.00369**	**.00632**	**.62920**
Stddev	.00032	.099	.00079	.00641	.00048	.00429	.00396	.00244
%RSD	21.960	.71068	50.895	502.26	18.095	116.11	62.660	.38757
#1	.00140	13.937	.00191	-.00761	.00297	.00073	.00414	.63017
#2	.00119	13.752	.00065	-.00142	.00295	-.00397	.00393	.63100
#3	.00183	13.905	.00210	.00521	.00212	-.00784	.01090	.62643
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016
Kristi K Buck

Sample Name: L1610047401 Acquired: 10/13/2016 14:38:44 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00044**	**.01395**	**-.00029**	**-.00454**	**.00077**	**.01673**	**.94174**
Stddev	.00042	.00013	.00403	.00087	.00012	.00014	1.1237
%RSD	94.761	.95048	1374.2	19.250	15.320	.86402	119.32
#1	.00084	.01399	-.00282	-.00545	.00064	.01678	-.09897
#2	.00000	.01380	.00435	-.00371	.00083	.01657	.79097
#3	.00048	.01405	-.00241	-.00445	.00085	.01685	2.1332
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	**10723.**	**119940.**	**12113.**
Stddev	30.	1608.	140.
%RSD	.28357	1.3407	1.1546
#1	10688.	119920.	11983.
#2	10738.	118340.	12261.
#3	10744.	121560.	12095.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610031902 Acquired: 10/13/2016 14:42:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.00482**	**43.526**	**.03710**	**.01609**	**.35826**	**.00424**	**34.797**
Stddev	.00129	.193	.00271	.00193	.00111	.00003	.036
%RSD	26.774	.44230	7.3065	11.979	.30871	.64846	.10258
#1	-.00338	43.691	.03983	.01608	.35922	.00420	34.838
#2	-.00588	43.314	.03441	.01416	.35849	.00426	34.778
#3	-.00520	43.573	.03706	.01802	.35705	.00425	34.775
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00070**	**.03531**	**.07123**	**.07193**	**86.523**	**6.4314**	**.04933**
Stddev	.00033	.00058	.00043	.00129	.214	.1195	.00462
%RSD	47.700	1.6397	.59761	1.7960	.24732	1.8582	9.3704
#1	.00077	.03598	.07114	.07122	86.764	6.5677	.04404
#2	.00099	.03493	.07169	.07342	86.355	6.3819	.05257
#3	.00034	.03503	.07085	.07115	86.449	6.3447	.05138
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.355**	**1.8603**	**.00402**	**11.608**	**.05722**	**1.1626**	**.09355**
Stddev	.053	.0109	.00021	.059	.00088	.0011	.00155
%RSD	.37013	.58383	5.2676	.50618	1.5359	.09606	1.6602
#1	14.370	1.8722	.00389	11.607	.05738	1.1628	.09530
#2	14.398	1.8577	.00391	11.667	.05627	1.1614	.09301
#3	14.295	1.8510	.00426	11.550	.05800	1.1636	.09234
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016
Kristi K Buck

Sample Name: L1610031902 Acquired: 10/13/2016 14:42:31 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00115**	**.00191**	F **42.878**	**.00464**	**.31951**	**.13277**	**.00379**
Stddev	.00364	.01323	.055	.00064	.00094	.00159	.00302
%RSD	316.40	693.82	.12796	13.825	.29305	1.1938	79.656
#1	.00227	.01565	42.937	.00452	.32051	.13156	.00071
#2	-.00498	-.01074	42.828	.00407	.31937	.13218	.00391
#3	-.00075	.00081	42.868	.00533	.31866	.13457	.00674
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			36.000				
Low Limit			-1.0000				

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	**.07193**	**.30019**	**.04929**
Stddev	.00065	.00037	.45752
%RSD	.90810	.12223	928.30
#1	.07161	.29996	.22547
#2	.07149	.30000	.39253
#3	.07268	.30061	-.47014
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	**10385.**	**115050.**	**12008.**
Stddev	36.	697.	133.
%RSD	.34387	.60605	1.1066
#1	10400.	115850.	12159.
#2	10410.	114620.	11959.
#3	10344.	114680.	11907.

Approved: October 14, 2016

Kristi K Buck

Sample Name: CCV Acquired: 10/13/2016 14:46:11 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.39522**	**10.052**	**.38810**	**.49183**	**.97168**	**.04856**	**9.7438**
Stddev	.00276	.020	.00115	.00072	.00209	.00017	.0195
%RSD	.69734	.19476	.29530	.14724	.21480	.34234	.20039
#1	.39443	10.029	.38885	.49259	.97198	.04871	9.7344
#2	.39829	10.065	.38678	.49176	.97360	.04859	9.7663
#3	.39295	10.061	.38868	.49115	.96945	.04838	9.7308
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	**.04906**	**.19538**	**.48998**	**.48858**	**3.9071**	**47.955**	**.95929**
Stddev	.00018	.00081	.00219	.00122	.0456	.189	.00873
%RSD	.36610	.41641	.44777	.24870	1.1670	.39327	.90955
#1	.04899	.19591	.49240	.48940	3.9179	48.109	.95336
#2	.04893	.19444	.48943	.48718	3.9464	48.012	.96931
#3	.04926	.19578	.48812	.48915	3.8571	47.745	.95520
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	**9.7176**	**.48400**	**.96999**	**48.107**	**.49020**	**9.7079**	**.49419**
Stddev	.1345	.00491	.00250	.060	.00133	.0359	.00597
%RSD	1.3843	1.0155	.25822	.12494	.27175	.36990	1.2071
#1	9.5838	.47884	.97283	48.173	.49073	9.7409	.49455
#2	9.8528	.48452	.96808	48.096	.48868	9.6697	.48805
#3	9.7161	.48863	.96908	48.054	.49118	9.7132	.49997
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

Ki K Buck

Sample Name: CCV Acquired: 10/13/2016 14:46:11 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**1.1662**	**.39218**	**4.9287**	**.97745**	**.97889**	**.96838**	**.50021**
Stddev	.0052	.00645	.0138	.00256	.00141	.00412	.00191
%RSD	.44683	1.6457	.28097	.26171	.14378	.42523	.38185
#1	1.1721	.38722	4.9434	.98039	.97809	.96414	.49829
#2	1.1645	.38985	4.9159	.97625	.98051	.96865	.50211
#3	1.1621	.39948	4.9268	.97571	.97806	.97236	.50022
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	**.97413**	**.97477**	F **.03312**
Stddev	.00326	.00170	1.0015
%RSD	.33499	.17389	3024.1
#1	.97613	.97613	-.90679
#2	.97590	.97287	1.0865
#3	.97037	.97532	-.08035
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	**9923.2**	**112060.**	**11848.**
Stddev	32.3	86.	79.
%RSD	.32526	.07639	.66727
#1	9958.7	112050.	11757.
#2	9895.6	112150.	11885.
#3	9915.3	111980.	11902.

Approved: October 14, 2016

Ki K Buck

Sample Name: CCB Acquired: 10/13/2016 14:49:40 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00150**	**-.00345**	**.00300**	**.00105**	**-.00030**	**-.00009**	**-.00496**	**-.00003**
Stddev	.00062	.00177	.00203	.00139	.00029	.00008	.01502	.00025
%RSD	41.445	51.244	67.714	132.22	97.682	85.271	303.20	825.23
#1	-.00136	-.00548	.00068	.00026	.00003	-.00000	-.01994	.00005
#2	-.00096	-.00225	.00444	.00023	-.00054	-.00014	-.00503	.00017
#3	-.00218	-.00262	.00388	.00265	-.00038	-.00014	.01010	-.00031
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	**.00019**	**.00003**	**-.00221**	**.00806**	**-.02213**	**.00531**	**.01656**	**.00132**
Stddev	.00006	.00010	.00127	.00940	.15166	.00616	.07025	.00089
%RSD	33.922	407.78	57.341	116.64	685.38	115.89	424.13	67.615
#1	.00023	-.00002	-.00076	.01107	-.16983	.01089	.05375	.00032
#2	.00022	.00014	-.00308	.01559	-.02975	.00635	-.06446	.00162
#3	.00012	-.00005	-.00279	-.00248	.13320	-.00129	.06040	.00203
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	**.00025**	**.01582**	**.00139**	**-.00810**	**-.00023**	**.00182**	**.00325**	**.00251**
Stddev	.00032	.02452	.00082	.00626	.00311	.00529	.00476	.00098
%RSD	129.54	154.96	58.779	77.335	1344.4	291.33	146.66	39.113
#1	-.00012	.04304	.00054	-.00717	-.00259	.00032	.00318	.00269
#2	.00039	-.00453	.00216	-.01477	.00330	-.00257	.00804	.00338
#3	.00048	.00896	.00147	-.00235	-.00140	.00770	-.00148	.00145
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016
Kristi K Buck

Sample Name: CCB Acquired: 10/13/2016 14:49:40 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00075**	**-.00009**	**-.00170**	**.00136**	**.00062**	**-.00015**	**.01597**
Stddev	.00081	.00023	.00491	.00235	.00049	.00018	1.5754
%RSD	108.23	255.25	289.14	172.14	79.000	119.54	9866.5
#1	-.00005	.00000	.00283	.00035	.00018	-.00003	-1.2366
#2	-.00164	-.00035	-.00100	-.00030	.00054	-.00007	1.7848
#3	-.00057	.00008	-.00693	.00405	.00115	-.00036	-.50025
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	**10136.**	**112460.**	**11471.**
Stddev	154.	329.	168.
%RSD	1.5171	.29281	1.4628
#1	10034.	112820.	11487.
#2	10062.	112370.	11630.
#3	10313.	112180.	11295.

Approved: October 14, 2016

Kristi K Buck

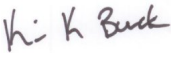
Sample Name: ICSA Acquired: 10/13/2016 14:53:29 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **-.00469**	**245.05**	**.00536**	**.00368**	**-.00034**	**-.00008**	**216.74**
Stddev	.00025	3.59	.00353	.00339	.00050	.00006	1.13
%RSD	5.4235	1.4652	65.769	92.324	145.19	69.912	.52345
#1	-.00496	243.31	.00933	.00367	.00005	-.00008	217.67
#2	-.00445	242.66	.00257	.00028	-.00017	-.00002	217.08
#3	-.00466	249.18	.00420	.00707	-.00091	-.00013	215.48
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	**.00017**	**-.00094**	**-.00130**	**.00227**	**96.335**	**.11827**	**.01322**
Stddev	.00032	.00012	.00098	.00290	.216	.08241	.00281
%RSD	192.75	12.976	75.651	127.88	.22383	69.680	21.223
#1	-.00019	-.00080	-.00243	.00388	96.475	.05281	.01019
#2	.00025	-.00101	-.00064	-.00108	96.444	.09118	.01572
#3	.00044	-.00100	-.00083	.00400	96.087	.21082	.01375
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	**243.47**	**.00108**	**-.00056**	**.04176**	**-.00440**	**.03587**	**-.00181**
Stddev	1.61	.00263	.00014	.01223	.00130	.00549	.00353
%RSD	.66085	243.63	25.216	29.298	29.520	15.293	195.35
#1	244.93	.00400	-.00066	.03267	-.00290	.03247	-.00538
#2	243.73	.00031	-.00040	.05566	-.00519	.04220	.00168
#3	241.74	-.00108	-.00061	.03693	-.00512	.03294	-.00171
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016



Sample Name: ICSA Acquired: 10/13/2016 14:53:29 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00105**	**.00170**	**.23062**	**.00064**	**.00109**	**-.01004**	**.00227**
Stddev	.00254	.00546	.00113	.00056	.00005	.00412	.00257
%RSD	241.08	321.38	.49146	86.813	4.6900	41.055	113.28
#1	-.00029	.00110	.23193	.00014	.00105	-.00593	.00054
#2	.00101	.00743	.22999	.00124	.00115	-.01418	.00104
#3	-.00388	-.00344	.22994	.00054	.00107	-.01002	.00522
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	**-.00529**	**-.00627**	F **-22.618**
Stddev	.00102	.00028	.596
%RSD	19.209	4.4986	2.6338
#1	-.00492	-.00623	-22.268
#2	-.00643	-.00601	-23.306
#3	-.00451	-.00657	-22.280
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	**9464.4**	**102590.**	**11300.**
Stddev	93.1	917.	216.
%RSD	.98339	.89409	1.9111
#1	9537.7	103590.	11058.
#2	9495.8	102380.	11474.
#3	9359.7	101790.	11368.

Approved: October 14, 2016

Ki K Buck

Sample Name: ICSAB Acquired: 10/13/2016 14:57:21 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	.50983	239.82	.25284	-.01821	.24811	.25549	219.29
Stddev	.00282	4.76	.00251	.00181	.00064	.00105	1.08
%RSD	.55263	1.9866	.99445	9.9320	.25762	.40972	.49456
#1	.51099	235.72	.25559	-.01623	.24786	.25639	218.57
#2	.50662	238.70	.25225	-.01977	.24764	.25434	218.76
#3	.51188	245.05	.25067	-.01861	.24884	.25574	220.53
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	.46433	.23590	.24291	.24563	97.065	5.2112	.01386
Stddev	.00234	.00151	.00108	.00323	.365	.1291	.00050
%RSD	.50421	.63881	.44590	1.3147	.37591	2.4765	3.6123
#1	.46665	.23744	.24386	.24936	96.853	5.1349	.01329
#2	.46438	.23583	.24173	.24383	96.855	5.1385	.01405
#3	.46197	.23443	.24314	.24371	97.486	5.3602	.01423
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	246.19	.24260	.00006	5.2169	.47060	-.00938	.47482
Stddev	.56	.00182	.00013	.0250	.00201	.00781	.00544
%RSD	.22889	.75016	226.12	.48016	.42801	83.252	1.1465
#1	245.99	.24413	.00017	5.2037	.47223	-.01048	.47515
#2	245.75	.24059	-.00008	5.2458	.47123	-.00108	.48009
#3	246.83	.24307	.00008	5.2013	.46835	-.01658	.46922
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016
Kk Buck

Sample Name: ICSAB Acquired: 10/13/2016 14:57:21 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.48092**	**.23790**	**.01117**	**.00138**	**.00111**	**-.00871**	**.44018**
Stddev	.00605	.00472	.00336	.00093	.00029	.00099	.00573
%RSD	1.2587	1.9845	30.106	67.182	25.691	11.381	1.3012
#1	.48348	.23646	.01437	.00158	.00089	-.00985	.44370
#2	.48528	.23407	.00767	.00220	.00101	-.00821	.43357
#3	.47401	.24317	.01147	.00037	.00143	-.00807	.44328
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	**.24475**	**.46780**	F **-24.667**
Stddev	.00012	.00227	1.858
%RSD	.04904	.48457	7.5326
#1	.24478	.46995	-23.179
#2	.24462	.46803	-24.073
#3	.24485	.46543	-26.750
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	**9645.8**	**106840.**	**11275.**
Stddev	29.6	500.	391.
%RSD	.30659	.46771	3.4654
#1	9679.9	106810.	11631.
#2	9629.8	107360.	11336.
#3	9627.7	106360.	10857.

Approved: October 14, 2016

Ki K Buck

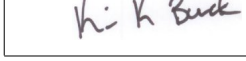
Sample Name: CCV Acquired: 10/13/2016 15:01:07 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.39250**	**10.108**	**.39255**	**.49202**	**.97777**	**.04867**	**9.7965**
Stddev	.00303	.056	.00484	.00427	.00240	.00032	.0535
%RSD	.77127	.55225	1.2321	.86735	.24552	.65762	.54656
#1	.39407	10.163	.39407	.49269	.97685	.04895	9.8505
#2	.39441	10.109	.39645	.49591	.97596	.04874	9.7434
#3	.38901	10.051	.38714	.48745	.98049	.04832	9.7957
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**	**.19692**	**.48957**	**.49209**	**3.9067**	**48.433**	**.97479**
Stddev	.00034	.00008	.00052	.00125	.0071	.155	.00150
%RSD	.68309	.03920	.10598	.25360	.18233	.31935	.15380
#1	.04880	.19686	.48990	.49280	3.9054	48.425	.97330
#2	.04943	.19690	.48897	.49065	3.9144	48.282	.97476
#3	.04932	.19701	.48985	.49282	3.9003	48.591	.97630
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	**9.7859**	**.48753**	**.97659**	**48.674**	**.49229**	**9.7595**	**.49366**
Stddev	.1085	.00086	.00179	.169	.00146	.0104	.00228
%RSD	1.1090	.17604	.18315	.34625	.29617	.10643	.46152
#1	9.8096	.48703	.97679	48.707	.49336	9.7481	.49408
#2	9.6674	.48852	.97827	48.492	.49063	9.7684	.49570
#3	9.8805	.48703	.97471	48.824	.49288	9.7622	.49120
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016



Sample Name: CCV Acquired: 10/13/2016 15:01:07 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**1.1756**	**.39380**	**4.9512**	**.98265**	**.98293**	**.98023**	**.50192**
Stddev	.0022	.00131	.0024	.00085	.00390	.00378	.00120
%RSD	.18694	.33150	.04856	.08643	.39658	.38549	.24007
#1	1.1745	.39279	4.9537	.98361	.97869	.98057	.50221
#2	1.1781	.39527	4.9510	.98198	.98374	.97629	.50060
#3	1.1742	.39334	4.9489	.98237	.98636	.98382	.50296
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	**.97800**	**.98014**	F **.57008**
Stddev	.00351	.00141	.41224
%RSD	.35935	.14411	72.311
#1	.98203	.98107	.32507
#2	.97638	.98084	.33916
#3	.97559	.97851	1.0460
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	**9865.4**	**110000.**	**11501.**
Stddev	14.9	970.	267.
%RSD	.15102	.88174	2.3218
#1	9872.3	111100.	11283.
#2	9848.3	109640.	11799.
#3	9875.5	109260.	11421.

Approved: October 14, 2016
Kim K Buck

Sample Name: CCB Acquired: 10/13/2016 15:04:34 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00071**	**-.00823**	**-.00015**	**.00045**	**.00009**	**-.00002**	**.00551**
Stddev	.00156	.00512	.00092	.00316	.00062	.00001	.02500
%RSD	217.86	62.188	614.61	697.91	670.22	51.005	453.42
#1	.00108	-.00789	-.00117	.00313	.00080	-.00002	-.01713
#2	-.00149	-.01350	.00061	-.00303	-.00017	-.00004	.00132
#3	-.00173	-.00328	.00011	.00126	-.00035	-.00002	.03235
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	**-.00015**	**.00042**	**.00073**	**-.00107**	**-.00724**	**-.01823**	**.00964**
Stddev	.00017	.00021	.00130	.00121	.01522	.08795	.00370
%RSD	113.52	50.410	177.14	113.38	210.07	482.45	38.409
#1	-.00034	.00067	.00202	-.00212	-.00685	.00418	.01226
#2	-.00002	.00031	.00077	.00025	-.02265	-.11522	.01127
#3	-.00008	.00028	-.00058	-.00134	.00777	.05635	.00541
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.02453**	**.00002**	**.00007**	**-.00096**	**.00055**	**-.00020**	**.00050**
Stddev	.02973	.00171	.00026	.01267	.00027	.01155	.00262
%RSD	121.21	8406.2	402.80	1316.1	48.585	5921.5	521.46
#1	-.05774	-.00071	-.00023	.00319	.00084	.01237	-.00244
#2	-.00038	-.00121	.00028	.00911	.00051	-.00261	.00257
#3	-.01547	.00198	.00015	-.01519	.00031	-.01035	.00138
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016
Kristi K Buck

Sample Name: CCB Acquired: 10/13/2016 15:04:34 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00442**	**.00436**	**-.00023**	**-.00046**	**-.00006**	**-.00620**	**-.00072**
Stddev	.00024	.00147	.00300	.00124	.00019	.00218	.00212
%RSD	5.3973	33.681	1296.8	270.59	286.74	35.207	294.38
#1	-.00449	.00592	.00243	-.00016	-.00021	-.00436	-.00054
#2	-.00416	.00416	-.00348	-.00183	-.00013	-.00563	.00130
#3	-.00463	.00300	.00035	.00060	.00015	-.00862	-.00293
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	**.00086**	**-.00027**	F **-.12827**
Stddev	.00050	.00028	1.4360
%RSD	57.722	103.64	1119.5
#1	.00112	-.00010	-.28888
#2	.00118	-.00059	1.3813
#3	.00029	-.00011	-1.4772
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	**10066.**	**114690.**	**11609.**
Stddev	18.	1066.	146.
%RSD	.18304	.92947	1.2608
#1	10067.	115910.	11635.
#2	10048.	114170.	11741.
#3	10085.	113980.	11451.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610019402 Acquired: 10/13/2016 15:08:24 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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**	**.50689**	**.13211**	**.12824**	**.28973**	**-.00001**	**181.72**
Stddev	.00012	.00553	.00769	.00329	.00135	.00002	.40
%RSD	212.50	1.0906	5.8217	2.5654	.46627	189.31	.21956
#1	.00001	.51116	.12417	.12563	.28893	-.00003	181.65
#2	-.00003	.50065	.13262	.12715	.28897	.00001	181.36
#3	.00019	.50887	.13953	.13193	.29129	-.00002	182.15
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	**.00205**	**.03348**	**.06381**	**.04110**	**26.524**	**1.4373**	**.05031**
Stddev	.00021	.00037	.00058	.00040	.057	.0898	.00185
%RSD	10.375	1.1142	.90425	.96752	.21344	6.2493	3.6726
#1	.00223	.03342	.06448	.04150	26.469	1.3933	.04920
#2	.00210	.03314	.06346	.04108	26.520	1.5406	.04930
#3	.00181	.03388	.06349	.04071	26.582	1.3779	.05245
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	**201.65**	**6.0716**	**.00369**	F **1180.0**	**.09044**	**4.0674**	**.01313**
Stddev	.18	.0144	.00062	12.8	.00049	.0110	.00085
%RSD	.08798	.23729	16.798	1.0832	.54079	.26922	6.4338
#1	201.45	6.0769	.00359	1171.9	.09061	4.0789	.01268
#2	201.72	6.0553	.00435	1194.7	.09083	4.0660	.01411
#3	201.79	6.0826	.00313	1173.4	.08989	4.0572	.01262
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 14, 2016
Ki K Buck

Sample Name: L1610019402 Acquired: 10/13/2016 15:08:24 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00528**	**.01843**	**13.411**	**.00344**	**5.2964**	**.15755**	**-.00087**
Stddev	.00218	.00524	.004	.00114	.0073	.00652	.00399
%RSD	41.309	28.436	.03137	33.234	.13851	4.1368	457.75
#1	.00649	.01819	13.413	.00359	5.2961	.15259	.00275
#2	.00276	.02378	13.406	.00451	5.2893	.15513	-.00021
#3	.00659	.01331	13.414	.00223	5.3039	.16493	-.00516
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	**.13636**	**.05965**	F **222.41**
Stddev	.00097	.00024	.67
%RSD	.71485	.41047	.29973
#1	.13572	.05988	222.85
#2	.13748	.05967	222.75
#3	.13587	.05940	221.65
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	**9245.6**	**101840.**	**12001.**
Stddev	19.4	61.	41.
%RSD	.20974	.06007	.34256
#1	9256.5	101870.	11961.
#2	9223.2	101770.	12000.
#3	9257.2	101880.	12043.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610019404 Acquired: 10/13/2016 15:12:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00109**	**.07206**	**.03925**	**.08213**	**.11724**	**-.00010**	**146.23**
Stddev	.00066	.00134	.00207	.00024	.00070	.00001	.70
%RSD	61.142	1.8613	5.2632	.29648	.60032	9.2049	.48046
#1	-.00185	.07158	.03687	.08231	.11758	-.00011	146.26
#2	-.00065	.07357	.04056	.08186	.11771	-.00011	146.91
#3	-.00076	.07103	.04032	.08224	.11644	-.00009	145.51
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	**.00081**	**.02479**	**.01284**	**.01407**	**37.153**	**.89633**	**.02845**
Stddev	.00029	.00065	.00035	.00180	.011	.12745	.00017
%RSD	35.502	2.6080	2.7136	12.820	.02941	14.219	.61095
#1	.00110	.02468	.01305	.01286	37.140	.94498	.02848
#2	.00080	.02549	.01243	.01615	37.162	.75172	.02827
#3	.00053	.02421	.01303	.01322	37.156	.99229	.02861
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	**111.48**	**6.3508**	**.00549**	F **706.20**	**.03526**	**3.6547**	**.00834**
Stddev	.37	.0342	.00028	11.12	.00160	.0121	.00066
%RSD	.33223	.53845	5.0959	1.5739	4.5354	.33172	7.9038
#1	111.39	6.3571	.00570	699.40	.03702	3.6574	.00788
#2	111.88	6.3813	.00517	719.02	.03390	3.6653	.00804
#3	111.15	6.3138	.00560	700.17	.03485	3.6415	.00909
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 14, 2016

Ki K Buck

Sample Name: L1610019404 Acquired: 10/13/2016 15:12:12 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00351**	**.00802**	**15.452**	**.00181**	**3.4848**	**.04250**	**-.00801**
Stddev	.00237	.00739	.031	.00070	.0060	.00177	.00484
%RSD	67.632	92.139	.19786	38.478	.17087	4.1571	60.406
#1	.00443	.01577	15.469	.00104	3.4875	.04063	-.01014
#2	.00081	.00104	15.469	.00201	3.4889	.04273	-.01142
#3	.00528	.00726	15.416	.00239	3.4780	.04414	-.00247
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	**.03793**	**.03484**	**28.398**
Stddev	.00098	.00005	.431
%RSD	2.5807	.15408	1.5172
#1	.03749	.03485	28.894
#2	.03725	.03489	28.120
#3	.03905	.03478	28.180
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	**9437.1**	**106080.**	**12130.**
Stddev	35.2	150.	107.
%RSD	.37269	.14095	.88081
#1	9473.7	106230.	12198.
#2	9403.5	105930.	12007.
#3	9434.2	106070.	12185.

Approved: October 14, 2016

Sample Name: L1610019405 Acquired: 10/13/2016 15:16:01 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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**	**.11589**	**.00256**	**.04639**	**.02063**	**.00006**	F **317.82**
Stddev	.00107	.00264	.00288	.00062	.00019	.00007	1.42
%RSD	58.662	2.2768	112.74	1.3379	.92598	117.40	.44588
#1	.00265	.11556	.00577	.04596	.02062	.00002	316.26
#2	.00218	.11867	.00170	.04710	.02083	.00014	319.04
#3	.00062	.11343	.00020	.04610	.02045	.00001	318.14
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	**.00085**	**.00358**	**.00163**	**.00265**	**.36671**	**2.5817**	**.19760**
Stddev	.00013	.00044	.00088	.00174	.02891	.0246	.00392
%RSD	14.688	12.273	53.929	65.545	7.8834	.95450	1.9839
#1	.00089	.00349	.00264	.00444	.39585	2.5568	.19309
#2	.00071	.00320	.00107	.00254	.36625	2.6061	.20012
#3	.00095	.00406	.00117	.00097	.33803	2.5821	.19960
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	**213.98**	**1.4720**	**.00120**	F **615.44**	**.01302**	**.01539**	**.00305**
Stddev	.20	.0025	.00060	11.78	.00121	.00775	.00143
%RSD	.09403	.16704	50.204	1.9146	9.3120	50.340	46.884
#1	213.87	1.4748	.00171	605.32	.01359	.02320	.00272
#2	213.87	1.4710	.00054	628.38	.01162	.00770	.00181
#3	214.22	1.4701	.00134	612.64	.01384	.01528	.00462
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: October 14, 2016

Ki K Buck

Sample Name: L1610019405 Acquired: 10/13/2016 15:16:01 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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**	**.00342**	**11.790**	**.00044**	F **10.799**	F **-.03832**	**-.00233**
Stddev	.00556	.00442	.018	.00067	.129	.00192	.00113
%RSD	111.29	129.03	.15436	153.54	1.1988	5.0092	48.280
#1	.01134	.00318	11.800	-.00026	10.671	-.04032	-.00115
#2	.00273	.00795	11.802	.00108	10.796	-.03650	-.00246
#3	.00093	-.00087	11.769	.00049	10.930	-.03812	-.00339
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	**.00099**	**.00455**	**5.5034**
Stddev	.00064	.00018	.4605
%RSD	64.574	3.8879	8.3670
#1	.00132	.00475	6.0030
#2	.00025	.00441	5.4113
#3	.00140	.00450	5.0960
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	**9288.5**	**103370.**	**11888.**
Stddev	22.4	369.	98.
%RSD	.24115	.35701	.82197
#1	9296.6	103070.	11964.
#2	9263.2	103250.	11778.
#3	9305.7	103780.	11923.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610032201 Acquired: 10/13/2016 15:20:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00082**	**.03222**	**.00366**	**.06014**	**.42248**	**-.00011**	**241.27**
Stddev	.00025	.00177	.00137	.00084	.00020	.00004	1.04
%RSD	29.923	5.5015	37.271	1.4003	.04793	37.875	.43282
#1	-.00062	.03414	.00307	.06111	.42246	-.00011	240.07
#2	-.00110	.03064	.00523	.05980	.42269	-.00007	241.80
#3	-.00075	.03189	.00270	.05953	.42228	-.00015	241.95
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**	**.00023**	**.00105**	**.00291**	**.00061**	**193.12**	**.03292**
Stddev	.00023	.00020	.00034	.00177	.01228	.06	.00234
%RSD	47.651	87.355	32.146	60.804	2002.3	.02866	7.1008
#1	.00032	-.00000	.00071	.00369	.01295	193.16	.03479
#2	.00073	.00035	.00138	.00088	.00050	193.13	.03030
#3	.00037	.00034	.00106	.00414	-.01161	193.05	.03369
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	**.05396**	**.00051**	**.00681**	**233.27**	**.00022**	**.07998**	**.06162**
Stddev	.00856	.00085	.00020	.90	.00085	.00804	.00266
%RSD	15.865	166.68	3.0031	.38588	385.25	10.050	4.3131
#1	.05171	.00051	.00663	232.31	-.00014	.08485	.06469
#2	.06342	-.00034	.00676	234.10	.00119	.07070	.05998
#3	.04675	.00136	.00703	233.41	-.00039	.08440	.06019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610032201 Acquired: 10/13/2016 15:20:03 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00282**	**.02756**	**.09503**	**.00012**	**.35315**	F **-.03046**	**.00120**
Stddev	.00323	.00846	.00461	.00162	.00046	.00503	.00116
%RSD	114.50	30.706	4.8527	1366.6	.12937	16.500	96.210
#1	.00023	.03659	.09253	.00158	.35264	-.02559	.00238
#2	-.00249	.02626	.10035	-.00162	.35352	-.03017	.00118
#3	-.00621	.01982	.09220	.00040	.35329	-.03563	.00006
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	**.00059**	**.01548**	F **-.62478**
Stddev	.00047	.00011	1.7354
%RSD	80.470	.70016	277.77
#1	.00032	.01544	-.46142
#2	.00031	.01540	1.0232
#3	.00114	.01560	-2.4361
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	**9765.3**	**109130.**	**11930.**
Stddev	48.9	590.	150.
%RSD	.50041	.54034	1.2564
#1	9759.0	108750.	12016.
#2	9719.8	108830.	12017.
#3	9817.0	109810.	11757.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610037701 Acquired: 10/13/2016 15:23:48 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00125**	**.00560**	**.00111**	**.03588**	**.05632**	**-.00008**	**35.845**
Stddev	.00124	.00274	.00169	.00113	.00029	.00003	.083
%RSD	98.436	48.917	152.59	3.1459	.52056	37.634	.23150
#1	.00265	.00460	.00226	.03714	.05637	-.00010	35.754
#2	.00030	.00870	-.00083	.03557	.05659	-.00009	35.917
#3	.00082	.00350	.00188	.03495	.05601	-.00004	35.863
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**	**.00069**	**.00123**	**.00016**	**-.00733**	**.39160**	**.00619**
Stddev	.00009	.00034	.00037	.00112	.00457	.13739	.00311
%RSD	511.66	49.552	30.496	704.92	62.357	35.083	50.214
#1	.00010	.00083	.00088	-.00070	-.00522	.47839	.00950
#2	-.00007	.00030	.00118	-.00024	-.01257	.46321	.00333
#3	.00002	.00095	.00162	.00142	-.00419	.23320	.00573
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	**2.8314**	**.32379**	**.00046**	**74.655**	**-.00011**	**-.00712**	**.00142**
Stddev	.0647	.00255	.00005	.150	.00060	.00310	.00175
%RSD	2.2859	.78882	10.762	.20135	524.51	43.566	123.71
#1	2.8747	.32664	.00051	74.520	.00057	-.00440	.00193
#2	2.7570	.32170	.00041	74.817	-.00054	-.01050	-.00054
#3	2.8625	.32303	.00045	74.628	-.00037	-.00646	.00285
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610037701 Acquired: 10/13/2016 15:23:48 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00007**	**.00480**	**.16775**	**.00025**	**.13113**	**-.00394**	**-.00044**
Stddev	.00097	.00165	.00190	.00032	.00044	.00255	.00057
%RSD	1330.8	34.441	1.1325	126.48	.33460	64.792	128.86
#1	-.00119	.00396	.16868	.00037	.13146	-.00389	-.00108
#2	.00048	.00671	.16557	.00050	.13130	-.00141	-.00002
#3	.00050	.00374	.16902	-.00011	.13063	-.00652	-.00021
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	**.00106**	**.00444**	F **-.19881**
Stddev	.00047	.00005	.25160
%RSD	44.112	1.2087	126.55
#1	.00117	.00440	-.38228
#2	.00054	.00442	.08801
#3	.00146	.00450	-.30215
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	**10382.**	**116920.**	**12043.**
Stddev	40.	334.	127.
%RSD	.38106	.28592	1.0520
#1	10425.	116540.	11897.
#2	10373.	117080.	12118.
#3	10348.	117150.	12114.

Approved: October 14, 2016

Kim K Buck

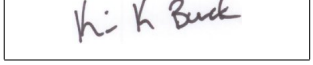
Sample Name: L1610037702 Acquired: 10/13/2016 15:27:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00141**	**.04617**	**.00165**	**.04562**	**.05919**	**-.00007**	**35.153**
Stddev	.00196	.00522	.00228	.00157	.00072	.00002	.096
%RSD	139.36	11.309	138.26	3.4525	1.2132	26.168	.27191
#1	.00086	.04745	.00109	.04728	.05878	-.00005	35.074
#2	-.00246	.05064	.00416	.04543	.05876	-.00009	35.125
#3	-.00262	.04043	-.00030	.04414	.06002	-.00007	35.259
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	**-.00015**	**.00042**	**.00102**	**.00043**	**.03927**	**.67546**	**.00848**
Stddev	.00034	.00020	.00091	.00165	.01070	.08860	.00307
%RSD	220.87	47.831	89.030	383.55	27.240	13.117	36.214
#1	-.00041	.00063	.00016	.00233	.03540	.77717	.00494
#2	-.00028	.00042	.00197	-.00064	.05136	.61504	.01038
#3	.00023	.00022	.00092	-.00040	.03105	.63417	.01013
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	**2.2122**	**.20113**	**.00027**	**75.714**	**.00101**	**-.01059**	**.00240**
Stddev	.0371	.00028	.00034	.118	.00180	.00317	.00204
%RSD	1.6756	.13708	126.59	.15578	178.29	29.967	84.960
#1	2.1915	.20086	-.00010	75.586	-.00038	-.00706	.00005
#2	2.1901	.20110	.00057	75.736	.00036	-.01149	.00358
#3	2.2550	.20141	.00033	75.818	.00305	-.01322	.00357
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016



Sample Name: L1610037702 Acquired: 10/13/2016 15:27:33 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00227**	**-.00020**	**.25079**	**.00040**	**.26181**	**-.00321**	**-.00094**
Stddev	.00092	.00321	.00299	.00072	.00029	.00309	.00193
%RSD	40.366	1614.4	1.1941	181.86	.11235	96.151	205.81
#1	-.00287	.00229	.25327	.00015	.26148	-.00673	.00021
#2	-.00272	-.00382	.25164	-.00017	.26205	-.00095	-.00316
#3	-.00121	.00094	.24747	.00121	.26189	-.00195	.00015
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	**.00022**	**.00808**	F **-.28437**
Stddev	.00035	.00013	.60822
%RSD	157.93	1.5801	213.88
#1	.00060	.00794	-.25715
#2	.00016	.00819	.30978
#3	-.00009	.00810	-.90574
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	**10332.**	**115760.**	**12098.**
Stddev	5.	239.	151.
%RSD	.04496	.20628	1.2462
#1	10332.	115890.	12112.
#2	10337.	115920.	12242.
#3	10328.	115490.	11941.

Approved: October 14, 2016

Kristi K Buck

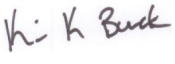
Sample Name: L1610038801 Acquired: 10/13/2016 15:31:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00088**	**.00957**	**.00098**	**.03627**	**.05144**	**-.00007**	**32.838**	**.00002**
Stddev	.00155	.00563	.00118	.00047	.00069	.00006	.096	.00013
%RSD	175.88	58.810	121.09	1.3056	1.3492	84.192	.29276	718.38
#1	.00105	.01509	.00141	.03592	.05073	-.00000	32.727	-.00008
#2	.00234	.00384	-.00036	.03608	.05212	-.00010	32.885	-.00003
#3	-.00075	.00978	.00187	.03681	.05146	-.00010	32.901	.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	**.00023**	**.00096**	**-.00139**	**.00616**	**.48855**	**.00693**	**1.1175**	**.72599**
Stddev	.00026	.00029	.00124	.01538	.02934	.00266	.0693	.00355
%RSD	111.92	30.110	88.918	249.53	6.0050	38.353	6.2017	.48914
#1	.00037	.00068	-.00251	-.00288	.51875	.00696	1.0376	.72191
#2	-.00007	.00093	-.00006	-.00255	.46016	.00957	1.1536	.72771
#3	.00039	.00125	-.00162	.02392	.48674	.00426	1.1613	.72836
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	**.00038**	**73.535**	**.00191**	**-.01145**	**.00318**	**-.00271**	**.00678**	**.46101**
Stddev	.00025	.164	.00028	.00222	.00157	.00133	.00256	.00552
%RSD	65.638	.22259	14.804	19.424	49.187	48.967	37.773	1.1964
#1	.00065	73.377	.00176	-.01093	.00170	-.00262	.00767	.45468
#2	.00015	73.704	.00224	-.00953	.00482	-.00408	.00878	.46356
#3	.00035	73.523	.00174	-.01388	.00303	-.00143	.00389	.46478
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016



Sample Name: L1610038801 Acquired: 10/13/2016 15:31:19 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00016**	**.09853**	**-.00392**	**-.00259**	**.00027**	**.00339**	**.64522**
Stddev	.00058	.00013	.00123	.00698	.00105	.00006	.46672
%RSD	361.33	.13365	31.452	269.70	388.50	1.7934	72.335
#1	-.00081	.09840	-.00285	.00526	.00021	.00335	1.0655
#2	.00003	.09866	-.00527	-.00809	.00135	.00346	.72728
#3	.00030	.09853	-.00365	-.00494	-.00075	.00335	.14291
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	**10338.**	**115040.**	**11741.**
Stddev	49.	987.	227.
%RSD	.47431	.85798	1.9330
#1	10367.	113940.	11990.
#2	10366.	115840.	11685.
#3	10282.	115340.	11547.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610040201 Acquired: 10/13/2016 15:35:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00048**	**.03865**	**.00209**	**.02127**	**.11400**	**-.00009**	**59.885**	**.00021**
Stddev	.00043	.00198	.00274	.00197	.00050	.00005	.168	.00019
%RSD	88.589	5.1198	131.04	9.2601	.43542	53.391	.28028	89.283
#1	-.00031	.04049	-.00089	.02354	.11392	-.00008	59.798	.00016
#2	-.00017	.03890	.00267	.01994	.11355	-.00004	59.779	.00043
#3	-.00097	.03656	.00449	.02034	.11453	-.00014	60.078	.00006
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	**.00015**	**.00243**	**-.00011**	**.00645**	**2.2339**	**.02079**	**.83931**	**.18374**
Stddev	.00030	.00095	.00064	.00316	.0849	.00190	.10803	.00056
%RSD	193.39	39.249	599.79	48.956	3.8022	9.1467	12.871	.30264
#1	.00048	.00153	-.00011	.00378	2.2471	.02198	.71683	.18330
#2	-.00010	.00343	-.00075	.00994	2.1431	.01860	.92100	.18355
#3	.00009	.00233	.00054	.00563	2.3114	.02180	.88011	.18436
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**	**77.546**	**.00248**	**.02012**	**-.00155**	**-.00179**	**.00077**	**1.1153**
Stddev	.00024	.289	.00074	.00506	.00117	.00187	.00578	.0022
%RSD	48.818	.37205	29.709	25.163	75.426	104.25	748.61	.19566
#1	.00039	77.369	.00177	.02589	-.00186	.00002	.00615	1.1176
#2	.00032	77.390	.00325	.01798	-.00252	-.00169	-.00533	1.1132
#3	.00076	77.879	.00243	.01647	-.00025	-.00371	.00150	1.1152
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016
Ki K Buck

Sample Name: L1610040201 Acquired: 10/13/2016 15:35:05 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00008**	**.94265**	**-.00299**	**-.00112**	**.00086**	**.00645**	**.36338**
Stddev	.00091	.00309	.00275	.00185	.00037	.00005	.33089
%RSD	1087.1	.32741	92.185	165.55	43.453	.70193	91.059
#1	-.00094	.93916	-.00520	.00094	.00106	.00647	.10634
#2	-.00019	.94381	.00010	-.00265	.00043	.00649	.73673
#3	.00088	.94499	-.00386	-.00165	.00109	.00640	.24709
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	**10187.**	**115550.**	**12054.**
Stddev	119.	581.	210.
%RSD	1.1649	.50253	1.7443
#1	10053.	116090.	11926.
#2	10278.	115630.	12297.
#3	10230.	114930.	11940.

Approved: October 14, 2016

Kim K Buck

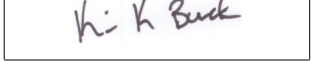
Sample Name: L1610040401 Acquired: 10/13/2016 15:38:49 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00007**	**.04157**	**.00158**	**.05406**	**.07739**	**-.00007**	**10.734**	**-.00013**
Stddev	.00060	.00592	.00326	.00143	.00051	.00007	.025	.00002
%RSD	817.91	14.243	206.03	2.6373	.65982	99.747	.23557	17.816
#1	.00068	.04168	.00488	.05566	.07787	-.00015	10.743	-.00012
#2	.00005	.03559	-.00163	.05294	.07685	-.00002	10.753	-.00011
#3	-.00051	.04743	.00148	.05357	.07745	-.00004	10.705	-.00015
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**	**.01062**	**-.00036**	**-.00195**	**10.486**	**.00913**	**.43715**	**.21227**
Stddev	.00028	.00106	.00024	.01750	.044	.00063	.04738	.00161
%RSD	69.467	10.012	67.365	898.09	.42106	6.9123	10.839	.76032
#1	.00050	.01169	-.00034	.01742	10.461	.00941	.46102	.21230
#2	.00009	.01062	-.00012	-.01663	10.461	.00957	.38258	.21387
#3	.00064	.00956	-.00060	-.00663	10.537	.00841	.46785	.21064
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	**.00552**	**76.171**	**.01571**	**-.00436**	**.00295**	**-.00174**	**.00107**	**.37625**
Stddev	.00040	.336	.00086	.00577	.00311	.00567	.01090	.00312
%RSD	7.3093	.44123	5.4422	132.31	105.50	326.27	1018.2	.82934
#1	.00535	76.542	.01514	.00228	.00030	-.00678	.00509	.37794
#2	.00598	76.082	.01531	-.00812	.00217	-.00282	-.01127	.37265
#3	.00522	75.888	.01670	-.00724	.00638	.00439	.00939	.37816
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016



Sample Name: L1610040401 Acquired: 10/13/2016 15:38:49 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00038**	**.02680**	**-.00176**	**-.00235**	**-.00005**	**.00688**	**1.1889**
Stddev	.00006	.00019	.00553	.00153	.00026	.00023	1.4158
%RSD	15.394	.70584	313.74	65.332	534.19	3.3193	119.08
#1	.00043	.02691	.00457	-.00290	-.00035	.00697	-.41368
#2	.00038	.02691	-.00563	-.00061	.00004	.00662	1.7104
#3	.00032	.02658	-.00422	-.00352	.00016	.00706	2.2701
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	**10472.**	**117690.**	**12349.**
Stddev	11.	324.	136.
%RSD	.10227	.27571	1.1005
#1	10484.	117320.	12305.
#2	10467.	117810.	12501.
#3	10464.	117930.	12240.

Approved: October 14, 2016

Kristi K Buck

Sample Name: CCV Acquired: 10/13/2016 15:42:36 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.39067**	**9.9929**	**.38940**	**.48929**	**.96560**	**.04825**	**9.7163**
Stddev	.00209	.0088	.00178	.00090	.00194	.00016	.0235
%RSD	.53544	.08807	.45633	.18496	.20095	.32161	.24168
#1	.39297	10.000	.39059	.48968	.96503	.04840	9.7393
#2	.39017	9.9831	.38736	.48994	.96776	.04827	9.6923
#3	.38888	9.9953	.39026	.48826	.96401	.04809	9.7173
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	**.04913**	**.19562**	**.48773**	**.48653**	**3.8529**	**47.101**	**.93991**
Stddev	.00009	.00102	.00146	.00166	.0175	.092	.00401
%RSD	.17608	.51931	.29844	.34051	.45332	.19489	.42611
#1	.04908	.19547	.48861	.48531	3.8620	47.163	.94449
#2	.04923	.19469	.48852	.48587	3.8639	46.996	.93823
#3	.04908	.19670	.48605	.48842	3.8327	47.145	.93703
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	**9.5901**	**.47878**	**.97149**	**47.232**	**.48977**	**9.7183**	**.49042**
Stddev	.0502	.00226	.00315	.152	.00285	.0365	.00042
%RSD	.52292	.47235	.32446	.32253	.58173	.37507	.08490
#1	9.6003	.47713	.97094	47.380	.48777	9.7179	.49033
#2	9.5356	.47786	.96865	47.076	.48850	9.6820	.49088
#3	9.6343	.48136	.97489	47.241	.49303	9.7549	.49006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

Kim K Buck

Sample Name: CCV Acquired: 10/13/2016 15:42:36 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**1.1758**	**.38966**	**4.9313**	**.97824**	**.97553**	**.96902**	**.49632**
Stddev	.0046	.00249	.0128	.00088	.00164	.00396	.00343
%RSD	.39040	.64023	.25894	.09027	.16841	.40858	.69109
#1	1.1740	.38747	4.9327	.97918	.97601	.97335	.49884
#2	1.1723	.39237	4.9178	.97810	.97687	.96557	.49242
#3	1.1810	.38913	4.9432	.97743	.97369	.96815	.49771
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	**.97264**	**.97093**	F **.82083**
Stddev	.00249	.00310	.19663
%RSD	.25637	.31888	23.955
#1	.97549	.97117	.61454
#2	.97154	.96772	.84184
#3	.97088	.97389	1.0061
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	**10115.**	**113580.**	**12050.**
Stddev	19.	478.	266.
%RSD	.18909	.42084	2.2076
#1	10120.	113320.	11799.
#2	10094.	114130.	12329.
#3	10131.	113280.	12023.

Approved: October 14, 2016

Kristi K Buck

Sample Name: CCB Acquired: 10/13/2016 15:46:04 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00001**	**-.00915**	**.00216**	**-.00081**	**-.00067**	**-.00000**	**.00502**
Stddev	.00078	.00867	.00070	.00084	.00049	.00001	.01968
%RSD	7897.3	94.848	32.603	104.14	72.509	158.54	391.65
#1	-.00012	-.01629	.00152	.00004	-.00031	.00000	-.01761
#2	.00084	.00051	.00203	-.00081	-.00048	-.00001	.01464
#3	-.00069	-.01166	.00291	-.00165	-.00122	-.00000	.01804
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	**-.00022**	**-.00011**	**.00080**	**-.00062**	**-.00660**	**-.00984**	**.00784**
Stddev	.00032	.00017	.00037	.00084	.01192	.04411	.00563
%RSD	145.91	158.71	47.070	135.37	180.56	448.07	71.896
#1	-.00010	-.00013	.00112	-.00072	.00343	.03162	.01134
#2	-.00058	-.00027	.00038	-.00141	-.00346	-.00496	.01083
#3	.00002	.00007	.00089	.00026	-.01977	-.05619	.00134
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	**.03487**	**.00068**	**-.00004**	**.08352**	**.00108**	**-.00522**	**-.00110**
Stddev	.02015	.00069	.00018	.01730	.00092	.00601	.00234
%RSD	57.788	100.64	475.01	20.719	85.163	115.17	211.54
#1	.03173	-.00007	-.00022	.06620	.00025	-.00866	-.00311
#2	.05641	.00086	.00014	.08355	.00091	-.00871	.00146
#3	.01648	.00127	-.00004	.10080	.00207	.00172	-.00167
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016
Ki K Buck

Sample Name: CCB Acquired: 10/13/2016 15:46:04 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00233**	**.00455**	**.00020**	**.00014**	**-.00013**	**-.00219**	**-.00430**
Stddev	.00301	.00428	.00101	.00044	.00023	.00387	.00187
%RSD	129.21	93.996	499.01	315.17	182.09	177.15	43.546
#1	-.00567	.00761	.00136	-.00019	-.00002	.00204	-.00646
#2	-.00147	.00638	-.00023	.00064	-.00040	-.00557	-.00332
#3	.00016	-.00034	-.00052	-.00003	.00003	-.00303	-.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**	**-.00031**	F **-.08767**
Stddev	.00097	.00024	.61885
%RSD	1162.6	77.282	705.86
#1	.00115	-.00041	-.80008
#2	-.00075	-.00047	.31680
#3	-.00015	-.00004	.22026
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	**10377.**	**117260.**	**12225.**
Stddev	64.	45.	7.
%RSD	.61281	.03812	.05665
#1	10314.	117260.	12231.
#2	10375.	117210.	12217.
#3	10441.	117300.	12228.

Approved: October 14, 2016

Sample Name: L1610041201 Acquired: 10/13/2016 15:49:53 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00133**	**3.1976**	**.00282**	**.04430**	**2.5423**	**-.00009**	**31.003**	**.00005**
Stddev	.00036	.0063	.00270	.00272	.0089	.00005	.198	.00020
%RSD	27.253	.19774	95.985	6.1392	.35167	62.923	.63741	382.73
#1	-.00170	3.1979	.00266	.04299	2.5451	-.00002	31.062	.00020
#2	-.00098	3.1912	.00019	.04248	2.5324	-.00011	30.782	-.00018
#3	-.00130	3.2039	.00559	.04742	2.5496	-.00013	31.164	.00014
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	**.00059**	**.00125**	**-.00010**	**-.01227**	**.12185**	**.00475**	**-.00368**	**-.00034**
Stddev	.00031	.00026	.00009	.01328	.08898	.00290	.03294	.00160
%RSD	51.686	20.544	95.446	108.21	73.020	60.984	895.41	469.82
#1	.00024	.00128	-.00002	-.01310	.16675	.00182	.03204	.00150
#2	.00077	.00098	-.00020	-.02511	.01937	.00762	-.01020	-.00130
#3	.00076	.00150	-.00007	.00140	.17944	.00482	-.03287	-.00122
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**	**73.883**	**.00084**	**.00485**	**.00028**	**-.00233**	**-.00110**	**.03389**
Stddev	.00009	.564	.00117	.00207	.00096	.00162	.00178	.00265
%RSD	13.195	.76382	140.36	42.661	338.15	69.640	162.10	7.8229
#1	.00075	74.007	.00211	.00281	.00052	-.00188	-.00159	.03083
#2	.00078	73.268	.00062	.00479	.00111	-.00413	.00087	.03536
#3	.00061	74.376	-.00021	.00695	-.00077	-.00098	-.00257	.03548
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016
Kristi K Buck

Sample Name: L1610041201 Acquired: 10/13/2016 15:49:53 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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**	**.15855**	**-.00017**	**-.00255**	**-.00043**	**.00179**	**.30883**
Stddev	.00059	.00015	.00083	.00439	.00077	.00007	1.0785
%RSD	160.94	.09322	477.71	172.31	180.47	3.8173	349.21
#1	-.00002	.15865	-.00091	-.00103	.00013	.00187	1.4746
#2	.00007	.15838	.00073	.00088	-.00131	.00178	.10535
#3	.00105	.15861	-.00035	-.00750	-.00010	.00173	-.65341
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	**10355.**	**115300.**	**11996.**
Stddev	89.	1127.	168.
%RSD	.85487	.97773	1.3981
#1	10254.	115670.	11958.
#2	10396.	114030.	12180.
#3	10416.	116190.	11851.

Approved: October 14, 2016

Kristi K Buck

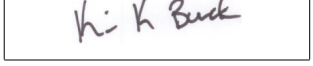
Sample Name: L1610041401 Acquired: 10/13/2016 15:53:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00040**	**12.697**	**.00286**	**.12725**	**1.0246**	**-.00007**	**38.400**	**-.00005**
Stddev	.00002	.033	.00109	.00078	.0026	.00005	.085	.00005
%RSD	4.3757	.26058	38.133	.61485	.25696	69.078	.22153	94.558
#1	.00041	12.723	.00164	.12810	1.0229	-.00007	38.313	-.00011
#2	.00040	12.660	.00319	.12657	1.0277	-.00011	38.483	-.00003
#3	.00038	12.707	.00375	.12707	1.0234	-.00002	38.404	-.00002
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	**.00044**	**.00111**	**-.00122**	**.00086**	**.10932**	**.01219**	**.00539**	**.00091**
Stddev	.00017	.00020	.00049	.00833	.11622	.00072	.03428	.00100
%RSD	38.624	18.269	40.299	967.73	106.31	5.9445	635.52	110.12
#1	.00033	.00088	-.00131	-.00295	.10381	.01135	.02787	.00064
#2	.00064	.00127	-.00069	-.00488	-.00405	.01263	-.03406	.00201
#3	.00036	.00118	-.00166	.01041	.22819	.01259	.02237	.00007
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	**.00094**	**76.931**	**.00146**	**-.00817**	**.00025**	**.00019**	**.00492**	**.02914**
Stddev	.00028	.394	.00078	.00493	.00321	.00291	.00644	.00252
%RSD	30.270	.51224	53.118	60.288	1299.0	1509.7	130.78	8.6646
#1	.00110	76.482	.00195	-.01304	.00206	-.00236	-.00250	.03110
#2	.00110	77.220	.00186	-.00827	.00214	.00336	.00891	.03003
#3	.00061	77.091	.00057	-.00319	-.00346	-.00043	.00836	.02629
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016



Sample Name: L1610041401 Acquired: 10/13/2016 15:53:38 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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**	**1.4898**	**-.00347**	**-.00156**	**.00072**	**.00126**	**1.5946**
Stddev	.00017	.0050	.00489	.00141	.00097	.00009	.6969
%RSD	48.039	.33386	140.87	90.263	133.28	7.2756	43.700
#1	.00017	1.4867	.00152	-.00123	.00077	.00122	1.1798
#2	.00050	1.4955	-.00824	-.00311	.00167	.00120	2.3992
#3	.00037	1.4871	-.00369	-.00035	-.00026	.00136	1.2049
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	**10313.**	**115260.**	**12104.**
Stddev	70.	306.	164.
%RSD	.68271	.26555	1.3533
#1	10242.	114920.	12060.
#2	10314.	115500.	12285.
#3	10383.	115360.	11967.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610042301 Acquired: 10/13/2016 15:57:25 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00039**	**.03414**	**.00092**	**.06016**	**.66539**	**-.00005**	**20.555**
Stddev	.00083	.00379	.00252	.00337	.00067	.00001	.049
%RSD	210.72	11.093	274.73	5.5990	.10124	15.021	.23708
#1	-.00070	.03065	.00243	.05840	.66596	-.00006	20.611
#2	.00054	.03361	-.00199	.05803	.66557	-.00005	20.530
#3	-.00102	.03817	.00230	.06404	.66465	-.00004	20.524
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**	**-.00010**	**.00013**	**.00941**	**.16528**	**1.1032**	**.01272**
Stddev	.00027	.00024	.00046	.00196	.00880	.0787	.00158
%RSD	412.41	236.82	351.88	20.785	5.3241	7.1334	12.404
#1	.00007	.00013	-.00037	.00773	.16878	1.1918	.01441
#2	.00033	-.00035	.00052	.00895	.17179	1.0767	.01128
#3	-.00021	-.00008	.00024	.01156	.15527	1.0412	.01247
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	**3.8972**	**.00653**	**.00083**	**34.723**	**.00085**	**.01371**	**-.00040**
Stddev	.0436	.00141	.00021	.071	.00068	.00281	.00101
%RSD	1.1188	21.588	24.832	.20514	79.697	20.507	252.46
#1	3.9473	.00490	.00083	34.777	.00132	.01572	.00023
#2	3.8767	.00745	.00062	34.642	.00115	.01491	.00013
#3	3.8677	.00722	.00103	34.749	.00007	.01050	-.00156
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016
Ki K Buck

Sample Name: L1610042301 Acquired: 10/13/2016 15:57:25 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00183**	**-.00033**	**5.3314**	**.00026**	**.32237**	**-.00352**	**-.00256**
Stddev	.00187	.00584	.0216	.00038	.00068	.00334	.00332
%RSD	102.23	1778.1	.40449	144.78	.21177	94.905	129.77
#1	-.00390	.00540	5.3081	.00040	.32309	-.00686	-.00227
#2	-.00024	-.00010	5.3353	-.00017	.32229	-.00018	.00061
#3	-.00135	-.00628	5.3507	.00055	.32173	-.00351	-.00601
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**	**.00130**	F **-.18494**
Stddev	.00035	.00015	1.1743
%RSD	142.23	11.750	635.00
#1	.00061	.00116	-.41725
#2	-.00010	.00146	1.0882
#3	.00023	.00129	-1.2257
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	**10375.**	**117340.**	**12163.**
Stddev	27.	325.	268.
%RSD	.26360	.27664	2.2063
#1	10344.	117680.	12024.
#2	10383.	117300.	12473.
#3	10397.	117030.	11993.

Approved: October 14, 2016

Kristi K Buck

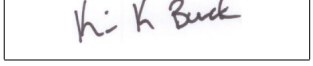
Sample Name: L1610045001 Acquired: 10/13/2016 16:01:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00065**	**.00411**	**.00277**	**.02636**	**.10648**	**-.00009**	**1.3376**	**-.00005**
Stddev	.00084	.00354	.00161	.00266	.00187	.00004	.2202	.00016
%RSD	128.62	86.051	58.063	10.089	1.7562	47.746	16.461	325.48
#1	-.00161	.00672	.00307	.02898	.10485	-.00006	1.1929	-.00003
#2	-.00026	.00008	.00420	.02366	.10852	-.00014	1.5910	.00010
#3	-.00008	.00553	.00103	.02643	.10608	-.00007	1.2290	-.00022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00007**	**.00060**	**.23054**	**.01240**	**.18367**	**.00674**	**.26057**	**.16144**
Stddev	.00033	.00104	.00106	.01941	.10359	.00349	.05673	.00113
%RSD	448.78	172.56	.45954	156.51	56.401	51.747	21.772	.69918
#1	.00030	.00148	.23066	.01261	.06786	.00288	.20498	.16019
#2	-.00033	.00089	.23153	.03170	.21564	.00767	.31837	.16174
#3	-.00018	-.00055	.22942	-.00711	.26750	.00966	.25835	.16238
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	**-.00001**	**75.199**	**.00265**	**-.04996**	**.00227**	**-.00135**	**.01018**	**2.7155**
Stddev	.00080	.094	.00062	.00239	.00438	.00456	.00677	.0174
%RSD	9359.5	.12514	23.280	4.7829	192.79	337.47	66.450	.64014
#1	.00027	75.255	.00255	-.04964	.00559	-.00181	.01121	2.7088
#2	-.00091	75.252	.00209	-.05249	-.00269	-.00566	.01638	2.7353
#3	.00061	75.091	.00331	-.04774	.00392	.00342	.00296	2.7025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016



Sample Name: L1610045001 Acquired: 10/13/2016 16:01:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00078**	**.03634**	**-.00074**	**-.00288**	**.00070**	**8.7028**	**.93256**
Stddev	.00087	.00294	.00288	.00235	.00054	.0478	1.0761
%RSD	111.32	8.0968	390.45	81.740	77.992	.54949	115.40
#1	.00114	.03457	-.00017	-.00381	.00072	8.6894	2.1668
#2	-.00021	.03974	.00181	-.00462	.00123	8.7559	.19064
#3	.00140	.03471	-.00386	-.00020	.00014	8.6631	.44025
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	**10309.**	**117100.**	**12362.**
Stddev	44.	503.	316.
%RSD	.42950	.42995	2.5544
#1	10360.	117470.	12624.
#2	10279.	117300.	12450.
#3	10289.	116530.	12012.

Approved: October 14, 2016

Kristi K Buck

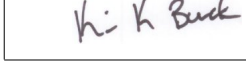
Sample Name: CCV Acquired: 10/13/2016 16:04:52 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.39253**	**10.009**	**.39333**	**.49186**	**.96604**	**.04836**	**9.7111**
Stddev	.00122	.028	.00072	.00058	.00081	.00027	.0412
%RSD	.31051	.27586	.18212	.11717	.08355	.56599	.42400
#1	.39392	10.026	.39265	.49251	.96612	.04866	9.7044
#2	.39168	9.9774	.39327	.49165	.96520	.04812	9.6737
#3	.39197	10.024	.39408	.49142	.96681	.04829	9.7552
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**	**.19634**	**.48839**	**.48916**	**3.8350**	**46.720**	**.93892**
Stddev	.00033	.00073	.00047	.00297	.0258	.089	.00534
%RSD	.65774	.37288	.09646	.60624	.67286	.19014	.56840
#1	.04991	.19683	.48827	.49045	3.8536	46.626	.94451
#2	.04951	.19550	.48799	.48577	3.8459	46.802	.93387
#3	.04926	.19670	.48891	.49127	3.8056	46.733	.93839
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	**9.7225**	**.48081**	**.97453**	**47.065**	**.49213**	**9.7497**	**.49204**
Stddev	.0821	.00316	.00214	.120	.00286	.0410	.00335
%RSD	.84431	.65721	.21974	.25530	.58161	.42035	.68103
#1	9.8173	.47748	.97692	47.144	.49475	9.7828	.49575
#2	9.6736	.48118	.97277	46.927	.48907	9.7038	.48923
#3	9.6767	.48377	.97390	47.125	.49256	9.7624	.49114
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016



Sample Name: CCV Acquired: 10/13/2016 16:04:52 Type: QC
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**1.1715**	**.39439**	**4.9506**	**.98207**	**.97832**	**.97204**	**.49799**
Stddev	.0030	.00272	.0189	.00174	.00159	.00114	.00189
%RSD	.25399	.68975	.38184	.17735	.16287	.11748	.37942
#1	1.1683	.39572	4.9700	.98369	.97852	.97118	.49886
#2	1.1742	.39126	4.9323	.98023	.97664	.97160	.49582
#3	1.1721	.39619	4.9495	.98229	.97981	.97333	.49929
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	**.97613**	**.97461**	F **.50302**
Stddev	.00284	.00284	.32049
%RSD	.29122	.29165	63.713
#1	.97717	.97768	.56351
#2	.97831	.97208	.78896
#3	.97292	.97407	.15660
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	**10085.**	**112700.**	**12273.**
Stddev	58.	133.	71.
%RSD	.57627	.11788	.57986
#1	10075.	112640.	12335.
#2	10033.	112850.	12195.
#3	10148.	112610.	12289.

Approved: October 14, 2016

Kristi K Buck

Sample Name: CCB Acquired: 10/13/2016 16:08:21 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00037**	**-.00609**	**.00038**	**-.00025**	**-.00062**	**-.00003**	**-.00912**
Stddev	.00093	.00131	.00109	.00006	.00021	.00003	.01159
%RSD	250.57	21.437	289.06	22.465	33.111	96.698	126.98
#1	-.00144	-.00686	-.00088	-.00028	-.00052	-.00005	-.00281
#2	.00023	-.00458	.00111	-.00018	-.00049	.00000	-.00207
#3	.00010	-.00683	.00090	-.00027	-.00086	-.00004	-.02249
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	**-.00005**	**-.00002**	**.00116**	**-.00123**	**-.01215**	**.00995**	**.00856**
Stddev	.00015	.00023	.00046	.00171	.00693	.05799	.00174
%RSD	314.67	1107.7	40.151	139.10	56.993	582.68	20.273
#1	-.00003	-.00022	.00121	-.00150	-.00774	-.04196	.00656
#2	-.00021	.00024	.00067	-.00278	-.00859	.07253	.00953
#3	.00010	-.00008	.00159	.00060	-.02014	-.00072	.00960
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	**-.03686**	**.00100**	**.00008**	**.04109**	**.00001**	**-.00348**	**.00305**
Stddev	.07034	.00136	.00015	.00763	.00060	.00107	.00186
%RSD	190.82	136.29	191.36	18.562	10898.	30.637	60.939
#1	.02628	-.00038	.00000	.04614	-.00066	-.00231	.00442
#2	-.02419	.00104	-.00002	.03231	.00019	-.00440	.00093
#3	-.11267	.00234	.00026	.04481	.00049	-.00375	.00380
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

Kristi K Buck

Sample Name: CCB Acquired: 10/13/2016 16:08:21 Type: Blank
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**-.00048**	**.00188**	**-.00069**	**.00034**	**-.00018**	**-.00387**	**-.00095**
Stddev	.00048	.00100	.00270	.00071	.00024	.00352	.00305
%RSD	99.406	53.315	389.32	211.61	133.42	91.004	320.29
#1	-.00102	.00303	.00210	.00109	-.00023	.00017	-.00338
#2	-.00031	.00128	-.00328	-.00033	.00008	-.00630	.00247
#3	-.00011	.00132	-.00090	.00025	-.00038	-.00547	-.00194
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	**.00051**	**-.00022**	F **-.06826**
Stddev	.00090	.00018	1.5839
%RSD	176.64	81.454	2320.2
#1	.00051	-.00003	.66168
#2	.00142	-.00039	-1.8855
#3	-.00039	-.00025	1.0190
Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	**10156.**	**115610.**	**12223.**
Stddev	53.	688.	24.
%RSD	.52542	.59539	.19520
#1	10098.	116390.	12247.
#2	10166.	115360.	12222.
#3	10204.	115080.	12200.

Approved: October 14, 2016

Ki K Buck

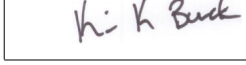
Sample Name: LLCCV Acquired: 10/13/2016 16:12:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00780**	**.17624**	**.00927**	**.07783**	**.00714**	**.00154**	**.53632**
Stddev	.00074	.00158	.00134	.00185	.00043	.00001	.01203
%RSD	9.4577	.89557	14.486	2.3732	6.0819	.75200	2.2423
#1	.00757	.17659	.01073	.07973	.00742	.00155	.54283
#2	.00863	.17452	.00901	.07604	.00735	.00154	.52244
#3	.00721	.17762	.00808	.07774	.00664	.00152	.54368
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	**.00078**	**.00455**	**.00447**	**.00318**	**.07992**	**.71778**	**.08879**
Stddev	.00013	.00023	.00066	.00090	.00691	.08231	.00277
%RSD	17.113	4.9740	14.669	28.232	8.6406	11.467	3.1168
#1	.00063	.00439	.00436	.00263	.07664	.77670	.09094
#2	.00089	.00481	.00387	.00270	.07526	.75290	.08567
#3	.00083	.00445	.00517	.00422	.08785	.62373	.08977
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	**.40694**	**.00742**	**.00863**	**.48682**	**.01933**	**.80184**	**.01169**
Stddev	.07423	.00140	.00030	.02732	.00035	.00753	.00310
%RSD	18.242	18.850	3.4612	5.6122	1.8305	.93931	26.507
#1	.37308	.00900	.00833	.48358	.01904	.79315	.00996
#2	.35568	.00634	.00865	.46126	.01972	.80592	.00984
#3	.49207	.00692	.00892	.51562	.01923	.80646	.01527
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016



Sample Name: LLCCV Acquired: 10/13/2016 16:12:10 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.08363**	**.01859**	**.80574**	**.41937**	**.04168**	**.02347**	**.16187**
Stddev	.00498	.00962	.00570	.00086	.00015	.00487	.00169
%RSD	5.9555	51.733	.70714	.20536	.34879	20.745	1.0443
#1	.08321	.01217	.80582	.41888	.04162	.01956	.16229
#2	.08881	.02965	.80001	.41887	.04157	.02893	.16331
#3	.07887	.01395	.81140	.42037	.04185	.02194	.16001
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	**.00865**	**.02297**	F **178.28**
Stddev	.00047	.00008	.80
%RSD	5.4319	.35616	.44873
#1	.00828	.02292	177.58
#2	.00918	.02293	179.15
#3	.00849	.02307	178.10
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	**10253.**	**117620.**	**12224.**
Stddev	80.	296.	35.
%RSD	.78156	.25183	.28998
#1	10297.	117370.	12237.
#2	10302.	117950.	12251.
#3	10160.	117530.	12183.

Approved: October 14, 2016

Kristi K Buck

Sample Name: LLCCV Acquired: 10/13/2016 16:15:56 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.01014**	**.21784**	**.01381**	**.09667**	**.00944**	**.00195**	**.61110**
Stddev	.00134	.00693	.00166	.00066	.00019	.00003	.02499
%RSD	13.221	3.1798	12.039	.67900	1.9678	1.6765	4.0896
#1	.01137	.21069	.01284	.09639	.00926	.00199	.59017
#2	.01035	.22452	.01285	.09742	.00942	.00193	.63877
#3	.00871	.21831	.01573	.09620	.00963	.00194	.60436
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.00096**	**.00555**	**.00554**	**.00459**	**.11265**	**.91975**	**.10843**
Stddev	.00016	.00039	.00057	.00121	.01803	.03661	.00330
%RSD	16.206	7.0235	10.256	26.415	16.008	3.9805	3.0393
#1	.00089	.00589	.00616	.00357	.09583	.89002	.11116
#2	.00114	.00512	.00505	.00593	.11043	.96064	.10477
#3	.00085	.00563	.00540	.00427	.13169	.90859	.10937
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	**.53032**	**.01182**	**.01022**	**.59112**	**.02244**	**.99914**	**.01078**
Stddev	.04789	.00174	.00007	.06584	.00012	.00176	.00100
%RSD	9.0309	14.720	.67222	11.139	.51668	.17603	9.2887
#1	.47709	.01048	.01020	.53769	.02257	1.0010	.01177
#2	.54395	.01379	.01029	.66468	.02234	.99901	.01081
#3	.56992	.01121	.01016	.57099	.02241	.99745	.00977
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016
Ki K Buck

Sample Name: LLCCV Acquired: 10/13/2016 16:15:56 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.10682**	**.02102**	**.99916**	**.51989**	**.05169**	**.02825**	**.20701**
Stddev	.00357	.00343	.00490	.00140	.00034	.00359	.00052
%RSD	3.3449	16.306	.49062	.26883	.66301	12.718	.25098
#1	.10275	.02364	1.0031	.52126	.05145	.02783	.20647
#2	.10943	.01714	.99367	.51846	.05208	.03204	.20705
#3	.10827	.02228	1.0007	.51994	.05154	.02489	.20751
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	**.01044**	**.02352**	F **220.18**
Stddev	.00087	.00018	.94
%RSD	8.3539	.75711	.42515
#1	.01138	.02347	219.12
#2	.00967	.02337	220.57
#3	.01026	.02372	220.87
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	**10367.**	**118300.**	**12322.**
Stddev	4.	167.	52.
%RSD	.04272	.14156	.42273
#1	10368.	118220.	12381.
#2	10372.	118180.	12282.
#3	10363.	118490.	12303.

Approved: October 14, 2016

Ki K Buck

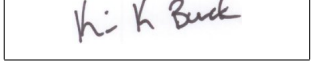
Sample Name: L1610033601 Acquired: 10/13/2016 16:19:40 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.00038**	**.02800**	**-.00033**	**.02562**	**.04153**	**-.00005**	**52.841**
Stddev	.00088	.00950	.00142	.00218	.00063	.00004	.137
%RSD	232.57	33.933	426.63	8.4924	1.5094	88.403	.25922
#1	-.00037	.01741	.00115	.02374	.04224	-.00008	52.973
#2	.00050	.03577	-.00168	.02512	.04125	-.00006	52.699
#3	-.00126	.03083	-.00048	.02800	.04109	-.00000	52.850
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	**.00034**	**.00021**	**.00103**	**.00055**	**.02133**	**.78363**	**.00976**
Stddev	.00015	.00020	.00063	.00169	.01544	.10907	.00455
%RSD	45.166	94.361	61.685	305.65	72.382	13.919	46.641
#1	.00047	.00042	.00049	-.00046	.03065	.90584	.01499
#2	.00017	.00003	.00173	-.00039	.02984	.74887	.00761
#3	.00038	.00019	.00088	.00251	.00351	.69617	.00668
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	**3.6829**	**.00777**	**.00062**	**6.4493**	**.00101**	**-.00430**	**.00164**
Stddev	.0471	.00058	.00053	.0415	.00015	.00492	.00440
%RSD	1.2786	7.4931	85.706	.64287	15.269	114.46	267.50
#1	3.7261	.00842	.00026	6.4857	.00083	-.00859	.00667
#2	3.6900	.00728	.00037	6.4042	.00109	-.00539	-.00148
#3	3.6327	.00762	.00122	6.4581	.00110	.00107	-.00026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016



Sample Name: L1610033601 Acquired: 10/13/2016 16:19:40 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00341**	**.00725**	**3.2035**	**.00001**	**.13215**	**-.00667**	**.00092**
Stddev	.00405	.00296	.0391	.00048	.00006	.00107	.00037
%RSD	118.91	40.774	1.2196	3687.5	.04226	15.982	40.084
#1	.00621	.00751	3.1914	.00057	.13221	-.00781	.00135
#2	-.00124	.01007	3.1720	-.00025	.13215	-.00649	.00073
#3	.00526	.00417	3.2472	-.00029	.13210	-.00570	.00069
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	**-.00003**	**.00118**	F **-.11302**
Stddev	.00038	.00014	1.0047
%RSD	1205.9	12.172	888.99
#1	-.00042	.00118	.48691
#2	.00034	.00103	.44696
#3	-.00002	.00132	-1.2729
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	**10257.**	**116690.**	**11999.**
Stddev	83.	409.	354.
%RSD	.80895	.35044	2.9518
#1	10244.	116900.	11677.
#2	10346.	116960.	12378.
#3	10182.	116220.	11942.

Approved: October 14, 2016

Kristi K Buck

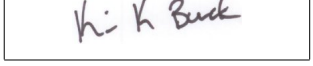
Sample Name: L1610033602 Acquired: 10/13/2016 16:23:25 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00081	.30750	.00073	.01236	.04766	-.00003	57.341	.00002
Stddev	.00111	.00545	.00184	.00004	.00061	.00004	.223	.00023
%RSD	137.05	1.7725	251.55	.35640	1.2791	129.35	.38950	1202.2
#1	-.00029	.31007	.00262	.01240	.04718	-.00005	57.099	.00008
#2	.00079	.30124	-.00106	.01235	.04746	.00002	57.387	-.00023
#3	.00192	.31120	.00063	.01232	.04835	-.00006	57.538	.00021
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	.00018	.00175	-.00066	.56935	.76641	.00846	4.8470	.18109
Stddev	.00021	.00061	.00151	.00968	.07715	.00277	.0638	.00134
%RSD	119.69	34.864	229.09	1.7009	10.066	32.752	1.3161	.74149
#1	-.00004	.00181	-.00208	.57935	.72414	.00581	4.8174	.17962
#2	.00019	.00233	.00093	.56866	.85545	.01134	4.8033	.18138
#3	.00038	.00111	-.00083	.56002	.71963	.00824	4.9202	.18226
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	3.6119	.00056	.01084	.00078	-.00168	.00811	3.7373
Stddev	.00023	.0262	.00095	.00778	.00326	.00248	.00417	.0084
%RSD	38.177	.72555	171.40	71.731	420.07	147.46	51.368	.22364
#1	.00048	3.5838	-.00051	.00372	-.00024	.00042	.01150	3.7350
#2	.00087	3.6357	.00086	.01914	-.00186	-.00105	.00346	3.7304
#3	.00046	3.6161	.00132	.00966	.00443	-.00443	.00937	3.7466
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016



Sample Name: L1610033602 Acquired: 10/13/2016 16:23:25 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	**.00019**	**.18115**	**-.00039**	**-.00235**	**.00081**	**.00198**	**1.9069**
Stddev	.00039	.00067	.00167	.00152	.00036	.00012	1.1502
%RSD	206.49	.37039	433.19	64.760	44.090	6.0345	60.321
#1	.00044	.18045	.00054	-.00293	.00120	.00188	3.0407
#2	-.00026	.18178	-.00231	-.00062	.00050	.00194	.74089
#3	.00039	.18122	.00062	-.00349	.00072	.00211	1.9390
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	**10244.**	**117010.**	**12157.**
Stddev	41.	1125.	358.
%RSD	.39995	.96129	2.9458
#1	10256.	118020.	12456.
#2	10199.	117210.	12255.
#3	10278.	115800.	11760.

Approved: October 14, 2016

Kristi K Buck

Sample Name: L1610033603 Acquired: 10/13/2016 16:27:09 Type: Unk
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) 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	.00075	.08048	.00045	.02636	.03909	-.00004	52.384
Stddev	.00132	.00387	.00265	.00132	.00100	.00002	.174
%RSD	174.76	4.8093	589.05	5.0075	2.5502	45.214	.33190
#1	.00223	.08127	-.00149	.02710	.03948	-.00002	52.190
#2	.00032	.07628	.00347	.02715	.03796	-.00004	52.438
#3	-.00029	.08390	-.00063	.02484	.03984	-.00006	52.525
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.00041	.00163	.00030	.07188	1.1082	.00681
Stddev	.00016	.00039	.00104	.00057	.01256	.0691	.00395
%RSD	148.08	93.783	64.008	188.75	17.472	6.2343	58.024
#1	.00011	.00085	.00279	.00078	.07183	1.0421	.00853
#2	-.00006	.00011	.00079	-.00033	.08447	1.1025	.00960
#3	.00027	.00028	.00130	.00047	.05935	1.1799	.00229
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	3.7238	.01092	.00111	5.8076	.00014	.00397	.00031
Stddev	.0110	.00207	.00043	.0159	.00092	.00274	.00260
%RSD	.29502	18.962	38.977	.27349	668.09	69.124	829.39
#1	3.7223	.00918	.00138	5.8089	.00119	.00668	.00212
#2	3.7354	.01037	.00134	5.8228	-.00054	.00403	.00148
#3	3.7136	.01321	.00061	5.7911	-.00023	.00119	-.00266
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016
Kristi K Buck